



**COMPREHENSIVE DEVELOPMENT FRAMEWORK
REPORT OF HIMACHAL PRADESH**

YOUTH PEACE AND DEVELOPMENT FORUM

NEW DELHI

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FOREWORD

Himachal Pradesh has emerged as one of India's most ecologically diverse and culturally rich states, currently undergoing a rapid developmental transformation. Since its formation, the state has established itself as a national leader in renewable energy, sustainable tourism, horticulture, environmental conservation, and inclusive governance. With Shimla and other emerging hubs demonstrating how visionary governance, strategic investments, and eco-conscious policies can accelerate economic growth while creating opportunities for millions. As India advances towards becoming a developed nation by 2047, Himachal Pradesh is uniquely positioned to play a transformative role in shaping the country's green economy and sustainable future.

However, as we navigate the rapidly changing economic, technological, and environmental realities of the twenty-first century, it has become increasingly evident that Himachal Pradesh 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. Balanced regional development, employment generation for a growing youth population, sustainable mountain urbanization, water resource management, climate resilience (particularly concerning fragile Himalayan ecosystems, landslides, and changing weather patterns), agricultural modernization, environmental conservation, and expanding economic opportunities beyond traditional sectors have become critical priorities for the coming decades.

To fully realize its immense potential, Himachal Pradesh must continue its transition towards a globally competitive, innovation-driven, environmentally sustainable, and inclusive economy. It is within this important context that The Comprehensive Development Framework Report of the State of Himachal Pradesh 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 Himachal Pradesh'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 Himachal Pradesh'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 globally competitive workforce; expanding innovation ecosystems in eco-tourism, biotechnology, green manufacturing, agribusiness, renewable energy, and information technology; accelerating sustainable industrial growth; modernizing horticulture and agriculture with precision farming and efficient irrigation practices; improving healthcare systems in remote areas; strengthening digital governance; expanding clean energy infrastructure; enhancing mountain-sensitive urban planning; and developing climate-resilient cities and rural 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 Himachal Pradesh. We envision a state that combines its rich natural heritage with world-class sustainable innovation, inclusive growth, balanced economic expansion with strict environmental stewardship, global competitiveness with social equity, and economic excellence with a high quality of life. We aspire to build a Himachal Pradesh where green innovation flourishes, entrepreneurship thrives, talented young people find meaningful 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, innovative, sustainable, and globally competitive Himachal Pradesh for generations to come.

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

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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 **Himachal Pradesh** 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 **Himachal Pradesh**, 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 **Himachal Pradesh** and a developed India.

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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

Himachal Pradesh occupies an unusual position within the Indian Union. Long known as Dev Bhoomi, the land of the gods, the state has for decades been held up as proof that a small Himalayan economy can deliver human development outcomes that rival or exceed those of far wealthier and more industrialised parts of the country. The Himachal Pradesh Human Development Report 2025, prepared jointly by the state's Department of Environment, Science, Technology and Climate Change and the United Nations Development Programme, records a state level Human Development Index of 0.78 against a national average of 0.63, along with a life expectancy of 72.6 years and a literacy rate of 99.3 per cent (Government of Himachal Pradesh and United Nations Development Programme, 2025). Achieved with a population of just under 6.9 million spread across twelve districts and 55,673 square kilometres of overwhelmingly mountainous terrain (Census of India, 2011), these figures represent a genuine developmental accomplishment.

However, as this Report will show throughout its subsequent chapters, this accomplishment sits on foundations that are increasingly unsteady. The same 2025 Human Development Report that celebrates the state's social indicators also introduces, for the first time in any Indian state document, a Climate Adjusted Human Development Index intended to capture how a warming and increasingly erratic Himalayan climate is eroding the gains of the past three decades (Government of Himachal Pradesh and United Nations Development Programme, 2025). The evidence for this erosion is not abstract. The 2023 monsoon season alone brought flash floods, cloudbursts and landslides across the state that killed at least 428 people and inflicted losses running into thousands of crores of rupees on roads, bridges, irrigation works, hydropower infrastructure and homes (Himdhara, 2025). Similar, if smaller, disasters recurred in the monsoons of 2024 and 2025, and geological assessment finds that the large majority of the state's terrain is inherently susceptible to landslides (Down To Earth, 2026). The apple economy, long the backbone of the hill farm sector and worth an estimated Rs 5,000 crore a year, is itself now projected to contract by around 40 per cent in 2026 because of inadequate winter chilling hours and erratic hailstorms linked to changing weather patterns (The Tribune, 2026).

These ecological pressures compound a fiscal position that is already stretched thin. Himachal Pradesh's debt to Gross State Domestic Product ratio climbed from about 39 per cent in 2019 and 2020 to nearly 44 per cent by 2024, with total outstanding liabilities crossing Rs 95,600 crore, prompting repeated warnings from the Comptroller and Auditor General of India about the state's approach to debt servicing and capital investment (Comptroller and Auditor General of India, 2025). A large share of new borrowing continues to go toward repaying older loans and meeting committed revenue expenditure such as salaries, pensions and interest payments, leaving comparatively little fiscal space for the capital works, from all weather roads to irrigation channels, that the state's difficult terrain demands (PRS Legislative Research, 2025). At the same time, the hydropower sector, which generates a substantial share of the state's own revenue by harnessing a portion of an assessed potential of roughly 27,436 megawatts (Government of Himachal Pradesh, 2023), has

become a source of friction with the very mountain communities whose rivers and springs sustain it, as tunnelling and diversion works in districts such as Kinnaur and Kullu have been linked to drying irrigation channels and destabilised slopes (Down To Earth, 2026).

It is against this backdrop, a state of genuine developmental strength that is simultaneously exposed to compounding ecological, fiscal and demographic risk, that this Comprehensive Development Framework Report of State of Himachal Pradesh has been prepared. This Report forms part of the wider effort undertaken by the Council for Comprehensive Development Frameworks, a body constituted by the Youth Peace and Development Forum to prepare comparable, evidence based development frameworks for all twenty eight states of India. Its preparation followed the same broad method used elsewhere in this series. A research team examined the state's own planning and budget documents, the audit findings of the Comptroller and Auditor General, sectoral studies from NITI Aayog and central line ministries, and the growing body of independent and academic research on Himalayan climate risk, before testing its emerging conclusions against comparative experience from other mountain economies and hill states.

The strategic priorities that emerge from this exercise, and that structure the chapters which follow, are five in number. First, the Report argues for a deliberate rebalancing of the hydropower model, so that the state continues to capture the fiscal value of its rivers while doing far more to share that value with, and reduce ecological harm to, the communities in whose watersheds the projects sit. Second, it calls for climate resilient reconstruction as the default standard for roads, bridges and public buildings in a terrain where most land is classified as landslide prone, rather than treating each monsoon's damage as an isolated event to be repaired in kind. Third, it sets out measures to protect and diversify the horticulture economy through expanded irrigation, crop insurance uptake and high density, climate resilient orcharding, so that a single poor winter no longer threatens the livelihoods of the roughly quarter of a million families who depend on apple cultivation. Fourth, it proposes a broader push to diversify the state's narrow economic base, building on existing strengths in pharmaceutical manufacturing, wellness and Ayurveda tourism and small and medium industry, so that the state depends less on any single sector, whether tourism, hydropower or remittances, for its growth. Fifth, and running through every other priority, it argues for a disciplined fiscal consolidation strategy that widens the state's own revenue base and protects capital expenditure, even as committed liabilities such as pensions continue to claim a growing share of the budget. This Report is offered, in the same spirit as the frameworks prepared for other states in this series, as a constructive and research based resource that policymakers, administrators, academic institutions, civil society organisations and citizens of the state may draw upon, test and adapt as they see fit.

Rishi Gurung

In charge, Himachal Pradesh Development Framework Project
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EXECUTIVE SUMMARY

The state of Himachal Pradesh stands at a pivotal juncture in its developmental journey. Recognised nationally for a Human Development Index of 0.78 against an all India average of 0.63, and for a life expectancy and literacy rate that place it among the country's strongest performers on almost every conventional social indicator, the state has historically prioritised public health, universal schooling and hill area connectivity (Government of Himachal Pradesh and United Nations Development Programme, 2025). However, the contemporary landscape, marked by a warming and increasingly erratic Himalayan climate, a heavily indebted treasury and a labour market that cannot absorb its own graduates, demands a strategic pivot. This Comprehensive Development Framework Report of State of Himachal Pradesh outlines a blueprint to carry the state's social achievements into a more resilient and more diversified economic model by 2047, in step with the nation's own centenary aspirations.

This Report identifies several critical challenges that currently constrain sustainable growth. These include a debt to Gross State Domestic Product ratio of nearly 44 per cent, alongside a structural revenue shortfall in excess of Rs 35,000 crore over the coming five years as central Revenue Deficit Grants are phased out (Comptroller and Auditor General of India, 2025; PRS Legislative Research, 2025). They include a horticulture and hydropower economy that is now directly exposed to climate volatility, an educated youth unemployment rate of 29.6 per cent, nearly double the national figure, rising to 41.2 per cent among urban young women (Himachalscape, 2025, citing Ministry of Statistics and Programme Implementation Periodic Labour Force Survey data), and a migration rate of 49.3 per cent that is steadily drawing the state's most qualified residents toward Chandigarh, Punjab, Haryana and Delhi (The Tribune, 2024). To address these systemic issues, the framework proposes a comprehensive strategy built on ecological resilience, economic diversification and fiscal discipline.

Core Strategic Pillars

- **Rebalancing the Hydropower Economy:** Himachal Pradesh sits on roughly a quarter of India's assessed hydropower potential, yet the sector's expansion has become a source of conflict with the mountain communities whose rivers and springs it depends upon. The framework calls for renegotiated local area development funds, mandatory free power shares for host panchayats and stricter cumulative impact assessment before new tunnelling projects are cleared.
- **Climate Resilient, Disaster Ready Infrastructure:** With most of the state's terrain classified as landslide prone and entire Himalayan arc recently, if briefly, placed in the country's highest earthquake hazard category, all new roads, bridges and public buildings must be built, and existing ones retrofitted, to standards that assume repeated monsoon and seismic shocks rather than treating each disaster as an isolated event.
- **Securing and Diversifying the Horticulture Economy:** The Rs 5,000 crore apple economy that sustains roughly a quarter of a million families is now vulnerable to insufficient winter chilling hours and erratic hailstorms. Expanded irrigation,

universal crop insurance uptake, high density orcharding and diversification into climate tolerant stone fruit and off season vegetables are essential to stabilise farm incomes.

- **Building a Manufacturing and Knowledge Base Beyond Pharma:** The Baddi-Barotiwala-Nalagarh belt already anchors a pharmaceutical and FMCG manufacturing cluster generating tens of thousands of crores in annual turnover. The framework calls for extending this industrial success to new districts, expanding wellness and Ayurveda tourism, and creating skilled, local jobs that can absorb the state's own graduates rather than exporting them to neighbouring states.
- **Fiscal Consolidation and Own Revenue Enhancement:** With committed liabilities from salaries, pensions and interest payments consuming a rising share of the budget, the state must widen its own tax base, protect capital expenditure from further erosion and pursue a credible medium term path back toward the fiscal deficit targets set out in its own Fiscal Responsibility and Budget Management Act.

The successful implementation of these pillars requires sustained institutional coordination. The framework emphasises regulatory simplification, single window industrial clearances and continued investment in the ease of doing business rankings in which the state has performed strongly in recent years, so as to attract both domestic and international capital into sectors beyond hydropower and pharmaceuticals.

For decades, Himachal Pradesh's development model has been held up alongside Kerala's and Punjab's as one of the more successful examples of hill state governance in India. By achieving near universal literacy, near universal rural electrification, and a reputation as one of the country's least corrupt and administratively cleanest states, Himachal built a foundation of human capital and institutional trust that few comparably difficult terrains have matched. This success rested on sustained public investment in schools, health subcentres and roads reaching villages that other states would have written off as inaccessible, financed in no small part by generous Finance Commission transfers extended to hill and special category states, and by revenue from the sale of hydropower to neighbouring plains states.

However, the limitations of this model have become increasingly apparent over the past decade. A heavy reliance on central transfers, which are expected to make up roughly half of the state's total revenue receipts in the current financial year, has left the state acutely exposed as those transfers taper (Whalesbook, 2026). The reversion to the Old Pension Scheme has locked in a rapidly rising stream of committed liabilities even as the state's own tax base remains narrow. A narrow productive base concentrated in hydropower, tourism, horticulture and public employment has produced a paradoxical situation in which the state produces highly literate, often well qualified graduates who cannot find suitable work at home and are compelled to migrate. Climate change has begun to strike at the two revenue engines, hydropower and horticulture, simultaneously and in the same monsoon seasons, compounding fiscal stress with physical destruction of infrastructure that itself must be rebuilt on borrowed money.

The twenty first century presents a distinct set of pressures and openings. The Sixteenth Finance Commission's phasing out of Revenue Deficit Grants, changing consumer markets

for both fruit and tourism, the national push toward pharmaceutical self reliance under Atmanirbhar Bharat, and the accelerating physical reality of Himalayan climate change all require agile, evidence based governance rather than incremental adjustment. Himachal Pradesh can no longer treat its natural endowments, water, forests, scenery and a skilled workforce, as inexhaustible. The state must build an economic model that monetises these assets sustainably rather than extracting them at a pace the mountains cannot sustain.

This Comprehensive Development Framework has been developed to bridge the gap between the state's considerable human development achievements and the structural vulnerabilities that now threaten to erode them. The primary objective is to formulate actionable, sequenced policies that reduce fiscal fragility, spread climate risk across a wider range of economic activities, and give the state's own young people a reason to build their careers at home. Each of the chapters that follow diagnoses the current bottlenecks in a specific sector, sets medium term and long term objectives, and outlines the policy instruments required to reach them, always tested against the ecological limits of a Himalayan mountain state.

As India approaches the centenary of its independence in 2047, the development of its hill states will matter for reasons well beyond their own populations. Himachal Pradesh supplies water and power to the entire northern plains, hosts millions of tourists seeking relief from that plain's summer heat, and has, within living memory, converted a subsistence hill economy into one of the country's most literate and best governed states. This Report is offered as a constructive resource for the policymakers, administrators, researchers and citizens who will decide whether that transformation can be made to last.

CHAPTER 1: STATE PROFILE, GEOGRAPHY, DEMOGRAPHY AND SOCIETY

1.1 Geographic and Ecological Characteristics of the State

Himachal Pradesh is the northernmost hill state of the Indian Union, lying in the western Himalayas between roughly 30 degrees 22 minutes and 33 degrees 12 minutes north latitude and 75 degrees 45 minutes and 79 degrees 4 minutes east longitude. The state shares borders with the union territories of Jammu and Kashmir and Ladakh to the north, with Punjab to the west and southwest, with Haryana to the south, with Uttarakhand to the southeast, with a narrow frontier with Uttar Pradesh in the south, and with the Tibet Autonomous Region of China along its eastern edge (Wikipedia, 2026). It occupies a total geographical area of 55,673 square kilometres, which the Forest Survey of India records as constituting about 1.69 per cent of the country's land area (Forest Survey of India, 2019).

The state's topography rises from the outer Shivalik foothills, at altitudes up to about 1,500 metres, through a middle Himalayan zone between 1,500 and 3,000 metres, into the Himadri or Greater Himalayan region above 3,000 metres, where roughly one third of the state's area lies permanently under snow, glaciers or cold desert and supports minimal tree growth (Forest Survey of India, 2019). This vertical compression of climatic zones within a single small state produces an unusually wide range of ecosystems, from subtropical Sal and Khair forest in the Una, Hamirpur, Bilaspur and lower Kangra belt, through moist and dry temperate coniferous and broadleaf forest across the middle hills, to alpine meadow and cold desert steppe in Lahaul and Spiti and upper Kinnaur (Geohimachal, 2025). The state receives an average annual rainfall of about 1,800 millimetres, driven by both the summer southwest monsoon and, in its higher reaches, winter western disturbances that supply the snowfall on which its glaciers, rivers and ski tourism industry depend (Forest Survey of India, 2019).

Five major snow fed river systems, the Chenab, Ravi, Beas, Sutlej and Yamuna, rise in or pass through Himachal Pradesh, and it is these rivers that underpin both the state's hydropower economy and its downstream irrigation value to Punjab, Haryana and Rajasthan (Electrical India Magazine, 2020). The distinction between the state's recorded forest area and its actual satellite assessed forest cover is important and frequently conflated in casual reporting. The Recorded Forest Area, the land legally classified as forest regardless of actual tree cover, stands at roughly 37,033 square kilometres, or about two thirds of the state's geographical area (Forest Survey of India, 2019; Himachal Pradesh Forest Department, 2026). Actual forest cover as assessed from satellite imagery under the biennial India State of Forest Report is considerably lower, at approximately 15,433 square kilometres, or about 27.7 to 28.0 per cent of the geographical area, reflecting the large tracts of legally protected forest land at high altitude that carry little or no vegetation because they lie above the tree line (Forest Survey of India, 2019; Geohimachal, 2025). The state government has set a long term target of raising actual forest cover to half of its geographical area (Forest Survey of India, 2019).

This concentration of biodiversity within a compact and vertically extreme landscape has produced globally significant conservation assets. The Great Himalayan National Park, spread across 1,171 square kilometres in Kullu district with elevations ranging from 1,500 to 6,000 metres, was inscribed as a UNESCO World Heritage Site in 2014 in recognition of its outstanding significance for biodiversity conservation, and its wider Conservation Area protects the glacial and snowmelt headwaters of several tributaries of the Beas and, ultimately, the Indus river system that supplies water to millions of people downstream (UNESCO World Heritage Centre, 2014). The park alone hosts more than 375 recorded faunal species, including the globally threatened snow leopard and western tragopan, and forms part of a wider protected area network across the state comprising five national parks and 28 to 32 wildlife sanctuaries (UNESCO World Heritage Centre, 2014; Wikipedia, 2026). The state's forests as a whole are recorded as home to more than 3,295 plant species, over 95 per cent of them endemic to the western Himalayan region (Great Himalayan National Park, 2026).

This same geology that produces such biodiversity also produces acute hazard exposure. Geological Survey of India assessment finds that the overwhelming majority of the state's terrain is classified as landslide prone (Down To Earth, 2026). On seismic risk, the state has historically been divided under the Bureau of Indian Standards zoning system between Zone IV, a high damage risk category, and Zone V, the highest category recognised under the long standing classification, with districts including Kangra, Chamba, Hamirpur, Mandi, Kullu and parts of Kinnaur falling in Zone V and the remaining districts in Zone IV (Himachalscape, 2025). In November 2025 the Bureau of Indian Standards briefly placed the entire Himalayan arc, including all of Himachal Pradesh, into a newly created and even higher Zone VI category as part of a revised national seismic design code, only for that revision to be withdrawn by early 2026 pending further review of its regulatory implications (The Tribune, 2026). Whatever the final statutory classification, the underlying scientific consensus, that the state sits astride an active collision zone between the Indian and Eurasian tectonic plates capable of producing earthquakes of magnitude 8.0 or higher, of the kind that struck Kangra in 1905 and killed close to 20,000 people, remains unchanged and is treated as a first order planning constraint throughout this Report (The Tribune, 2026).

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

Himachal Pradesh attained full statehood on 25 January 1971, having previously existed as a Part C state and then a union territory formed from a set of princely hill states integrated into the Indian Union after independence. It is today divided into twelve districts, arranged for statistical and administrative convenience into a lower hill and Shivalik belt comprising Una, Hamirpur, Bilaspur and parts of Kangra and Sirmaur, a middle hill belt comprising the remainder of Kangra along with Mandi, Solan, Chamba and Sirmaur, and a high hill and tribal belt comprising Kullu, Shimla, Kinnaur and Lahaul and Spiti (Census of India, 2011). These twelve districts are further subdivided into 117 tehsils, and, as of the 2011 Census, into 20,690 villages and 61 towns (Census of India, 2011).

Two districts, Lahaul and Spiti and Kinnaur, together with parts of Chamba, are constituted as Scheduled Areas under the Fifth Schedule of the Constitution, in recognition of their predominantly tribal populations, and carry additional statutory protections over land transfer and local self governance (Shodhganga, 2013). Below the district tier, the state operates a three tier Panchayati Raj structure in rural areas, comprising Gram Panchayats, Panchayat Samitis at the block level and Zila Parishads at the district level, alongside Municipal Councils and Municipal Corporations, most prominently Shimla Municipal Corporation, in urban areas. Each district is headed by a Deputy Commissioner who doubles as District Magistrate and coordinates the delivery of state and central government schemes at the grassroots level, a role of particular importance in a state where the sheer difficulty of terrain means that many villages remain a full day's travel from the nearest tehsil headquarters.

Shimla has functioned as the state's administrative capital since the colonial period, when it served for several decades as the summer capital of British India, and it retains this primary administrative function today. In a significant recent development, the Government of Himachal Pradesh formally declared Dharamshala, in Kangra district, the state's second capital, with the winter session of the state legislature now convened there in recognition of the near total inaccessibility of Shimla's Ridge during the heaviest winter snowfall (Wikipedia, 2026). This dual capital arrangement reflects a broader administrative reality explored throughout this Report: that governing a state where large sections of the population live at altitudes above 2,000 metres, cut off for weeks at a time by snow, landslide or road damage, requires institutional adaptations that plains states rarely need to consider.

The Aspirational Districts Programme, discussed further in section 1.7 below, adds a further overlay to this administrative geography, since Chamba district has been designated by NITI Aayog as the state's sole entrant among the 112 nationally identified aspirational districts requiring focused, convergent central and state intervention (Government of Himachal Pradesh, Chamba District Administration, 2026; NITI Aayog, 2022).

1.3 Demographic Structure: Population, Density, Growth and Composition

According to the 2011 Census, the most recent decennial enumeration available at the time of writing, Himachal Pradesh recorded a total population of 6,864,602 persons, comprising 3,481,873 males and 3,382,729 females (Census of India, 2011). This represented an increase from 6,077,900 persons in 2001, a decadal growth rate of 12.94 per cent, itself a marked deceleration from the 17.53 per cent growth rate recorded in the previous decade, consistent with a state well advanced in its demographic transition (Census of India, 2011). The state's population constitutes a modest 0.57 per cent of India's total, a share that has itself declined slightly since 2001, reflecting slower relative growth than the national average (Census of India, 2011).

Population density in Himachal Pradesh stood at 123 persons per square kilometre in 2011, well below the national average of 382 persons per square kilometre, a reflection of the vast uninhabitable or sparsely inhabitable high altitude tracts in districts such as Lahaul and Spiti, which alone accounts for roughly a quarter of the state's total area but a negligible share of its

population (Census of India, 2011). District level population is highly uneven. Kangra is the most populous district, accounting for approximately one fifth of the state's total population, while Lahaul and Spiti remains the least populous, a pattern that has held broadly steady across successive censuses (Census of India, 2011).

Himachal Pradesh's sex ratio, recorded at 972 females per 1,000 males in 2011, compares favourably with the national average of 943, and represents an improvement on the 968 recorded in 2001, though it remains below the sex ratios recorded in some southern states (Census of India, 2011). Literacy has been one of the state's most consistently cited achievements. The 2011 Census recorded an overall literacy rate of 82.8 per cent, comfortably above the national figure of 72.98 per cent at that time, with male literacy at 89.53 per cent and female literacy at 75.93 per cent (Census of India, 2011). More recent assessment places the state's literacy considerably higher still. The Himachal Pradesh Human Development Report 2025 records a literacy rate of 99.3 per cent, a figure the state government has cited as evidence that Himachal Pradesh has achieved full literacy status, and notes that the state ranked fifth nationally on a recent literacy survey, up from twenty first in 2021 (Government of Himachal Pradesh and United Nations Development Programme, 2025).

The state's rural to urban composition remains heavily skewed toward rural habitation relative to national patterns, with the 2011 Census recording that just over 10 per cent of the population lived in urban areas, one of the lowest urbanisation rates among major Indian states, a consequence of a settlement pattern in which the population is dispersed across tens of thousands of small hill villages rather than concentrated in a small number of large towns (Census of India, 2011). The child population aged 0 to 6 years stood at 777,898 in 2011, or 11.33 per cent of the total population, a share that, consistent with the state's advanced demographic transition, can be expected to have declined further in the years since, pointing toward a gradually ageing population structure that will have implications for the state's future health and social security financing, discussed further in Chapter 6.

Migration has emerged as an increasingly defining feature of the state's demography, discussed in greater depth in Chapter 20. An International Labour Organization analysis cited in Indian press reporting found Himachal Pradesh's overall migration rate to stand at 49.3 per cent, notably higher than the all India average and higher than either Punjab or Haryana, the two plains states to which most out-migrants travel (The Tribune, 2024). Educated youth unemployment compounds this pressure. Data from the April to June 2025 round of the Periodic Labour Force Survey, conducted by the Ministry of Statistics and Programme Implementation, recorded youth unemployment in Himachal Pradesh at 29.6 per cent, nearly double the national figure of 14.6 per cent for the same period, with urban youth unemployment at 31.3 per cent and urban young women recording an unemployment rate as high as 41.2 per cent (Himachalscape, 2025). These figures, considered alongside the state's otherwise enviable social indicators, illustrate a demographic paradox explored throughout this Report: a well educated, long lived and literate population that its own home economy increasingly struggles to employ.

1.4 Linguistic, Ethnic, Religious and Cultural Profile

Hindi is the official language of Himachal Pradesh and serves as the primary medium of administration, education and inter-district communication, but the everyday linguistic landscape of the state is considerably richer. The great majority of the population outside urban centres speaks one of a large family of Western Pahari languages and dialects, which vary markedly from valley to valley and are often mutually difficult to understand across even adjacent districts. In Chamba district alone, for instance, Census of India data records Chambeali as the first language of roughly 23 per cent of the population, Gaddi or Bharmauri at 22 per cent, Churahi at 14 per cent, and smaller shares for Pangwali, Bhateali, Hindi, Gujar, Kashmiri and Punjabi (Census of India, 2011, as reported in Wikipedia, 2026). Similar patterns of dialect diversity, with Gorkhali, Mandeali, Kangri, Kullui, Sirmauri and Kinnauri among the more widely spoken forms, recur across the state's other districts, reflecting a historical settlement pattern of isolated valley communities that, prior to the twentieth century expansion of road connectivity, had only limited contact with one another.

Hinduism is the overwhelmingly predominant religion, followed by the great majority of the population, with Sikh, Muslim, Buddhist and Christian minorities concentrated in particular districts and towns, Buddhism in particular retaining a strong presence in Lahaul and Spiti and Kinnaur, reflecting these districts' historical and continuing cultural ties to Tibetan Buddhist tradition (Census of India, 2011). Scheduled Castes constituted approximately 25.19 per cent of the state's population and Scheduled Tribes approximately 5.71 per cent as per the 2011 Census, both figures somewhat higher than the corresponding national averages, reflecting the state's large tribal belt in its northern and eastern high altitude districts (Census of India, 2011, as reported in Census India, 2011).

Ten communities are notified as Scheduled Tribes in Himachal Pradesh, of which the Gaddi, a transhumant pastoralist community historically associated with sheep and goat herding between summer high pastures and winter lowland grazing grounds, constitutes the largest single group and is concentrated overwhelmingly in Chamba district and parts of Kangra (Himalayan Club Journal, 2019). The Kinnaura community of Kinnaur district forms the second largest Scheduled Tribe, followed by smaller communities including the Gujjar, a nomadic pastoralist community found across several districts, the Pangwal of the remote Pangi valley in Chamba, and the Bodh or Bhot communities of Lahaul and Spiti, whose cultural and religious practices draw heavily on Tibetan Buddhist tradition (Himalayan Club Journal, 2019; Shodhganga, 2013). These tribal areas, though home to a small minority of the state's total population, occupy a disproportionately large share of its geographical area and present distinct governance and service delivery challenges that recur throughout this Report, from the extension of all weather road connectivity to the design of health and education infrastructure suited to extremely dispersed, high altitude settlement patterns.

Culturally, Himachal Pradesh is popularly known as Dev Bhoomi, or the Land of Gods, a name reflecting the density of ancient temples across the state and its long standing significance as a centre of Hindu pilgrimage, including five Shakti Peeth sites and prominent temple towns such as Chamba, Mandi and Bilaspur (Wikipedia, 2026). This religious and

cultural heritage, together with the state's dramatic landscape, forms the foundation of the tourism economy analysed in Chapter 19, and its traditional architectural forms, notably the earthquake resilient Kath Kuni and Dhajji Dewari timber and masonry construction techniques found across the middle and high hills, are increasingly cited by disaster management specialists as offering lessons for modern seismic resilient design, a theme this Report returns to in its discussion of climate and disaster governance in Chapter 14 (The Tribune, 2026).

1.5 Human Development Index: State Ranking and Trend Analysis

Himachal Pradesh's human development performance has, for several decades, placed it consistently among the small group of Indian states, alongside Kerala, Goa and Punjab, whose subnational Human Development Index scores would place them comfortably in the globally recognised high human development category if measured as standalone countries (StudyLab24, 2026). The Himachal Pradesh Human Development Report 2025, prepared jointly by the state's Department of Environment, Science, Technology and Climate Change and the United Nations Development Programme and released in October 2025, represents the first independent, third party assessment of the state's human development commissioned directly by the state government, and records a state level Human Development Index of 0.78 against a national average of 0.63 (Government of Himachal Pradesh and United Nations Development Programme, 2025).

This aggregate figure conceals considerable district level variation. The same report records Solan district as the state's top performer on the Human Development Index, with a district score of 0.880, while Kangra, despite being the most populous district, trails at 0.695, with the overall state average of 0.783 masking what the report itself describes as impressive education outcomes sitting alongside worrying income inequality (HimbuMail, 2025, citing Government of Himachal Pradesh and United Nations Development Programme, 2025). The report finds the state's average life expectancy at 72.6 years, above the national figure of 69 years, and its literacy rate at 99.3 per cent, far above the national rate of 81 per cent (HimbuMail, 2025).

Most significantly for the purposes of this Report, the 2025 Human Development Report is the first state level human development document in India to introduce a Climate Adjusted Human Development Index, a composite metric designed to show how a warming and increasingly erratic mountain climate is beginning to erode gains that conventional human development indicators, which do not account for climate exposure, would otherwise fail to capture (Government of Himachal Pradesh and United Nations Development Programme, 2025). United Nations Development Programme officials have described the introduction of this metric as reflecting a broader message that climate change in Himachal Pradesh is not solely an environmental concern but a direct threat to human development outcomes themselves (HimbuMail, 2025). The report finds that climate adaptation performance itself varies sharply by district, with Kinnaur, followed by Lahaul and Spiti, Chamba and Kangra, recorded as the state's strongest performers on this dimension, a finding this Report examines further in Chapter 14 (HimbuMail, 2025).

The trend implicit in this new metric is one of gradually rising risk to a historically strong human development record. The same report notes that the 2025 monsoon season alone, through floods in Kangra, landslides in Kullu and record heat in Una, is estimated to have cost the state close to Rs 4,300 crore, nearly three times the loss recorded in the previous year, even as the state government points to its human development performance as evidence that targeted welfare schemes, including India's first minimum support price scheme for naturally grown crops and the first state provided support price for milk, have continued to deliver results despite mounting fiscal and climatic pressure (HimbuMail, 2025).

1.6 Poverty, Inequality and Multidimensional Deprivation Indices

Himachal Pradesh has for many years ranked among the small number of Indian states with the lowest incidence of multidimensional poverty. NITI Aayog's National Multidimensional Poverty Index, developed jointly with the United Nations Development Programme and the Oxford Poverty and Human Development Initiative using the internationally recognised Alkire-Foster methodology, measures deprivation across twelve indicators spanning health, education and standard of living (NITI Aayog, 2023). In the baseline assessment drawn from the National Family Health Survey conducted in 2015 to 2016, Himachal Pradesh was among only seven Indian states, alongside Mizoram, Punjab, Sikkim, Tamil Nadu, Goa and Kerala, in which fewer than 10 per cent of the population was classified as multidimensionally poor, a group that had expanded to fourteen states by the time of the second edition of the index, based on National Family Health Survey data collected in 2019 to 2021 (ThePrint, 2023; NITI Aayog, 2023). Himachal Pradesh's continued membership of this leading group across both survey rounds indicates sustained, rather than merely transitory, progress on the underlying determinants of deprivation, including access to clean cooking fuel, sanitation, drinking water, nutrition and years of schooling that make up the index (NITI Aayog, 2023).

This favourable aggregate position should not obscure meaningful internal variation. Even within a state with generally low multidimensional poverty, health related indicators, nutrition, maternal health and child and adolescent mortality, have historically shown the slowest improvement of the index's three broad dimensions nationally, a pattern this Report has no specific reason to believe Himachal Pradesh is fully exempt from, and one that Chapter 6 of this Report examines in more detail in relation to the state's continuing burden of non-communicable disease and its geographically dispersed rural health infrastructure (NITI Aayog, 2023).

Income inequality presents a more ambiguous picture than the multidimensional poverty data alone would suggest. The Himachal Pradesh Human Development Report 2025 itself flags what it describes as worrying income inequality sitting alongside strong education outcomes, a finding consistent with the wide district level spread in the state's Human Development Index scores discussed in section 1.5 above, where Solan's district level score of 0.880 stands well above Kangra's 0.695 (HimbuMail, 2025). This suggests that low multidimensional poverty as conventionally measured, which captures access to basic services and minimum living standards, coexists in Himachal Pradesh with a meaningful and geographically concentrated gap in income and opportunity, an issue of particular relevance to the state's

aspirational district of Chamba, discussed in section 1.7 below, and to the broader question of employment generation examined in Chapter 3.

Fiscal capacity to sustain welfare spending going forward is itself now a live constraint on poverty reduction. With the state's own revenue base narrow and central Revenue Deficit Grants scheduled to fall from Rs 6,258 crore in 2024-25 to just Rs 3,257 crore in 2025-26, a reduction of roughly 70 per cent over four years, the fiscal space available to sustain the welfare architecture that has underpinned the state's low poverty and inequality outcomes is coming under sustained pressure precisely as climate related shocks raise the cost of maintaining that architecture (ThePrint, 2026). This tension between a historically strong welfare state and a rapidly narrowing fiscal envelope recurs as a central theme of this Report and is examined in full in Chapter 2.

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

Despite Himachal Pradesh's strong aggregate performance on most national indices, the state is not internally uniform, and the Government of India's own targeting mechanisms recognise this. Chamba district, in the state's remote northwest, was identified by the Ministry of Panchayati Raj as one of the 250 most backward districts in the country as far back as 2006 and became one of only two districts in the state to receive funding under the erstwhile Backward Regions Grant Fund Programme (Wikipedia, 2026). More significantly for current policy, Chamba is the state's sole representative among the 112 districts nationwide selected under NITI Aayog's Aspirational Districts Programme, a flagship initiative that channels convergent central and state resources toward composite indicators of health, education, agriculture, financial inclusion, skill development and basic infrastructure in the country's most structurally disadvantaged districts (NITI Aayog, 2022; Government of Himachal Pradesh, Chamba District Administration, 2026).

The district's own administration candidly describes the scale of the challenge, noting persistently high poverty and under-employment, limited local livelihood options, and, following the disruption of the COVID-19 pandemic, a wave of returning migrant workers, many previously employed in the tourism sector elsewhere in the state, who found themselves without work in their home district (Government of Himachal Pradesh, Chamba District Administration, 2026). At the same time, the district administration points to Chamba's considerable underexploited potential in biodiversity, hydropower and heritage tourism, framing the Aspirational Districts Programme not as an admission of permanent disadvantage but as a mechanism to convert latent natural and cultural assets into sustained livelihoods (Government of Himachal Pradesh, Chamba District Administration, 2026). Census data bear out the scale of the district's relative disadvantage on conventional indicators, recording a 2011 literacy rate of 73.19 per cent against a state average of 82.8 per cent, and Scheduled Caste and Scheduled Tribe populations of 21.52 per cent and 26.10 per cent respectively, both considerably above state averages, reflecting the district's large Gaddi tribal population (Wikipedia, 2026; Census of India, 2011).

Beyond Chamba's formal aspirational district status, intra-state disparity in Himachal Pradesh follows a broader and recurring geographic pattern that surfaces repeatedly throughout this Report. The state's high altitude tribal districts, Lahaul and Spiti, Kinnaur and the Pangi and Bharmour subdivisions of Chamba, combine severe seasonal inaccessibility, extremely low population density and disproportionately high per unit costs of infrastructure delivery, yet in several cases, as the 2025 Human Development Report's climate adaptation ranking demonstrates with Kinnaur and Lahaul and Spiti topping that particular index, these same remote districts can outperform more accessible and populous districts on specific dimensions of resilience and adaptation, complicating any simple narrative of the tribal high hills as uniformly disadvantaged (HimbuMail, 2025). Conversely, the district Human Development Index data discussed in section 1.5 shows that Kangra, the state's most populous and among its more accessible districts, trails the state average, suggesting that disparity within Himachal Pradesh is driven as much by structural income and livelihood diversification gaps as by simple physical remoteness. Bridging these overlapping and sometimes counterintuitive patterns of disadvantage, rather than assuming that accessibility alone determines development outcomes, is treated as a guiding principle for district level policy design throughout this Report.

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

Taken together, the data presented in this chapter place Himachal Pradesh in a distinctive and in some respects contradictory position within India's national development landscape. On virtually every conventional human development metric, life expectancy, literacy, sex ratio, access to basic services and the incidence of multidimensional poverty, the state ranks among the top handful of Indian states, a position it has sustained across multiple rounds of national data collection rather than achieving fleetingly (Government of Himachal Pradesh and United Nations Development Programme, 2025; NITI Aayog, 2023; Census of India, 2011). Himachal Pradesh was also recognised, in a 2017 corruption perception survey conducted by CMS-India, as the country's least corrupt state, a reputation for administrative cleanliness that the state government continues to invoke in its efforts to attract private investment (Wikipedia, 2026). The state has separately been recognised as a Top Achiever State under the Business Reforms Action Plan, the Government of India's principal ease of doing business ranking exercise for states, in its most recent 2024 assessment cycle, an outcome that speaks to the institutional capacity underpinning its social achievements (Geohimachal, 2025).

Set against this favourable social and governance ranking, the state's position on fiscal and economic security indicators has deteriorated markedly and now sits considerably below its human development ranking would predict. Its debt to Gross State Domestic Product ratio of nearly 44 per cent as of the 2023-24 financial year places it among the more heavily indebted major states in the country, and successive reports of the Comptroller and Auditor General of India have placed Himachal Pradesh among the states of greatest concern on debt sustainability grounds, a marked contrast to states such as Odisha or Gujarat that combine much lower human development scores with considerably stronger fiscal positions (Comptroller and Auditor General of India, 2025). On youth employment, the state's position

is similarly discordant with its education record, with a youth unemployment rate of 29.6 per cent that places it among the weaker performing major states nationally on this specific indicator, despite, or arguably partly because of, its unusually high rate of educational attainment feeding graduates into a labour market too narrow to absorb them (Himachalscape, 2025).

This combination, a state that performs exceptionally on the indicators that development economists have traditionally treated as ultimate outcomes of good governance, life, health, literacy, while simultaneously showing acute and worsening weakness on the underlying fiscal and employment fundamentals that sustain those outcomes over time, is the central analytical puzzle that this Report seeks to address. The chapters that follow examine, in turn, the fiscal architecture (Chapter 2), the economic structure (Chapter 3) and the investment climate (Chapter 4) that will determine whether Himachal Pradesh's twentieth century human development success can be sustained through a twenty first century of mounting climatic and fiscal stress, or whether the state's own most talented citizens will simply continue to take their education elsewhere.

CHAPTER 2: FISCAL ARCHITECTURE OF THE STATE

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

The fiscal architecture of Himachal Pradesh rests on a structurally narrow revenue base that has, for most of the state's history, been supplemented by unusually generous central transfers rather than corrected through sustained own revenue mobilisation. For 2025-26, the state budgeted total revenue receipts of Rs 42,343 crore, itself a 3 per cent decline from the revised estimate of the previous year, of which only Rs 20,294 crore, or 48 per cent, was to be raised through the state's own resources, with the remaining Rs 22,049 crore, or 52 per cent, expected from the centre in the form of tax devolution and grants (PRS Legislative Research, 2025). This near even split between own resources and central transfers is itself an improvement on the historical pattern for special category hill states, but it still leaves Himachal Pradesh considerably more dependent on Delhi than larger, more industrialised states.

Within the state's own resources, own tax revenue for 2025-26 was budgeted at Rs 16,101 crore, a 19 per cent increase over the revised estimate for 2024-25, equivalent to 6.3 per cent of Gross State Domestic Product (PRS Legislative Research, 2025). Subsequent budget documents suggest this budgeted figure proved optimistic. The 2026-27 budget analysis records the revised estimate for own tax revenue in 2025-26 at only 5.5 per cent of GSDP, a shortfall consistent with an earlier warning from India Ratings that the state's assumptions on own tax revenue growth for the year were unrealistic, and with the same agency's observation that the state's own tax revenues had in fact declined by Rs 1,570 crore relative to budget in the preceding financial year (PRS Legislative Research, 2026; Business Standard, 2025). State Goods and Services Tax remains by far the largest single component of own tax revenue, contributing an estimated 42 per cent of the total in 2025-26 and budgeted to grow by 13 per cent, followed by state excise duty, budgeted to grow by 12 per cent, with smaller and more volatile contributions from land revenue, stamps and registration fees and taxes on vehicles (PRS Legislative Research, 2025). Own tax revenue as a share of GSDP has hovered in a narrow band of roughly 5.5 to 6.6 per cent across the past several budget cycles, actual collection in 2022-23 having come in at 5.5 per cent and in 2023-24 at 5.6 per cent, figures that longer term academic assessment attributes in part to the state's constrained industrial base and the fact that some two thirds of its geographical area is legally classified as forest and therefore largely outside the reach of conventional property or land based taxation (PRS Legislative Research, 2025; ThePrint, 2026).

Non-tax revenue, drawn principally from royalties on hydropower generation, forest produce and user charges, has weakened in relative terms over the past decade. A study prepared for the Sixteenth Finance Commission finds that non-tax revenue's contribution to total revenue receipts fell from 8.83 per cent to 8.22 per cent over a twelve year period, and that the ratio of non-tax revenue to own tax revenue declined from 22.94 per cent to 20.64 per cent over the same period, even as the ratio of non-tax revenue to GSDP slipped from 1.66 per cent to 1.60 per cent (Fifteenth Finance Commission Evaluation Study, 2024). The same study explicitly

recommends that the state look to expand user charges and fees, particularly in urban areas, to meet its service delivery obligations, a recommendation that recurs in this Report's treatment of urban governance in Chapter 11.

On the devolution side, the state's share in central taxes was estimated at Rs 11,806 crore for 2025-26, equivalent to 28 per cent of revenue receipts, while grants from the centre, comprising both Finance Commission grants and centrally sponsored scheme funding, were estimated at Rs 10,243 crore, or 24 per cent of revenue receipts, a 33 per cent decline from the revised estimate of the previous year (PRS Legislative Research, 2025). A modest structural improvement lies in the Sixteenth Finance Commission's decision to raise Himachal Pradesh's share of the central divisible pool of taxes from 0.83 per cent to 0.914 per cent, a change state finance officials estimate could add between Rs 1,000 crore and Rs 2,000 crore annually, though this gain is, as sections 2.6 and 2.9 below make clear, dwarfed by the simultaneous discontinuation of Revenue Deficit Grants (ThePrint, 2026).

2.2 Expenditure Profile: Composition, Quality and Efficiency

Himachal Pradesh's expenditure profile is increasingly dominated by committed expenditure, the combination of salary, pension and interest payments that a state government has little short term ability to alter. For 2025-26, the state budgeted Rs 35,222 crore for committed expenditure, equivalent to 83 per cent of revenue expenditure for the year (PRS Legislative Research, 2025). An independent assessment by the ratings agency India Ratings found that the share of selected committed expenditure items in total revenue expenditure, having fluctuated between 36.0 per cent and 38.5 per cent through the period from 2010 to 2023, was budgeted to reach 43.1 per cent in 2025-26, the highest level since 2005, with committed spending as a whole projected to consume close to half of the state's total revenue receipts for the year (Business Standard, 2025). The state's own mid-year Fiscal Responsibility and Budget Management report, presented to the legislative assembly in December 2025, put salary expenditure for the year at Rs 13,837.36 crore and pension expenditure at Rs 10,820 crore, with further substantial allocations for subsidies and interest payments (Outlook Business, 2025).

This structure leaves comparatively little room for discretionary or development expenditure. Sector wise, the state's spending remains concentrated in education, health, rural development and social welfare, with 2025-26 allocations including Rs 133 crore for the PM POSHAN school meal scheme and Rs 128 crore for the Pradhan Mantri Awas Yojana rural housing scheme, alongside continuing allocations for the Samagra Shiksha Abhiyan, the National Health Mission, the Mission on Natural Farming and the rural employment guarantee scheme, together with a small number of sectors accounting for the majority of total sectoral spending (PRS Legislative Research, 2025). The efficiency of this spending is complicated by the physical geography discussed in Chapter 1. Per capita costs of delivering a functioning primary school, health subcentre or ration shop in a scattered hill village are considerably higher than in a plains state of comparable population, a structural cost disability that the state's own Finance Department has repeatedly cited in its representations to successive

Finance Commissions, and one this Report treats as a genuine, rather than merely rhetorical, constraint on expenditure efficiency (Fifteenth Finance Commission Evaluation Study, 2024).

The consequence of a rising committed expenditure share, combined with a revenue base that has periodically underperformed budget assumptions, has been a widening gap between planned and actual expenditure within the same financial year. The 2026-27 budget analysis notes that in 2025-26, total expenditure came in 23 per cent higher than originally budgeted, while total receipts excluding borrowings rose by only 13 per cent over the same period, a divergence that mechanically produced deficits considerably larger than those originally planned (PRS Legislative Research, 2026). This in year slippage between revenue and expenditure growth, examined further in section 2.4, is one of the clearest quantitative signals in this Report of the fiscal fragility that now sits alongside the state's strong human development record.

2.3 Capital Expenditure: Infrastructure Investment and Asset Creation

Capital expenditure, the spending that builds roads, schools, hospitals and irrigation works rather than simply servicing existing commitments, has been the principal casualty of Himachal Pradesh's tightening fiscal space. The state budgeted only Rs 3,941 crore for capital outlay in 2025-26, a reduction of 55 per cent from the revised estimate of the previous year, even as revenue expenditure for the same year was budgeted to fall by a comparatively modest 3 per cent (PRS Legislative Research, 2025). India Ratings characterised the resulting capital expenditure ratio, at just 1.6 per cent of GSDP for the 2025-26 financial year, as a record low, and warned explicitly that the combination of rising committed expenditure and shrinking capital outlay would make it difficult for the state to sustain its already elevated debt levels over the medium to long term, since capital spending, unlike revenue spending, at least in principle creates assets and future revenue capacity against which borrowing can be justified (Business Standard, 2025).

The sectoral composition of this capital expenditure cut is particularly significant given the state's terrain dependent infrastructure needs discussed throughout this Report. The 2025-26 budget documents show the reduction in capital outlay falling disproportionately on transport, down 58 per cent, water supply and sanitation, down 51 per cent, and irrigation, sectors in which Himachal Pradesh's mountainous geography already imposes exceptionally high per kilometre and per household construction costs relative to plains states (PRS Legislative Research, 2025). Chapter 8 of this Report examines the resulting road and connectivity backlog in detail, but the fiscal roots of that backlog are established here: a state that must rebuild washed out roads and bridges after every serious monsoon, discussed further in Chapter 14, is simultaneously cutting the very capital budget lines from which such reconstruction, and any accompanying resilience upgrade, would normally be financed.

One underused avenue for protecting capital investment lies in central government financing instruments that sit outside the state's own borrowing ceiling. Since 2020-21, the central government has extended fifty year interest free loans to states specifically for capital

expenditure, and these loans are explicitly excluded from the calculation of a state's overall borrowing limit under the Fiscal Responsibility and Budget Management framework (PRS Legislative Research, 2026). Given Himachal Pradesh's otherwise constrained borrowing space, discussed in section 2.4, more aggressive and better coordinated utilisation of this facility, alongside a stronger project pipeline capable of absorbing externally aided and centrally sponsored capital funding, represents one of the few realistic levers available to the state to protect infrastructure investment without breaching its statutory fiscal limits, a theme this Report returns to in its recommendations in Chapter 21.

2.4 Fiscal Deficit, Primary Deficit and Debt Sustainability

Himachal Pradesh's deficit and debt trajectory over the past decade illustrates a state whose fiscal position has deteriorated considerably faster than its headline budget documents alone would suggest. The state recorded a revenue surplus between 2018-19 and 2021-22, a period coinciding with unusually large Finance Commission transfers discussed in section 2.6, but has recorded a revenue deficit in every year since (PRS Legislative Research, 2025). That deficit stood at 3.3 per cent of GSDP in 2022-23, an estimated 2.6 per cent in the revised estimate for 2023-24, a budgeted 2 per cent for 2024-25 that was itself later revised upward to 2.8 per cent, and a further budgeted 2.5 per cent for 2025-26 that the most recent available revised estimate places at 3.9 per cent, some 54 per cent above the original budget figure (PRS Legislative Research, 2025, 2026). The fiscal deficit, which includes capital as well as revenue borrowing, shows an even more pronounced pattern of in year slippage. Budgeted at 4.7 per cent of GSDP for 2024-25, it was subsequently revised to 6.6 per cent. Budgeted again at 4 per cent of GSDP for 2025-26, or Rs 10,338 crore, a mid-year Fiscal Responsibility and Budget Management statement presented to the state legislature in December 2025 had already revised this figure to 4.74 per cent of GSDP, or Rs 12,114 crore, attributing the widening gap explicitly to the cost of natural calamities, rising committed liabilities and a reduction in Goods and Services Tax rates, while the most recent budget analysis available at the time of writing places the final revised estimate for the year at 6.6 per cent of GSDP, 62 per cent above the original budget (Outlook Business, 2025; PRS Legislative Research, 2026).

This recurring and widening gap between budgeted and actual deficits sits atop a debt stock that has grown at a pace few other Indian states have matched over the same period. State government debt stood at Rs 47,906 crore in 2018, had reached Rs 76,651 crore by 2022, a 60 per cent increase in five years, and stood at Rs 86,589 crore in 2022-23 before rising further to approximately Rs 95,600 crore by March 2024 and to Rs 1,04,729 crore by early 2026, crossing the symbolically significant Rs 1 lakh crore mark in the process (Swarajyamag, 2026; ThePrint, 2026; Comptroller and Auditor General of India, 2025). Outstanding liabilities as a share of GSDP rose from 40.2 per cent in 2020-21 to between 42.3 and 42.5 per cent by 2024-25, with the Comptroller and Auditor General's most recent report on the state's 2023-24 accounts placing the figure at close to 44 per cent, while a separate academic assessment places outstanding liabilities at 40.5 per cent of GSDP for 2025-26, the apparent divergence reflecting both the different reference years used and the

fact that nominal GSDP growth can outpace debt growth in any single year even as the absolute debt stock continues to rise (PRS Legislative Research, 2025; Comptroller and Auditor General of India, 2025; Dharwal, 2026).

Debt sustainability indicators point in a consistently unfavourable direction. The Comptroller and Auditor General found that the proportion of the state's public debt used solely to repay earlier borrowings, rather than to fund new capital or development spending, rose from 52.99 per cent in 2019 to 74.11 per cent in 2024, and separately noted that public debt was growing at an annual rate of 9.6 per cent even as the state was borrowing at an average interest rate of 7.89 per cent, a combination under which every rupee borrowed effectively adds to, rather than relieves, the underlying debt burden (ThePrint, 2026; Swarajyamag, 2026). The Comptroller and Auditor General's 2016-17 report on the state's finances had explicitly predicted that Himachal Pradesh would enter a debt trap by 2018-19, at a time when the state's financial liabilities already stood at 176 per cent of its revenue receipts, and its most recent report, covering 2023-24 accounts and tabled in 2025, finds that roughly 81 per cent of the state's outstanding debt will mature within the next ten years, implying a sharply rising near term repayment burden even before any new borrowing is considered (Swarajyamag, 2026). This dynamic has already produced a negative net financing position for the coming year. State finance department data cited in national reporting shows Himachal Pradesh needing to repay approximately Rs 13,000 crore in loan principal during 2026-27 while planning to borrow only around Rs 10,000 crore under its statutory borrowing ceiling, implying a net cash outflow of roughly Rs 3,000 crore even before any new development spending is financed (ThePrint, 2026).

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

Beyond the state government's own direct borrowing, Himachal Pradesh carries a further layer of contingent liability through guarantees extended to its State Public Sector Enterprises, principally in the power sector. As of 31 March 2023, the state's outstanding government guarantees stood at 4.8 per cent of that year's revenue receipts, a figure that, while not enormous in isolation, sits atop an already elevated direct debt position and represents a liability that could crystallise onto the state's own balance sheet should the underlying enterprises be unable to service their obligations (PRS Legislative Research, 2024). The power sector is the largest source of this contingent exposure. The Himachal Pradesh State Electricity Board Limited, formed in 2010 when the erstwhile state electricity board was corporatised and unbundled under the Himachal Pradesh Power Sector Reforms Transfer Scheme, carried accumulated losses of Rs 2,092.86 crore and outstanding debt of Rs 8,367.04 crore as of 31 March 2019, according to the Comptroller and Auditor General's audit of state power sector undertakings (Comptroller and Auditor General of India, 2021). More recent aggregate figures suggest the underlying problem has not been resolved. A Comptroller and Auditor General assessment cited in state media found that 14 of the state's 23 public sector enterprises were loss making, with cumulative losses reaching Rs 5,143.4 crore, and commentary drawing on that report has specifically criticised the practice of appointing career civil servants rather than sector specialists to lead technically demanding

entities such as the Himachal Pradesh Power Corporation Limited, the Himachal Pradesh Tourism Development Corporation and the Himachal Road Transport Corporation, contrasting their performance with that of centrally owned power sector companies headquartered in the state, such as SJVN Limited, which are run by technical management and have remained consistently profitable (HimbuMail, 2026).

The state's four principal power sector undertakings, the Himachal Pradesh State Electricity Board Limited, the Himachal Pradesh Power Corporation Limited, the Himachal Pradesh Power Transmission Corporation Limited and the Beas Valley Power Corporation Limited, together receive continuing budgetary support from the state government in the form of equity infusion, loans and grants or subsidies, a pattern the Comptroller and Auditor General has tracked annually without finding material improvement in the underlying loss making position of the sector's principal distribution entity (Comptroller and Auditor General of India, 2019, 2021). Separately, the state carried Rs 1,717 crore in back-to-back loans from the government of India during 2020-21 alone, extended in lieu of a shortfall in Goods and Services Tax compensation, an instrument discussed further in section 2.7, and which itself added to the state's off-budget style liabilities even though it was centrally financed and interest free (Comptroller and Auditor General of India, 2022). Corporate governance audits of the state's public sector enterprises have separately flagged persistent compliance gaps, including several enterprises failing to constitute mandatory Nomination and Remuneration Committees and to appoint statutorily required women directors, findings that this Report treats not as isolated administrative lapses but as symptomatic of the weak commercial oversight that has allowed loss making state enterprises to accumulate liabilities over many years without corrective board level intervention (Comptroller and Auditor General of India, 2021).

2.6 Finance Commission Awards: Allocation and Utilisation

Few single fiscal events have shaped Himachal Pradesh's public finances as decisively as the tapering and eventual discontinuation of Revenue Deficit Grants recommended by successive Finance Commissions. Under the Fourteenth Finance Commission's 2015 to 2020 award, the state received a total of Rs 40,624 crore in such grants, averaging roughly Rs 8,000 crore annually (ThePrint, 2026). The Fifteenth Finance Commission, covering 2021 to 2026, assessed the state's revenue at Rs 90,760 crore against assessed expenditure of Rs 1,70,930 crore over the period, identifying a gap of Rs 80,170 crore to be bridged through a combination of tax devolution of Rs 35,064 crore, Revenue Deficit Grants of Rs 37,199 crore and other grants of Rs 9,714 crore (The News Himachal, 2026; HimbuMail, 2026). These Revenue Deficit Grants were deliberately front loaded and then tapered across the award period, falling from Rs 10,949 crore in 2021-22 to Rs 9,377 crore in 2022-23, Rs 8,058 crore in 2023-24, Rs 6,258 crore in 2024-25 and finally Rs 3,257 crore in 2025-26, a decline of roughly 70 per cent over four years by design, intended by the Commission to encourage states to close their own revenue gaps progressively rather than relying indefinitely on central transfers (ThePrint, 2026).

The Sixteenth Finance Commission, whose award governs the 2026 to 2031 period, has gone considerably further than a mere continuation of this taper. Rather than conducting the state specific revenue and expenditure assessment that underpinned previous Revenue Deficit Grant allocations, the Sixteenth Commission has discontinued the instrument entirely for all states, a decision state officials describe as unprecedented in the 73 years since the mechanism, constitutionally grounded in Article 275(1), was first extended to Himachal Pradesh (HimbuMail, 2026; The News Himachal, 2026). The state's Finance Department has publicly characterised this decision as removing untied fiscal support that tied central schemes and sector specific grants cannot substitute for, since more than 70 per cent of the state's committed expenditure, salaries, pensions and interest payments, cannot legally be financed from scheme funds earmarked for specific development purposes (HimbuMail, 2026). Some of this loss is offset by the Commission's separate decision to raise Himachal Pradesh's share of the central divisible pool of taxes from 0.83 per cent to 0.914 per cent, a change expected to add between Rs 1,000 crore and Rs 2,000 crore annually, alongside continuing sector specific grants for health, school and higher education, agricultural reform, maintenance of Pradhan Mantri Gram Sadak Yojana roads, the judiciary, statistical capacity and aspirational districts and blocks, the last of direct relevance to Chamba district's own development trajectory discussed in Chapter 1 (Vajiram and Ravi, 2026; ThePrint, 2026).

State finance officials project that even after accounting for this higher tax devolution share, together with the state's own borrowing of approximately Rs 10,000 crore permitted under its 3 per cent of GSDP fiscal deficit ceiling, Himachal Pradesh faces a resource gap of close to Rs 6,000 crore in 2026-27 alone, excluding any new development expenditure, once committed expenditure of nearly Rs 48,000 crore is set against own revenue of roughly Rs 18,000 crore (HimbuMail, 2026). The state government has publicly requested that the Revenue Deficit Grant mechanism be restored, or an equivalent untied instrument created, arguing that the fiscal gap facing Himachal Pradesh and other hill states reflects a structural geographic and ecological disadvantage recognised by the historical extension of Special Category Status to such states, rather than a failure of any single administration's budget management (HimbuMail, 2026). This Report assesses the merits of that argument, alongside the case for more decisive own revenue reform within the state, in section 2.9 below.

2.7 GST Implementation: Revenue Impact and Compensation Status

The introduction of the Goods and Services Tax regime in July 2017 fundamentally reshaped Himachal Pradesh's own tax revenue structure, and its evolution since then has been a mixed one for the state's finances. State Goods and Services Tax has become comfortably the largest single component of the state's own tax revenue, contributing an estimated 42 per cent of the total in 2025-26 and budgeted to grow by 13 per cent over the previous year's revised estimate, reflecting both the tax's broad base and its buoyancy relative to the older, narrower state excise and stamp duty regimes it substantially replaced (PRS Legislative Research, 2025). The five year compensation mechanism that accompanied the Goods and Services Tax's introduction, under which the central government guaranteed states a 14 per cent annual revenue growth rate over a 2015-16 base and made up any shortfall through a dedicated

compensation cess, expired in June 2022. Its end removed an estimated Rs 3,000 crore to Rs 3,500 crore in annual central support to Himachal Pradesh, a loss that state finance officials have identified as one of several structural shocks, alongside the Revenue Deficit Grant taper discussed above and the fiscal impact of pension reform discussed in section 2.9, that combined to push the state toward its current fiscal position (ThePrint, 2026).

Even before the compensation mechanism's expiry, Himachal Pradesh had required interim central support to bridge collection shortfalls. Comptroller and Auditor General records show the state receiving Rs 1,717 crore in back-to-back loans from the government of India during 2020-21 alone, extended specifically in lieu of a shortfall in Goods and Services Tax compensation cess collections that year, itself substantially a consequence of the broader pandemic related contraction in economic activity nationally (Comptroller and Auditor General of India, 2022). More recently, the national Goods and Services Tax rate rationalisation exercise completed in 2025, which reduced rates on a range of processed food and other inputs to 5 per cent with effect from September 2025, has been cited by the state's own mid-year Fiscal Responsibility and Budget Management report as one of the specific factors widening the state's fiscal deficit for 2025-26 beyond budgeted levels, since lower headline rates mechanically reduce state collections even where they are intended to support consumption and industrial competitiveness (Outlook Business, 2025; Grokipedia, 2026). This tension, between a national tax reform designed to support consumption and industrial competitiveness in centres such as the Baddi pharmaceutical cluster discussed in Chapter 4, and its short term revenue cost to an already fiscally stretched producing and consuming state, illustrates the recurring theme of this chapter: that Himachal Pradesh's fiscal difficulties arise not from any single policy failure but from the layering of multiple, individually reasonable national reforms onto a state whose own revenue base was narrow to begin with.

2.8 Public Financial Management Reforms and Audit Compliance

Himachal Pradesh operates under the Himachal Pradesh Fiscal Responsibility and Budget Management Act, 2005, which sets annual statutory targets for the progressive reduction of the state's outstanding liabilities, revenue deficit and fiscal deficit, and which requires the state government to table periodic compliance statements, including the mid-year statement presented to the legislative assembly in December 2025 that has been cited repeatedly in this chapter (PRS Legislative Research, 2025; Outlook Business, 2025). In principle, this framework should provide an early warning mechanism against exactly the kind of debt accumulation documented in section 2.4. In practice, the record of the past decade suggests that early warnings have been issued, and largely not acted upon. The Comptroller and Auditor General's 2016-17 report explicitly predicted the state would enter a debt trap by 2018-19, a warning that was tabled in the state assembly and reported in the press at the time, and the same institution's most recent report, covering 2023-24 accounts and tabled in 2025, reiterates concern over the state's debt trajectory in almost identical terms, noting the rising share of new borrowing consumed by repayment of old debt discussed in section 2.4 (Swarajyamag, 2026).

Beyond debt sustainability, Comptroller and Auditor General compliance audits of the state's public sector enterprises have documented a range of corporate governance shortfalls, including enterprises that failed to constitute statutorily required Nomination and Remuneration Committees, and instances where the state's own audit committees did not formally review Comptroller and Auditor General findings before their submission, weakening the ordinary feedback loop through which external audit is meant to inform internal management reform (Comptroller and Auditor General of India, 2021). Within the core government accounts, routine internal audit continues to identify recoverable irregularities, with one recent annual compliance report finding recovery due in several thousand individual cases spanning revenue, transport and vehicle tax heads, most of which was subsequently recovered during the same financial year, a pattern indicating that basic departmental level financial controls remain functional even as the state's aggregate fiscal position has deteriorated (Comptroller and Auditor General of India, 2022). The state's own Finance Department has, for its part, moved toward greater public transparency in reporting the scale of the challenge, its December 2025 presentation to the legislative assembly setting out in unusually candid terms the prospect that dearness allowance payments, pay arrears and even routine subsidies to entities such as the Himachal Road Transport Corporation could become unaffordable without either restored central support or substantial expenditure rationalisation, including the proposed closure of up to 30 per cent of existing government institutions (ETV Bharat, 2026). Whether this candour translates into the kind of sustained, cross-party fiscal discipline that successive Comptroller and Auditor General reports have called for, discussed further in Chapter 15's treatment of administrative governance reform, remains, as of the time of writing, an open question.

2.9 Centre-State Fiscal Relations: Trends and Themes

The fiscal relationship between Himachal Pradesh and the central government has historically been organised around the recognition that hill and mountain states face structurally higher costs of service delivery and structurally narrower revenue bases than plains states, a recognition formalised for several decades through Special Category Status and the associated preferential Finance Commission treatment discussed in section 2.6 (HimbuMail, 2026). The state's own Finance Secretary has articulated this position explicitly, arguing that Himachal Pradesh was never designed, or expected, to be a fiscally self-sustaining unit, and that its Revenue Deficit Grant entitlement reflected a constitutional recognition of that reality under Article 275(1) rather than a temporary subsidy to be withdrawn once economic conditions normalised (HimbuMail, 2026). The Sixteenth Finance Commission's decision to discontinue the Revenue Deficit Grant mechanism entirely, rather than to continue assessing and tapering it on a state specific basis, represents in this framing a significant, if implicit, departure from that longstanding principle, one whose full implications for hill states more broadly extend well beyond Himachal Pradesh alone.

At the same time, an emerging body of independent commentary argues that the state's current fiscal crisis, while triggered by the Finance Commission transition, is substantially self-inflicted, pointing to the pattern documented in section 2.4 in which state debt more than

doubled between 2018 and 2022 even as the state benefited from unusually large, front loaded Fourteenth and Fifteenth Finance Commission transfers that a more disciplined administration might have used to build fiscal buffers rather than expand recurring liabilities (Swarajyamag, 2026). This commentary further notes that the fiscal consequences of the 2022 political decision to revert the state's employees from the National Pension System back to the Old Pension Scheme, a decision that added an estimated Rs 1,800 crore in immediate liability and locks in a much larger stream of uncapped future pension obligations, were foreseeable at the time they were made, and that the state's own Finance Department is now separately advising that new recruitment be conducted under the recently introduced Unified Pension Scheme rather than the Old Pension Scheme, an implicit acknowledgment of the earlier decision's fiscal cost (ETV Bharat, 2026; Swarajyamag, 2026). This Report does not take a position on the electoral politics surrounding these decisions, which have been taken by different political parties at different points over the past decade, but treats the underlying fiscal mechanics, an expanding committed liability base colliding with a shrinking central transfer envelope, as the central, non-partisan constraint that must be addressed regardless of which party governs the state.

Looking toward the 2026-31 Finance Commission cycle, the most constructive path for Himachal Pradesh's centre-state fiscal relationship, and the one this Report's recommendations in Chapter 21 return to in more detail, likely combines two elements rather than treating them as substitutes. First, continued and vigorous advocacy, alongside other Himalayan and northeastern states with comparable cost disabilities, for the reintroduction of some form of assessed, need based central transfer mechanism suited to genuinely non-discretionary hill state expenditure, distinct from the more uniform, formula driven devolution that suits larger, more homogeneous plains states. Second, and in parallel rather than in place of the first, a credible and sustained own effort at revenue mobilisation, expenditure rationalisation and public sector enterprise reform of the kind discussed in sections 2.1, 2.2 and 2.5 above, sufficient to demonstrate to future Finance Commissions, and to the state's own residents, that additional central support would supplement rather than substitute for domestic fiscal discipline. Neither element alone is likely to resolve the structural mismatch between Himachal Pradesh's committed expenditure and its own revenue base documented throughout this chapter.

CHAPTER 3: ECONOMIC STRUCTURE, GROWTH AND SECTORAL PERFORMANCE

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

Himachal Pradesh's Economic Survey 2025-26, tabled in the state legislature in March 2026 ahead of the presentation of the 2026-27 budget, records an economy that continues to expand at a pace well above the national average even as the fiscal pressures documented in Chapter 2 intensify. The survey's Advance Estimate places the state's Gross State Domestic Product at current prices at Rs 2,53,886 crore for 2025-26, a 10.1 per cent increase over the First Revised Estimate of Rs 2,30,587 crore for 2024-25, with real growth, that is, growth adjusted for price changes and measured at constant 2011-12 prices, estimated at 8.3 per cent for 2025-26 against 6.4 per cent the previous year and against a national real growth projection of 7.4 per cent for the same period (MockKitaab, 2026). This places Himachal Pradesh's growth rate comfortably above the national figure for the year, a pattern the state has sustained across much of the past decade despite its comparatively narrow economic base.

A closer reading of the underlying quarterly data suggests this acceleration was not evenly distributed across the financial year. Growth in the first half of 2025-26, April to September, is estimated at a comparatively modest 6.9 per cent, before strengthening to an estimated 9.5 per cent in the second half, October to March, a pattern the Economic Survey attributes principally to the timing of the tourist season and to a stronger than expected rabi harvest in the middle and lower hill districts (MockKitaab, 2026). This front loading of growth into the winter and spring months is broadly consistent with the seasonal structure of the state's tourism and horticulture dependent economy discussed in sections 3.3 and 3.5, though it also means that the headline annual figure of 8.3 per cent should be read with some caution as a description of a genuinely stable, year round growth trajectory rather than a somewhat more volatile, seasonally concentrated one.

District level disaggregation, though published with a longer time lag than the state level headline figures, indicates a persistently uneven distribution of this growth across Himachal Pradesh's twelve districts. Solan and Una, anchored respectively by the Baddi-Barotiwala-Nalagarh industrial belt discussed in section 3.4 and by proximity to the Punjab plains, together with Kangra, the state's most populous district and an increasingly important tourism and services hub, account for a disproportionately large share of incremental Gross State Value Added relative to their combined share of population, while more remote districts such as Lahaul and Spiti, Kinnaur and Chamba continue to grow from a considerably smaller base and remain more exposed to the climate related volatility discussed later in this chapter (MockKitaab, 2026). This Report treats such district level imbalance as a recurring theme, returning to it directly in the discussion of regional development policy in Chapter 21.

The sectoral composition of this growth confirms an economy that has substantially, though not completely, transitioned away from agriculture as its primary source of output. The services sector contributed an estimated Rs 62,581 crore in 2025-26, equivalent to 46.3 per cent of total Gross State Value Added and growing at 8.6 per cent, strengthened by the expansion of tourism, trade, transportation and financial services, while industry contributed 39.4 per cent and agriculture 14.3 per cent, meaning that industry and services together now account for 85.7 per cent of the state's value addition (Millennium Post, 2026; MockKitaab, 2026). This represents the culmination of a long structural transformation. A study prepared for the Sixteenth Finance Commission finds that agriculture's contribution to Gross State Domestic Product fell from over half in 1950-51 to under 10 per cent by 2022-23, with the combined share of the secondary and services sectors rising from about 7 per cent to roughly 86 per cent over the same period, broadly consistent with the 2025-26 Economic Survey's more current figures once allowance is made for the slightly different sectoral classifications and reference years used across the two sources (Fifteenth Finance Commission Evaluation Study, 2024).

Sector specific growth within this broader trend has been uneven. Provisional data for 2024-25 shows the public administration sector expanding by 9.1 per cent, up from 7.8 per cent the previous year, construction growing by 8.6 per cent, down from a stronger 9.9 per cent, agriculture, forestry and fishing recovering to 3.8 per cent from a weak 1.4 per cent, trade, hotels and restaurants growing by 5.8 per cent, slower than the sector's peak in 2022-23, and mining and quarrying slowing sharply to 2.9 per cent from 7.1 per cent (Scribd, 2026, citing Himachal Pradesh Economic Survey 2025-26). The primary sector's own growth accelerated markedly in 2025-26, to an estimated 8.4 per cent from just 3.1 per cent the previous year, a rebound examined in more detail in section 3.3 below (MockKitaab, 2026). Underlying this generally positive growth picture, the Economic Survey itself flags a hardening constraint. It records disaster related losses of Rs 46,000 crore over the preceding four years, equivalent to nearly 4 per cent of GSDP on an annualised basis, and identifies climate vulnerability in agriculture and the horticulture economy as one of a small number of critical structural bottlenecks facing the state's growth model going forward, alongside a persistent mismatch between where the state's workforce is employed and where its economic output is actually generated, discussed further in section 3.7 (HimachalScape, 2026).

3.2 Per Capita Income and Purchasing Power Analysis

Per capita income, calculated by the state's Directorate of Economics and Statistics as Net State Domestic Product divided by mid-year population, reached an estimated Rs 2,83,626 in 2025-26, a 9.8 per cent increase over Rs 2,58,196 in the previous year and Rs 64,051 higher than the projected all India per capita income of Rs 2,19,575 for the same year (MockKitaab, 2026). This gap has been a durable feature of the state's economic profile rather than a recent development. Per capita income has risen from Rs 87,721 in 2011-12 to its current level, a compound annual growth rate of 8.7 per cent over fourteen years, a figure the Economic Survey itself notes trails the corresponding national compound annual growth rate of 10.0 per cent over the same period, implying that while Himachal Pradesh's residents remain

considerably better off in absolute terms than the average Indian, the pace at which that advantage is being extended has been marginally slower than the national trend (MockKitaab, 2026).

This marginally slower long run growth rate, while easy to overstate given the still substantial absolute gap in the state's favour, is nonetheless a pattern this Report treats as worth monitoring rather than dismissing. A state whose per capita income advantage over the national average narrows gradually over successive decades, even while remaining positive in absolute terms, may over a sufficiently long horizon see that advantage erode meaningfully, particularly if the national economy's faster growing states continue to compound at a higher rate. The Economic Survey's own ten year moving average calculation places the gap between Himachal Pradesh's compound annual growth rate and the national rate at approximately 1.1 percentage points as of 2025-26, narrower than the 1.6 percentage point gap recorded in the state's 2022-23 survey, suggesting some recent convergence rather than continued widening, though this Report cautions against extrapolating a single year of narrowing into a firm trend (MockKitaab, 2026).

The trajectory of this growth has not been smooth. The Economic Survey identifies the decade between 2010-11 and 2020-21 as the state's fastest expansion phase, during which per capita income surged by 272 per cent, and separately records a further 49 per cent increase since 2020-21 despite the severe climate related disruptions, including the landslides and flash floods discussed in Chapter 1 and Chapter 14, that have struck the state repeatedly over that period (MockKitaab, 2026). This resilience in headline income growth alongside mounting climate and fiscal stress is one of the more striking, and in some respects counterintuitive, features of the state's recent economic performance, and this Report treats it with appropriate caution rather than as unambiguous evidence that climate risk is being adequately absorbed. Purchasing power in a mountain economy is also not fully captured by a simple comparison of nominal per capita income against the national average, since the cost of transporting goods into a terrain where many settlements sit several hours from the nearest market town, and the seasonal price volatility that follows from road closures during winter snowfall and monsoon landslides, both tend to erode the real purchasing power that a given level of nominal income can command, relative to a plains state of comparable per capita income. This Report does not have access to a Himachal Pradesh specific purchasing power parity index and does not assert a precise adjustment factor, but flags the underlying terrain related cost disability as a genuine qualification on an otherwise favourable income comparison, one that recurs in this Report's treatment of consumer price behaviour in section 3.8 below.

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

Agriculture and its allied activities remain, in employment terms if no longer in output terms, the backbone of Himachal Pradesh's rural economy, engaging an estimated 53.98 per cent of the state's working population as of 2023-24 even as the sector contributes only 14.3 per cent of Gross State Value Added, an imbalance the Economic Survey itself identifies as the single

most significant structural bottleneck in the state's economy (MockKitaab, 2026). The primary sector's output growth accelerated to an estimated 8.4 per cent in 2025-26, a strong rebound from just 3.1 per cent the previous year, reflecting both favourable weather in parts of the state and continuing government support through schemes such as the state's Mission on Natural Farming, which promotes chemical free cultivation practices, and a new Minimum Support Price mechanism for naturally grown crops that the state government has presented as the first such scheme in the country (PRS Legislative Research, 2025; MockKitaab, 2026).

The Mission on Natural Farming has expanded considerably since its initial rollout, with the Economic Survey reporting that the area under natural farming practices reached approximately 1.94 lakh hectares by the end of 2025-26, covering an estimated 1.87 lakh farming families across all twelve districts, up from 1.63 lakh hectares and 1.71 lakh families the previous year (MockKitaab, 2026). Yield data from the scheme's own monitoring framework indicate mixed early results, with natural farming plots for maize and wheat showing yields broadly comparable to, though in most districts still marginally below, conventionally farmed plots in the initial transition years, alongside meaningfully lower input costs, a combination the state government has cited in support of the scheme's continued expansion even as independent agricultural economists have called for longer term, controlled comparative studies before drawing firm conclusions about the scheme's net effect on farm household income (PRS Legislative Research, 2025).

A substantial share of the state's cultivated area remains rainfed rather than irrigated, a long standing structural constraint that leaves crop yields, particularly for the staple rice, wheat and maize grown across the middle hills, considerably more exposed to monsoon variability than in states with more extensive canal irrigation networks (DCMSME, 2020). The state's minor irrigation schemes, largely reliant on small scale lift irrigation and rainwater harvesting structures given the impracticality of large canal networks across much of the hill terrain, cover an estimated 19.4 per cent of net sown area as of the most recent departmental assessment, a proportion that has grown only slowly over the past decade despite repeated policy commitments to expansion, and one this Report identifies as a persistent constraint on the primary sector's resilience to the increasingly erratic monsoon patterns discussed throughout this chapter (DCMSME, 2020).

Horticulture, and specifically apple cultivation, occupies an outsized place in this primary sector relative to its share of cultivated area. The apple economy, discussed in the Preface and Chapter 1, is estimated at Rs 5,000 crore annually and directly sustains roughly a quarter of a million farming families, but production is projected to fall by around 40 per cent in 2026, from 6.99 lakh metric tonnes in 2025 to an estimated 4.36 lakh metric tonnes, a consequence of inadequate winter chilling hours and increasingly erratic hailstorms linked to changing climate patterns (The Tribune, 2026). This vulnerability is compounded by the sector's continuing reliance on a narrow set of older apple varieties poorly suited to a warming climate, an issue this Report examines further, alongside proposed diversification and high density orcharding responses, in Chapter 18.

Animal husbandry, particularly dairy farming, provides a second significant source of rural cash income, and the state government's 2025-26 budget raised the procurement price for both cow and buffalo milk, from Rs 45 to Rs 51 per litre for cow milk and from Rs 55 to Rs 61 per litre for buffalo milk, building on the state's earlier introduction of what it describes as the country's first state provided minimum support price scheme for milk (PRS Legislative Research, 2025; HimbuMail, 2025). Fisheries remain a comparatively minor contributor to the primary sector's output, concentrated principally in cold water trout farming in the state's higher altitude streams and in reservoir based fisheries created by the state's hydropower dams, though systematic, current production data for this specific subsector was not available to this Report at the time of writing, an evidentiary gap this Report flags for the state's own Fisheries Department to address in future statistical publications rather than filling with an unverified estimate.

3.4 Secondary Sector: Industry, Manufacturing and Mining

Himachal Pradesh's industrial base, though narrow relative to its overall economic contribution, is unusually concentrated and, in one specific subsector, nationally significant. The Baddi-Barotiwala-Nalagarh industrial belt in Solan district, benefiting historically from central excise duty exemptions and its proximity to the Chandigarh tricity region and the Delhi-Punjab national highway corridor, has developed into one of India's most important pharmaceutical and fast moving consumer goods manufacturing clusters, hosting an estimated 89 per cent of the state's medium and large industrial units and generating an annual turnover in the region of Rs 60,000 crore (Grokikipedia, 2026). Industry estimates place the cluster's share of India's total domestic pharmaceutical production at somewhere between 35 and 40 per cent, a concentration that has led the belt to be informally described as one of the country's principal pharmaceutical manufacturing centres, though this Report notes that some industry sources frame this share instead in terms of regional Asian demand rather than national output, and treats the more conservative and better corroborated framing, of a substantial minority share of India's own pharmaceutical output, as the more defensible claim (Business Standard, 2020; Grokikipedia, 2026). Chapter 4 of this Report examines the investment climate and policy framework underpinning this cluster, and the case for replicating elements of its success in other districts, in considerably greater detail.

Beyond pharmaceuticals, the state's mining and quarrying sector rests principally on limestone extraction feeding a cluster of cement manufacturing plants, including facilities operated by ACC at Barmana in Bilaspur district, by Ambuja at Kashlog in Solan district, by JP Industries at Baga-Bhalag and by the Cement Corporation of India at Rajban in Sirmaur district, together representing an installed cement production capacity of approximately 9.06 million metric tonnes annually, with further expansion projects under consideration at the time the state's mineral policy was last comprehensively documented (Himachal Pradesh Mineral Policy, 2013). The state's own mining department describes Himachal Pradesh as not a mineral rich state in the conventional sense, with almost all extraction confined to small scale, open cast operations for limestone, baryte, silica sand, rock salt and construction grade minor minerals such as sandstone and river bed material, a profile that leaves mining and

quarrying a comparatively minor and, as the 2024-25 growth data in section 3.1 shows, volatile contributor to overall industrial output (Himachal Pradesh Mineral Policy, 2013). The state's broader Micro, Small and Medium Enterprises sector, supported through a compendium of fiscal incentives including capital investment subsidies and reimbursement of net State Goods and Services Tax paid, ranging from 50 to 80 per cent of fixed capital investment depending on the district's development category, remains a significant source of local employment even where individual enterprise turnover is modest, though comprehensive, current state level enterprise counts were not available to this Report at the time of writing (MSME Development Institute, Solan, 2020).

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

The services sector is now unambiguously the largest single component of Himachal Pradesh's economy, contributing an estimated Rs 62,581 crore, or 46.3 per cent of Gross State Value Added, in 2025-26, and growing at 8.6 per cent, faster than the state's overall real growth rate for the year (Millennium Post, 2026). Tourism forms a particularly significant and visible part of this sector, contributing an estimated 7.8 per cent of Gross State Domestic Product and around 14 per cent of the state's total workforce, figures that reflect both the direct employment generated in hotels, homestays and transport, and the substantial indirect employment the sector supports in local food production, handicrafts and guiding services, themes this Report examines in full in Chapter 19 (HimbuMail, 2025). Growth in the narrower trade, hotels and restaurants category moderated to 5.8 per cent in 2024-25, slower than the sector's peak growth rate recorded in 2022-23 as the initial post-pandemic recovery surge in tourist arrivals normalised into a steadier, though still expanding, longer term trend (Scribd, 2026).

Public transport and logistics form an important and growing subcomponent of the tertiary sector given the state's terrain. The Himachal Road Transport Corporation, the state owned bus operator, now runs a fleet exceeding 3,000 vehicles, including a growing number of electric buses, providing what remains for many hill households the only viable connection to district headquarters, schools and hospitals, a role this Report examines further in its treatment of transport infrastructure in Chapter 8 (NewKerala, 2026). Financial services and real estate, while growing, remain comparatively underdeveloped relative to the state's income level, a pattern common to many predominantly rural, low urbanisation economies, and one that this Report's discussion of urban development in Chapter 11 and of the knowledge economy in Chapter 17 identifies as an area of latent, currently underexploited growth potential, particularly in wealth management and retirement planning services suited to a state with an ageing population structure and a substantial diaspora of successful outward migrants who might otherwise channel savings and investment outside the state entirely.

3.6 Informal Economy: Size, Significance and Integration Challenges

Precise, state specific measurement of Himachal Pradesh's informal economy is not readily available in current government statistical publications, a data gap this Report notes explicitly rather than filling with an invented figure. Nationally, the unorganised sector is estimated to account for roughly 90 per cent of India's total workforce, encompassing workers without formal contracts, social security coverage or paid leave, and while this national figure cannot be mechanically applied to Himachal Pradesh, the structure of the state's own economy strongly suggests a similarly, if not more, pronounced informal character (Statista, 2026). Agriculture and allied activities, which the Economic Survey records as employing 53.98 per cent of the state's workforce, are overwhelmingly informal in nature, characterised by small, fragmented landholdings, unregistered farm labour and, for most cultivators, no access to formal employment benefits, a pattern the Economic Survey's own identification of an output employment gap as a central structural bottleneck implicitly acknowledges (MockKitaab, 2026).

Tourism, the sector's second major source of employment, similarly rests on a substantial informal base, including unregistered homestays, freelance trekking and adventure sport guides, roadside food vendors along major tourist corridors and seasonal hospitality staff who move between tourist season and off season employment, often in construction, another sector with a predominantly informal, daily wage workforce engaged through labour contractors rather than direct, registered employment. The state's own tourism department registration data indicate that formally registered homestays number approximately 4,200 units as of early 2026, a figure that, when compared against independent industry estimates of total homestay accommodation capacity across the state, suggests that a considerable majority of homestay operators continue to function outside the formal registration system, whether owing to the administrative burden of registration, limited awareness of the scheme's benefits, or a preference for avoiding the tax and regulatory obligations that formal registration entails (HimbuMail, 2025).

The state's Micro, Small and Medium Enterprises sector, despite formal registration incentives under the Udyam portal, also retains a large penumbra of unregistered micro enterprises, particularly in food processing, handicrafts and small scale manufacturing outside the formally organised Baddi-Barotiwala-Nalagarh cluster discussed in section 3.4. Integrating this informal economy more fully into the formal system, through simplified registration processes, portable social security benefits for seasonal and migrant workers, and targeted access to institutional credit, is treated in this Report not as a narrow labour market reform but as a precondition for the kind of broader economic diversification and revenue mobilisation, discussed in Chapter 2, that the state's fiscal position increasingly requires. This Report notes, in particular, that the state's own Goods and Services Tax collection base, discussed in Chapter 2, would likely benefit meaningfully from a higher rate of formal enterprise registration among the tourism and MSME sector operators described above, even accounting for the compliance costs such formalisation would impose on small operators.

3.7 Labour Market: Employment, Unemployment and Workforce Quality

Himachal Pradesh's labour market presents one of the starker paradoxes documented anywhere in this Report. A state with a literacy rate of 99.3 per cent and a life expectancy of 72.6 years, among the strongest human development indicators of any Indian state, simultaneously records a youth unemployment rate considerably above the national average (Government of Himachal Pradesh and United Nations Development Programme, 2025). Data from the April to June 2025 round of the Periodic Labour Force Survey places youth unemployment in Himachal Pradesh at 29.6 per cent, against a national figure of 14.6 per cent for the same period, with urban youth unemployment reaching 31.3 per cent and urban young women recording an unemployment rate of 41.2 per cent, among the highest such figures recorded for any major Indian state in that survey round (Himachalscape, 2025).

The Economic Survey 2025-26 itself explicitly identifies the resulting output employment gap, a workforce still overwhelmingly concentrated in a low output primary sector while the state's actual economic growth is generated in industry and services, as one of a small number of critical structural bottlenecks facing the state, alongside a related concern that the state's structural transformation into services has been slower to reach high value activities such as information technology and professional services than into lower value trade and hospitality employment (MockKitaab, 2026). A further bottleneck identified by the same survey, uneven productivity, in which manufacturing shows high value addition but limited job creation, is directly relevant here, since the capital intensive pharmaceutical and cement manufacturing described in section 3.4 generates considerable output without a correspondingly large number of jobs, leaving a growing cohort of educated young people with few local options beyond seasonal tourism work, informal trade or continued dependence on already overstretched public sector employment (MockKitaab, 2026).

A further bottleneck identified by the same survey, uneven productivity, in which manufacturing shows high value addition but limited job creation, is directly relevant here, since the capital intensive pharmaceutical and cement manufacturing described in section 3.4 generates considerable output without a correspondingly large number of jobs, leaving a growing cohort of educated young people with few local options beyond seasonal tourism work, informal trade or continued dependence on already overstretched public sector employment (MockKitaab, 2026). Public sector employment itself, historically a major source of stable formal employment in Himachal Pradesh relative to many other states, has grown only marginally in recent years given the fiscal consolidation pressures discussed in Chapter 2, with the state's own recruitment data showing net new public sector hiring running well below the number of new entrants to the state's labour force each year, a gap this Report views as a further contributor to the state's persistently high youth unemployment rate.

The consequence, as Chapter 1 has already documented, is a migration rate of 49.3 per cent, among the highest recorded for any Indian state, with educated young people increasingly choosing to build careers in Chandigarh, Punjab, Haryana or further afield rather than in their home districts (The Tribune, 2024). Addressing this mismatch between the quality of the

state's human capital and the narrowness of its local labour market is treated throughout this Report, and particularly in Chapters 4, 17 and 20, as at least as urgent a policy priority as the fiscal consolidation measures discussed in Chapter 2.

3.8 Inflation, Price Stability and Consumer Welfare

Consumer price inflation in Himachal Pradesh has moderated markedly over the course of the 2025-26 financial year. The state's Economic Survey records Consumer Price Index levels declining across most consumption segments over the year, with headline inflation approaching just 1 per cent by December 2025, a rate considerably below both the Reserve Bank of India's national inflation target band and the state's own historical average (HimbuMail, 2025). While low and stable inflation is, in most circumstances, unambiguously beneficial for consumer welfare, a rate as low as 1 per cent in a predominantly agrarian hill economy also carries a less favourable interpretation, since subdued food price inflation can reflect weak farm gate realisation for growers rather than only efficient supply chains and stable demand, particularly in a year in which the horticulture sector discussed in section 3.3 faces significant climate related production stress. This Report does not have access to a disaggregated, item level breakdown of the state's Consumer Price Index sufficient to determine definitively which of these dynamics predominates, and flags this as an area warranting closer statistical attention from the state's own Directorate of Economics and Statistics, particularly given the direct bearing that farm gate price realisation has on the rural incomes and migration pressures discussed in section 3.7.

Terrain related cost disabilities, discussed in section 3.2, mean that consumer welfare in Himachal Pradesh cannot be assessed through the state's Consumer Price Index alone. Transport costs for goods moving into remote, high altitude districts such as Lahaul and Spiti, Kinnaur and Chamba's Pangi and Bharmour subdivisions are structurally higher than in accessible plains locations, and these costs are compounded during the winter months and monsoon season, when road closures discussed in Chapter 8 can, for days or occasionally weeks at a time, cut off entire valleys from regular supply of essential goods, producing localised price spikes that a state level Consumer Price Index, aggregated across urban and accessible rural areas, is poorly designed to capture. Strengthening cold storage and last mile logistics infrastructure in these remote districts, a theme this Report returns to in Chapter 10, therefore functions as much as a consumer welfare and price stability measure as an agricultural marketing intervention.

3.9 Growth Corridors: Engines of Economic Expansion

Several distinct geographic corridors function as the principal engines of Himachal Pradesh's economic expansion, each anchored around a different combination of the sectoral strengths discussed in this chapter. The Baddi-Barotiwala-Nalagarh belt in Solan district, discussed in section 3.4, remains the state's single most important industrial growth corridor, its location just across the Punjab and Chandigarh border giving it direct access to the National Capital Region's consumer market and logistics network while retaining the fiscal incentives

available to hill state manufacturing, and this Report's recommendations in Chapter 4 and Chapter 21 place particular emphasis on extending elements of this corridor's success, including simplified regulatory clearance and targeted fiscal incentives, to comparable industrial nodes in Una and Bilaspur districts, both of which offer similar plains adjacent accessibility without yet having achieved comparable industrial density.

A second, tourism led corridor runs along the Kalka-Shimla and onward Shimla-Kinnaur axis and separately through the Kullu-Manali-Lahaul corridor, both of which combine the hospitality, transport and retail activity discussed in section 3.5 with the horticulture economy of the middle hills discussed in section 3.3, and both of which this Report's Chapter 19 examines in detail as candidates for a more deliberate shift toward higher value, lower volume wellness and adventure tourism rather than continued reliance on high volume, price sensitive mass tourism that places disproportionate strain on fragile mountain infrastructure. Emerging, less established tourism nodes in Chamba and Sirmaur districts, while still accounting for a comparatively small share of total tourist arrivals, have shown the fastest percentage growth in visitor numbers of any district over the past three years according to the state tourism department's own arrival data, a pattern this Report views as a potentially valuable, if still early stage, avenue for distributing tourism led growth away from the increasingly congested Shimla and Kullu-Manali corridors (HimbuMail, 2025).

A third corridor, less geographically continuous but economically significant, runs along the Sutlej, Beas and Chenab river valleys, where the hydropower generation discussed in Chapter 2 and examined in full in Chapter 9 anchors a distinct set of construction, engineering and skilled technical employment opportunities, though as this Report's earlier discussion of the sector's community relations difficulties makes clear, realising this corridor's full growth potential will depend heavily on the benefit sharing and ecological safeguard reforms proposed throughout this Report.

A fourth and more nascent corridor, centred on Shimla and, to a lesser extent, Baddi, has begun to develop around the small but growing information technology and professional services employment discussed in section 3.7, and while this corridor remains too small in absolute terms to be classified alongside the three more established corridors above, this Report identifies it, in Chapter 17, as the corridor with potentially the greatest long term relevance to resolving the youth unemployment and outward migration challenges documented in section 3.7, given its capacity to generate the kind of high skill, high value employment that the state's existing industrial and tourism corridors have thus far struggled to provide at scale. Coordinated investment across these four corridors, industrial, tourism, hydropower and growing information technology and professional services employment, rather than continued reliance on any single one, forms the core of the diversification strategy that later chapters of this Report, and particularly the concluding recommendations in Chapter 21, seek to elaborate.

CHAPTER 4: INVESTMENT, INDUSTRY AND PRIVATE SECTOR DEVELOPMENT

4.1 Investment Climate Assessment and Ease of Doing Business

Himachal Pradesh has, over the past decade, built one of the more credible investment facilitation records among India's smaller hill states, a record that received its most recent and most authoritative external validation in November 2025, when the Department for Promotion of Industry and Internal Trade recognised the state as a Top Achiever under the Business Reforms Action Plan 2024, the seventh edition of the Government of India's national exercise in ranking state level ease of doing business reforms. Himachal Pradesh scored 98 out of 100 points, with particular recognition for its performance in construction permit enablers, healthcare sector reforms and services sector reforms, three of the twenty five reform areas assessed across an evaluation that combined documentary verification with direct feedback from more than 583,000 businesses nationally (The Tribune, 2025; The News Himachal, 2025). The award was presented to the state's Principal Resident Commissioner and to a General Manager of the District Industries Centre in Sirmaur district at the Udyog Samagam 2025 conference by the Union Minister of Commerce and Industry, and the state's Industries Minister subsequently highlighted that more than 150 government services are now available online through the state's integrated single window system (The News Himachal, 2025).

This standing did not emerge suddenly. As early as 2017-18, Himachal Pradesh had already achieved a 94.13 per cent implementation score on the ease of doing business reform framework then in force, an achievement underpinned by the enactment of the Himachal Pradesh Single Window (Investment, Promotion and Facilitation) Act in 2018 and by an earlier Public Service Guarantee Act enacted in 2011, which together established statutory timelines and a legally enforceable single point of contact for investors seeking regulatory clearances (Invest India, 2019). The state's flagship Rising Himachal Global Investors' Meet, held in 2019 and supported by an ambassadors' outreach event in New Delhi attended by representatives of more than 60 countries, resulted in memoranda of understanding with 570 companies for a proposed investment of Rs 75,000 crore, concentrated in tourism, manufacturing, housing, wellness and AYUSH, information technology and electronics, and power (Invest India, 2019). While this Report cannot verify what proportion of these proposed investments have since translated into actual, operational capacity, a common challenge across Indian state investor summits generally, the scale of interest expressed at the time, and the state's subsequent, independently verified BRAP performance, together support the assessment that Himachal Pradesh's investment facilitation architecture is genuinely, rather than only nominally, investor friendly relative to peer hill states.

This Report notes, however, that the absence of a published, updated implementation tracker for the 2019 summit's memoranda of understanding, comparable to the kind several other states now maintain and publicly update on a rolling basis, represents a genuine gap in the

state's own investment transparency infrastructure, one that stands somewhat in tension with the state's otherwise strong Business Reforms Action Plan performance. A state that scores 98 out of 100 on process oriented reform indicators but cannot readily demonstrate, through its own published data, what share of a headline investment summit's commitments have actually materialised leaves an evidentiary gap that this Report's recommendations in section 4.5 and again in Chapter 21 identify as a priority for the state's Department of Industries to close, both to strengthen the credibility of future investment summits and to provide the kind of granular, verifiable data this Report itself has repeatedly found unavailable in the course of preparing this chapter.

4.2 Industrial Policy Framework and MSME Development

The state's current industrial policy architecture rests on three principal instruments: the Industrial Investment Policy of 2019, the MSME Policy of 2023 and the Startup Policy of 2022, each offering a graduated set of fiscal and non-fiscal incentives calibrated to the state's own internal geography (The News Himachal, 2025). Enterprises are classified into Category A, B and C areas depending on their relative accessibility and existing industrial density, with more generous incentives, including reimbursement of net State Goods and Services Tax paid, of up to 80 per cent of fixed capital investment, and capital investment subsidies of up to 80 per cent in the least developed Category C areas, reserved for enterprises willing to locate in the state's more remote and less industrialised tracts (MSME Development Institute, Solan, 2020). This graduated structure reflects a deliberate, longstanding policy choice to use industrial incentives as a tool for intra-state balance, discussed further in Chapter 1's treatment of Chamba district's aspirational status, rather than allowing new investment to concentrate exclusively in the already industrialised Baddi-Barotiwala-Nalagarh belt discussed in section 4.3 below.

The MSME Policy of 2023 in particular represented a meaningful update to the state's earlier incentive framework, introducing, among other provisions, enhanced interest subsidy support for micro enterprises undertaking technology upgradation, a dedicated cluster development component intended to support common facility centres for handicraft and food processing clusters outside the Baddi-Barotiwala-Nalagarh belt, and a simplified single page registration form intended to reduce the documentation burden that smaller, first time entrepreneurs had previously identified as a significant barrier to formal registration, a barrier this Report connects directly to the informal economy discussion in Chapter 3 (MSME Development Institute, Solan, 2020). The Startup Policy of 2022, meanwhile, extends targeted support, including seed funding assistance and reserved government procurement quotas, to enterprises registered under the central government's own Startup India framework and headquartered within the state, a provision the state's Department of Industries has specifically framed as an instrument for retaining at least some of the state's most entrepreneurially inclined young graduates within Himachal Pradesh rather than losing them entirely to the outward migration pattern documented in Chapter 3 (The News Himachal, 2025).

Complementing these fiscal incentives, the Rajiv Gandhi Self-Employment Start-up Scheme, launched with an outlay of Rs 680 crore, aims to support first generation entrepreneurship among the state's young people, a policy response directly relevant to the youth unemployment and out-migration pressures documented in Chapter 3 (India Brand Equity Foundation, 2026). Nationally, the Udyam registration portal has recorded 6.45 crore Micro, Small and Medium Enterprises as of June 2025, and while a precise, current count of registered enterprises specific to Himachal Pradesh was not available to this Report at the time of writing, the state's own MSME Development Institute in Solan continues to provide technical and managerial consultancy across all twelve districts, an institutional presence that predates statehood itself and that this Report's recommendations in Chapter 21 propose be more deliberately linked to the skill development and entrepreneurship priorities discussed in Chapter 17 (Institute of Chartered Accountants of India, 2022). This Report regards the absence of a current, state specific Udyam registration count as a further instance of the data transparency gap identified in section 4.1, and recommends that the state government work with the relevant central ministry to secure regular, disaggregated reporting of this figure, both to allow more precise tracking of MSME formalisation trends and to provide a firmer evidentiary basis for evaluating the effectiveness of the 2023 policy's registration simplification measures specifically.

4.3 Large and Anchor Industries: Sectoral Analysis

Three anchor industries dominate Himachal Pradesh's large scale industrial landscape, each with a distinct geographic footprint and growth trajectory. The pharmaceutical and fast moving consumer goods cluster centred on Baddi, Barotiwala and Nalagarh in Solan district, discussed in Chapter 3, remains by far the most significant, hosting an estimated 89 per cent of the state's medium and large industrial units, generating an annual turnover in the region of Rs 60,000 crore, and accounting for a substantial minority share, most credibly estimated at between 35 and 40 per cent, of India's total domestic pharmaceutical production (Grokikipedia, 2026; Business Standard, 2020). The cluster's origins lie in central excise duty exemptions extended to hill states in the early 2000s, and its continued competitiveness, even as some of those original tax exemptions have lapsed, now rests more on agglomeration economies, proximity to the Chandigarh tricity region, and an established base of skilled pharmaceutical manufacturing labour than on fiscal incentives alone.

The state's cement industry forms a second, longer established anchor sector, resting on the state's limestone deposits and comprising plants operated by ACC at Barmana in Bilaspur district, by Ambuja at Kashlog in Solan district, by JP Industries at Baga-Bhalag and by the Cement Corporation of India at Rajban in Sirmaur district, with a combined installed capacity of approximately 9.06 million metric tonnes annually (Himachal Pradesh Mineral Policy, 2013). This industrial base traces its roots to some of the state's earliest industrial enterprises, including the Nahan Foundry and the Mohan Meakins Breweries at Kasauli and Solan, both established before Himachal Pradesh attained full statehood in 1971, illustrating a pattern in which the state's modern industrial base has grown organically around a small number of colonial and early post-independence era anchor units rather than through a single, centrally

planned industrialisation drive (DCMSME, 2020). The third anchor sector, hydropower generation and equipment, is examined in detail in Chapter 9, but its industrial significance extends well beyond electricity generation itself, since the construction, engineering and heavy equipment activity associated with ongoing hydropower development, discussed further in section 4.7 below, sustains a substantial base of skilled construction and project management employment distinct from the sector's revenue contribution to the state exchequer discussed in Chapter 2.

Another, considerably smaller but strategically noted anchor activity is the state's food processing sector, particularly fruit processing linked to the horticulture economy discussed in Chapter 3, which the state's industrial policy identifies as a priority sector for future investment given its potential to add value to the apple and other horticultural produce that currently leaves the state in largely unprocessed form, a gap this Report's recommendations in Chapter 21 identify as a meaningful opportunity for both employment generation and improved farm gate price realisation for the growers discussed in Chapter 3.

4.4 Special Economic Zones, Industrial Corridors and Clusters

Himachal Pradesh has not developed a formally notified Special Economic Zone of national significance, a consequence in part of the state's mountainous terrain, which limits the availability of the large, contiguous, flat land parcels that Special Economic Zone development typically requires, and in part of a deliberate policy preference, reflected in the graduated Category A, B and C incentive structure discussed in section 4.2, for dispersed industrial development across multiple smaller sites rather than concentration within a single mega zone. In practice, the Baddi-Barotiwala-Nalagarh belt functions as the state's de facto industrial corridor, and this Report's recommendations in Chapter 21 propose extending elements of its integrated infrastructure, including dedicated effluent treatment facilities and common industrial estates, to emerging nodes in Una and Bilaspur districts identified in Chapter 3's discussion of growth corridors.

The state's alternative to formal Special Economic Zone designation has instead been a network of smaller, sector specific industrial estates and common facility centres, developed under successive industrial policies and administered principally through the Himachal Pradesh State Industrial Development Corporation, which continues to allot land, provide basic infrastructure and, in several estates, offer shared testing and warehousing facilities intended to lower the fixed cost barrier facing smaller enterprises that would otherwise be unable to independently develop comparable infrastructure. This Report's assessment is that this dispersed, estate based model, while it forgoes some of the scale economies a single large Special Economic Zone might offer, is genuinely better suited to Himachal Pradesh's terrain and to its stated policy preference for spreading industrial development across multiple districts rather than concentrating it in one location.

A distinct and strategically significant corridor is emerging from the construction of what is expected to be the world's longest and highest road tunnel, connecting the Zaskar Valley in

the union territory of Ladakh to the Lahaul valley in Himachal Pradesh, a 4.25 kilometre structure expected to open new, all weather connectivity between the state and Ladakh by 2025 (India Brand Equity Foundation, 2026). This Report notes that, as of the time of writing in 2026, the tunnel's precise operational status could not be independently confirmed beyond the original 2025 target cited in the available source material, and recommends that subsequent editions of this Report verify and update the tunnel's actual completion and opening date against the state's own public works department records rather than relying on the earlier projected timeline. Beyond its immediate strategic and tourism value, discussed further in Chapter 8 and Chapter 19, this tunnel has the potential to reposition Lahaul and Spiti, currently among the state's most isolated and sparsely populated districts, as a logistics and trade gateway between the Himachal plains and Ladakh's own growing tourism and defence related economy, an opportunity this Report's recommendations in Chapter 21 identify as meriting dedicated industrial and commercial planning attention well before the tunnel's actual completion, so that the district is positioned to capture, rather than simply pass through, the additional economic activity the new connectivity is likely to generate.

4.5 Foreign Direct Investment: Inflows, Sectoral Distribution and Policy

Comprehensive, current, state disaggregated data on cumulative foreign direct investment inflows into Himachal Pradesh, of the kind the Department for Promotion of Industry and Internal Trade compiles for larger industrial states, was not available to this Report in a form precise enough to cite with confidence, and this Report declines to estimate a figure it cannot verify. What is clear from the specific transactions that are publicly documented is that international capital, including bilateral development finance rather than only private foreign direct investment in the conventional sense, has played a meaningful role in the state's hydropower sector in particular. The French development finance institution Agence Française de Développement is financing two run-of-river hydropower plants, Chanju III with a capacity of 48 megawatts and Deothal Chanju with a capacity of 30 megawatts, both to be built and operated by the state owned Himachal Pradesh Power Corporation Limited, with headrace tunnels designed to run entirely underground specifically to minimise the projects' surface environmental impact, an approach informed by France's own extensive domestic hydropower experience (Agence Française de Développement, 2026).

This financing arrangement is of particular interest to this Report not only for its direct contribution to the state's installed hydropower capacity, discussed further in section 4.6 and in Chapter 9, but as a template for the kind of environmentally conscious, concessional bilateral finance that this Report's recommendations in Chapter 21 identify as a promising and currently underutilised source of capital for the state's broader climate resilient infrastructure needs, discussed in Chapter 14. The underground headrace tunnel design specifically, while more expensive on a per megawatt basis than conventional surface alternatives, reflects a design philosophy that prioritises long term ecological and community relations sustainability over short term construction cost minimisation, an approach this Report's discussion of the hydropower sector's community relations difficulties, referenced in Chapter 3 and examined fully in Chapter 9, suggests the state might usefully seek to extend to

a wider share of its hydropower development pipeline, including the domestically financed projects discussed in section 4.7 below.

More broadly, the state's pharmaceutical and manufacturing exports, alongside its growing profile in engineering goods, are cited by national investment promotion agencies as key drivers of the state's improving external competitiveness, even where the underlying capital financing this activity is domestic rather than foreign in origin (India Brand Equity Foundation, 2026). This Report's recommendation, developed further in Chapter 21, is that the state's Department of Industries work with the Department for Promotion of Industry and Internal Trade to establish a dedicated, publicly available quarterly reporting mechanism for foreign investment inflows specific to Himachal Pradesh, both to allow more rigorous tracking of the kind this Report has been unable to undertake and to provide prospective foreign investors with the kind of transparent, verifiable track record that competing hill and mountain investment destinations, both within India and internationally, increasingly provide as standard practice.

4.6 Public Sector Undertakings: Performance and Reform Agenda

The performance of Himachal Pradesh's state public sector enterprises, examined in detail in Chapter 2's discussion of contingent fiscal liabilities, bears directly on the state's broader investment climate, since a private investor's confidence in a state's industrial ecosystem is shaped as much by the visible performance of that state's own commercial enterprises as by its formal ease of doing business scores. The record here remains genuinely mixed. A Comptroller and Auditor General assessment found 14 of the state's 23 public sector enterprises to be loss making, with cumulative losses reaching Rs 5,143.4 crore, and commentary drawing on that report has specifically attributed part of this underperformance to the practice of appointing career civil servants rather than sector specialists to lead technically and commercially demanding enterprises, including the Himachal Pradesh Tourism Development Corporation, the Himachal Pradesh State Industrial Development Corporation and the Himachal Road Transport Corporation (HimbuMail, 2026).

This governance critique, while directed at specific named enterprises, reflects a broader structural pattern this Report considers worth stating explicitly, in that Himachal Pradesh's civil service, much admired for the human development outcomes documented in Chapter 3, has historically been staffed and promoted through a generalist administrative cadre model common across Indian states, a model well suited to the regulatory and welfare delivery functions of general government administration but considerably less well suited to the specialised commercial, financial and technical judgment that running a modern tourism corporation, industrial development finance institution or public transport operator actually requires. Addressing this mismatch would likely require changes to recruitment and appointment practices that extend beyond the public sector enterprise portfolio narrowly defined, a theme this Report connects to its broader discussion of civil service and governance reform in Chapter 20.

Set against this, the Himachal Pradesh Power Corporation Limited offers a somewhat more encouraging, if still incomplete, counter-example within the same public sector portfolio. The company commissioned its first hydroelectric project in September 2016 and now operates an installed capacity of 276 megawatts across three hydro power stations, while simultaneously constructing two further projects with a combined capacity of 580 megawatts and participating in 21 additional medium sized projects under a wider development programme targeting some 3 gigawatts of new capacity (Himachal Pradesh Power Corporation Limited, 2026; Agence Française de Développement, 2026).

This Report's assessment, consistent with the reform agenda proposed in Chapter 2, is that the appropriate response to the state's mixed public sector enterprise record is neither wholesale privatisation, which would risk ceding strategic control over the water resources and tourism assets, discussed in Chapters 9 and 19, that these enterprises manage on the state's behalf, nor continued tolerance of the governance gaps documented by successive Comptroller and Auditor General reports, but a more selective, enterprise by enterprise reform programme that prioritises technocratic leadership and stricter board level oversight in the loss making entities while preserving and potentially replicating the institutional model that has allowed the Himachal Pradesh Power Corporation Limited to expand its operational capacity even amid the state's broader fiscal distress. This Report further recommends, as an initial and comparatively low cost step, that the state government commission a structured, external management review of each of the fourteen identified loss making enterprises individually, rather than pursuing a single uniform reform template across enterprises whose underlying commercial challenges, as the discussion above illustrates, differ considerably from one another.

4.7 Public-Private Partnership Framework and Pipeline

Himachal Pradesh's most active current public-private partnership pipeline lies in urban ropeway transport, an infrastructure solution particularly well suited to a terrain where conventional road widening is often physically impossible or prohibitively expensive. The state's Ropeway Transport Development Corporation is simultaneously advancing several such projects on varying public-private partnership structures, including a Design, Build, Finance, Operate and Transfer concession for a passenger ropeway network connecting Parwanoo to Shimla, a further Design, Build, Finance, Operate and Transfer project for an innovative urban ropeway transport network within Shimla itself, and additional ropeway connectivity projects linking Chamba district to Killer via the Sach Pass, the Mata Baglamukhi temple in Mandi district, and Narkanda to the Hatu Peak tourist destination (Ropeway Transport Development Corporation, 2020). Of these, the 13.79 kilometre Shimla ropeway project, valued at approximately Rs 1,734.70 crore, received Stage-I environmental approval from the Ministry of Environment, Forest and Climate Change for the use of 6.19 hectares of forest land in September 2025, and is explicitly intended both to ease chronic traffic congestion in the state capital and to generate local employment during construction and subsequent operation (India Brand Equity Foundation, 2026).

The scale of the Shimla ropeway project specifically, at close to Rs 1,735 crore for a single urban transport concession, represents one of the larger individual public-private partnership commitments currently in the state's infrastructure pipeline, and this Report regards its progression through the Stage-I forest clearance process as a meaningful signal of the project's advancing implementation readiness, though this Report also notes that Indian infrastructure projects of comparable scale and environmental sensitivity have historically faced extended timelines between initial environmental clearance and financial closure, a pattern this Report recommends the state's own project monitoring units track closely for the Shimla project specifically given the project's prominence within the state's broader urban transport and tourism infrastructure strategy discussed in Chapters 8 and 19.

The remaining ropeway projects in the pipeline, connecting Chamba district to Killer, the Mata Baglamukhi temple in Mandi district, and Narkanda to Hatu Peak, are each considerably smaller in scale than the Parwanoo-Shimla and intra-Shimla projects, and appear from the available documentation to be at an earlier stage of structuring and approval, though this Report was unable to identify current, project specific financial close or construction timelines for any of these three smaller projects at the time of writing, a further instance of the data availability constraints this Report has noted throughout this chapter.

The hydropower sector, examined in detail in Chapter 9, continues to generate a steady pipeline of private and joint sector investment structured through long term project leases rather than conventional public-private partnership concessions. The state government has allocated 22 new hydropower projects with a combined capacity of 828 megawatts on 40 year leases, expected to generate approximately Rs 82.8 crore in upfront premium payments to the state exchequer in addition to the operational revenue and local employment such projects create over their operating life, and separately cleared implementation agreements for a further 19 hydropower projects ranging from 6 to 24 megawatts in capacity, with a combined capacity of 278 megawatts and an estimated combined investment of Rs 3,336 crore (India Brand Equity Foundation, 2026; BigInfo, 2026).

At the smaller end of this pipeline, the state's nodal renewable energy agency, Himurja, continues to invite private investment proposals for small hydro projects of up to 5 megawatts capacity, with projects under 2 megawatts specifically reserved for enterprises promoted by domiciled Himachal residents, a deliberate local content policy intended to ensure that at least the smallest tier of hydropower development remains accessible to local entrepreneurs rather than being captured entirely by larger, often outside, developers (Himurja, 2024). This local reservation policy, while modest in its aggregate megawatt contribution relative to the state's overall hydropower capacity targets discussed in Chapter 9, is consistent with the broader intra-state balance and local participation objectives that run throughout this chapter's discussion of the state's industrial and investment policy architecture, and this Report's recommendations in Chapter 21 propose examining whether a comparable local reservation mechanism might usefully be extended to the state's smaller scale public-private partnership pipeline in sectors beyond hydropower, including the ropeway projects discussed above.

4.8 Regional Cooperation: Shared Region and Growth

Himachal Pradesh's economic development is inseparable from its cooperative and, at times, contested relationships with neighbouring states and union territories that share its rivers, its transport corridors and its tourist markets. The Bhakra and Beas dam systems, whose waters and power generation are managed jointly with Punjab, Haryana and Rajasthan through the Bhakra Beas Management Board, illustrate a long standing model of interstate infrastructure cooperation from which Himachal Pradesh continues to derive both revenue and political leverage in ongoing discussions over water and power sharing formulas, discussed further in this Report's treatment of centre-state and inter-state relations in Chapter 21.

This shared river basin management model, now in operation for several decades, offers a useful institutional precedent as the state considers how best to structure cooperative arrangements around its newer hydropower development on the Sutlej, Beas and Chenab river systems discussed in Chapter 3 and Chapter 9, particularly given that several of the state's downstream neighbours retain a direct interest in both the water flow and the power generation implications of new upstream capacity additions. This Report's assessment is that the Bhakra Beas Management Board model, whatever its specific limitations, has at minimum demonstrated that durable, multi decade interstate cooperation around shared water resources is achievable in this region, a precedent worth drawing on explicitly as new cooperative frameworks are negotiated.

The Baddi-Barotiwala-Nalagarh industrial cluster discussed throughout this chapter owes much of its competitiveness precisely to its proximity to the Chandigarh tricity region and the wider Punjab and Haryana consumer and logistics market, making the cluster's continued growth substantially dependent on transport and regulatory cooperation across what are, in practice, three separate state jurisdictions functioning as a single integrated industrial region. This Report notes that road connectivity between the Baddi-Barotiwala-Nalagarh belt and the Chandigarh tricity region, while generally good relative to the connectivity challenges documented elsewhere in this Report, would benefit from continued coordinated investment across the Punjab and Himachal Pradesh state highway authorities specifically, given the volume of freight traffic the cluster's pharmaceutical and fast moving consumer goods exports generate along this corridor.

Looking forward, the Zaskar-Lahaul tunnel discussed in section 4.4 represents an emerging cooperative frontier with the union territory of Ladakh, one that will require coordinated planning between the Himachal Pradesh and Ladakh administrations, and with the central government agencies responsible for border area development, if the connectivity gain is to translate into genuine economic integration rather than simply faster transit between two administratively separate territories. Given Ladakh's status as a union territory administered directly by the central government rather than a state with its own elected legislature of the kind Himachal Pradesh possesses, this cooperative planning process will necessarily involve a somewhat different institutional architecture than the more conventional state to state cooperation exemplified by the Bhakra Beas Management Board, one this Report

recommends the state's Department of Industries and Department of Planning begin scoping well ahead of the tunnel's eventual completion

Internationally, the involvement of the Agence Française de Développement in financing environmentally sensitive hydropower construction, discussed in section 4.5, offers a template this Report's recommendations in Chapter 21 suggest the state actively seek to replicate with other bilateral and multilateral development finance institutions, particularly for the kind of climate resilient infrastructure reconstruction, examined in Chapter 14, that the state's own fiscal position, documented in Chapter 2, is currently ill equipped to finance through domestic borrowing alone. This Report's broader assessment across this chapter is that Himachal Pradesh's investment and industrial development trajectory, while genuinely strong on process oriented measures such as ease of doing business, remains constrained by data transparency gaps, an uneven public sector enterprise record, and a private investment pipeline still heavily concentrated in a small number of established sectors and corridors, all of which the recommendations developed across Chapters 20 and 21 of this Report seek to address in a coordinated rather than piecemeal fashion.

CHAPTER 5: EDUCATION, ACCESS, QUALITY AND FUTURE READINESS

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

Himachal Pradesh's elementary education system presents one of the clearest examples in this Report of a state whose aggregate statistics are genuinely excellent while its underlying structural sustainability is increasingly precarious. The Unified District Information System for Education Plus for 2023-24 recorded a Gross Enrolment Ratio exceeding 106 per cent and an Adjusted Net Enrolment Ratio of 110.3 per cent for elementary education, classes 1 through 8, alongside a primary level dropout rate of effectively zero, figures the state government attributes to robust school infrastructure and a sustained policy focus on retention (Grokikipedia, 2026). An independent analysis of Unified District Information System for Education Plus data spanning 2021-22 to 2024-25 corroborates this picture, recording transition rates of 99.5 per cent from primary to upper primary and 98.0 per cent from upper primary to secondary, alongside near zero dropout sustained across all four years studied, and concludes that Himachal Pradesh has, in the conventional sense of ensuring every child remains in school through Class 12, effectively achieved what the National Education Policy 2020 envisions as a 2030 target, doing so five or more years ahead of the national deadline (Education for All in India, 2026). The most recent Unified District Information System for Education report, covering 2025-26, confirms this trajectory, recording a primary level dropout rate of just 0.4 per cent and an upper primary dropout rate of 1.3 per cent, figures that place the state among the country's strongest performers on these specific indicators (The Tribune, 2026).

A Gross Enrolment Ratio exceeding 100 per cent, while at first glance an unusual figure, is a familiar and explicable feature of enrolment statistics in states with strong retention and a history of both underage and overage admission, since the ratio measures total enrolment at a given level against the official age cohort population for that level rather than capturing only age appropriate enrolment, and a figure above 100 per cent typically reflects some combination of repeater students, transfer students entering from outside the state, and a modest degree of age misreporting at admission, none of which this Report interprets as evidence of measurement error so much as a familiar statistical artefact of a genuinely high enrolment system (Grokikipedia, 2026). The Adjusted Net Enrolment Ratio, which corrects for age appropriateness more directly, at 110.3 per cent for 2023-24, nonetheless remains an unusually strong figure by comparison with most other Indian states, and this Report treats it as credible corroborating evidence of the underlying access achievement rather than as an artefact requiring separate explanation.

This success, however, sits atop a structural fragility that this Report considers at least as significant as the headline retention figures themselves. The same 2025-26 data records an overall Pupil-Teacher Ratio of just 14 to 1, an enviable figure by national standards, but

average enrolment of only 83 students per school, placing Himachal Pradesh just above Mizoram and Ladakh, and therefore among the three lowest ranked states and union territories nationally, on this specific measure (The Tribune, 2026). A separate, more granular analysis finds that 17.1 per cent of the state's schools operate with a single teacher managing all primary grades simultaneously, a direct consequence of a school network built decades ago to serve villages that have since experienced substantial demographic decline through the falling birth rates documented in Chapter 1 and the sustained youth out-migration documented in Chapter 3 (Education for All in India, 2026).

The origins of this small school network lie substantially in the state's own historical education policy, which from the 1970s onward pursued a deliberate strategy of establishing a primary school within reasonable walking distance of nearly every settlement in the state, however small, a policy this Report regards as having been genuinely appropriate to the accessibility challenges of hill terrain at the time of its adoption, and one that succeeded remarkably in delivering the near universal access documented above. The demographic and migratory shifts of the past two decades, however, have altered the underlying calculus considerably, leaving many of these same schools serving a fraction of their originally intended enrolment, a mismatch between historical infrastructure design and present day demography that this Report regards as the single most important structural challenge facing the elementary education system today.

The state's response, an ongoing programme of school mergers and teacher rationalisation, is a rational administrative adjustment to declining enrolment, but this Report notes that such mergers carry their own risk, since consolidating small hill schools into larger, more distant institutions can itself increase travel time and, in the most remote and seasonally inaccessible villages, create new dropout pressure even as it addresses the single teacher problem it is designed to solve. The state government's own merger guidelines reportedly apply a minimum enrolment threshold below which a school becomes eligible for consolidation with a nearby institution, though this Report was unable to locate a single, current, publicly available statement of that threshold applicable uniformly across the state, nor evidence that the threshold itself is adjusted for terrain difficulty and seasonal accessibility in the differentiated way this Report's recommendations in section 5.8 propose, a gap this Report regards as a meaningful missed opportunity given how directly terrain bears on the practical consequences of any given merger decision.

5.2 Secondary and Senior Secondary Education: Transition and Achievement

Performance at the secondary and senior secondary levels broadly mirrors the elementary stage's pattern of strong access indicators. Secondary Gross Enrolment Ratio stands at 102.6 per cent and higher secondary Gross Enrolment Ratio at 84.7 per cent, with Class 12 retention recorded at 81.8 per cent, figures that compare favourably with most other Indian states even as they show, correctly, that a meaningful minority of students who enter secondary school do not complete Class 12 (Education for All in India, 2026). The 2025-26 Unified District Information System for Education report records a secondary level dropout

rate of 5.6 per cent, higher than the negligible rates recorded at primary and upper primary levels but still comparing favourably with the national secondary dropout average, which separate national analysis places at approximately 12 per cent for the same reporting period (The Tribune, 2026; India Data Map, 2026).

The gap between the near universal retention achieved at elementary level and the more moderate, though still comparatively strong, retention achieved at secondary and senior secondary level is a pattern common across most Indian states, reflecting the genuine additional pressures, including economic opportunity cost, examination stakes and, for some students, the greater physical distance to the nearest secondary school relative to the more densely distributed primary school network, that accumulate as students progress through the system. This Report's own reading of the 5.6 per cent secondary dropout figure is that it should be understood less as evidence of a distinct new problem emerging at secondary level and more as a continuation, in modest form, of the same terrain and distance related access constraints already discussed in section 5.1, compounded at this stage by the beginning of the labour market pressures documented in Chapter 3.

A particularly notable achievement lies in gender parity. Himachal Pradesh has sustained a higher secondary Gender Parity Index of 1.1, meaning girls are, if anything, marginally more likely than boys to remain enrolled through senior secondary school, across four consecutive years, a result a national analysis of girls' education specifically credits as remarkable given the state's difficult mountain terrain and the additional domestic and agricultural labour burdens that rural girls in hill states have historically faced (Education for All in India, 2026). This achievement should nonetheless be read alongside a more cautionary finding from the Union Ministry of Education's Performance Grading Index 2.0, the government's own composite assessment of state level school education systems, under which no state or union territory secured any of the top three grades nationally for the most recent assessment cycle, and Himachal Pradesh was placed in the 'Prachesta-2' category, a solid but not leading tier, alongside Goa, Maharashtra, Odisha and Lakshadweep, with Punjab, Kerala, Tamil Nadu and Puducherry recognised as sectoral leaders on specific dimensions such as learning outcomes, access and equity that Himachal Pradesh was not (Ensure IAS, 2026).

The Performance Grading Index's composite structure, which weighs learning outcomes, governance processes, infrastructure and equity across a wide battery of specific indicators, is designed precisely to surface the kind of gap this Report has identified throughout this chapter, between strong access and retention on the one hand and unproven learning quality on the other, and Himachal Pradesh's Prachesta-2 placement, in this Report's assessment, is best read as external, independent confirmation of exactly that gap rather than as a surprising or anomalous result. This Report reads the juxtaposition of outstanding access and retention statistics with a merely mid-tier composite governance grade as consistent with the picture that emerges throughout this chapter, a system that has solved the access problem more completely than most Indian states, but has not yet demonstrated commensurate leadership on the harder, next stage problem of learning quality.

5.3 Higher Education: Institutional Capacity, Gross Enrolment and Quality

Himachal Pradesh's higher education landscape has expanded considerably since the enactment of the Himachal Pradesh Private Universities Act in 2006, which created the legal framework for self-financed private universities to operate alongside the state's public higher education system. As of 2025, the University Grants Commission recognises 17 private universities in the state, including Shoolini University, Jaypee University of Information Technology and Chitkara University, most established after 2008 and concentrated heavily in Solan district, reflecting that district's proximity to the Chandigarh tricity region and its existing industrial base discussed in Chapter 4 (Grokopedia, 2026). This private expansion has occurred alongside a continuing public higher education network of some 143 government degree colleges spread across the state's twelve districts, together with five government engineering colleges affiliated with the Himachal Pradesh Technical University, offering approximately 1,000 undergraduate engineering seats at tuition fees of around Rs 20,000 per year, a level of public subsidy this Report notes as a genuine, if underappreciated, contributor to the state's otherwise favourable human development indicators discussed in Chapter 1 (Invest India, 2026; Grokopedia, 2026).

This concentration of private higher education capacity in Solan district specifically mirrors, and to some extent reinforces, the broader pattern of industrial and economic concentration in the Baddi-Barotiwala-Nalagarh belt discussed extensively in Chapters 3 and 4, with several of the district's private universities maintaining explicit institutional linkages, including internship and placement partnerships, with pharmaceutical and manufacturing employers within the belt. This Report regards this district level clustering of both industrial and higher education capacity as a genuine, if partial, success in aligning the state's tertiary education output with locally available employment demand, even as it also means that districts further from Solan, and particularly the state's more remote tribal districts discussed in Chapter 1, have benefited considerably less from this private higher education expansion than their share of the state's overall student population would suggest.

This private expansion has occurred alongside a continuing public higher education network of some 143 government degree colleges spread across the state's twelve districts, together with five government engineering colleges affiliated with the Himachal Pradesh Technical University, offering approximately 1,000 undergraduate engineering seats at tuition fees of around Rs 20,000 per year, a level of public subsidy this Report notes as a genuine, if underappreciated, contributor to the state's otherwise favourable human development indicators discussed in Chapter 1 (Invest India, 2026; Grokopedia, 2026). The state's 143 government degree colleges, while providing broad geographic coverage, vary considerably in the breadth of programme offerings available at each institution, with many of the smaller, more remotely located colleges offering only a limited range of undergraduate arts and commerce programmes rather than the fuller range of science, professional and vocational degree options more readily available at the larger colleges in Shimla, Mandi and the Solan belt, a distributional pattern this Report connects to the broader district level disparity in growth and opportunity documented throughout this Report.

At the specialised end of this system, two nationally significant institutions merit particular note. The Indian Institute of Management Sirmaur, mentored initially by the Indian Institute of Management Ahmedabad and now operating from a permanent campus in Rampur, offers a two year Post Graduate Programme equivalent to a full MBA and ranked in the 70 to 80 band nationally in the 2025 National Institutional Ranking Framework's management category, a respectable if still developing position for a comparatively young institution (Grokikipedia, 2026). The All India Institute of Medical Sciences at Bilaspur, established under the Pradhan Mantri Swasthya Suraksha Yojana, provides the state with a premier national medical institution whose relevance extends well beyond higher education into the health infrastructure priorities discussed in Chapter 6. Notwithstanding this expanding institutional capacity, this Report was unable to locate a single, authoritative, current Gross Enrolment Ratio figure for higher education specific to Himachal Pradesh, an evidentiary gap this Report flags for the state's own Department of Higher Education to address through more consistent public reporting, particularly given how directly this figure bears on the skills mismatch and youth unemployment challenges documented in Chapter 3.

5.4 Technical, Vocational Education and Training (TVET) Ecosystem

Himachal Pradesh's technical and vocational education system is administered through a dedicated Department of Technical Education, Vocational and Industrial Training, which oversees the state's network of Industrial Training Institutes and polytechnics offering three year engineering diplomas and two year pharmacy diplomas, alongside admission processes for the 2026-27 academic session that were, at the time of writing, in active progress (Department of Technical Education, Vocational and Industrial Training, 2026). The state's Industrial Training Institute network, comprising both government and government aided private institutions, offers trade specific courses aligned with the National Council for Vocational Training curriculum, with course offerings increasingly weighted toward trades relevant to the state's own anchor industries discussed in Chapter 4, including pharmaceutical manufacturing support trades, electrical and electronics trades relevant to the hydropower sector, and hospitality and tourism trades relevant to the tourism economy discussed in Chapter 3.

The state is currently implementing the central government's Pradhan Mantri Skilling and Employability Transformation through Upgraded Industrial Training Institutes scheme, known as PM-SETU, and had, at the time of writing, an active tender process underway for a Project Management Consultancy firm to support the scheme's State Project Monitoring Unit (Department of Technical Education, Vocational and Industrial Training, 2026). This scheme, part of a broader central government effort to modernise Industrial Training Institute infrastructure and curriculum nationally, offers Himachal Pradesh a further opportunity to align its existing Industrial Training Institute network more closely with current industry requirements, and this Report's recommendations in Chapter 17 propose that the state's own Project Management Consultancy, once appointed, be tasked explicitly with benchmarking upgraded curriculum content against the specific skill requirements identified by the

pharmaceutical, cement and hydropower anchor industries discussed in Chapter 4, rather than pursuing a generic national upgradation template without state specific customisation.

At the school level, Himachal Pradesh has positioned itself as an early adopter of the National Education Policy 2020's vision for mainstreaming vocational education, integrating National Skills Qualification Framework aligned vocational courses into Classes 9 through 12 well ahead of the policy's own stated target that at least half of school and higher education learners nationally should have exposure to vocational education and skill training by 2025 (National Skills Qualification Framework Himachal Pradesh, 2026). The state's vocational education framework includes mandatory apprenticeship and placement provisions, requiring participating institutions to secure job or apprenticeship placement for at least 70 per cent of interested vocational students, alongside a dedicated Skill Development Allowance that provides a stipend to unemployed Himachali youth and vocational students pursuing further skill upgradation (National Skills Qualification Framework Himachal Pradesh, 2026). Whether this genuinely ambitious vocational architecture is succeeding in redirecting the state's educated youth away from the acute unemployment documented in Chapter 3 and toward locally available, skills matched employment is a question this Report considers open rather than settled, given the persistence of a 29.6 per cent youth unemployment rate despite these interventions, and this Report's recommendations in Chapter 17 propose more systematic, outcome based tracking of vocational graduates' subsequent employment status as a precondition for assessing the programme's real effectiveness.

5.5 Teacher Recruitment, Training and Professional Development

The state's overall Pupil-Teacher Ratio of 14 to 1, among the most favourable in the country, masks considerable underlying maldistribution of the kind already discussed in section 5.1, with 17.1 per cent of schools relying on a single teacher across all primary grades even as the aggregate ratio suggests no shortage of teaching staff exists at all (Education for All in India, 2026; The Tribune, 2026). This paradox, a healthy aggregate ratio alongside acute point of delivery shortages in the state's smallest and most remote schools, reflects the genuine difficulty of matching teacher deployment to an unusually dispersed rural settlement pattern, discussed in Chapter 1, rather than any straightforward failure of recruitment planning, and addressing it credibly requires deployment reform, potentially including multi-grade teaching pedagogy and cluster based teacher sharing arrangements, at least as much as it requires further aggregate hiring.

The specific challenge of teacher deployment to remote, low enrolment schools is compounded, in this Report's assessment, by the understandable personal preference of many teachers, particularly those recruited from outside the immediate local area, for postings closer to district headquarters and larger towns, a preference that state transfer and posting policies must continually balance against the educational imperative of ensuring adequately staffed schools in the state's most remote tehsils and subdivisions. This Report was unable to locate current, detailed data on the specific incentive structures, whether financial allowances, accelerated promotion eligibility or other measures, that the state currently offers to teachers

accepting postings in its most remote and difficult schools, and recommends, in Chapter 21, that any such existing incentive framework be reviewed and, if found insufficiently calibrated to the genuine hardship differential between, for example, a school in Lahaul and Spiti and one in Kangra district's more accessible valleys, be strengthened accordingly.

A more specific and encouraging recent development concerns the recruitment of special educators. In October 2024, the state's Education Department announced the creation of 245 special educator posts, to be filled through regular recruitment conducted by the State Selection Commission in Hamirpur, marking the first time in 21 years that such posts had been filled other than through contract based appointment, a practice that had prevailed since 2003 (The News Himachal, 2024). This shift followed direct interventions by the Supreme Court of India and the Himachal Pradesh High Court, and allocates 138 of the new posts to primary schools and 107 to upper primary schools, with candidates required to hold at least 50 per cent marks in Class 12 for primary level eligibility (The News Himachal, 2024). This Report treats the transition from two decades of contract based hiring to regular, tenured recruitment for special educators as a meaningful, if overdue, professionalisation of a role directly relevant to the inclusive education priorities discussed in section 5.7 below, and recommends, in Chapter 21, that a comparable review be undertaken of contract based staffing practices elsewhere in the state's teaching workforce, to determine whether similar job security and career progression reforms would improve retention and quality in the state's most understaffed rural schools.

5.6 Digital Education, EdTech Integration and ICT in Schools

Digital infrastructure represents the clearest area of continuing weakness within an otherwise strong school education system. The 2025-26 Unified District Information System for Education report finds that only 66 per cent of the state's schools have internet connectivity and only 57 per cent have functional smart classrooms, figures that, while representing an improvement over the 2023-24 baseline of 48.7 per cent internet connectivity and 47.5 per cent computer facility availability, still leave a substantial minority of schools without the basic digital infrastructure that increasingly underpins both routine administrative functions and supplementary learning resources (The Tribune, 2026; Grokipedia, 2026). The improvement recorded between the 2023-24 and 2025-26 reporting periods, an increase of more than 17 percentage points in internet connectivity over roughly two years, represents a genuinely rapid pace of infrastructure rollout by the standards of comparable state level digital education programmes elsewhere in India, and this Report regards it as evidence that the state's digital education investment, whatever its remaining gaps, is not proceeding at a stalled or merely incremental pace. Sustaining this pace of improvement over the coming several years, so as to close the remaining connectivity gap entirely rather than allowing progress to plateau once the more accessible schools have been connected, is the specific challenge this Report's recommendations in section 5.8 address directly.

Digital library coverage remains particularly limited, at just 2.4 per cent of schools statewide, a figure one comprehensive independent analysis explicitly identifies as a genuine

constraint on learning quality even within a system that otherwise scores exceptionally well on conventional resource ratios such as pupil-teacher ratio and classroom availability (Education for All in India, 2026). This gap between physical infrastructure availability, where the state performs comparatively well, and digital content and connectivity availability, where it performs considerably less well, is consistent with a pattern this Report has observed elsewhere in this chapter, of a state education system whose historical investment priorities favoured the kind of physical infrastructure, buildings, classrooms and teacher postings, that a hill state building out universal access in earlier decades would naturally have prioritised, but whose more recent digital investment has not yet fully caught up to the infrastructure standard the physical system already established.

This digital divide is not evenly distributed across the state's territory. Connectivity challenges are most acute in the remote, high altitude districts of Lahaul and Spiti and Kinnaur, where sparse mobile network coverage and the recurring disruption of what limited fibre and tower infrastructure does exist by landslides, avalanches and heavy winter snowfall, discussed in Chapter 1, compound the more general rural connectivity gap found across hill terrain generally (Grokopedia, 2026). This Report's discussion of digital infrastructure in Chapter 16 examines the state's broader efforts to extend broadband and optical fibre connectivity to such areas, and recommends that school connectivity be treated as an explicit, prioritised beneficiary of any such expansion, both because education specific connectivity failures documented here compound the broader digital exclusion facing residents of these districts, and because reliable school connectivity offers one of the more measurable, accountable use cases against which the success of any rural broadband expansion programme can subsequently be assessed.

5.7 Special Education: Children with Disabilities and Inclusive Schooling

Himachal Pradesh's institutional commitment to inclusive education for children with disabilities dates to 1999-2000, when the state introduced Inclusive Education for the Disabled under what was then the Sarva Shiksha Abhiyan, now continued under the Samagra Shiksha framework, with an explicit zero rejection policy under which no child with special needs, regardless of the kind, category or degree of disability, may be denied admission or an appropriate learning environment (Samagra Shiksha Himachal Pradesh, 2026). The programme's stated interventions span identification and functional assessment, preparation of Individualised Educational Plans for each enrolled child, provision of assistive aids and appliances, dedicated teacher training, removal of architectural barriers to physical access, and a specific additional focus on girls with disabilities, who face compounding social and access barriers relative to both non-disabled girls and disabled boys (Samagra Shiksha Himachal Pradesh, 2026).

This zero rejection policy, now in place for more than two decades, represents a longstanding institutional commitment that predates much of the national policy architecture, including the Rights of Persons with Disabilities Act of 2016, that now governs inclusive education more broadly across India, and this Report regards Himachal Pradesh's early adoption of this

principle as a genuine point of distinction relative to many other states, even as the practical implementation gaps discussed below qualify how fully that early commitment has translated into consistent, adequately resourced delivery across every school in the state's network.

The October 2024 decision to fill 245 special educator posts through regular, tenured recruitment rather than continued contract based hiring, discussed in section 5.5, represents the most significant recent structural reform affecting this system, and this Report considers it likely to improve both the consistency of specialised instruction available to children with disabilities and the professional retention of trained special educators, who under the previous contract based system had limited incentive to remain in post for extended periods (The News Himachal, 2024). The allocation of 138 of the new posts to primary schools and 107 to upper primary schools suggests a deliberate prioritisation of early identification and intervention, consistent with established practice in inclusive education more broadly, which holds that early, consistent specialised support during the primary years is disproportionately important to a child's subsequent educational trajectory relative to support introduced only at later stages.

This Report was unable to locate current, Himachal Pradesh specific data on the overall enrolment share of children with special needs, the proportion of schools equipped with disability accessible infrastructure such as ramps and accessible toilets, or the share of the general teaching workforce trained in inclusive education pedagogy, the kind of granular data that comparable analyses have produced for other Indian states, and this Report recommends, in Chapter 21, that the state's own Samagra Shiksha authority publish such disaggregated data on a regular basis, both to allow the kind of independent scrutiny this Report has been able to apply to the state's mainstream enrolment and retention statistics, and to provide a clearer baseline against which the impact of the 2024 special educator recruitment reform can itself be measured over time. Absent such data, this Report is unable to determine with confidence whether the state's genuinely strong policy architecture for inclusive education, dating back more than two decades, has in practice delivered outcomes for children with disabilities commensurate with the exceptional access and retention outcomes this chapter documents for the general student population.

5.8 State-Specific Educational Challenges and Reform Priorities

The preceding sections of this chapter reveal a school education system whose central challenge is not, as in many Indian states, insufficient access or unacceptably high dropout, but rather the difficulty of sustaining quality and efficient resource deployment within an access framework that has already, by most conventional measures, succeeded. Three specific, interlinked structural challenges recur across every level of the system examined in this chapter. First, a demographic and settlement pattern, driven by the falling birth rates documented in Chapter 1 and the sustained youth out-migration documented in Chapter 3, that has left the state with an extensive network of very small schools, many staffed by a single teacher, creating a genuine tension between the educational logic of consolidation and the accessibility logic of keeping schools open in remote villages that a merger might

otherwise strand without any nearby alternative. Second, a persistent quality frontier that the state's own excellent access and retention statistics have not yet translated into leadership on national learning outcome and governance assessments such as the Performance Grading Index, where Himachal Pradesh's Pracheta-2 ranking, while respectable, falls short of the Learning Outcomes, Access, Equity and Teacher Training leadership positions claimed by states such as Punjab, Kerala and Tamil Nadu. Third, a digital divide that, while narrowing, still leaves roughly a third of the state's schools without reliable internet connectivity and the overwhelming majority without any digital library access, a gap concentrated most acutely in precisely the tribal, high altitude districts whose children this Report's broader analysis, in Chapter 1 and Chapter 7, identifies as already facing the state's most significant socioeconomic disadvantages.

This Report's recommendations for the education sector, developed in full in Chapter 21, accordingly prioritise three linked reforms over any further expansion of aggregate access. These are a systematic, terrain sensitive school rationalisation strategy that weighs travel time and seasonal accessibility explicitly rather than applying enrolment thresholds uniformly across plains and mountain terrain alike, a sustained investment in learning outcome assessment and teacher pedagogical training sufficient to convert the state's exceptional resource ratios into genuine leadership on national learning quality benchmarks, and a targeted digital infrastructure programme, coordinated with the broader rural connectivity priorities discussed in Chapter 16, that closes the specific school connectivity gap in Lahaul and Spiti, Kinnaur and Chamba's most remote subdivisions before pursuing further incremental gains in already better connected districts. None of these reforms carries the political visibility of a new school or a new university, but this Report's assessment is that they, rather than further expansion of an already near universal access framework, represent the genuine frontier of educational policy in Himachal Pradesh over the period this Report addresses.

CHAPTER 6: HEALTH, NUTRITION AND POPULATION

6.1 Public Health Infrastructure: Facilities, Human Resources and Gaps

Himachal Pradesh's public health infrastructure is unusually extensive relative to its population, a legacy of decades of sustained public investment that this Report's discussion of the state's historical development model in the Executive Summary has already identified as foundational to its human development achievements. The state's Economic Survey 2025-26 records a network of 115 Civil Hospitals, 110 Community Health Centres and 586 Primary Health Centres spread across the state's twelve districts, a facility density that, in a state of fewer than 7 million people, compares favourably with far more populous Indian states (Himachalscape, 2025). This network is increasingly being layered with tertiary and specialised capacity. The All India Institute of Medical Sciences at Bilaspur, established under the Pradhan Mantri Swasthya Suraksha Yojana and already noted in Chapter 5 for its higher education significance, now anchors advanced tertiary care for the state's western districts, while the state government has committed to establishing Integrated Public Health Laboratories in every district by 2026, a target intended to reduce the reliance on referral to Shimla or Chandigarh for even routine diagnostic testing (India Brand Equity Foundation, 2026).

This three tier structure, Primary Health Centres at the first point of contact, Community Health Centres providing a wider band of specialist and emergency services, and Civil Hospitals anchoring district level secondary care, follows the standard national architecture for rural health delivery, but its density in Himachal Pradesh specifically reflects a deliberate historical policy choice to prioritise physical proximity of care over the facility consolidation that a purely population weighted planning model might otherwise have produced, a choice this Report regards as broadly analogous to, and consistent with, the small school network discussed in Chapter 5, and one that carries a similar structural consequence, namely that many of these facilities, particularly the state's smaller Primary Health Centres, serve modest daily patient volumes relative to their staffing and infrastructure, a pattern this Report considers a reasonable and necessary cost of ensuring basic care access across dispersed, terrain constrained hill settlements rather than evidence of inefficient facility planning.

At the frontier of clinical capability, the state has introduced robotic surgery at the Atal Institute of Medical Super Specialities in Chamiana, near Shimla, through an equipment investment of Rs 28 crore, described by the state government as its first such facility, with plans to extend the technology to other government medical colleges over time (India Brand Equity Foundation, 2026). This Report reads this investment as a genuine, if narrow, marker of ambition, but cautions against allowing headline grabbing tertiary care investment to substitute for the harder, less visible task of staffing the state's extensive network of Primary Health Centres and Community Health Centres in its most remote districts, where the same terrain related recruitment and retention difficulties documented in Chapter 5's discussion of teacher deployment apply with equal force to doctors, nurses and paramedical staff. This Report was unable to locate a current, comprehensive, publicly available accounting of vacancy rates specific to Himachal Pradesh's rural health workforce, an evidentiary gap this Report considers as significant, in its own domain, as the vacancy data limitations already

flagged in Chapter 5, and recommends, in Chapter 21, that the state's Health and Family Welfare Department publish disaggregated, district level vacancy data on a regular basis to allow the kind of independent scrutiny this Report has otherwise been able to apply to the state's education workforce.

6.2 Epidemiological Profile: Communicable and Non-Communicable Disease Burden

Himachal Pradesh's disease burden reflects the broader epidemiological transition underway across most of India, in which non-communicable disease increasingly displaces communicable disease as the dominant health system challenge, even as the state's specific mountain geography introduces distinct risk factors of its own. The state has undertaken large scale screening for non-communicable diseases covering approximately 16 lakh adults, a substantial preventive health effort that reflects growing official recognition of the rising burden of conditions such as hypertension, diabetes and cardiovascular disease, conditions increasingly prevalent even in a state whose traditional hill diet and historically active, agricultural lifestyle might otherwise be assumed to offer some protective effect (India Brand Equity Foundation, 2026).

This shift in dietary and activity patterns, while not the subject of dedicated state level survey data this Report could locate, is plausibly linked to the same structural economic transformation documented in Chapter 3, in which a workforce increasingly employed in services, trade and sedentary occupations, and a rural diet increasingly supplemented by processed and packaged foods distributed through the same expanding road and retail network that has improved market access more generally, together create exactly the conditions under which non-communicable disease prevalence typically rises even in populations that were historically protected by more physically demanding agricultural livelihoods. This Report regards the state's 16 lakh adult screening effort as a genuinely proportionate initial response to this emerging risk, though screening alone addresses detection rather than the longer term chronic disease management infrastructure, discussed further in section 6.8, that a rising non-communicable disease burden will increasingly require.

This Report was unable to locate a current, disaggregated, state specific breakdown of communicable disease incidence for Himachal Pradesh sufficient to support detailed quantitative discussion, an evidentiary gap consistent with the broader pattern of state level health data limitations already noted in section 6.1. What can be stated with confidence, based on the terrain and demographic characteristics documented throughout this Report, is that the state's epidemiological profile is likely shaped by several distinct pressures beyond the conventional infectious versus non-communicable disease distinction. These include respiratory and cardiovascular strain associated with high altitude living in districts such as Lahaul and Spiti and Kinnaur, the seasonal disruption of routine and emergency care access during the winter road closures and monsoon landslides documented in Chapter 1, and an ageing population structure, a consequence of the below replacement fertility rate discussed

in section 6.7 below, that will place gradually increasing demand on chronic disease management services relative to the maternal and child health services that have historically dominated the state's public health priorities.

Waterborne and vector borne disease risk, while historically a less prominent feature of Himachal Pradesh's disease profile than in India's plains states, warrants continued monitoring given the changing climate patterns discussed throughout this Report, including in Chapter 3's treatment of horticulture and in Chapter 14's fuller examination of climate risk, since rising temperatures at mid and lower hill elevations have in several other Himalayan states been associated with the gradual upward migration of vector borne disease risk, including dengue and malaria, into altitude bands previously considered largely protected. This Report recommends, in Chapter 21, that the state's own epidemiological surveillance capacity be strengthened specifically to produce the kind of granular, publicly available disease burden data that would allow future editions of this Report, and the state's own health planners, to move beyond the necessarily general characterisation offered here.

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

Himachal Pradesh's record on child survival indicators is genuinely exceptional by national standards, even as its record on maternal mortality specifically appears less complete. Central government data confirms that Himachal Pradesh is one of only six states and union territories nationally, alongside Kerala, Delhi, Tamil Nadu, Maharashtra and Jammu and Kashmir, to have already achieved the Sustainable Development Goal target of a Neonatal Mortality Rate at or below 12 per 1,000 live births well ahead of the 2030 deadline, recording a Neonatal Mortality Rate of exactly 12 (Ministry of Health and Family Welfare, 2025). The state is similarly one of only twelve states and union territories to have achieved the Sustainable Development Goal target for Under-Five Mortality Rate of 25 or fewer per 1,000 live births, recording a rate of 23 (Ministry of Health and Family Welfare, 2025).

This achievement is particularly notable given that several of the other states appearing on both lists, Kerala, Delhi, Tamil Nadu and Maharashtra, are considerably more urbanised and possess more developed tertiary care infrastructure than Himachal Pradesh, suggesting that the state's child survival outcomes owe less to concentrated tertiary care capacity of the kind those states can draw on and more to the kind of consistent, well distributed primary and community level maternal and child health service delivery discussed in section 6.1, a pattern this Report regards as broadly consistent with, and indeed a direct outcome of, the historical facility density and outreach model documented throughout this chapter.

By contrast, Himachal Pradesh does not appear among the eight states that have already achieved the Sustainable Development Goal Maternal Mortality Ratio target of 70 or fewer maternal deaths per 100,000 live births, a list confined to Kerala, Maharashtra, Telangana, Andhra Pradesh, Tamil Nadu, Jharkhand, Gujarat and Karnataka (Ministry of Health and Family Welfare, 2025). This Report was unable to locate a precise, current, state specific Maternal Mortality Ratio figure for Himachal Pradesh sufficient to state with confidence, and declines to estimate one, but notes the state's absence from this particular achievers' list as a

genuine, if narrower, gap in an otherwise strong maternal and child health record, and one this Report recommends the state's own Health Department address through more transparent, disaggregated public reporting of maternal death data. This Report notes further that maternal mortality, unlike neonatal or under five mortality, is disproportionately sensitive to emergency obstetric referral capacity and transport time to a facility equipped for complicated deliveries, a pathway of risk directly connected to the terrain related access constraints, discussed in Chapter 1 and again in Chapter 8's treatment of road infrastructure, that this Report considers a plausible, though not confirmed, contributing factor to the gap between the state's exceptional child survival record and its less clearly documented maternal mortality performance.

Infant Mortality Rate estimates for Himachal Pradesh vary somewhat by source and survey year, a 2020 assessment based on Reserve Bank of India compiled data recording approximately 17 deaths per 1,000 live births, while more recent national investment promotion material cites a figure closer to 14, a range broadly consistent with a state that has continued to improve on this indicator without yet fully closing the gap to the leading states cited above (Statista, 2024; India Brand Equity Foundation, 2026).

Nutrition outcomes present a more mixed picture within this generally strong record. The National Family Health Survey 2019-21 found that approximately 90 per cent of pregnancies in the five years preceding the survey resulted in a live birth attended by appropriate antenatal care, and recorded that around 5 per cent of women aged 20 to 24 had married before the legal minimum age of 18, down from 9 per cent in the previous survey round, while separately noting a Sex Ratio at Birth of 875 girls per 1,000 boys, among the lowest recorded for any major Indian state in that survey round and a finding this Report considers warrants sustained policy attention alongside the state's otherwise strong gender parity performance in education documented in Chapter 5 (International Institute for Population Sciences, 2021). The decline in early marriage recorded between the two most recent survey rounds, from 9 per cent to 5 per cent, is a meaningful improvement this Report attributes at least in part to the same rising female educational attainment that the Population Research Centre in Shimla has separately credited with the state's fertility decline, discussed further in section 6.7.

Preschool attendance for children aged 2 to 4 also shows marked intra-state variation, reaching 66 per cent in Mandi district but just 40 per cent in Lahaul and Spiti, a gap that mirrors the broader pattern of remote, high altitude district disadvantage documented throughout this Report (International Institute for Population Sciences, 2021). This Report connects this specific gap directly to the Anganwadi centre staffing and reach challenges discussed in section 6.6, and to the broader pattern of remote district infrastructure disadvantage documented across health, education and digital connectivity alike in this Report.

6.4 Universal Health Coverage: State Health Assurance Schemes

Himachal Pradesh operates a deliberately structured, two-pillar model of universal health coverage, combining the central government's Ayushman Bharat Pradhan Mantri Jan Arogya Yojana with its own state funded Mukhya Mantri Himachal Health Care Scheme, known as HIMCARE, launched on 1 January 2019 specifically to extend cashless health coverage to families not eligible for the central scheme (Himachal Pradesh Swasthya Bima Yojana Society, 2026). Both schemes offer cashless treatment coverage of up to Rs 5 lakh per family per year on a floater basis covering up to five family members, with hospitals empanelled under Ayushman Bharat automatically empanelled for HIMCARE as well, and HIMCARE operating on a modest co-payment basis, with annual premiums as low as Rs 365 to Rs 1,000 depending on the beneficiary's socioeconomic category, while registered street vendors and several other vulnerable categories are enrolled at zero premium (Star Health, 2026; UMANG, 2026).

Within Himachal Pradesh, approximately 5 lakh families, comprising roughly 22 lakh individuals, are covered under Ayushman Bharat specifically, accessing care through 175 empanelled hospitals, 151 government and 24 private, while HIMCARE extends a comparable safety net to below poverty line families, above poverty line families, MGNREGA workers who have completed at least 50 days of work, senior citizens above 70 years of age, children resident in orphanages, persons with disabilities, and Anganwadi and Accredited Social Health Activist workers, though notably excluding government employees and pensioners, who are covered under separate arrangements (All India Institute of Medical Sciences Bilaspur, 2026; UMANG, 2026). The proportion of empanelled hospitals that are privately operated, 24 out of 175, is comparatively modest relative to some other states' Ayushman Bharat empanelment ratios, a pattern this Report attributes plausibly to the state's already extensive public hospital network documented in section 6.1, which reduces the need for private capacity to fill coverage gaps relative to states with thinner public hospital networks, though this Report was unable to confirm this explanation against dedicated comparative data.

Complementing these two principal schemes, the state operates the Mukhya Mantri Sahara Yojana, which provides direct financial assistance of Rs 3,000 per month to patients from economically weaker sections suffering from a defined list of serious illnesses, a support mechanism intended to address the income loss and out-of-pocket costs associated with prolonged treatment that even comprehensive treatment cost coverage under HIMCARE and Ayushman Bharat does not fully capture (Himachal Pradesh Swasthya Bima Yojana Society, 2026). This income replacement design recognises a dimension of catastrophic illness cost that treatment cost coverage schemes alone typically overlook, namely the lost wages and caregiving costs a household bears while a family member is unable to work during prolonged treatment, and this Report regards the Sahara Yojana's specific targeting of this gap as a genuinely thoughtful complement to the state's broader coverage architecture.

This layered approach, combining treatment cost coverage with income replacement support, and combining a central scheme with a deliberately designed state top-up scheme targeting exactly those excluded from the central programme, represents one of the more thoughtfully constructed universal health coverage architectures among Indian states, and this Report's

recommendation in Chapter 21 is that the state prioritise sustaining the fiscal commitment this architecture requires even amid the broader fiscal consolidation pressures documented in Chapter 2, given the direct bearing continued healthcare access has on the human development indicators that remain the state's most distinctive comparative strength.

6.5 Mental Health Services: Availability, Access and Stigma Reduction

Mental health service availability in Himachal Pradesh remains, as in most Indian states, considerably less developed and less systematically documented than the maternal, child and communicable disease services discussed elsewhere in this chapter. The state participates in the national Tele-MANAS programme, the toll free tele-mental health counselling and support service launched by the Ministry of Health and Family Welfare to extend psychiatric and psychological support to areas, including remote hill districts, where in-person psychiatric care remains scarce, though this Report was unable to locate Himachal Pradesh specific utilisation or outcome data for the programme sufficient to assess its penetration within the state with confidence. The particular demographic and social pressures documented elsewhere in this Report, including the acute youth unemployment and sustained out-migration discussed in Chapter 3, the disaster related trauma associated with the recurring monsoon flooding and landslides discussed in Chapter 1 and examined further in Chapter 14, and the social isolation risks facing an increasingly ageing population in remote, high altitude villages as younger residents migrate for work, together suggest a mental health need that is likely both substantial and only partially served by currently available infrastructure.

This Report treats the absence of granular, publicly reported data on psychiatric bed capacity, trained mental health professional density, and service utilisation specific to Himachal Pradesh as a genuine gap in the state's own health information system, one that mirrors similar gaps already identified in this chapter's discussion of epidemiological surveillance and rural health workforce vacancy data. Rather than speculating on the scale of unmet need with unverified figures, this Report recommends, in Chapter 21, that the state's Health and Family Welfare Department commission a dedicated, published assessment of mental health service capacity and need, potentially in partnership with the National Institute of Mental Health and Neurosciences or a comparable national institution, as a foundational step toward the kind of evidence based mental health policy that this Report has, throughout its other chapters, been able to support with considerably richer data.

6.5a Migration, Family Structure and Psychological Health

The sustained pattern of youth out-migration documented in Chapter 3, at a rate of 49.3 per cent among the highest recorded for any Indian state, carries psychological and family structure consequences that this Report considers distinct enough from the general mental health service availability discussion in section 6.5 to warrant separate treatment, even though this Report was, as in the preceding section, unable to locate dedicated Himachal Pradesh specific survey data quantifying these effects with precision. Migration of working age adults, disproportionately young men and increasingly young women as well, out of rural hill

households for employment in Chandigarh, Punjab, Haryana and further afield, discussed throughout Chapter 3, restructures the family units left behind in ways that plausibly carry both protective and adverse psychological consequences simultaneously.

On one hand, the remittance income this Report discussed in Chapter 3's treatment of per capita income growth likely eases some of the material stress that would otherwise fall on remaining household members, and continued family contact, increasingly facilitated by the improving mobile connectivity discussed in Chapter 5 and Chapter 16, may partially offset the social costs of physical distance relative to earlier generations of migration where sustained contact was considerably harder to maintain. On the other hand, this same pattern of migration frequently leaves elderly parents managing agricultural land and household responsibilities without the direct support of adult children, a phenomenon sometimes described in the broader South Asian demographic literature as the emergence of skip generation or elder headed households, in which grandparents assume primary caregiving responsibility for grandchildren while parents work outside the state, a family structure this Report has not been able to quantify specifically for Himachal Pradesh but which the state's demographic and migration data, discussed in Chapters 1 and 3, make plausible as a meaningfully prevalent household form in several of the state's higher out-migration districts.

The psychological consequences of this restructured family form, for the elderly left managing both agricultural labour and grandchild care, for children raised substantially by grandparents rather than parents, and for migrants themselves navigating employment and social integration in unfamiliar urban settings often considerable distances from their home villages, together represent a distinct and, in this Report's assessment, currently under examined dimension of the state's broader mental health need. This Report recommends, in Chapter 21, that the dedicated mental health capacity and need assessment proposed in section 6.5 explicitly include a module addressing migration linked family structure change and its association with psychological wellbeing among both the migrants themselves and the family members, particularly elderly parents and young children, who remain in the home district, rather than treating migration solely as an economic and demographic phenomenon as Chapters 1 and 3 of this Report have primarily done.

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

Himachal Pradesh implements the full suite of national nutrition programmes through which the central government seeks to address child and maternal undernutrition, integrated within the state's own budget and administrative architecture. The Pradhan Mantri Poshan Shakti Nirman scheme, commonly known by its earlier name, the Mid-Day Meal scheme, received an allocation of Rs 133 crore in the state's 2025-26 budget, providing hot cooked meals to children across the state's extensive network of government schools discussed in Chapter 5, a programme whose nutritional value this Report notes is particularly significant in a state where school consolidation and long travel distances, also discussed in Chapter 5, might otherwise discourage regular attendance among the youngest and most nutritionally vulnerable children (PRS Legislative Research, 2025).

The Integrated Child Development Services scheme, delivered through the state's network of Anganwadi centres and staffed by Anganwadi workers who are themselves explicitly recognised as a priority beneficiary category under the HIMCARE health insurance scheme discussed in section 6.4, provides supplementary nutrition, health checkups and early childhood care to children below six years of age and to pregnant and lactating women across all twelve districts. This Report notes that the same terrain and settlement dispersion challenges that shape school and health facility deployment, discussed in section 6.1 and throughout Chapter 5, apply with equal force to Anganwadi centre placement, and that the marked district level variation in preschool attendance documented in section 6.3, ranging from 66 per cent in Mandi to just 40 per cent in Lahaul and Spiti, is plausibly connected to variation in Anganwadi centre density and accessibility across these same districts, though this Report was unable to confirm this specific causal link against dedicated facility level data.

The national Poshan Abhiyan, India's flagship nutrition mission targeting stunting, wasting, anaemia and low birth weight through convergent action across the health, women and child development, and drinking water and sanitation sectors, provides the overarching policy framework within which these state level interventions operate. This Report was unable to locate current, disaggregated stunting, wasting or anaemia prevalence data specific to Himachal Pradesh sufficient to assess the mission's impact within the state with the same rigour this Report has applied to the maternal and child mortality indicators discussed in section 6.3, though the state's generally strong performance on child survival indicators offers indirect, if imperfect, reassurance regarding the underlying adequacy of its nutrition programme delivery.

This Report recommends, in Chapter 21, that future National Family Health Survey rounds, alongside the state's own Comprehensive National Nutrition Survey participation, be more systematically incorporated into the state's public health reporting, both to track progress on these specific indicators and to identify the kind of district level nutritional disparities that this chapter's discussion of preschool attendance in section 6.3 suggests may exist but that current publicly available data does not allow this Report to characterise fully.

6.7 Population Stabilisation and Family Planning

Himachal Pradesh has achieved a level of fertility decline that places it among the most demographically advanced states in India, a trend with significant implications for nearly every other chapter of this Report. The state's Total Fertility Rate fell from 1.9 children per woman in the National Family Health Survey conducted in 2015-16 to 1.7 in the 2019-21 round, and had fallen further still to 1.5 by the time of a more recent assessment conducted by the state's own National Health Mission, a rate below which only Goa and Sikkim recorded lower fertility among Indian states in the 2019-21 survey round, and well below the replacement level fertility rate of approximately 2.1 required to sustain a stable population over the long term (The Tribune, 2024). Dr Sanju Karol, Director of the Population Research Centre in Shimla, which conducted both the 2015-16 and 2019-21 surveys within the state, has attributed this consistent decline primarily to rising literacy among women, drawing on

the well established demographic relationship in which fertility declines as women's educational attainment rises (The Tribune, 2024).

This attribution is broadly consistent with the exceptionally strong female literacy and secondary education retention outcomes documented in Chapter 5, including the higher secondary Gender Parity Index of 1.1 sustained across four consecutive years, and this Report regards the alignment between the state's education and fertility data as mutually reinforcing evidence of a genuine, structurally embedded demographic transition rather than a short term statistical fluctuation. Continued outward youth migration, discussed in Chapter 3, likely compounds this fertility decline further, since young adults who migrate for employment, and in many cases marry and settle outside the state, are removed from the state's own fertility base entirely, a dynamic distinct from, but additive to, the education driven fertility decline the Population Research Centre has specifically identified.

This Report treats Himachal Pradesh's below replacement fertility not as a family planning success story requiring further intervention, the traditional framing of population stabilisation policy in India, but rather as a demographic transition substantially complete, one whose second order consequences, an ageing population structure, a shrinking school age cohort already driving the enrolment declines and school mergers documented in Chapter 5, and a gradually shrinking future workforce even as current youth unemployment remains acute, this Report considers considerably more policy relevant going forward than any residual concern about excessive population growth. The coexistence of a shrinking youth cohort with persistently high youth unemployment, discussed in Chapter 3, is a particularly striking feature of the state's demographic and labour market profile, implying that the state's employment mismatch problem is a genuine structural gap between skills and locally available opportunity rather than a simple function of population pressure exceeding the local economy's absorptive capacity, a distinction this Report considers important for the design of the labour market interventions discussed in Chapters 3 and 17.

The state's Sex Ratio at Birth of 875 girls per 1,000 boys, recorded in the 2019-21 National Family Health Survey and discussed in section 6.3 above, does however warrant continued, active policy attention independent of the state's overall fertility decline, since a skewed sex ratio at birth reflects a distinct set of social and cultural pressures, examined further in Chapter 7's discussion of gender equity, rather than simply the mechanical consequence of families choosing to have fewer children overall. This Report notes that a low fertility environment can, in some circumstances documented elsewhere in the demographic literature, intensify rather than dilute sex selective pressures, since families having fewer children overall may in some contexts feel a stronger, rather than weaker, preference for at least one son within that smaller family size, a dynamic this Report cannot confirm applies specifically to Himachal Pradesh without dedicated qualitative or survey research, but flags as a plausible contributing explanation warranting further state specific study.

6.8 Health System Strengthening and Future Preparedness

The health profile that emerges from this chapter is, in its essential structure, a mirror image of the education profile examined in Chapter 5: a state whose aggregate outcomes on the indicators international development frameworks have traditionally prioritised, child mortality, institutional delivery, health insurance coverage, are genuinely excellent, but whose underlying system faces a distinct and in some respects harder second generation set of challenges as the state's demographic and epidemiological profile matures. An ageing population, discussed in section 6.7, will require a health system built primarily around maternal, child and communicable disease priorities to reorient gradually but decisively toward chronic disease management, geriatric care and the kind of sustained, longitudinal patient relationships that non-communicable disease management requires, a transition the state's current, encouraging but still preliminary, non-communicable disease screening effort discussed in section 6.2 represents only an early step toward completing.

This reorientation will require workforce planning changes that extend beyond simply filling existing vacancies in the current system, discussed in section 6.1, toward a deliberate expansion of specialisms, including geriatric medicine, endocrinology and cardiology, that the state's current medical education and recruitment pipeline has historically emphasised less heavily than the obstetric, paediatric and general medicine specialisms that a maternal and child health focused system prioritised. This Report's recommendations in Chapter 21 propose that the state's medical education institutions, including the All India Institute of Medical Sciences at Bilaspur and the state's other government medical colleges, be encouraged to expand postgraduate training capacity specifically in these chronic disease relevant specialisms over the coming decade, in anticipation of the demand shift that the state's own demographic trajectory makes highly predictable rather than speculative.

This Report's recommendations for the health sector, developed fully in Chapter 21, accordingly prioritise four linked strengthening measures. These are systematic, publicly reported strengthening of the rural health workforce data, epidemiological surveillance and mental health service capacity gaps identified throughout this chapter, sustained fiscal protection for the HIMCARE and Ayushman Bharat coverage architecture discussed in section 6.4 even amid the broader fiscal consolidation pressures documented in Chapter 2, a deliberate, forward looking reorientation of health system planning and workforce training toward the chronic disease and geriatric care needs that the state's own demographic transition, discussed in section 6.7, makes not a distant future contingency but an already emerging present reality, and a dedicated examination of the migration linked family structure and psychological health dimension identified in section 6.5a, incorporated into the broader mental health capacity assessment this Report recommends the state commission.

Chapter 7: Social Justice, Inclusion and Community Welfare

7.1 Scheduled Castes: Demographic Profile, Deprivation and Development Programmes

Scheduled Castes constituted 25.19 per cent of Himachal Pradesh's population according to the 2011 Census, a considerably higher proportion than the national average and a demographic reality that has shaped the state's welfare architecture since before it attained full statehood in 1971 (Census of India, 2011). This proportion, among the highest recorded for any Indian state, means that Scheduled Caste welfare policy in Himachal Pradesh cannot reasonably be treated as a narrow, minority focused programme area of the kind it might represent in a state where this population share is considerably smaller, but instead functions as a mainstream policy concern touching roughly one in every four residents of the state, a framing this Report considers important to keep in view across the remainder of this section.

Institutional responsibility for this population's welfare rests principally with the Directorate for the Empowerment of Scheduled Castes, Other Backward Classes, Minorities and the Specially Abled, commonly known by its acronym ESOMSA, which the state government describes as existing specifically to provide social justice and bring these communities into the developmental mainstream (Directorate for Empowerment of SCs, OBCs, Minorities and the Specially Abled, 2026). This consolidated directorate structure, housing Scheduled Caste, Other Backward Class, minority and disability welfare functions under a single administrative umbrella, offers some genuine coordination advantages relative to a more fragmented departmental structure, though this Report also notes, consistent with its concluding recommendation in section 7.9, that consolidated administration alone does not guarantee the kind of integrated, cross-programme beneficiary data that would allow the state, or this Report, to assess the cumulative welfare reach across overlapping beneficiary categories with confidence.

Complementing this directorate, the Himachal Pradesh Scheduled Caste and Scheduled Tribe Development Corporation extends targeted financial assistance through a portfolio of schemes including the Swarojgar Yojna for self-employment, the Himswablamban Yojna, the Dalit Varg Vyavsaik Yojna supporting Dalit entrepreneurship, and the Hast Shilp Vikas Yojna for handicraft development, alongside access to the National Scheduled Castes Finance and Development Corporation's small business lending window (Himachal Pradesh Scheduled Caste Scheduled Tribe Development Corporation, 2026). The Hast Shilp Vikas Yojna's handicraft development focus is of particular relevance given this Report's discussion, in Chapter 3, of the state's tourism economy and its associated demand for locally produced handicrafts, suggesting a potentially valuable, though not systematically documented, linkage between Scheduled Caste artisan livelihoods and the broader tourism value chain that this Report's recommendations in Chapter 19 identify as an area meriting closer policy coordination between the tourism and social justice departments respectively.

Central government support flows through a Centrally Sponsored Scheme for the construction of hostels for Scheduled Caste and Other Backward Class boys and girls,

recognising that residential accommodation near schools and colleges is often a precondition for continued education among students from the state's more remote and economically disadvantaged Scheduled Caste communities, a concern directly relevant to the retention challenges discussed in Chapter 5 (Directorate for Empowerment of SCs, OBCs, Minorities and the Specially Abled, 2026). This hostel infrastructure, this Report notes, addresses a distinct barrier from the terrain related travel time constraint discussed generally in Chapter 5, since it specifically targets the compounding disadvantage facing Scheduled Caste students who may face both the general terrain related access barriers common to all hill state students and, in some communities, additional social or economic barriers to sustained secondary and higher education participation.

The state has also historically run a rehabilitation programme for manual scavengers under the Self Employment Scheme for Rehabilitation of Manual Scavengers, reflecting the continuing, if diminishing, presence of this most severe form of caste based occupational discrimination even in a state otherwise associated with strong social indicators (Himachal Pradesh Scheduled Caste Scheduled Tribe Development Corporation, 2026). This Report was unable to locate current, precise data on the number of persons still engaged in or recently rehabilitated from manual scavenging within Himachal Pradesh specifically, an evidentiary gap this Report considers particularly important to close given the acute human dignity concerns this occupation raises, and recommends that the state's Department of Social Justice and Empowerment publish current rehabilitation programme enrolment and outcome data as a distinct, prioritised line item within its broader social justice reporting.

A significant recent development in the wider constitutional treatment of Scheduled Castes, though not yet, to this Report's knowledge, specifically acted upon by Himachal Pradesh, is the 2024 ruling of a seven judge bench of the Supreme Court of India upholding the constitutional validity of state level sub-classification of Scheduled Castes, a mechanism some states have used to ensure that the most disadvantaged communities within the broader Scheduled Caste category are not crowded out of reservation benefits by better positioned communities within the same category (Wikipedia, 2026).

This ruling's practical significance for Himachal Pradesh depends substantially on whether meaningful intra-Scheduled Caste disparity actually exists within the state's own Scheduled Caste population, a question this Report's available data does not allow it to answer definitively, given that most published state statistics aggregate Scheduled Caste outcomes without further disaggregation by specific community or sub-caste. This Report recommends, in Chapter 21, that the state's Department of Social Justice and Empowerment commission a study of intra-Scheduled Caste disparity within Himachal Pradesh specifically, to determine whether such sub-classification would meaningfully improve targeting within the state's own reservation and welfare architecture, an exercise this Report regards as a genuinely evidence based, non-ideological application of the Supreme Court's ruling rather than a politically driven one.

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

Scheduled Tribes made up 5.71 per cent of Himachal Pradesh's population in the 2011 Census, concentrated overwhelmingly in the state's northern and eastern high altitude districts, a settlement pattern already examined in Chapter 1's discussion of the state's ethnic and cultural profile (Census of India, 2011). Ten communities are formally notified as Scheduled Tribes in the state, of which the Gaddi, a historically transhumant pastoralist community concentrated in Chamba and parts of Kangra district, forms the largest single group, followed by the Kinnaura community of Kinnaur district, with smaller populations of Gujjar pastoralists, the Pangwal community of Chamba's remote Pangi valley, and the Bodh or Bhot communities of Lahaul and Spiti, whose religious and cultural practices draw heavily on Tibetan Buddhist tradition (Himalayan Club Journal, 2019).

These communities' livelihoods, this Report notes, remain considerably more diverse than a single administrative category such as Scheduled Tribe might suggest, spanning the Gaddi's continuing seasonal transhumance between high summer pastures and lower winter settlements, the Kinnaura community's horticulture and, increasingly, apple cultivation on terraced hillsides, and the Bodh communities' combination of subsistence agriculture, monastic institutional life and, in recent years, growing engagement with the tourism economy discussed in Chapter 3, particularly in Spiti valley's expanding trekking and cultural tourism circuit. This Report regards this internal diversity as a further argument, alongside the intra-Scheduled Caste disparity concern discussed in section 7.1, for more disaggregated, community specific welfare data collection rather than treating Scheduled Tribe welfare as a single, undifferentiated policy category.

Two districts, Lahaul and Spiti and Kinnaur, together with parts of Chamba, are constituted as Scheduled Areas under the Fifth Schedule of the Constitution, a status that provides additional statutory protection over land transfer to non-tribal persons and mandates a distinct, more locally embedded governance structure, discussed further in Chapter 12's treatment of decentralised governance (Shodhganga, 2013). This Fifth Schedule status is, in this Report's assessment, one of the more consequential constitutional protections available to the state's tribal communities, since the land transfer restriction it imposes has plausibly helped preserve tribal landholding patterns in these districts against the kind of outside land acquisition pressure that tourism and infrastructure development have generated in other parts of the state, a protective effect this Report was unable to quantify precisely but regards as broadly consistent with the continued, largely intact tribal landholding this Report's own review of available district level land records suggests persists in Lahaul and Spiti and Kinnaur specifically.

The state's Scheduled Tribe welfare architecture largely mirrors and, in the case of the Scheduled Caste and Scheduled Tribe Development Corporation, is administratively shared with the Scheduled Caste programmes discussed in section 7.1, extending self-employment, handicraft development and small business financing support to tribal beneficiaries alongside dedicated hostel construction funding (Himachal Pradesh Scheduled Caste Scheduled Tribe

Development Corporation, 2026). A distinct institutional asset is the Institute of Tribal Studies and Research, functioning under Himachal Pradesh University, which conducts teaching and research specifically focused on the state's tribal communities, providing an academic foundation for policy that this Report considers under-utilised relative to its potential, particularly given the considerable ethnographic diversity documented in Chapter 1 across the state's various tribal communities (India.gov.in, 2026). This Report's recommendation in Chapter 21 is that the state government establish a more formal, regular consultative link between the Institute's research output and the policy formulation process within the Directorate for the Empowerment of Scheduled Castes, Other Backward Classes, Minorities and the Specially Abled, so that the Institute's academic expertise translates more directly into the community specific welfare design this section has argued is currently lacking.

This Report's broader assessment, developed further in Chapter 13's treatment of forest governance, is that Scheduled Tribe welfare in Himachal Pradesh cannot be separated from forest rights and land use policy, since the pastoralist and forest dependent livelihoods still practised by significant numbers of Gaddi, Gujjar and Pangwal households remain directly exposed to the same protected area management and hydropower development pressures that Chapter 1 and Chapter 9 examine from an ecological and energy policy perspective respectively, meaning that tribal welfare policy narrowly defined, income support, hostels and small business credit, cannot alone address the community's core economic vulnerabilities without a corresponding, secure framework of forest and grazing access rights. The implementation of the Forest Rights Act 2006 within Himachal Pradesh specifically, this Report notes, has proceeded considerably more slowly and with lower claim recognition rates than in several other states with substantial forest dependent tribal populations, though this Report was unable to locate current, precise implementation statistics specific to Himachal Pradesh, and recommends that the state's Tribal Welfare Department, in coordination with the Forest Department discussed in Chapter 13, publish current data on individual and community forest rights claims filed, recognised and pending within the state, given the direct bearing this data has on assessing whether the state's tribal welfare commitments extend meaningfully into the land and forest access dimension this Report considers foundational.

7.3 Other Backward Classes: Identification, Reservation and Social Mobility

Other Backward Classes constitute a substantial, though less precisely enumerated, share of Himachal Pradesh's population, since the 2011 Census, unlike its treatment of Scheduled Castes and Scheduled Tribes, did not collect a specific national count of Other Backward Class population. This absence of a definitive national headcount, a limitation common to Other Backward Class policy across virtually every Indian state rather than a Himachal Pradesh specific gap, means that state level Other Backward Class policy across India generally, and in Himachal Pradesh specifically, operates with less precise demographic grounding than the corresponding Scheduled Caste and Scheduled Tribe policy discussed in sections 7.1 and 7.2, a structural limitation this Report notes without assigning particular fault

to the state government, given that resolving it would require a national, rather than state level, census methodology change.

National reservation policy for direct recruitment to central government posts and services allocates 27 per cent of positions to Other Backward Classes, alongside 15 per cent for Scheduled Castes and 7.5 per cent for Scheduled Tribes, a framework that Himachal Pradesh applies, with its own state specific calibration, to state government recruitment through the Himachal Pradesh Public Service Commission and other state recruiting bodies, which additionally recognise categories for Economically Weaker Sections, Ex-Servicemen, Wards of Freedom Fighters and Persons with Benchmark Disabilities in their own examination notifications (Department of Personnel and Training, 2024; Himachal Pradesh Public Service Commission, 2025). This layered reservation architecture, combining caste based, economic and other categories within a single recruitment framework, reflects the now well established national policy consensus balancing historical social disadvantage redress with more recently introduced economic criteria, and this Report's assessment is that Himachal Pradesh's specific implementation of this framework is broadly consistent with national norms rather than presenting any distinctive state specific departure worth flagging separately.

Institutional support for Other Backward Class development in the state runs through the Himachal Backward Classes Finance and Development Corporation, which extends loan schemes and welfare programmes specifically targeted at this population, alongside the same Centrally Sponsored hostel construction scheme for Other Backward Class boys and girls discussed in section 7.1 (India.gov.in, 2026). Certification and identification of Other Backward Class status follows the standard national framework requiring caste or community certificates issued by prescribed competent authorities, with the important qualification, common across Indian states, that reserved category candidates domiciled in other states are treated as general category candidates for the purposes of Himachal Pradesh's own state recruitment, preserving the benefit of reservation specifically for the state's own bonafide Himachali residents (Himachal Pradesh Public Service Commission, 2025).

This domicile requirement, while standard practice across Indian states, carries a particular relevance for Himachal Pradesh given the scale of outward youth migration for employment documented in Chapter 3, since it implies that Himachali Other Backward Class candidates who migrate out of state for work or further study, and subsequently seek to compete for public employment in a different state, generally lose the benefit of their reservation category in that destination state, a structural feature of India's federal reservation architecture rather than a state specific policy choice, but one this Report notes as a further, if indirect, dimension of the broader outward migration cost this Report's discussion in Chapter 3 examines primarily in economic rather than social justice terms.

This Report was unable to locate current, disaggregated socioeconomic data specific to Other Backward Class households within Himachal Pradesh sufficient to assess whether reservation policy has translated into measurable gains in social mobility for this population, an evidentiary gap this Report flags, consistent with similar gaps identified in earlier chapters, as an area meriting more systematic state level data collection. Without such data, this Report is

unable to determine whether the current 27 per cent central and state reservation allocation, calibrated originally against national Other Backward Class population estimates, remains an accurate reflection of this population's actual share and relative socioeconomic position within Himachal Pradesh specifically, a question this Report considers analogous to, though distinct from, the intra-Scheduled Caste sub-classification question raised in section 7.1.

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

Himachal Pradesh presents a genuinely mixed picture on gender equity, one in which the state's performance varies considerably depending on which specific dimension is examined. In political representation, the state has been a consistent leader, one of twenty Indian states to have legislated 50 per cent reservation for women in Panchayati Raj institutions, well beyond the one third reservation mandated nationally under Article 243-D of the Constitution, giving Himachali women a level of formal representation in local self-government that this Report's discussion of decentralised governance in Chapter 12 examines in greater institutional detail (Testbook, 2026). This 50 per cent reservation threshold, in place for long enough that it now shapes an entire generation of women's practical experience of elected local office, represents a genuinely substantive rather than merely symbolic commitment to political gender parity at the grassroots level, though this Report notes, consistent with a well documented pattern across Indian states more broadly, that formal reservation for elected office does not by itself guarantee that reserved seat holders exercise decision making authority free of informal influence from male family members, a dynamic sometimes described in the governance literature as proxy representation, and one this Report was unable to assess specifically for Himachal Pradesh absent dedicated qualitative research on the point.

In education, Chapter 5 has already documented that the state has sustained a higher secondary Gender Parity Index of 1.1 across four consecutive years, meaning girls are, if anything, more likely than boys to remain enrolled through senior secondary school even in the state's most difficult mountain terrain, a genuinely notable achievement. This Report regards the alignment between the state's strong political representation architecture and its strong girls' education outcomes as mutually reinforcing rather than coincidental, since a generation of women with sustained access to secondary and higher education is considerably more likely to engage substantively, rather than only nominally, with the political representation opportunities the state's reservation framework provides.

Economic participation tells a more complicated story. Women's labour force participation rate stands at approximately 46.8 per cent against a male rate of 62.5 per cent, with an overall worker population ratio of 50.4 per cent, figures that compare favourably with the national average but that still show a substantial gender gap in workforce engagement (Invest India, 2026). This gap, this Report notes, sits in some tension with the state's strong educational and political representation achievements, suggesting that whatever social and institutional factors have supported girls' educational retention and women's political inclusion have not yet translated with equal force into closing the economic participation gap, a pattern this Report

connects to the broader labour market mismatch documented in Chapter 3, where educated young people of both genders face limited local employment opportunities, but where the specific barriers facing women, including continuing expectations around domestic and agricultural labour responsibilities within the household, likely compound the general employment scarcity in ways this Report's available data does not allow it to disaggregate precisely by gender.

Chapter 6 has already documented a further area of concern, a Sex Ratio at Birth of just 875 girls per 1,000 boys recorded in the 2019-21 National Family Health Survey, among the lowest such ratios recorded for any major Indian state in that survey round, a finding that sits in some tension with the state's strong performance on female education and political representation and that this Report considers warrants sustained, targeted attention independent of the state's other gender indicators. Encouragingly, the same survey found that child marriage among women aged 20 to 24 had declined from 9 per cent to approximately 5 per cent between successive survey rounds, a trend the state's own Population Research Centre in Shimla attributes substantially to rising female literacy, as discussed in Chapter 6.

The state's most significant recent gender specific welfare intervention is the Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana, a direct cash transfer scheme providing Rs 1,500 per month to women aged 18 to 59, expanded in 2024 from an earlier, more limited scheme that had applied only to women in Lahaul and Spiti district, and estimated at full implementation to cost approximately Rs 800 crore annually while covering more than 5 lakh women statewide (MyScheme, 2026; Himexam, 2024). The scheme excludes women whose family members are government employees, pensioners, contractual or outsourced workers, security force personnel, Anganwadi or Accredited Social Health Activist workers, or income tax payers, deliberately targeting the benefit toward women without other reliable household income sources, and makes specific provision for Buddhist nuns resident in the state's monasteries and for slightly adjusted eligibility criteria for women in Kinnaur district (Government Schemes India, 2026).

As of mid-2025, however, implementation remained phased and geographically incremental rather than fully statewide, with the Chief Minister personally rolling out disbursements to specific development blocks, such as Banjar in Kullu district, roughly a year and a half after the scheme's initial announcement, and with the Chief Minister himself publicly acknowledging opposition criticism over the pace of the rollout, attributing the delay to the fiscal constraints and anti-corruption measures discussed in Chapter 2 (Daily Jagran, 2025). This Report reads this gap between ambitious announcement and phased, still incomplete implementation as directly illustrative of the broader tension, examined throughout Chapter 2, between the state's welfare ambitions and its narrowing fiscal space, and recommends that future expansion phases of the scheme be sequenced with explicit, published timelines to sustain public confidence in the programme's eventual universal coverage. This Report further notes that a scheme of this scale and visibility, once fully and consistently implemented, carries meaningful potential to narrow the labour force participation gap documented above, since a guaranteed, unconditional monthly income to women without other income sources may, depending on how households choose to allocate the additional

resource, either substitute for or complement women's own income generating activity, an empirical question this Report recommends the state track directly once the scheme reaches full statewide coverage.

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

Himachal Pradesh's child protection architecture operates through a combination of centrally sponsored and state specific schemes, several of which this Report has already discussed from a nutrition and health perspective in Chapter 6, including the Integrated Child Development Services programme delivered through the state's Anganwadi network and the Pradhan Mantri Poshan Shakti Nirman school meal scheme. Complementing these, the state extends grant-in-aid support to voluntary organisations working on street children welfare under a Centrally Sponsored Scheme administered by the Ministry of Social Justice and Empowerment, and separately channels support from the National Children's Fund to voluntary organisations implementing child welfare and development programmes within the state (India.gov.in, 2026).

The state government's own Mukhya Mantri Sukh-Aashray Yojana provides support, including direct provisions such as clothing, to children in vulnerable circumstances, including orphans and children from families without adequate care, a scheme whose beneficiaries the Chief Minister has personally engaged with during welfare scheme rollout events in the same manner as the gender specific schemes discussed in section 7.4 (Daily Jagran, 2025). This scheme's coverage of children from families without adequate care, a category broader than orphanhood in the strict sense, is of particular relevance given this Report's discussion, in Chapter 6's treatment of migration and family structure, of the possible emergence of skip generation and elder headed households as a consequence of sustained parental out-migration for employment, since children in such households, while not orphaned, may nonetheless experience gaps in adequate day to day care that a scheme of this kind is well positioned, at least in principle, to address, though this Report was unable to confirm whether the scheme's eligibility criteria and outreach specifically identify and prioritise children in migration affected households of this kind.

This Report was unable to locate current, disaggregated data on the incidence of offences registered under the Protection of Children from Sexual Offences Act specific to Himachal Pradesh, nor on the prevalence of child labour within the state, both areas where comprehensive, transparent state level reporting would materially strengthen the evidentiary basis for child protection policy in the state. In the absence of such data, this Report declines to characterise the scale of these specific child protection challenges within Himachal Pradesh with any precision, and recommends, in Chapter 21, that the state's Department of Social Justice and Empowerment, in coordination with the State Commission for Protection of Child Rights, publish regular, disaggregated data on both fronts, both to allow independent scrutiny of the kind this Report has applied to other social indicators throughout this document, and to provide an evidentiary foundation for targeted intervention in the specific districts or demographic groups where such data might reveal elevated risk, a pattern of

district level variation this Report's discussion of preschool attendance in Chapter 6 already suggests may exist even for indicators where reasonably good data is available.

This Report notes further that child labour risk in Himachal Pradesh specifically plausibly concentrates in the informal economy sectors discussed in Chapter 3, including seasonal agricultural and horticultural labour during peak apple harvest periods, informal tourism sector employment such as roadside vending, and small scale, unregistered manufacturing and handicraft production, all sectors this Report's discussion of the state's informal economy in Chapter 3 has already identified as operating substantially outside formal labour regulation and inspection, a structural overlap this Report considers relevant to any future child labour prevalence assessment the state might undertake.

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

The welfare of elderly persons in Himachal Pradesh is assuming growing policy significance in light of the demographic transition documented in Chapter 6, where the state's Total Fertility Rate has fallen to approximately 1.5 children per woman, well below the replacement level, implying a gradually ageing population and an eventually shrinking working age cohort even as the current elderly population's welfare needs remain immediate and substantial. This demographic trajectory, this Report notes, means that elderly welfare policy in Himachal Pradesh must be designed not merely for the state's current elderly population but for a steadily growing future elderly population share, a planning horizon this Report considers insufficiently reflected in current state policy documents, which this Report found to focus predominantly on present day pension administration rather than the longer term care infrastructure, including residential and community based elder care facilities, that a more aged future population profile will likely require.

The state's primary instrument for elderly income support is the Social Security Pension Scheme, administered by the Department of Social Justice and Empowerment, which provides pension support to older persons, widows, disabled persons and leprosy affected persons through a common administrative framework, with applications processed through Tehsil Welfare Officers, Panchayat offices and District Social Welfare Department offices (India.gov.in, 2026). An evaluation study conducted by the state's own Planning Department examining beneficiaries under the Old Age, Widow and National Security Pension Scheme found a mean beneficiary age of 65.8 years, with selection procedures varying somewhat by district, most districts relying on Tehsil Welfare Offices or Panchayat Gram Sabhas to identify eligible beneficiaries, while Chamba district showed a notably higher share of beneficiaries selected through other, less formally documented channels, a finding this Report considers consistent with the administrative capacity constraints already documented for Chamba in Chapter 1's discussion of the district's aspirational status (Planning Department, Government of Himachal Pradesh, 2020).

This district level variation in selection procedure, while a comparatively narrow administrative finding on its own, is of broader significance to this Report's analysis because it illustrates a pattern recurring throughout this chapter and, indeed, throughout this Report as

a whole, namely that Chamba district's administrative capacity constraints manifest not only in the growth corridor and connectivity terms discussed in earlier chapters, but in the granular, day to day operation of welfare scheme delivery as well, suggesting that any comprehensive strategy to address Chamba's aspirational district status, discussed in Chapter 1 and again in Chapter 21, must extend to strengthening basic welfare administration capacity rather than focusing solely on economic and infrastructure investment.

This Report's assessment is that the state's elderly welfare architecture, while reasonably comprehensive in its formal design, would benefit from more standardised, transparent beneficiary selection procedures across all twelve districts, given the variation the Planning Department's own evaluation has already documented, and recommends, in Chapter 21, that lessons from the districts with more consistent, Panchayat anchored selection processes be extended systematically to Chamba and any other districts where informal selection channels currently predominate. More broadly, this Report's discussion of health system future preparedness in Chapter 6 has already flagged the need for the state's health infrastructure to reorient gradually toward chronic disease and geriatric care as the population ages, a reorientation that must proceed in parallel with, rather than separately from, the income security and social pension architecture discussed in this section, since elderly welfare in the fullest sense requires coordinated health and income support rather than either in isolation.

7.7 Persons with Disabilities: Rights, Accessibility and Empowerment

Himachal Pradesh's Disability Pension Scheme, formally known as the Divyang Rahat Bhatta Yojana or Disability Relief Allowance Scheme, provides monthly financial support calibrated by both disability severity and gender, an unusual design feature this Report considers worth highlighting explicitly. Beneficiaries with disability between 40 and 69 per cent receive Rs 1,150 per month if male and Rs 1,500 per month if female, while those with disability of 70 per cent or greater receive Rs 1,700 per month regardless of gender, and beneficiaries aged 70 years or older receive Rs 1,500 per month (Government Schemes India, 2026). Eligibility for the 40 to 69 per cent disability category is additionally subject to an annual household income ceiling of Rs 35,000, a threshold not applied to beneficiaries with 70 per cent or greater disability or to persons with mental disability, and the scheme requires certification through a Medical Board constituted under the Rights of Persons with Disabilities Act, 2016, alongside confirmation that the applicant does not have adult children and is not already receiving another central or state pension (eGovtSchemes, 2025).

This income ceiling of Rs 35,000 annually, applicable only to the lower disability severity band, is a comparatively low threshold by contemporary cost of living standards, and this Report notes, without asserting a specific alternative figure, that such thresholds typically require periodic revision to avoid gradually excluding an increasing share of genuinely low income beneficiaries as general price levels rise over time, a concern this Report connects to its broader discussion of inflation and consumer welfare in Chapter 3, and recommends that the state review this specific threshold on a regular, published schedule rather than allowing it to remain static across multiple budget cycles without explicit reconsideration.

Beyond direct income support, the state's Social Justice and Empowerment Department administers a broader suite of disability focused interventions, including assistance for the purchase of aids and appliances, scholarships for physically handicapped students, a marriage grant scheme specifically for visually or physically handicapped girls and women, and admission support for special schools for children with disabilities, including a dedicated special school in Mandi district (India.gov.in, 2026). The October 2024 decision, discussed in Chapter 5, to fill 245 special educator posts through regular, tenured recruitment rather than continued contract based hiring represents a directly complementary development to this broader disability support architecture, since special educators and the aids, appliances and school admission support discussed here together constitute the practical infrastructure through which the state's inclusive education commitments, examined in Chapter 5, are actually delivered to disabled children specifically.

This gender differentiated pension structure, providing higher support to disabled women than to disabled men at the same disability threshold, reflects an implicit official recognition that disabled women in Himachal Pradesh face compounding social and economic disadvantage relative to disabled men, a recognition consistent with the broader, if imperfect, pattern of gender responsive policy design already documented in section 7.4's discussion of the Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana's explicit attention to widows and vulnerable women. This Report regards this consistent pattern of gender differentiated design across multiple, otherwise distinct welfare schemes, disability pension, elderly pension eligibility nuance, and the flagship women's cash transfer scheme, as evidence of a genuinely deliberate, rather than incidental, policy orientation toward addressing compounding gender disadvantage within the state's broader social justice architecture.

This Report was unable to locate comprehensive, current data on the total number of certified persons with disabilities in Himachal Pradesh, on the accessibility of public buildings and transport infrastructure, discussed more generally in Chapter 8, or on the employment status of working age persons with disabilities within the state, and recommends, consistent with recommendations elsewhere in this chapter, more systematic and regularly published state level disability data collection.

7.8 Minority Communities: Development, Representation and Welfare

Hinduism is the overwhelmingly predominant religion in Himachal Pradesh, but the state hosts meaningful religious minority populations, including Sikh, Muslim, Buddhist and Christian communities, with Buddhism in particular retaining a strong historical and cultural presence in Lahaul and Spiti and Kinnaur districts, a pattern already documented in Chapter 1's discussion of the state's cultural profile (Census of India, 2011). Institutional responsibility for minority welfare rests, alongside Scheduled Caste, Other Backward Class and disability welfare, within the same Directorate for the Empowerment of Scheduled Castes, Other Backward Classes, Minorities and the Specially Abled discussed in section 7.1, which administers a Pre-matric Scholarship Scheme specifically for minority students and extends grant-in-aid support to voluntary organisations working for the welfare of Other Backward Classes and minorities (India.gov.in, 2026).

This Report notes as a genuinely inclusive design feature that the state's flagship Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana, discussed in section 7.4, explicitly extends eligibility to Buddhist nuns resident in the state's monasteries, subject to certification by the monastery's Chief Chomo, a specific provision that recognises the distinct living and economic circumstances of women in religious life within the state's Buddhist minority community (Government Schemes India, 2026). This provision, requiring certification through an internal monastic authority rather than the standard civil documentation channels applied to other beneficiaries, reflects a thoughtful accommodation to the specific institutional structure of monastic life, and this Report regards it as a useful model for how the state's other welfare schemes might similarly be adapted to accommodate the distinct documentation and verification realities facing other minority religious communities within the state, where standard civil documentation requirements may not always map neatly onto community specific institutional structures.

This Report was unable to locate detailed, disaggregated socioeconomic data specific to Himachal Pradesh's Muslim, Sikh, Buddhist or Christian communities individually, of the kind that would allow a more granular assessment of each community's relative development status within the state, an evidentiary gap consistent with the broader pattern, already noted at several points in this chapter, of limited disaggregated social data collection for smaller demographic groups within the state. Given the geographically concentrated nature of the state's Buddhist population in its two Fifth Schedule tribal districts, this Report's assessment is that minority welfare policy for this community in particular is best considered in conjunction with, rather than separately from, the Scheduled Tribe and Scheduled Area governance provisions discussed in section 7.2, since religious and tribal identity substantially overlap for a significant share of this population.

The state's smaller Muslim, Sikh and Christian populations, by contrast, are understood to be more geographically dispersed across the state's towns and cities rather than concentrated within specific Scheduled Areas, meaning their welfare needs likely intersect more directly with urban development, employment and general minority scholarship and support programmes than with the tribal governance framework relevant to the state's Buddhist population specifically, a distinction this Report recommends the state's minority welfare policy documentation make more explicit than current published material appears to.

7.9 Social Security and Beneficiary-Linked Welfare Architecture

Taken as a whole, the schemes examined throughout this chapter, together with the HIMCARE and Ayushman Bharat health coverage discussed in Chapter 6, constitute an unusually extensive beneficiary linked welfare architecture for a state of Himachal Pradesh's size and fiscal capacity, spanning caste based development corporations, tribal welfare support, disability and old age pensions, and the newly expanding Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana. This breadth is, on one hand, a genuine achievement consistent with the state's historical human development strengths documented throughout this Report, and on the other, a direct contributor to the committed expenditure pressures documented in

Chapter 2, where salary, pension and welfare related committed spending is projected to consume some 83 per cent of revenue expenditure in 2025-26.

The state's 2022 political decision to restore the Old Pension Scheme for government employees, benefiting an estimated 1.36 lakh state employees and examined in detail in Chapter 2's discussion of centre-state fiscal relations, sits within this same broader welfare commitment, even though it operates through an entirely separate administrative channel from the social security schemes discussed in this chapter, which target the broader population rather than the state's own workforce specifically (Current Affairs Adda247, 2024). This Report notes that the Old Pension Scheme restoration and the beneficiary linked social welfare schemes discussed throughout this chapter, while administratively and politically distinct, together illustrate a common underlying pattern in the state's fiscal and welfare policy over recent years, a consistent political willingness to expand committed, beneficiary specific spending obligations even as the state's own revenue base, discussed at length in Chapter 2, has grown more constrained, a tension this Report considers the defining fiscal challenge of the state's social justice and welfare agenda over the coming decade.

This Report's assessment, consistent with its treatment of fiscal sustainability throughout Chapter 2, is that the appropriate response to this tension is neither retrenchment of the state's genuinely valuable social security architecture nor continued expansion without regard to fiscal capacity, but rather a more disciplined approach to beneficiary targeting, cross-scheme data integration and phased, transparently sequenced rollout of new commitments such as the Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana, whose own uneven implementation record discussed in section 7.4 already illustrates the practical difficulty of matching ambitious welfare announcements to available fiscal resources.

This Report recommends, in Chapter 21, that the state consolidate its various caste, tribal, gender, disability and elderly welfare databases, currently administered through multiple separate directorates and corporations as documented throughout this chapter, into a more integrated beneficiary registry, both to reduce administrative duplication and improve targeting efficiency, and to provide the kind of comprehensive, disaggregated social welfare data that this chapter has, at several points, found lacking in current public reporting, a gap that constrains not only this Report's own analysis but, more importantly, the state's own capacity to evaluate whether its considerable social justice ambitions are being realised in practice. Such a registry, drawing on the successful precedent this Report notes in the HIMCARE and Ayushman Bharat automatic empanelment linkage discussed in Chapter 6, would allow the state to identify individuals eligible across multiple welfare categories simultaneously, potentially a disabled woman from a Scheduled Caste household in an elderly age bracket, for instance, and to assess more precisely whether the state's welfare architecture is reaching the most compounding disadvantaged residents effectively, rather than relying, as current fragmented administration appears to require, on each beneficiary separately navigating multiple distinct schemes and directorates to access the full range of support for which they may be eligible.

CHAPTER 8: TRANSPORT AND CONNECTIVITY INFRASTRUCTURE

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

Roads are, and are likely to remain for the foreseeable future, the dominant mode of transport in Himachal Pradesh, a state whose extreme topography makes the alternative modes examined later in this chapter fundamentally supplementary rather than substitutive. The state's National Highway network has expanded considerably over the past decade, from 14 National Highways totalling 1,752.83 kilometres as of 2014 to approximately 2,642 kilometres across a larger number of designated highways more recently, with the Ministry of Road Transport and Highways having declared roughly 246 kilometres of former state roads as new National Highways since the end of the 2013-14 financial year (Press Information Bureau, 2020; HP General Studies, 2020). A further 4,507 kilometres of state roads have received in-principle approval for eventual National Highway status, pending completion of Detailed Project Reports, representing a potential near doubling of the state's National Highway network once fully realised (Press Information Bureau, 2020).

This near doubling, should it be realised in full, would represent one of the more significant proportional expansions of National Highway coverage of any Indian state over the coming years, a scale of ambition this Report regards as broadly appropriate given the state's continuing dependence on road transport documented throughout this chapter, though this Report also notes that the pace at which in-principle approvals for the 4,507 kilometre pipeline actually convert into completed Detailed Project Reports and subsequent construction will depend heavily on continued central government prioritisation, given the state's own constrained capital expenditure capacity discussed further below.

Five major four-laning projects are simultaneously under execution or preparation, reflecting the scale of the state's current highway investment programme: the Parwanoo-Solan-Shimla-Dhalli corridor, work on which is already in progress, the Pinjore-Baddi-Nalagarh corridor serving the industrial belt discussed in Chapter 4, the Shimla-Mataur corridor, the Pathankot-Chakki-Mandi corridor, and the Garamaura-Sawarghat-Mandi-Manali corridor along the Chandigarh-Manali tourist and trade axis, the last of which is also already under active construction (Public Works Department, Government of Himachal Pradesh, 2026). Each of these five corridors serves a distinct combination of the state's growth priorities documented elsewhere in this Report, the Parwanoo-Solan-Shimla-Dhalli and Pinjore-Baddi-Nalagarh corridors both directly serving the industrial growth corridor discussed in Chapters 3 and 4, the Pathankot-Chakki-Mandi corridor connecting the state's western districts to the Punjab plains and, prospectively, to the rail projects discussed in section 8.2, and the Garamaura-Sawarghat-Mandi-Manali corridor serving the tourism led growth corridor discussed in Chapter 3's treatment of the Kullu-Manali-Lahaul axis specifically.

At the rural end of the network, the fourth phase of the Pradhan Mantri Gram Sadak Yojana is set to bring 1,438 kilometres of new roads to 294 villages, each with a population exceeding

250, spread across all twelve districts, with Shimla district receiving the largest allocation at 97 proposed roads, followed by Kullu and Chamba at 65 each, reflecting the continuing depth of the rural connectivity gap even in a state widely regarded as having the highest road density among India's hill states (The News Himachal, 2025). This concentration of new rural road allocation in Shimla, Kullu and Chamba districts specifically is consistent with the pattern this Report has documented throughout, in which these same districts combine some of the state's most difficult terrain with some of its largest remaining populations still lacking all-weather connectivity, and this Report regards the scheme's allocation pattern as broadly well targeted to the state's actual residual connectivity gap rather than distributed on a purely proportional, population weighted basis that might otherwise underserve these particular districts.

This Report notes, consistent with Chapter 2's discussion of capital expenditure, that the state's own 2025-26 budget cut capital outlay for the transport sector by 58 per cent, meaning that much of the highway expansion documented in this section is being financed by the National Highways Authority of India and central ministries directly, rather than by the state's own increasingly constrained capital budget, a division of financing responsibility this Report considers likely to persist, and indeed to deepen, given the fiscal trajectory documented throughout Chapter 2. This dependence on central financing carries a genuine strategic risk this Report considers worth stating explicitly, namely that the pace and sequencing of the state's own highway priorities, including the specific corridors and rural road allocations discussed above, will increasingly be determined by national highway planning priorities and central budget cycles rather than by the state's own assessment of its most urgent connectivity needs, a loss of planning autonomy that is a direct, if less frequently discussed, consequence of the fiscal consolidation pressures examined in Chapter 2.

8.2 Railways: Existing Network, Pending Projects and Expansion Proposals

Himachal Pradesh's existing rail network is dominated by two narrow gauge heritage lines whose tourism and cultural value now considerably exceeds their function as practical transport arteries. The Kalka-Shimla Railway, a 96 kilometre line built between 1898 and 1903 to connect the summer capital of British India to the rest of the subcontinental rail network, passes through 102 active tunnels and crosses several hundred bridges on a continuous 1 in 33 gradient, and was inscribed as part of the Mountain Railways of India UNESCO World Heritage Site in 2008, alongside the Darjeeling Himalayan and Nilgiri Mountain Railways (Wikipedia, 2026). The line's practical fragility was starkly illustrated during the 2023 North India floods discussed in Chapter 1, when several sections were washed out by landslides, a reminder that even a formally protected heritage asset remains fully exposed to the same climate and terrain risks documented throughout this Report.

The Kalka-Shimla Railway's continuing tourism value, this Report notes, connects directly to the wellness and heritage tourism repositioning this Report's discussion of growth corridors in Chapter 3 and of tourism strategy in Chapter 19 identifies as a priority for the Shimla-Kinnaur tourism axis specifically, and this Report's recommendation is that restoration and resilience investment in the line, following the 2023 flood damage, be

explicitly framed and resourced as a tourism infrastructure priority in its own right, distinct from and additional to its formal heritage conservation status, given the direct revenue and employment consequences the line's continued operability carries for the towns along its route.

The Kangra Valley Railway, a 164 kilometre line running from Pathankot in Punjab to Jogindernagar in Himachal Pradesh, similarly persists primarily for its heritage value, since the state's own transport planning documents acknowledge that both narrow gauge lines are commercially unviable in conventional freight and passenger revenue terms (Himachal Pradesh PCS Notes, 2026).

The most strategically significant current rail development is the Bhanupli-Leh line, also known as the Bilaspur-Manali-Leh line, a 552.1 kilometre broad gauge, electrified, all-weather railway under construction to connect Bhanupli in Punjab, through Bilaspur and Manali in Himachal Pradesh, to Leh in the union territory of Ladakh, passing through seismic zones IV and V discussed in Chapter 1 at elevations ranging from 600 to 5,360 metres above sea level (Wikipedia, 2026). Once complete, the line is projected to reduce travel time between New Delhi and Leh to approximately 10 hours, compared with 25 to 40 hours by road, and carries explicit national security significance given Ladakh's sensitive borders with both China and Pakistan and the current seasonal closure of road access via the Rohtang and Zoji La passes for roughly half the year (Wikipedia, 2026).

Beyond its national security and connectivity significance, this line's route through Bilaspur and Manali carries substantial implications for the state's own internal growth corridors, potentially providing the Bilaspur growth node discussed in Chapter 3, currently anchored principally around cement manufacturing and the All India Institute of Medical Sciences discussed in Chapter 5 and Chapter 6, with a further, rail based logistics and connectivity advantage that could meaningfully strengthen the case for extending industrial and institutional investment to that district beyond its current anchors, a possibility this Report's recommendations in Chapter 21 identify as meriting proactive planning attention well ahead of the line's eventual completion, consistent with this Report's similar recommendation regarding the Zaskar-Lahaul tunnel discussed in Chapter 4.

The initial Bhanupli to Barmana, Bilaspur section, costing Rs 2,967 crore on a 25 per cent state, 75 per cent central government cost sharing basis, had received cumulative expenditure of Rs 457.31 crore and had completed land acquisition for approximately 95 per cent of a 20 kilometre stretch as of the most recent available update, while the Final Location Survey and Detailed Project Report for the considerably longer Bilaspur-Manali-Leh section were completed in March 2025 (Ropeway and Rapid Transport System Development Corporation, 2020; Wikipedia, 2026). The cumulative expenditure figure of Rs 457.31 crore against a first section cost of Rs 2,967 crore indicates that the project remains at a comparatively early stage of physical construction relative to its total cost, even though land acquisition for the initial stretch is now substantially complete, a sequencing this Report regards as consistent with the typical pace of large linear infrastructure projects in difficult Himalayan terrain, where land

acquisition, while necessary, often proceeds more quickly than the subsequent tunnelling and bridge construction that a project of this technical complexity requires.

A parallel, alternative Pathankot-Leh line, a 664 kilometre project estimated at Rs 70,308 crore, remained at the Detailed Project Report preparation stage as of mid-2025 (Wikipedia, 2026). This Report notes that the existence of two parallel, competing rail alignment proposals toward Leh, the Bhanupli-Manali-Leh line discussed above and this alternative Pathankot-Leh line, reflects genuine, still unresolved national planning uncertainty regarding the optimal alignment for this strategically important connectivity, and recommends that the state government continue to advocate clearly for whichever alignment offers the greatest incidental benefit to Himachal Pradesh's own internal districts, given that the two routes would traverse and benefit different parts of the state's territory.

Two further, more modest rail projects illustrate the slower pace of progress on lines without the Bhanupli-Leh corridor's strategic priority. The Una-Hamirpur line, a 54.1 kilometre project costing Rs 5,821.47 crore and intended to connect the popular Devi religious circuit temples of Jwala Mukhi and Chintpurni, was approved in 2017-18 and had completed its Detailed Project Report and Final Location Survey, but carried no confirmed target completion date as of March 2026, nearly a decade after approval (Wikipedia, 2026). This near decade long gap between initial approval and any confirmed completion timeline is, in this Report's assessment, a genuinely concerning indicator of the comparatively low national priority accorded to religious and pilgrimage tourism connectivity relative to the Bhanupli-Leh corridor's strategic priority, notwithstanding the considerable economic significance the Jwala Mukhi and Chintpurni pilgrimage circuit carries for the districts it would serve, a significance this Report's treatment of tourism corridors in Chapter 3 and Chapter 19 discusses in a broader context.

The Nangal-Una-Talwara line along the Himachal-Punjab border is further advanced, with the Nangal-Una-Daulatpur Chowk section already complete and operational, while the remaining 23 kilometre Daulatpur Chowk-Talwara section carries a revised target completion date of December 2027 (Wikipedia, 2026). This Report's assessment, consistent with its treatment of capital expenditure constraints in Chapter 2, is that the state's own fiscal capacity to accelerate these more locally significant, tourism and pilgrimage oriented rail projects remains limited, making sustained central government prioritisation, rather than state co-financing capacity, the more decisive variable in determining their eventual completion timeline.

8.3 Aviation: Airport Infrastructure and Air Connectivity

Air connectivity in Himachal Pradesh rests on three operational domestic airports, Jubbarhatti near Shimla, Bhuntar serving Kullu and Manali, and Gaggal serving Kangra and Dharamshala, none of which currently offers international services, with Chandigarh and Delhi functioning as the nearest international gateways for travellers to the state (Tour My India, 2026). Each airport serves a distinct catchment within the state's difficult internal geography, with Gaggal providing the most practical air access to Kangra, Dharamshala,

Chamba, Hamirpur and Una, Bhuntar serving Mandi, Kullu-Manali and, indirectly, Lahaul and Spiti, and Jubbarhatti serving Shimla, Solan, Bilaspur, Mandi and Kinnaur, a division of labour that reflects the sheer difficulty of any single airport adequately serving a state whose internal road travel times, discussed in section 8.1, remain lengthy even along improved highway corridors (Himachal Pradesh Tourism, 2026).

All three airports share a common structural limitation, this Report notes, in that each operates with comparatively short runways relative to the requirements of larger commercial aircraft, a consequence of the constrained, terraced valley sites available for airport construction in hill terrain, meaning that scheduled services at all three airports are generally restricted to smaller regional aircraft with limited seating capacity, a factor that in turn constrains the frequency and affordability of air connectivity relative to what a plains state airport of comparable catchment population might typically support. This Report was unable to locate current, precise passenger throughput data for each of the three airports individually, an evidentiary gap that limits this Report's ability to assess which specific catchment currently experiences the greatest unmet demand for expanded air services.

Beyond fixed wing services, the central government's Regional Connectivity Scheme, known as UDAN, has extended helicopter services to some of the state's more isolated administrative and tourism centres, including routes connecting Chandigarh to Shimla, Shimla to Kullu, and, most significantly for the remote high altitude district discussed throughout this Report, Shimla to Reckong Peo in Kinnaur district, a route that offers a substantially faster alternative to the lengthy and seasonally hazardous road journey along the Hindustan-Tibet Highway (Himachal Pradesh Tourism, 2026). This Shimla to Reckong Peo helicopter route, in this Report's assessment, represents a genuinely significant, if small scale, connectivity intervention specifically for Kinnaur district, given the road journey's exposure to the same seasonal closure and landslide risk documented throughout Chapter 1's treatment of the state's difficult terrain, and this Report's recommendation in Chapter 21 is that comparable UDAN supported helicopter connectivity be actively pursued for Lahaul and Spiti and for Chamba's Pangi subdivision, both of which face broadly comparable seasonal isolation to Kinnaur but do not currently benefit from an equivalent scheduled helicopter service.

Kangra airport is separately undergoing an expansion process, with formal notification issued under the relevant land acquisition provisions, an expansion this Report's discussion of tourism development in Chapter 19 identifies as particularly significant given Kangra district's combination of religious tourism assets, discussed in Chapter 1, and its comparatively strong existing road and, prospectively, rail connectivity discussed in sections 8.1 and 8.2. An expanded Gaggal airport, with a longer runway capable of accommodating larger aircraft, would in this Report's assessment offer the most credible near term prospect of introducing genuinely competitive, higher frequency scheduled air services to any part of the state, given Kangra district's combination of a comparatively large resident and pilgrim tourist population and its relatively less extreme terrain constraints relative to the sites available to the state's other two airports.

This Report's overall assessment is that aviation in Himachal Pradesh functions, and is likely to continue functioning, as a premium, time sensitive complement to road transport for tourists, business travellers and emergency medical evacuation, rather than as a mass transport mode capable of meaningfully substituting for the road and, eventually, rail investment discussed elsewhere in this chapter. Emergency medical evacuation specifically, this Report notes, connects directly to the rural health workforce and referral capacity challenges discussed in Chapter 6, since reliable helicopter evacuation capacity for critical medical emergencies in remote districts represents a meaningful, if partial, mitigation for the maternal mortality and emergency obstetric referral risk this Report's discussion of health outcomes in Chapter 6 identifies as a plausible contributing factor to the state's comparatively less complete maternal mortality record.

8.4 Ports, Inland Waterways and Logistics Hubs

Himachal Pradesh is a landlocked mountain state with no coastline, no navigable inland waterways of commercial significance, and consequently no ports in the conventional sense that this subsection heading, drawn from the standardised national development framework template, would suggest for a coastal state. This Report states this limitation plainly rather than attempting to construct an artificial relevance for a mode of transport the state's geography simply does not support in any meaningful commercial capacity, though it notes that the state's numerous hydropower reservoirs, discussed in Chapter 3's treatment of fisheries and examined in full in Chapter 9, do support small scale, localised boat transport and reservoir based fishing activity that, while economically minor, provides a modest transport and livelihood function in the specific localities where such reservoirs exist.

Several of the state's larger hydropower reservoirs, including the Govind Sagar reservoir formed by the Bhakra Dam and the Pong Dam reservoir on the Beas river, additionally support a modest but locally significant recreational and eco-tourism boating activity, distinct from their primary hydropower and irrigation function, and this Report's discussion of tourism diversification in Chapter 19 identifies this reservoir based recreational activity as a genuinely under-promoted asset relative to the state's more heavily marketed mountain trekking and religious tourism circuits, though this Report was unable to locate current, precise visitor or revenue data specific to this reservoir tourism activity to support a more quantified assessment.

The more relevant logistics infrastructure for a landlocked hill economy lies instead in inland freight facilitation connecting the state's industrial and agricultural producers to national and international markets by road and rail. Chapter 4's discussion of investment climate has already noted the presence of food processing infrastructure, including an Inland Container Depot, supporting the state's agricultural export ambitions, while the Baddi-Barotiwala-Nalagarh industrial cluster's competitiveness, discussed extensively in Chapters 3 and 4, depends substantially on efficient road based freight movement to the Chandigarh tricity region and onward to the wider National Capital Region and Delhi-Punjab logistics network, rather than on any dedicated freight corridor within Himachal Pradesh itself.

This Report's recommendation, developed further in Chapter 21, is that the state's future logistics strategy focus deliberately on strengthening these road and, eventually, rail linked freight gateways, particularly cold chain and container facilities near Baddi and along the emerging Una-Hamirpur and Bhanupli-Leh rail corridors discussed in section 8.2, rather than pursuing infrastructure categories, such as inland waterways, that the state's fundamental geography renders impractical. Cold chain logistics specifically, this Report notes, connects directly to the horticulture sector's climate vulnerability discussed in Chapter 3, since improved cold storage and transport infrastructure would allow the state's apple and other horticultural producers to better manage the timing of produce sale, potentially reducing the acute price volatility that currently characterises the harvest season glut this Report's discussion of horticulture in Chapter 3 and Chapter 18 identifies as a persistent structural weakness in the sector's marketing chain.

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

Conventional urban mass transit solutions, metro rail systems and dedicated Bus Rapid Transit corridors of the kind found in India's larger plains cities, are poorly suited to Himachal Pradesh's steep, constrained urban geography, and the state has instead pursued a distinctive alternative centred on ropeway transport, discussed from an investment and public-private partnership perspective in Chapter 4. The state's road based public transport backbone remains the Himachal Road Transport Corporation, whose fleet exceeds 3,000 vehicles, increasingly including electric buses, and which provides the only viable regular connection to district headquarters, schools and hospitals for many rural households, a role already noted in Chapter 3's discussion of the tertiary sector (NewKerala, 2026).

The Corporation's gradual transition toward electric buses, while still representing a comparatively small share of its overall fleet, is consistent with this Report's broader discussion of climate resilient infrastructure priorities in Chapter 14, and this Report's recommendation is that the pace of this electrification be accelerated specifically along the Corporation's urban and semi-urban routes in Shimla, Dharamshala, Solan and Mandi, where electric buses offer the additional, locally significant benefit of reducing the vehicular air pollution that has become an increasing concern in these towns as tourist and resident vehicle numbers have grown, discussed further in Chapter 19's treatment of tourism's environmental pressures.

The state's ropeway programme, coordinated through the Ropeway and Rapid Transport System Development Corporation, represents a genuinely innovative response to Shimla's chronic traffic congestion in particular, with the flagship Shimla ropeway project, spanning 13.79 kilometres and valued at approximately Rs 1,734.70 crore, having received Stage-I forest clearance in September 2025 and explicitly framed as an urban mobility intervention rather than solely a tourism attraction (India Brand Equity Foundation, 2026). This explicit dual framing, as both an urban mobility solution for Shimla's resident population and a tourism attraction for visitors, is, in this Report's assessment, a genuinely valuable design feature, since it allows the project's substantial capital cost to be justified and its ridership sustained across both a year round resident commuter base and a more seasonally variable

tourist visitor base, reducing the project's dependence on tourism seasonality alone for its financial viability relative to a project designed purely as a tourist attraction.

Complementing this flagship project, the corporation is simultaneously advancing a Design, Build, Finance, Operate and Transfer concession for passenger ropeway services between Parwanoo and Shimla, intended to relieve pressure on the heavily congested Kalka-Shimla road corridor, and a second phase innovative urban ropeway transport network within Shimla itself, together representing what this Report considers the most terrain appropriate model of mass transit investment available to a hill capital where road widening is frequently either physically impossible or prohibitively expensive (Ropeway and Rapid Transport System Development Corporation, 2020).

This Report's recommendation, developed in Chapter 21, is that this ropeway based urban mobility model, once proven in Shimla, be actively considered for replication in the state's other congestion prone hill towns, including Manali, Dharamshala and Solan, rather than treating the Shimla projects as a one-off solution to that city's specific circumstances alone. Manali in particular, given the seasonal tourist traffic volumes discussed in Chapter 3's treatment of the Kullu-Manali-Lahaul tourism corridor, faces congestion pressures that this Report considers broadly comparable in severity, if smaller in absolute scale, to those documented for Shimla, and a smaller scale ropeway intervention connecting Manali's main town to key surrounding tourist destinations could plausibly deliver congestion relief benefits proportionate to a considerably lower capital investment than the Shimla project's scale.

8.6 Multimodal Logistics: Last-Mile Connectivity and Freight Corridors

The preceding sections of this chapter reveal a transport system whose different modes serve fundamentally complementary rather than substitutable functions, road transport carrying the overwhelming majority of both passenger and freight movement, aviation providing premium, time sensitive access to the state's most important tourism and administrative centres, and an emerging, still substantially under construction rail network offering the prospect of transformed strategic and commercial connectivity, particularly toward Ladakh, over the coming decade. Coordinating investment across these modes, rather than treating each in isolation, is this Report's central recommendation for the sector, developed fully in Chapter 21.

Last-mile connectivity in the state's most remote districts remains the area where this Report identifies the greatest continuing gap. The 294 villages targeted under the fourth phase of the Pradhan Mantri Gram Sadak Yojana, discussed in section 8.1, illustrate that even after decades of sustained rural road investment, meaningful numbers of villages, particularly in Chamba, Kullu and Shimla districts, still lack basic all-weather road connectivity, a gap with direct implications for the education, health and agricultural marketing outcomes examined in Chapters 5, 6 and 3 respectively.

This Report notes that the consequences of incomplete last mile connectivity compound across sectors in ways that a transport specific analysis alone can understate, a village without all-weather road access faces not only the direct inconvenience of difficult travel but, as this

Report's discussion in Chapters 5 and 6 has documented, elevated risk of school dropout during seasonal closures, delayed emergency medical evacuation, and reduced farm gate price realisation for horticultural produce that cannot reach market before spoiling, meaning that the return on completing this final tranche of rural road connectivity is considerably higher, in this Report's assessment, than a narrow transport sector cost benefit analysis focused solely on vehicle kilometres and travel time savings would suggest.

The emerging Zanskar-Lahaul tunnel, discussed in Chapter 4's treatment of industrial corridors, exemplifies the kind of transformative, if geographically narrow, connectivity investment that can convert a previously isolated district into a genuine trade and logistics gateway, and this Report's recommendation is that similar dedicated connectivity investment, rather than incremental road widening alone, be considered for other structurally isolated tribal and high altitude areas identified throughout this Report, particularly Pangri and Bharmour in Chamba district.

Freight corridor development specific to the state's key export sectors, the horticulture cold chain logistics discussed in Chapter 3 and examined further in Chapter 18, and the pharmaceutical and manufacturing freight flows from the Baddi-Barotiwala-Nalagarh cluster discussed in Chapter 4, should in this Report's assessment take precedence over generic highway widening in the state's forthcoming capital expenditure planning, precisely because these specific corridors carry the highest concentration of the state's actual freight value relative to the length of road or rail infrastructure required to serve them. This Report's concluding assessment for this chapter is that the state's transport strategy over the coming decade should be organised around three explicit priorities in descending order of urgency: completing genuinely all-weather last mile rural connectivity in the specific villages and subdivisions this Report has identified as still lacking it, strengthening the freight and cold chain infrastructure serving the state's highest value export corridors, and sustaining the momentum of the state's strategically significant rail projects, particularly the Bhanupli-Leh line, through continued active engagement with central government planning and financing processes given the state's own constrained capital budget documented throughout this chapter and in Chapter 2.

CHAPTER 9: ENERGY, POWER AND RENEWABLE TRANSITION

9.1 Power Generation: Installed Capacity, Mix and Dependence Profile

Himachal Pradesh's power sector is, more completely than almost any other major Indian state, a hydropower sector, a structural fact that shapes every other dimension examined in this chapter. The state holds an assessed hydropower potential of approximately 27,436 megawatts, of which roughly 23,750 megawatts is considered technically harnessable, yet only somewhere between 10,281 and 10,782 megawatts, depending on the specific assessment and year cited, had actually been developed as of the most recent available data, meaning the state has realised well under half of its own harnessable potential despite decades of sustained development effort (Government of Himachal Pradesh, 2023; Down To Earth, 2026). This gap between assessed potential and actual development, sustained across several decades of policy attention, suggests that the remaining undeveloped capacity is disproportionately concentrated in the state's more technically difficult, more ecologically sensitive, or more community contested sites, since the more straightforward, lower cost project sites have plausibly already been developed first, a pattern this Report considers relevant to any assumption that the remaining gap can be closed at a similar pace or cost to the capacity already brought online.

The state owned Himachal Pradesh Power Corporation Limited, discussed in Chapter 4, operates 276 megawatts of installed capacity across three stations, is constructing a further 580 megawatts, and participates in 21 additional medium sized projects as part of a wider programme targeting some 3 gigawatts of new capacity, while central sector generators, most prominently SJVN Limited, headquartered in the state, contribute a further, substantial share of installed capacity that this Report's earlier discussion in Chapter 4 noted has remained consistently profitable even where comparable state owned entities have struggled (Himachal Pradesh Power Corporation Limited, 2026). This division of the state's hydropower generation between the state's own power corporation, central sector generators such as SJVN Limited and the National Hydroelectric Power Corporation, and private developers operating under the long term project lease arrangements discussed in Chapter 4, reflects a deliberately mixed ownership model that has allowed Himachal Pradesh to mobilise capital and technical expertise beyond what its own state budget, increasingly constrained as documented in Chapter 2, could support alone, even as this same mixed model complicates unified sector planning relative to a hypothetical single, vertically integrated state utility.

This near total dependence on hydropower carries two structural consequences this Report considers essential to the state's energy planning going forward. First, generation is inherently seasonal, peaking during the summer snowmelt and monsoon months and falling substantially during the winter lean season, a variability that complicates both the state's own power supply reliability and its revenue from surplus power sales to neighbouring states. This seasonal generation pattern means that the state's most valuable export revenue opportunity, selling surplus summer generation to power deficit neighbouring states, arrives precisely

during the months when the state's own domestic demand is also comparatively low given reduced winter heating load relative to summer cooling and irrigation demand in the plains states that are typically the buyers of this surplus power, while the state's own winter generation shortfall coincides with the season when neighbouring plains states themselves often face lower demand, creating a structural mismatch in the timing of supply and demand complementarity that this Report considers under-examined in current state energy planning documents.

Second, and more fundamentally, the same climate volatility documented throughout this Report, particularly the glacial retreat and erratic precipitation discussed in Chapter 1 and examined further in Chapter 14, directly threatens the long term reliability of river flows on which this entire generation model depends, making Himachal Pradesh's celebrated renewable energy endowment considerably less climate-proof than its zero-carbon generation profile might suggest at first glance. Glacial melt currently contributes a meaningful, though seasonally variable, share of dry season river flow in several of the state's major hydropower bearing river systems, and the gradual, long term retreat of these glaciers, discussed in Chapter 1, implies that the specific hydrological regime on which existing and planned hydropower projects have been designed and financed may itself shift meaningfully within the operating lifetime of infrastructure being commissioned today, a long horizon risk this Report recommends the state's own hydropower planning agencies begin incorporating explicitly into future project feasibility assessments, rather than treating historical flow data as a reliable guide to multi-decade future generation projections.

9.2 Transmission and Distribution: Infrastructure, Losses and Reliability

The state's transmission network is operated by the Himachal Pradesh Power Transmission Corporation Limited, a separate entity from the Himachal Pradesh State Electricity Board Limited, which retains distribution responsibility, a functional split that a World Bank technical assessment of the state's power sector found to be incompletely implemented in practice, with inadequate metering between the two companies' networks preventing accurate calculation of actual transmission losses and prompting the Himachal Pradesh Electricity Regulatory Commission to press repeatedly for full functional segregation of the transmission system (World Bank, 2023). This metering gap between the transmission and distribution entities is, in this Report's assessment, a foundational data problem that likely understates the true scale of the sector's technical and commercial losses, since a regulator cannot enforce accountability for losses it cannot first measure with confidence at the boundary between the two companies' respective networks, and this Report regards resolving this specific metering gap as a comparatively low cost, high value reform that would strengthen the evidentiary basis for the sector's broader financial recovery discussed in Chapter 2.

Under successive Multi-Year Tariff orders, the Commission has approved a technical loss allowance of 0.75 per cent for the transmission corporation, though this figure applies specifically to the recovery of losses from Open Access consumers rather than representing a comprehensive, audited system-wide loss figure, a distinction this Report considers important

given the more severe distribution level loss and revenue recovery challenges documented in Chapter 2's discussion of the sector's accumulated financial deficits (World Bank, 2023).

Power purchase cost constitutes approximately 60 per cent of the state electricity board's total cost on average, and the same assessment finds that this cost has not risen substantially even as the volume of power procured has increased, a pattern attributed largely to the state's heavy reliance on hydropower stations whose per-unit cost falls markedly once initial project loans, typically structured over a 12 year tenure, are amortised (World Bank, 2023). This amortisation dynamic, in which older hydropower stations become progressively cheaper sources of power once their initial construction financing is repaid, represents a genuinely favourable long term cost trajectory for the state's power sector, one that plains state thermal generation, dependent on continuing fuel input costs rather than a one-time capital cost that eventually falls away, does not share, and this Report regards this dynamic as a structural, if underappreciated, long term advantage of the state's hydropower dependence that partially offsets the seasonal and climate risks discussed in section 9.1.

The transmission corporation's own financial position illustrates a different vulnerability, with depreciation and financing costs accounting for as much as 92 per cent of total expenses in one recent financial year, and with the company having incurred penalty payments to the Power Grid Corporation of India of Rs 22.82 crore and Rs 18.62 crore in consecutive years for delayed commissioning of specific transmission lines, a reminder that the terrain related construction delays documented throughout this Report's infrastructure chapters apply as much to transmission towers and substations as to the roads and railways examined in Chapter 8 (World Bank, 2023). These penalty payments, while individually modest relative to the transmission corporation's overall Annual Revenue Requirement, illustrate a recurring pattern this Report has documented across multiple infrastructure sectors in this Report, namely that Himalayan terrain construction delays carry direct financial consequences beyond simply a later completion date, since contractual penalty clauses of the kind triggering these specific payments are a standard feature of large infrastructure procurement contracts generally, meaning that terrain related delay risk translates fairly directly into avoidable cost for the responsible state entity.

Given the difficult, seismically active terrain discussed in Chapter 1, this Report treats transmission reliability, rather than headline generation capacity, as the more binding constraint on whether the state's substantial hydropower endowment actually reaches end consumers without the periodic, weather related outages that remain a recurring feature of rural electricity supply in the state's more remote districts. This Report's recommendation, developed further in Chapter 21, is that the state prioritise investment in redundant transmission routing and rapid restoration capacity, including pre-positioned repair crews and spare equipment in the districts most prone to landslide and avalanche related transmission line damage, over any further generation capacity expansion in the near term, given that additional generation capacity delivers no consumer benefit if the transmission infrastructure connecting it to end users remains as vulnerable to weather related disruption as current evidence suggests.

9.3 Rural and Household Electrification: Coverage and Quality

Himachal Pradesh achieved near universal household electrification early relative to most Indian states, with national investment promotion material citing 99.5 per cent household electrification as of 2016, a figure this Report expects has moved still closer to full saturation in the years since under the national Saubhagya scheme and subsequent grid strengthening efforts, though a precise, current, state specific figure was not available to this Report at the time of writing (Invest India, 2026). This early achievement reflects the same sustained public investment ethos already documented across the education and health sectors in Chapters 5 and 6, and the state's household electrification record is consistent with, and indeed partly foundational to, its broader human development achievements documented in Chapter 1.

The remaining fraction of households without a formal grid connection, implied by the 99.5 per cent figure cited above, is plausibly concentrated in the same remote, high altitude and seasonally inaccessible settlements that this Report has repeatedly identified as facing the most acute infrastructure access gaps across education, health and transport alike, and this Report's assessment is that closing this final, small residual gap will likely prove disproportionately expensive relative to the number of households served, given that the more accessible, lower cost connections have plausibly already been completed first, a pattern directly analogous to the generation potential gap discussed in section 9.1.

Coverage, however, is only one dimension of electrification quality, and this Report's assessment is that supply reliability in Himachal Pradesh's rural, high altitude districts remains meaningfully weaker than aggregate connection statistics suggest. The same terrain related transmission vulnerabilities documented in section 9.2, combined with the recurring landslide and snowfall disruption documented throughout this Report's discussion of the state's disaster profile in Chapter 1 and Chapter 14, mean that households in districts such as Lahaul and Spiti, Kinnaur and Chamba's Pangi and Bharmour subdivisions experience materially more frequent and more prolonged outages than the state's more accessible lower hill districts, a disparity this Report was unable to quantify precisely given the absence of current, district disaggregated reliability data of the kind that would allow a rigorous comparison.

This reliability gap carries meaningful practical consequences for exactly the digital education and connectivity ambitions discussed in Chapter 5, since a school's internet connectivity, however well provisioned in terms of fibre or mobile broadband infrastructure, remains functionally unreliable if the underlying electricity supply itself is subject to frequent outage, meaning that this Report's recommendation in Chapter 5 for prioritised school connectivity investment in these same remote districts should, in this Report's assessment, be planned and sequenced jointly with the electricity reliability improvements discussed in this section rather than treated as a separate, unrelated infrastructure workstream.

This Report recommends, in Chapter 21, that the state's Directorate of Energy publish regular, district level data on outage frequency and duration under the national Revamped

Distribution Sector Scheme framework, both to provide the kind of transparent baseline this Report has been able to construct for other infrastructure sectors and to allow targeted investment in the specific feeder lines and substations where reliability is weakest.

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

While hydropower remains overwhelmingly dominant, Himachal Pradesh has begun a deliberate, policy driven diversification into non-hydro renewable sources, most explicitly framed around the state government's stated ambition to position itself as a leading green energy state. The state's Solar Policy, first issued in 2016 and subsequently revised, targets 700 megawatts of installed solar photovoltaic capacity, and the Himachal Pradesh Electricity Regulatory Commission's most recent tariff order for the 2025-26 financial year sets levelized tariffs ranging from Rs 3.32 per kilowatt hour for larger, non-urban solar projects between 3 and 5 megawatts to Rs 3.50 per kilowatt hour for the smallest projects located in urban or industrial zones, with the Commission explicitly noting that a minimum capacity utilisation factor of 21 per cent is required to discourage installation of lower efficiency modules (Mercom India, 2025).

This 700 megawatt solar target, while modest in absolute terms relative to the state's harnessable hydropower potential of some 23,750 megawatts discussed in section 9.1, carries a strategic significance for the state's power system that extends beyond its comparatively small capacity contribution, since solar generation's seasonal profile, peaking during the clearer skies of the winter and pre-monsoon months in many of the state's lower and middle hill districts, offers a potentially valuable complement to hydropower's own summer peaking, monsoon dependent generation pattern discussed in section 9.1, meaning that even a comparatively modest solar capacity addition could meaningfully improve the state's winter lean season generation adequacy if sited and scheduled to complement, rather than simply add to, the existing hydropower dominated generation mix.

Beyond solar, the Commission was, at the time of writing, finalising a generic levelized tariff specifically for biomass gasifier based power projects of up to 5 megawatts for the 2026-27 financial year, indicating an emerging, if still nascent, biomass generation segment within the state's renewable portfolio (Himachal Pradesh Electricity Regulatory Commission, 2026). This biomass segment, this Report notes, carries a potentially valuable secondary benefit beyond its direct power generation contribution, since biomass gasification typically draws on agricultural and forestry residue that would otherwise require disposal, often through the kind of open burning that contributes to seasonal air quality degradation in several parts of North India, meaning that a well developed biomass generation segment in Himachal Pradesh could plausibly offer a modest, localised air quality benefit alongside its direct contribution to renewable generation capacity, a co-benefit this Report recommends be explicitly considered in the Commission's ongoing biomass tariff finalisation process.

The state's broader green transition ambitions extend beyond electricity generation narrowly defined. National investment promotion material describes an explicit "Green State by 2026" vision encompassing a pilot green hydrogen production facility of 1 megawatt capacity,

alongside a substantial expansion of natural farming, discussed in Chapter 3, covering 2.22 lakh farmers across 900 Gram Panchayats, and a measured increase in the state's forest carbon stock of 79 million tonnes between 2017 and 2023, a figure directly relevant to the forest cover discussion in Chapter 1 and to the state's broader climate mitigation credentials examined in Chapter 14 (Invest India, 2026). This pilot green hydrogen facility, though small in absolute capacity terms, represents a genuinely forward looking, if still experimental, diversification of the state's renewable energy portfolio into a technology many analysts regard as an important future decarbonisation pathway for hard to electrify sectors such as heavy transport and industrial process heat, and this Report's assessment is that the state's early engagement with this technology, however modest in current scale, positions it usefully to scale up should the pilot prove technically and commercially viable.

Wind energy potential in the state remains comparatively underexplored in publicly available planning documents, and this Report was unable to locate a current, credible wind resource assessment specific to Himachal Pradesh sufficient to support detailed discussion, an information gap this Report attributes to the state's difficult mountain terrain limiting the practical siting options for utility scale wind installations relative to plains states, rather than to any deliberate policy neglect. This Report recommends that the state's Directorate of Energy commission a dedicated wind resource assessment specifically for the state's higher altitude ridgelines, where wind speeds may be more favourable than in the sheltered valley locations where most of the state's population and existing infrastructure are concentrated, before concluding definitively that wind energy holds no meaningful role in the state's future renewable portfolio.

At the smaller end of the hydropower spectrum, discussed in Chapter 4, the state's nodal renewable energy agency, Himurja, continues to open small hydro projects of up to 5 megawatts to private investment, with the smallest tier, under 2 megawatts, specifically reserved for enterprises promoted by domiciled Himachali residents, extending the state's local content preference into the renewable diversification agenda examined in this chapter.

9.5 Energy Efficiency, Conservation and Demand-Side Management

Himachal Pradesh's energy efficiency and conservation framework operates within the national architecture established under the Energy Conservation Act, 2001, with the Himachal Pradesh Electricity Regulatory Commission serving as the state's designated Adjudicating Officer under the Act's enforcement provisions, a role that positions the regulator, rather than a separate dedicated efficiency agency, as the primary institutional vehicle for conservation enforcement within the state (Himachal Pradesh Electricity Regulatory Commission, 2026). This institutional arrangement, combining tariff regulation and efficiency enforcement within a single body, offers some administrative economy relative to maintaining two entirely separate institutions, though this Report also notes that a regulator whose primary institutional focus and expertise lies in tariff setting and sector financial oversight may not always bring the same depth of technical attention to efficiency enforcement that a dedicated efficiency agency, of the kind several larger Indian states maintain, would be positioned to provide.

This Report was unable to locate detailed, current, publicly reported data on the state's specific energy efficiency programme outcomes, such as achieved savings under Perform, Achieve and Trade cycles for large industrial consumers in the Baddi-Barotiwala-Nalagarh cluster discussed in Chapter 4, or on Standards and Labelling compliance rates for household appliances sold within the state, and this Report flags this as a further instance of the state level data transparency gap already identified across several other chapters of this Report. Given the concentration of the state's large industrial energy consumers within the Baddi-Barotiwala-Nalagarh cluster specifically, this Report considers the absence of cluster specific Perform, Achieve and Trade outcome data a particularly significant gap, since this single cluster plausibly accounts for a disproportionate share of the state's total industrial energy consumption and therefore of its industrial energy efficiency potential.

Demand-side management is nonetheless visible in a small number of concrete, publicly documented initiatives, most notably the state's growing electric vehicle infrastructure, including the electric buses now forming part of the Himachal Road Transport Corporation's fleet discussed in Chapter 8, alongside electric taxi subsidies and expanding charging infrastructure cited in national investment promotion material as part of the state's broader green transition (Invest India, 2026). This Report's assessment is that these transport electrification measures function simultaneously as demand-side management, shifting transport energy consumption toward the grid rather than imported fossil fuels, and as a direct complement to the state's overwhelmingly hydro based, low carbon generation mix discussed in section 9.1, since the carbon benefit of electrifying transport is considerably larger in a grid already dominated by renewable hydropower than it would be in a coal dependent state.

This Report recommends, in Chapter 21, that the state formalise this connection explicitly within a dedicated state energy efficiency action plan, rather than allowing transport electrification, industrial efficiency and appliance standards to remain administratively separate initiatives without a unifying demand-side management strategy. Such a formalised plan, in this Report's assessment, would also provide a natural vehicle for incorporating the specific tourism sector energy demand considerations discussed in Chapter 19, since the state's tourism accommodation sector, concentrated heavily in Shimla, Manali and Dharamshala, represents a meaningful and growing source of both electricity and, in many establishments still reliant on diesel generators during outages, fossil fuel demand that a coordinated efficiency and electrification strategy could usefully address alongside the transport and industrial measures already underway.

9.6 State Electricity Regulatory Framework and Tariff Policy

The Himachal Pradesh Electricity Regulatory Commission, established under the Electricity Regulatory Commissions Act of 1998 and continued under the Electricity Act of 2003, sets tariffs annually for the state's principal power sector entities following a Multi-Year Tariff framework intended to provide utilities with predictable, medium term revenue certainty while protecting consumers from arbitrary rate increases (Himachal Pradesh Electricity Regulatory Commission, 2026). For the 2025-26 financial year, effective from 1 April 2025, the Commission approved an Annual Revenue Requirement of Rs 8,403 crore for the

Himachal Pradesh State Electricity Board Limited, setting the average cost of supply at Rs 6.76 per unit, while simultaneously reducing tariffs across most consumer categories, including a 15 paise per unit reduction for domestic consumers, a 12 paise per unit reduction for small commercial consumers, and a 20 paise per unit reduction for industrial consumers explicitly intended to support the industrialisation priorities discussed in Chapter 4 (Himachal Tonite, 2025).

This simultaneous approval of a higher Annual Revenue Requirement alongside reduced per unit tariffs across most consumer categories reflects the amortisation dynamic discussed in section 9.2, in which the underlying cost of hydropower generation has fallen even as the utility's overall revenue requirement, driven by other cost components including transmission investment and committed pension and salary obligations discussed in Chapter 2, has continued to rise, allowing the Commission to pass through a modest consumer benefit even within a sector facing the broader financial pressures documented throughout this Report. The order also introduced a single consumption slab for domestic consumers using more than 126 units per month, simplifying what had previously been a more tiered rate structure, a simplification this Report regards as a genuinely consumer friendly administrative improvement, reducing billing complexity and the scope for disputed calculation, even though its direct financial impact on any individual consumer's bill would depend on their specific consumption pattern relative to the previous tiered structure.

A longer term analysis prepared for the sector finds that average billing rates have risen at a compound annual growth rate of approximately 1.5 per cent over the preceding seven years, with subsidised categories such as domestic and non-commercial, non-domestic consumption rising faster than industrial rates, a pattern the same analysis reads as evidence of the Commission's deliberate effort to reduce cross-subsidisation between consumer categories over time (World Bank, 2023). This gradual reduction in cross-subsidisation, this Report notes, is broadly consistent with the industrial tariff reduction documented above for the 2025-26 tariff order specifically, together suggesting a sustained, multi-year regulatory strategy of shifting the relative tariff burden away from industrial consumers and toward domestic and smaller commercial consumers, a strategy directly relevant to this Report's discussion of industrial competitiveness in Chapter 4, since lower and more predictable industrial power tariffs represent a genuine, if less frequently highlighted, complement to the fiscal incentives and ease of doing business improvements discussed in that chapter.

Separately, the Commission released a draft resource adequacy framework in March 2025 intended to guide future capacity addition decisions toward the lowest cost mix of energy contracts capable of meeting projected demand, a planning tool this Report considers a genuinely forward looking addition to the state's regulatory toolkit, particularly given the seasonal generation variability discussed in section 9.1 and the diversification into solar and biomass discussed in section 9.4 (Mercom India, 2025). A well designed resource adequacy framework, in this Report's assessment, offers the Commission a structured mechanism through which to formally incorporate the kind of seasonal complementarity between hydropower and solar generation discussed in section 9.4 into future capacity planning

decisions, rather than continuing to plan generation and transmission investment for each renewable source in isolation.

This Report's overall assessment of the regulatory framework is that Himachal Pradesh possesses a genuinely functional, reasonably transparent tariff setting institution, one that compares favourably with several larger Indian states on procedural grounds, but that the framework's effectiveness in actually restoring the financial health of the loss making distribution utility documented in Chapter 2 will depend substantially on factors, mounting committed pension and salary costs across the wider public sector and the fiscal constraints on further tariff subsidy discussed throughout Chapter 2, that lie considerably beyond the electricity sector's own regulatory boundaries. This Report's concluding recommendation for the energy sector, developed fully in Chapter 21, is that the state pursue an integrated energy strategy combining continued, carefully sited hydropower development informed by the long term hydrological risk discussed in section 9.1, accelerated solar and biomass diversification designed explicitly to complement rather than merely add to the existing generation mix, sustained investment in transmission and distribution reliability targeted specifically at the state's most vulnerable remote districts, and a formalised demand-side management and efficiency action plan, all coordinated within the resource adequacy planning framework the Commission has itself begun to develop, rather than allowing each of these components to proceed as separately managed workstreams disconnected from a single, coherent state energy strategy.

Chapter 10: Water, Sanitation and Solid Waste Management

10.1 Drinking Water Supply: Coverage, Quality and Infrastructure

Himachal Pradesh has emerged as one of the stronger performing states nationally under the central government's Jal Jeevan Mission, the flagship programme launched in August 2019 to provide a functional household tap connection to every rural home in the country. The state is one of eleven states and union territories to have achieved and been certified for 100 per cent rural tap water coverage, a status it shares with Goa, Haryana, Gujarat, Punjab, Telangana, Puducherry and several smaller union territories (Ministry of Jal Shakti, 2025). A more detailed independent functionality assessment, going beyond the simple binary of whether a household has a tap connection at all, found Himachal Pradesh recording 99.9 per cent tap coverage and 98.5 per cent of connections in working order, positioning it among the best performing states nationally on this stricter measure, well ahead of several other states that claim full coverage on paper but show considerably lower functional connection rates underneath (The Secretariat, 2026).

This gap between certified coverage and independently assessed functionality, a gap this Report notes is considerably narrower for Himachal Pradesh than for several other certified states, is itself a meaningful indicator of implementation quality, since certification under the Jal Jeevan Mission's own reporting framework relies substantially on state self-reporting, and a state whose independently verified functionality rate closely tracks its self-reported coverage rate provides considerably stronger evidentiary grounds for confidence in its underlying achievement than a state whose independent assessment reveals a wide divergence from its certified figures.

This same assessment, however, surfaces a more qualified picture once actual water delivery, rather than pipe and tap installation, is examined. Only 89.2 per cent of Himachal Pradesh households with a connection reported receiving water on a regular basis, and 93.1 per cent reported the water received was of acceptable quality, figures that, while still comparing favourably with states such as Haryana, where some districts reported less than half of prescribed water supply norms being met, nonetheless indicate that a meaningful minority of the state's rural households experience some combination of intermittent supply or quality concern even where the underlying tap infrastructure is formally complete and functional (The Secretariat, 2026). This roughly 11 percentage point gap between functional connection and regular supply, and the smaller but still meaningful gap on water quality, together suggest that the state's remaining challenge lies less in extending physical infrastructure further and more in ensuring the consistency and safety of the supply that already reaches connected households, a distinction this Report considers important for how the state's remaining Jal Jeevan Mission investment should be allocated going forward.

One comparative national analysis attributes Himachal Pradesh's strong overall performance specifically to the state's abundant natural springs and rivers combined with targeted Jal Jeevan Mission investment in genuinely difficult mountain terrain, a combination of natural endowment and implementation effort broadly similar to the pattern observed in

neighbouring Uttarakhand (India Data Map, 2026). This natural endowment advantage, this Report notes, should not be understated as a contributing factor to the state's success relative to water stressed plains states, since a hill state with abundant, gravity fed spring and stream sources faces a fundamentally more favourable source development challenge than a plains state dependent on groundwater extraction or long distance canal transfer, even though the terrain related distribution network construction challenge, discussed throughout this Report's other infrastructure chapters, remains genuinely more difficult in Himachal Pradesh than in comparable plains geography.

Institutional responsibility for the state's water supply infrastructure rests with the Irrigation and Public Health Department, which manages source development, water lifting schemes, tube well boring and distribution network construction and maintenance across the state, alongside its parallel responsibility for the sewerage systems discussed in section 10.5 and the flood protection works discussed in Chapter 14 (Irrigation and Public Health Department, Government of Himachal Pradesh, 2026). This institutional consolidation of water supply, sewerage and flood protection within a single department reflects a sensible recognition that these functions are physically and hydrologically interconnected in a mountain state, even though it also means that the department's capital budget, already constrained by the fiscal pressures documented in Chapter 2, must be allocated across a wider range of competing infrastructure priorities than in states where these functions sit in separate agencies.

This Report's assessment is that Himachal Pradesh's drinking water achievement, genuinely strong by national comparative standards, should not obscure the residual regularity and quality gaps the state's own more granular assessment data reveals, and recommends, in Chapter 21, that future state investment prioritise closing this specific gap between formal connection and reliable, potable daily supply, particularly in the high altitude districts where seasonal freezing and landslide disruption, discussed throughout this Report, most directly threaten supply continuity.

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

Irrigation in Himachal Pradesh remains structurally limited by the same mountainous terrain that shapes every other infrastructure sector examined in this Report, with a substantial majority of the state's cultivated area remaining rainfed rather than served by any formal irrigation command area, a constraint this Report has already noted in Chapter 3's discussion of the primary sector's exposure to monsoon variability (DCMSME, 2020). Where formal irrigation infrastructure does exist, it is developed and maintained by the same Irrigation and Public Health Department discussed in section 10.1, through a combination of source development, lift irrigation schemes drawing water from rivers and streams up to higher elevation fields, and small scale distribution networks serving individual valleys or village clusters, an approach necessarily more fragmented and higher cost per hectare than the large canal command areas found in India's plains states.

The lift irrigation model predominant in Himachal Pradesh, this Report notes, carries a distinct cost structure relative to gravity fed canal irrigation, since pumping water uphill to serve terraced fields above the source river or stream requires ongoing energy input, typically electricity drawn from the same grid discussed in Chapter 9, meaning that the state's irrigation infrastructure operating cost is more directly exposed to the electricity tariff and reliability considerations discussed in that chapter than would be the case in a purely gravity fed system, a linkage this Report considers under-recognised in the state's separate treatment of irrigation and energy policy as administratively distinct domains.

Himachal Pradesh's most distinctive irrigation asset is not a modern engineered scheme at all, but the kuhl, a centuries old, community owned and community managed system of open channels that divert glacial meltwater and stream flow directly onto terraced fields, particularly across the middle hill districts of Kangra, Kullu and Mandi (Wikipedia, 2026). These systems, developed and governed entirely outside the formal state irrigation bureaucracy through local water user arrangements, represent a genuinely indigenous water-use efficiency technology, and this Report notes that environmentalists and water policy scholars increasingly argue that such traditional systems, many of which fell into disuse or disrepair following the introduction of centralised, engineer led irrigation planning during and after the colonial period, merit active revival and integration into contemporary irrigation policy rather than being treated as a historical curiosity superseded by modern infrastructure (Wikipedia, 2026).

The governance structure underpinning traditional kuhl systems, typically involving a designated water distributor or kohli responsible for allocating flow among user households according to long established local custom, represents a form of community based water management this Report regards as directly relevant to, and in several respects a precursor of, the Panchayati Raj institution based decentralised governance this Report examines in Chapter 12, and this Report's recommendation is that any kuhl revival programme deliberately formalise and strengthen, rather than displace, these existing customary governance arrangements, given the demonstrated multi-generational durability of a system that has functioned without centralised bureaucratic administration for centuries.

This Report's assessment is that kuhl revival, properly supported with modern lining materials to reduce seepage losses and integrated with the panchayat level water governance institutions discussed in Chapter 12, represents an unusually cost effective irrigation investment relative to entirely new lift irrigation scheme construction, since the underlying community management structures and, in many cases, the physical channel alignments already exist and require rehabilitation rather than construction from first principles.

Water-use productivity, the economic output generated per unit of water applied, is not systematically measured or publicly reported for Himachal Pradesh's irrigated agriculture in a manner this Report was able to verify, a further instance of the state level agricultural data gap already noted in Chapter 3's discussion of the primary sector. Given the horticulture sector's growing exposure to climate stress documented in Chapters 1 and 3, and the explicit recognition in the state's own 2025-26 Economic Survey that agriculture remains

disproportionately rainfed relative to its economic and employment significance, this Report recommends, in Chapter 18's more detailed treatment of agricultural policy and in the consolidated recommendations of Chapter 21, that irrigation expansion, prioritising both kuhl rehabilitation and targeted new lift irrigation schemes for horticulture belts, be treated as a first order climate adaptation investment rather than a conventional agricultural infrastructure line item, given how directly assured irrigation access could offset the winter chilling hour and precipitation variability risks already threatening the apple economy discussed extensively in earlier chapters.

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

Himachal Pradesh achieved Open Defecation Free status under the Swachh Bharat Mission some years ago, and the state's current sanitation policy focus has accordingly shifted, in common with the national programme's own evolution, toward the more demanding second generation challenge of ODF Plus sustainability, meaning the safe and scientific management of the waste that household toilets generate rather than simply the construction and use of the toilets themselves (The News Himachal, 2026). As of the most recent comprehensive national classification available to this Report, Himachal Pradesh sits within the broader ODF Plus category alongside states such as Assam, Gujarat, Karnataka, Kerala and Tamil Nadu, rather than within the smaller, more advanced ODF Plus Model category achieved by Jammu and Kashmir, Sikkim and a small number of union territories, indicating genuine but still incomplete progress on this more demanding sustainability standard (Swachh Bharat Mission Grameen, 2023).

The state government's most significant recent sanitation initiative, approved within the past year, is a programme of 30 faecal sludge co-treatment projects, developed jointly by the Rural Development Department and the Jal Shakti Department, with a target of full operational status by 31 March 2027 (The News Himachal, 2026). The policy rationale is direct and, this Report considers, well founded. The great majority of Himachal Pradesh's rural households rely on septic tanks or single pit toilets rather than connection to any centralised sewerage network, and without regular, scientific desludging, accumulated faecal sludge is frequently discharged untreated into open areas, drains, streams, rivers and forest land, directly threatening the drinking water quality discussed in section 10.1 and elevating the risk of waterborne disease, including diarrhoea, cholera and typhoid (The News Himachal, 2026).

Rather than constructing costly, standalone Faecal Sludge Treatment Plants, a conventional approach recommended by national sanitation guidelines but poorly suited to a state where mountainous terrain, extensive forest cover and limited available land make new standalone facility siting both difficult and expensive, Himachal Pradesh has adopted a co-treatment model, upgrading existing sewage treatment plants, discussed further in section 10.5, to receive and process faecal sludge alongside conventional municipal sewage, a genuinely terrain appropriate design choice developed on the technical recommendation of the WASH Institute (The News Himachal, 2026). Programme oversight rests with a State Level Approval Committee chaired by the Secretary of the Rural Development Department,

providing a single point of institutional accountability for a programme that necessarily spans both rural sanitation and urban sewerage infrastructure jurisdictions (The News Himachal, 2026).

This Report's assessment is that this co-treatment approach represents genuinely sound infrastructure policy design, converting an apparent constraint, the difficulty of siting standalone facilities in mountain terrain, into a rationale for more efficient shared infrastructure utilisation. The Report's principal concern, consistent with its treatment of implementation gaps elsewhere, is timeline discipline. A March 2027 target for all 30 projects represents a meaningfully compressed delivery window, and this Report recommends, in Chapter 21, that the State Level Approval Committee publish regular, public progress updates against this target, both to sustain the institutional accountability the committee structure is designed to provide and to allow independent verification of whether the stated 2027 completion date is being met in practice.

10.4 Comparative State Performance and Lessons

Placing Himachal Pradesh's sanitation and drinking water performance alongside that of comparator states offers a useful, if necessarily partial, external benchmark for the achievements and gaps documented in sections 10.1 through 10.3. Among hill and Himalayan states specifically, Himachal Pradesh's rural tap water functionality performance, at 98.5 per cent of connections in working order, compares favourably with the general pattern this Report understands to characterise neighbouring Uttarakhand, a state facing broadly similar terrain constraints and, per the comparative analysis cited in section 10.1, benefiting from a similar combination of natural spring and river endowment and targeted mission investment, though this Report was unable to locate a precise, current, directly comparable Uttarakhand specific functionality figure sufficient to state the comparison with numerical confidence (India Data Map, 2026).

Among the ODF Plus Model category states, Sikkim in particular offers an instructive comparator, since it shares with Himachal Pradesh a small hill state population base, a comparable dependence on tourism revenue discussed in this Report's own Chapter 3 and Chapter 19 treatment of tourism, and a broadly similar terrain constrained settlement pattern, yet has achieved the more advanced ODF Plus Model sanitation classification that Himachal Pradesh has not yet reached (Swachh Bharat Mission Grameen, 2023). This Report was unable to identify the specific programmatic differences underlying Sikkim's more advanced classification without access to a detailed comparative implementation study, but recommends, in Chapter 21, that the state's Rural Development Department commission or commission access to such a comparative study specifically examining Sikkim's ODF Plus Model achievement, given the two states' close structural similarity, as a more directly transferable source of lessons than comparison with larger, more geographically and economically dissimilar ODF Plus Model achieving states.

More broadly, this Report's comparative reading of the Jal Jeevan Mission national performance data suggests that Himachal Pradesh's achievement pattern, high formal

coverage combined with a genuinely credible independent functionality verification, distinguishes it from a number of larger states whose formal coverage claims, per the same national comparative assessment, diverge more substantially from independently measured functional performance (The Secretariat, 2026). This Report regards the credibility gap between claimed and verified performance in several such comparator states as, in one sense, making Himachal Pradesh's own achievement appear comparatively stronger by contrast, but cautions that this comparative strength should not become a basis for complacency regarding the state's own residual regularity and quality gaps documented in section 10.1, since a state performing well relative to weaker comparators has not thereby closed the absolute gap between its current performance and the fuller standard of reliable, potable, daily water access that remains the appropriate benchmark regardless of how other states perform.

This Report's overall recommendation arising from this comparative exercise is that the state's Jal Shakti and Rural Development Departments establish a standing practice of structured comparative learning specifically with Uttarakhand, Sikkim and, where relevant, other Himalayan and hill states facing broadly similar terrain and fiscal constraints, rather than benchmarking primarily against national averages that are heavily influenced by the very different infrastructure economics of larger plains states, since comparator states facing genuinely similar physical and administrative constraints are likely to offer more directly applicable, terrain appropriate lessons than national aggregate figures alone can provide.

10.4 Solid Waste Management: Municipal, Biomedical and Hazardous Waste

Comprehensive, current, disaggregated data on municipal solid waste generation, collection and treatment specific to Himachal Pradesh was not available to this Report in a form sufficient to support the kind of detailed quantitative analysis this Report has been able to provide for the state's water and sanitation infrastructure in the preceding sections, an evidentiary gap this Report flags explicitly rather than filling with unverified estimates. What can be stated with reasonable confidence, drawing on the broader environmental policy signals documented elsewhere in this Report, is that solid waste management in Himachal Pradesh faces a distinctive combination of pressures common to hill states generally, a highly seasonal tourism driven waste generation pattern that places disproportionate strain on collection and disposal systems during peak summer and winter tourist seasons discussed in Chapter 19, dispersed rural settlement patterns that make conventional centralised landfill and collection route economics considerably less favourable than in dense urban plains areas, and a heightened ecological sensitivity to inadequate waste management given the direct proximity of most settlements to rivers, forests and the fragile alpine ecosystems documented in Chapter 1.

This seasonal tourism driven waste surge, this Report notes, is likely most acute precisely in the towns this Report's discussion of tourism corridors in Chapter 3 and Chapter 19 identifies as the state's primary visitor destinations, Shimla, Manali, Dharamshala and the Kullu valley towns, meaning that any municipal solid waste strategy for the state would benefit from explicit, differentiated capacity planning for these high tourism footfall towns, potentially including seasonal surge capacity arrangements, rather than sizing municipal waste

infrastructure solely to each town's resident population as a conventional, non-tourism weighted municipal planning approach might do.

The state's most clearly documented solid waste policy commitment is the Plastic Neutral Himachal campaign, targeting 2030 and cited in national investment promotion material as part of the state's broader green transition agenda alongside the natural farming and forest carbon initiatives discussed in Chapter 9 (Invest India, 2026). This Report was unable to locate a detailed implementation roadmap, interim targets, or current progress data for this campaign sufficient to assess its trajectory with confidence, and recommends, in Chapter 21, that the state's Department of Environment, Science and Technology publish a public, time bound implementation plan for the campaign, including specific interim milestones against which progress toward the 2030 target can be independently tracked.

Biomedical waste management, generated by the substantial public health infrastructure documented in Chapter 6, including 115 civil hospitals, 110 community health centres and 586 primary health centres, together with the emerging tertiary and specialised capacity at institutions such as the All India Institute of Medical Sciences at Bilaspur, represents a further solid waste stream this Report was unable to characterise quantitatively given the absence of published, state specific biomedical waste generation and treatment capacity data, though the general national regulatory framework under the Biomedical Waste Management Rules applies to Himachal Pradesh's healthcare facilities in the same manner as elsewhere in the country. This Report notes that the state's own plans to establish Integrated Public Health Laboratories in every district by 2026, discussed in Chapter 6, and the robotic surgery and other advanced tertiary care capacity being added at facilities such as Chamiana, will likely generate a growing and increasingly complex biomedical waste stream over the coming years, making the current absence of published biomedical waste capacity data a gap this Report considers likely to become more, rather than less, consequential as the state's health infrastructure continues to advance.

Hazardous industrial waste presents a further distinct challenge, concentrated substantially in the Baddi-Barotiwala-Nalagarh pharmaceutical and manufacturing cluster and the cement production facilities discussed in Chapters 3 and 4, both of which generate process wastes requiring specialised handling under national hazardous waste management regulations. This Report was similarly unable to locate current, disaggregated data on hazardous waste generation volumes or treatment, storage and disposal facility capacity specific to Himachal Pradesh, and considers this, together with the municipal and biomedical waste data gaps already noted, to constitute a genuine and consequential blind spot in the state's public environmental reporting, one considerably more significant given the concentration of pharmaceutical manufacturing, a sector whose process wastes can include chemically complex and environmentally persistent residues, within a comparatively small and ecologically sensitive geographic footprint.

This Report recommends, in Chapter 21, that the state's Pollution Control Board be tasked with producing and publishing an annual, consolidated solid waste inventory spanning municipal, biomedical and hazardous categories, modelled on the kind of transparent,

disaggregated public reporting this Report has found genuinely present in the state's water supply and fiscal data, discussed respectively in section 10.1 and Chapter 2, but conspicuously absent in the solid waste domain.

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

Urban sewerage infrastructure in Himachal Pradesh is considerably more developed and better documented than the solid waste systems discussed in section 10.4, reflecting sustained, multi-decade investment concentrated particularly in the state capital. Of the state's 60 towns and Urban Local Bodies, Shimla's sewerage system is managed separately through the Shimla Jal Prabandhan Nigam Limited, a dedicated corporation established specifically to manage water and sewerage services for the capital, which has laid approximately 179.35 kilometres of sewer lines across the town's various zones and brought sewage treatment plants at six locations to near completion (Irrigation and Public Health Department, Government of Himachal Pradesh, 2026; Jal Shakti Vibhag, 2026).

This dedicated corporate structure for Shimla specifically, distinct from the Jal Shakti Vibhag administration applied to the state's other 59 towns, reflects the state capital's disproportionate infrastructure needs and its correspondingly greater institutional and financial resourcing relative to smaller towns, a pattern broadly consistent with the concentration of specialised institutional capacity in Shimla that this Report has observed across several other sectors, including the specialised tertiary health care facilities discussed in Chapter 6 and the ropeway urban transit investment discussed in Chapter 8.

Beyond Shimla, the state's Jal Shakti Vibhag has extended sewerage facilities to 39 further towns, of which 13 have complete sewerage coverage and 26 have partial coverage, with certain zones or areas within those towns still lacking connection, and operates a total of 66 sewage treatment plants with a combined installed capacity of 97.303 million litres per day against an actual measured sewage flow of 59.477 million litres per day, indicating that the state's urban sewage treatment infrastructure currently operates at only around 61 per cent of installed capacity (Jal Shakti Vibhag, 2026).

This substantial spare treatment capacity is, in one respect, encouraging, suggesting that Himachal Pradesh's urban centres are not yet approaching the treatment capacity constraints that afflict many larger, faster growing Indian cities, and providing meaningful headroom to absorb the faecal sludge co-treatment volumes discussed in section 10.3 without requiring entirely new plant construction. In a further respect, however, this Report reads the gap between installed capacity and actual measured flow as also reflecting the partial, incomplete household connection coverage documented above, meaning that a meaningful share of the state's urban wastewater likely bypasses the treatment system entirely through unconnected properties, onsite septic systems and informal drainage, rather than being fully captured and simply under-treated.

Smaller towns not yet covered by full sewerage networks rely on more basic septic tank arrangements, including a scheme serving 160 households through 13 septic tanks in Bilaspur

town and a single, larger septic tank arrangement serving 373 users in Sarkaghat, illustrating the incremental, town by town nature of the state's ongoing sewerage expansion (Jal Shakti Vibhag, 2026). New sewerage schemes are currently under construction in five further towns, Bhota, Santokhgarh, Talai, Baijnath-Paprola and Nerchowk, extending the network's reach progressively toward full urban coverage (Jal Shakti Vibhag, 2026). This town by town rollout sequencing, this Report notes, would benefit from an explicitly published prioritisation criterion, whether based on population size, proximity to environmentally sensitive water bodies, or current reliance on the least adequate onsite sanitation arrangements, since the current pattern, while clearly progressing, does not appear from available documentation to follow a transparently stated sequencing logic that would allow independent assessment of whether the towns facing the greatest environmental or public health risk are being prioritised for connection ahead of others.

This Report's overall assessment of the chapter's subject matter is that Himachal Pradesh's water, sanitation and waste management performance mirrors the pattern already identified across the education and health sectors in Chapters 5 and 6, genuinely strong achievement on the headline, internationally benchmarked indicators, rural tap water coverage and Open Defecation Free status foremost among them, combined with a considerably less complete and less transparently documented record on the harder, second generation sustainability questions, regular water quality and supply, faecal sludge management, and solid waste treatment, that determine whether these headline achievements translate into lasting public health and environmental protection.

This Report's recommendation, consistent across sections 10.1 through 10.4, is that the state's various implementing departments, the Irrigation and Public Health Department, the Rural Development Department, Jal Shakti Vibhag and the Pollution Control Board, adopt a common standard of transparent, regularly updated public data disclosure comparable to what this Report has been able to draw upon for the state's rural water functionality assessment, since sustained public accountability, more than any single additional infrastructure investment, appears to this Report the most binding constraint on converting the state's genuinely impressive coverage statistics into consistently reliable, safe water and sanitation service for every household in Himachal Pradesh.

CHAPTER 11: URBAN DEVELOPMENT, HOUSING AND SMART CITIES

11.1 Urbanisation Trends and Urban Governance Architecture

Himachal Pradesh is, by any conventional measure, one of the least urbanised major states in India, a structural characteristic rooted so deeply in its ecology, its economy and its settlement history that this Report treats it not as a deficiency to be overcome but as a foundational constraint around which the state's urban development strategy must be designed. The 2011 Census recorded 9.21 lakh persons, equivalent to approximately 13.42 per cent of the state's total population, living within urban local body boundaries, a figure considerably below the national urban population share of 31.16 per cent for the same year (Directorate of Urban Development, Government of Himachal Pradesh, 2026). This low urbanisation level reflects a settlement pattern shaped by the same steep, constrained and landslide prone terrain documented in Chapter 1, which has historically dispersed population across tens of thousands of small hill villages rather than concentrating it in a small number of large towns, and by an economy, examined in Chapter 3, still heavily dependent on agriculture and horticulture for a majority of its working population even as industry and services now dominate output.

This Report notes that Himachal Pradesh's low urbanisation figure, while accurate as a formal Census measure, likely understates the genuine degree of non-agricultural, town-oriented economic activity occurring within the state, given the well documented pattern in which large numbers of Himachali residents commute daily or weekly between rural residence and urban or semi-urban employment, particularly along the improving highway corridors discussed in Chapter 8, without ever formally relocating their Census registered residence to an urban local body boundary. This commuting pattern, common across hill states generally, means that any policy response premised solely on formal urban population figures risks understating the actual scale of urban infrastructure and service demand that towns such as Solan, Baddi and Mandi in practice experience from their surrounding rural catchment.

The functional pattern of what urbanisation does exist in Himachal Pradesh is dominated by four distinct categories of town, each with a different growth driver and a different set of infrastructure challenges. Administrative and institutional towns, most prominently Shimla, Dharamshala, Mandi and Chamba, owe their urban character primarily to the concentration of government offices, educational institutions and associated service activity. Tourism towns, including Manali, Dalhousie, Kasauli and Narkanda, are shaped by the highly seasonal demand cycles examined in Chapter 19, producing infrastructure strains concentrated in the three to four months of peak summer and winter tourist season. Industrial towns, primarily Baddi, Barotiwala, Nalagarh and Parwanoo in the lower Shivalik belt, reflect the pharmaceutical and manufacturing economy discussed in Chapters 3 and 4. And a residual category of smaller towns serving local agricultural hinterlands, including Una, Hamirpur, Bilaspur and Solan, bridge the gap between the administrative and industrial categories without fitting cleanly into either (Nimbusias, 2025).

This four category typology, in this Report's assessment, is genuinely useful for policy design precisely because each category faces a materially different infrastructure demand curve over the course of a calendar year, administrative towns experiencing comparatively steady, year round demand tied to institutional working hours, tourism towns experiencing extreme seasonal peaks that can multiply effective population several times over during festival and holiday periods, and industrial towns experiencing demand growth tied more closely to the investment cycles discussed in Chapter 4 than to any seasonal calendar, meaning that a uniform, undifferentiated urban infrastructure investment formula applied equally across all four categories would systematically misallocate resources relative to each category's actual usage pattern.

Urban governance across all these categories rests with the Directorate of Urban Development, established in 1985-86 and now responsible for the legislative, administrative and development oversight of 75 Urban Local Bodies, comprising 8 Municipal Corporations, 29 Municipal Councils and 38 Nagar Panchayats, under three separate municipal laws enacted following the 74th Constitutional Amendment (Directorate of Urban Development, Government of Himachal Pradesh, 2026). The five most recent Municipal Corporations are Shimla, Dharamshala, Solan, Palampur and Mandi, with the Dharamshala elevation reflecting both the city's designation as the state's second capital, discussed in Chapter 1, and its growing significance as the seat of the Tibetan Government in Exile, which adds a distinct international dimension to its urban governance obligations not faced by any other local body in the state.

The overall control of these bodies runs through the Additional Chief Secretary for Urban Development, with each Municipal Corporation headed by an elected Mayor and each Municipal Council and Nagar Panchayat by an elected President, a governance model in which elected local leadership, whatever its merits in terms of democratic accountability, frequently lacks the financial and technical capacity to manage urban infrastructure challenges of the complexity documented throughout this chapter, a structural weakness examined further in section 11.2 below. This Report notes that the recent elevation of Solan, Palampur and Mandi to Municipal Corporation status specifically, alongside the longer established Shimla and Dharamshala corporations, reflects a deliberate state policy recognition that these three towns' growing administrative, industrial and institutional significance, discussed respectively in Chapters 4, 5 and 3, now warrants the enhanced statutory powers and, in principle, greater own revenue authority that Municipal Corporation status confers relative to the more limited Municipal Council and Nagar Panchayat categories.

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

The financial health of Himachal Pradesh's Urban Local Bodies is, with the exception of Shimla Municipal Corporation, which manages its own water and sewerage functions through the dedicated Shimla Jal Prabandhan Nigam Limited discussed in Chapter 10, generally weak relative to the infrastructure demands placed upon them, a pattern consistent with the broader fiscal constraints facing the state government documented throughout Chapter 2. A consistent

challenge, well documented in academic assessments of Shimla's urban governance specifically, is the dependence of Urban Local Bodies on state government grants and scheme funding rather than own revenue, most commonly property tax, which this Report notes reflects a national pattern in which local governments have been granted constitutional responsibility under the 74th Amendment for functions they were never simultaneously given adequate revenue instruments to finance (Directorate of Urban Development, Government of Himachal Pradesh, 2026).

This structural dependence on state fiscal transfers means that the tightening of the state's own fiscal position, documented extensively in Chapter 2, cascades directly into reduced capacity for Urban Local Bodies to maintain existing infrastructure, let alone invest in new service extensions. This cascading fiscal pressure, this Report notes, creates a particular vulnerability for the smaller Municipal Councils and Nagar Panchayats, which lack even the partial revenue diversification that Shimla's dedicated water and sewerage corporation and the growing commercial land value in larger towns such as Solan and Baddi can provide, meaning that any future state level fiscal consolidation measures of the kind discussed in Chapter 2 are likely to fall most heavily, in practical service delivery terms, on precisely the smaller towns least equipped to absorb reduced transfers without visible service degradation.

The ATAL Mission for Rejuvenation and Urban Transformation scheme, known as AMRUT and launched by the Government of India in June 2015, provided Himachal Pradesh's urban centres, particularly Shimla, with a structured mechanism to channel central funding specifically toward water supply, sewerage, green spaces and non-motorised transport infrastructure, its three stated objectives being ensuring every urban household has access to tap water and a sewerage connection, increasing the amenity value of cities through greenery and well maintained parks, and reducing pollution by shifting toward public or non-motorised transport (Shimla Municipal Corporation, 2026). Projects approved under AMRUT for Shimla included an improved sewerage pipeline network and a sanitary landfill site for solid waste management at Bhariyaj village in Shimla district, contributing to the urban waste management system discussed in Chapter 10.

Source segregation of biodegradable and non-biodegradable waste was established across all wards of Shimla Municipal Corporation from December 2018, with wet and dry waste collected on alternate weekdays, representing a genuinely functional implementation of what in many Indian municipalities remains a paper commitment (Shimla Municipal Corporation, 2026). This Report regards Shimla's sustained, ward-wide source segregation practice, now in continuous operation for several years, as a genuinely replicable model for the state's other Municipal Corporations, and recommends, in Chapter 21, that Solan, Palampur, Mandi and Dharamshala be supported in adopting a comparable ward level segregation and alternate day collection system, drawing directly on Shimla's own operational experience rather than each town independently redesigning a similar system from first principles.

The capacity constraints visible in the Urban Local Bodies are compounded by a specific challenge common to hill towns that is rarely encountered in India's plains cities, the combination of narrow, congested roads, steep gradients and landslide risk that Chapter 8 has

already documented, which raises the cost and complexity of every utility trench, every vehicle based collection service and every pedestrian infrastructure improvement well above what any comparable investment in a plains town would require. This terrain cost disability, combined with a tourist economy that seasonally multiplies the effective urban population, means that Shimla and Manali in particular require infrastructure investment per resident that would be difficult to justify under any conventional urban infrastructure funding formula designed for plains cities, a point this Report's recommendations in Chapter 21 argue should be explicitly recognised in the design of any successor to AMRUT in the next national urban mission cycle.

11.3 Housing: Demand Assessment, Affordability and Flagship Schemes

The principal institutional vehicle for housing development in Himachal Pradesh is the Himachal Pradesh Housing and Urban Development Authority, known as HIMUDA, established under the Himachal Pradesh Housing and Urban Development Authority Act of 2004, replacing and strengthening the earlier Himachal Pradesh Housing Board that had functioned since 1972 (EazeMyRent, 2026). HIMUDA's primary mandate is to provide affordable housing to residents of Himachal Pradesh, particularly those from lower and middle income groups, through direct construction and allotment of residential properties, alongside commercial development to cross-subsidise its social housing function.

In the most recent financial year for which data was available to this Report, 2025-26, HIMUDA approved an annual work plan and budget of Rs 251 crore, with a specific allocation of Rs 52 crore for land procurement, reflecting the board's assessment that strengthening HIMUDA's land bank is a necessary precondition for expanding its affordable housing pipeline in a state where flat, buildable land near urban centres is both extremely scarce and, as a direct consequence, extremely expensive (The News Himachal, 2026). This land scarcity, this Report notes, is not merely a generic urban land market constraint of the kind found in most growing Indian cities, but a specific, terrain driven physical scarcity, since the share of land within or near any Himachal Pradesh town that is both sufficiently flat for conventional construction and sufficiently stable in slope and seismic terms, discussed in Chapter 1, to support multi-storey residential building is a small fraction of the town's total administrative area, meaning that HIMUDA's land procurement challenge is considerably more binding than the land price alone would suggest to an observer unfamiliar with the state's specific geotechnical constraints.

Against a budget estimate of Rs 117 crore for the year, the authority achieved a turnover of Rs 200 crore, a considerably stronger financial outcome than originally projected, representing what the authority's own board described as improved operational efficiency and financial management (The News Himachal, 2026). This turnover figure exceeding the budget estimate by more than 70 per cent represents a genuinely notable financial performance for a public housing authority, and this Report regards it as tentative evidence that HIMUDA's institutional capacity, whatever the land scarcity constraints documented above, is not itself the binding constraint on the authority's ability to execute and monetise its housing and commercial development pipeline, suggesting that land bank expansion, rather

than institutional or financial management capacity, should be the primary focus of future HIMUDA strengthening efforts.

Himachal Pradesh is covered under Pradhan Mantri Awas Yojana Urban 2.0, the programme's second generation launched to continue the original Housing For All mission's unfinished business, and its Urban Local Bodies are among those listed in the central government's Urban Local Body registry under PMAY 2.0, alongside proposals to convert vacant government funded housing stock into Affordable Rental Housing Complexes that have been processed specifically for Himachal Pradesh among five states identified for this conversion model (PMAY Urban, 2026). This Affordable Rental Housing Complex conversion model, this Report notes, is of particular relevance to Himachal Pradesh's specific urban housing demand profile, since a meaningful share of the state's urban housing pressure, discussed further below, arises from seasonal and migrant workers, including construction labour and hospitality sector staff discussed in Chapter 3's treatment of the informal economy, whose housing need is inherently temporary and rental oriented rather than suited to the ownership model that HIMUDA's conventional allotment scheme primarily serves.

Within Shimla Municipal Corporation, earlier phases of PMAY Urban produced 176 dwelling units constructed by HIMUDA at Dhalli, of which 94 complete units were handed over to the Corporation for allotment to urban poor beneficiaries, with 64 allotted in the first phase during 2017-18 and the remaining 30 in September 2020, illustrating the typically slow, multi-year cycle between scheme sanction, construction and actual occupancy that characterises government housing delivery in a terrain as difficult as Shimla's (Shimla Municipal Corporation, 2026).

Academic assessment of housing and urban poverty in Shimla, drawing on data from the Jawaharlal Nehru National Urban Renewal Mission period, has documented a pattern this Report considers likely to persist and indeed intensify under current conditions: a high and growing population, compounded by a large floating population of tourists and seasonal workers, exerting heavy pressure on existing infrastructure and driving encroachments and unauthorised construction on steep slopes incompatible with either the natural terrain or the city's heritage character, with affordable housing for the urban poor persistently lagging behind demand while the pace of formal poverty alleviation and slum rehabilitation programmes remains inadequate relative to the visible scale of need (Academia, 2015).

This assessment, though drawing on older programme data, is substantiated by more recent observations that the terrain constraints affecting Shimla, steep slopes, elongated hilly spurs, forest areas and zones without direct sunlight, make the preparation of even basic cadastral records for a significant share of the city's area technically challenging, a precondition for effective land use planning and building control that remains only partially met (Himachal Pradesh PCS Notes, 2026). This cadastral incompleteness, this Report notes, has a direct bearing on HIMUDA's own land procurement challenge discussed above, since land whose ownership and boundary status is not clearly established through complete cadastral survey is considerably more difficult, and more legally contestable, for any public authority to acquire for affordable housing development than land with an unambiguous, fully surveyed title

record, meaning that completing Shimla's cadastral survey coverage should, in this Report's assessment, be treated as a foundational, sequencing priority ahead of further affordable housing scheme design specifically for the capital.

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

Of Himachal Pradesh's urban centres, Shimla and Dharamshala were both selected for inclusion in the Government of India's Smart Cities Mission, launched by Prime Minister Narendra Modi in June 2015 to establish infrastructure ensuring adequate sewage networks, water supply and smart urban systems in selected cities (Shimla Municipal Corporation, 2026; Nimbusias, 2025). Shimla Smart City Limited was incorporated under the Companies Act on 1 January 2018, with a tenure of five years that formally concluded in June 2022, and over that period implemented projects ranging from information and communications technology based urban management systems to the sewerage network improvements discussed in Chapter 10 (Shimla Municipal Corporation, 2026).

The specific ICT based urban management systems implemented under Shimla Smart City Limited's mandate, this Report notes, plausibly include the kind of traffic monitoring, solid waste tracking and citizen grievance redressal platforms that have become standard components of Smart City implementations nationally, though this Report was unable to locate a detailed, itemised inventory of exactly which specific ICT systems were deployed in Shimla and their current operational status following the Special Purpose Vehicle's formal wind-down in 2022, a gap this Report considers relevant given the general pattern, documented in national assessments of the Smart Cities Mission more broadly, in which ICT systems implemented during a mission's active tenure sometimes fall into disrepair or under-utilisation once the dedicated project management company overseeing them ceases active operation.

Dharamshala's parallel Smart City designation focused on e-governance improvements, public transport enhancements and improved public spaces, reflecting the city's distinct urban character as both an administrative capital and an internationally significant Tibetan cultural centre. This Report notes that Dharamshala's e-governance focus specifically is of particular relevance given the city's substantial Tibetan refugee and international visitor population, both of whom interact with municipal services somewhat differently than a purely domestic resident population, and a well designed e-governance platform capable of serving these diverse user groups efficiently represents a genuinely distinctive Smart City priority relative to the sewerage and physical infrastructure emphasis more prominent in Shimla's own programme.

This Report treats the Smart Cities Mission's outcome in Himachal Pradesh as genuinely mixed, a conclusion broadly consistent with national evaluations of the mission more generally. On the positive side, the mission provided both Shimla and Dharamshala with a structured, time-bound mechanism to access central urban infrastructure funding that the Urban Local Bodies' own finances could not have generated independently, and the institutional vehicle of the Special Purpose Vehicle company, Shimla Smart City Limited,

provided a degree of professional project management capacity that the parent Municipal Corporation would have struggled to field from its own staffing.

Against this, the mission's five year tenure proved insufficient to address structural urban challenges in a hill city of Shimla's complexity, where even basic physical preconditions for project implementation, land availability, slope stability, heritage conservation constraints and road access for construction equipment, routinely extend timelines beyond what comparable work would require in a plains city. This Report's recommendation, developed in Chapter 21, is that any successor urban mission for hill cities explicitly build in longer project development windows, more generous per capita funding norms reflecting genuine terrain cost disabilities, and clearer post-mission operation and maintenance financing mechanisms, so that infrastructure investments made during the mission period continue to function rather than degrading once central project funding ends.

11.5 Heritage Cities, Cultural Landscapes and Urban Tourism

Shimla carries an urban heritage of national and internationally recognised significance, a legacy of its four decade function as the summer capital of British India during which it accumulated one of India's most concentrated collections of Victorian and Edwardian colonial architecture, including the Viceregal Lodge, now the Indian Institute of Advanced Study, and the Gothic Revival Christ Church on the Ridge, alongside the dense mixed commercial and residential built fabric of the Lower Bazaar and Cart Road areas that together constitute what the Archaeological Survey of India and state planners have identified as a heritage zone warranting special statutory protection (Wikipedia, 2026).

This heritage is simultaneously an urban tourism asset of the kind examined further in Chapter 19, a constraint on building heights and densities that complicates the affordable housing agenda discussed in section 11.3, and an ecological and seismic risk, since many of Shimla's oldest heritage structures were built without reference to the earthquake resistance standards now applicable in the state's Seismic Zone V designation discussed in Chapter 1, creating a vulnerability that neither straightforward demolition nor unconstrained modern reconstruction can resolve without destroying the heritage value that makes the city worth visiting in the first place. This Report considers this seismic retrofitting challenge for heritage structures specifically to be one of the more technically demanding, and currently under-resourced, urban policy problems documented anywhere in this Report, since conventional seismic retrofitting techniques, involving structural reinforcement that can visually and materially alter a building's historic fabric, must in Shimla's case be reconciled with heritage conservation standards that would resist exactly this kind of visible structural intervention, a tension this Report recommends the state's Department of Urban Development and its heritage conservation authorities resolve jointly through a dedicated, Shimla specific heritage seismic retrofit guideline rather than applying either a generic national seismic code or a generic heritage conservation code in isolation.

Dalhousie in Chamba district represents a second, smaller but equally architecturally distinctive example of the same Victorian hill station heritage, and this Report notes that its

inclusion within the aspirational district of Chamba discussed in Chapter 1 creates an opportunity to link heritage conservation investment, through the AMRUT and Smart Cities successor frameworks, directly to the tourism led economic diversification agenda this Report identifies as one of the more promising local development pathways for a district where conventional agricultural and industrial investment faces the structural constraints documented in Chapter 1.

Chamba town itself is separately recognised as one of India's historic towns for the richness of its pre-colonial Hindu temple architecture and its traditional painting and bronze crafts tradition, discussed further in Chapter 19, and this Report's recommendation in Chapter 21 is that heritage conservation planning in both Dalhousie and Chamba town be explicitly incorporated into the district's Aspirational District Programme strategy rather than treated as a separate, sectoral concern managed by the state's archaeology department in isolation. This Report further notes that Chamba town's pre-colonial temple heritage, being of considerably greater antiquity than Shimla and Dalhousie's colonial era architecture, likely faces an even more acute seismic vulnerability given the older construction techniques and longer accumulated structural fatigue involved, reinforcing the case for treating heritage seismic assessment as a priority workstream across all three of the state's principal heritage towns rather than Shimla alone.

11.6 Urban Poverty, Slum Rehabilitation and In-Situ Upgradation

Shimla Municipal Corporation has the most fully documented urban poverty and slum rehabilitation record of any Urban Local Body in the state, a consequence partly of its status as the state capital and largest urban entity, and partly of its exposure to successive national urban renewal missions since the Jawaharlal Nehru National Urban Renewal Mission period, each of which has generated project specific documentation of the kind smaller Urban Local Bodies have less frequently produced. The corporation prepared a Pilot Detailed Project Report of Rs 33.99 crore for the Krishna Nagar Slum under the Rajiv Awas Yojana, with the Ministry of Housing and Urban Poverty Alleviation approving the pilot project in 2013 and releasing a first instalment of Rs 10.67 crore in 2012-13, though the pace of both the programme's subsequent implementation and the broader discussion of slum rehabilitation within Shimla has remained, by the academic assessment already cited in section 11.3, considerably slower than the scale of need would suggest is adequate (Shimla Municipal Corporation, 2026; Academia, 2015).

The considerable gap between this pilot project's 2013 approval and its still incomplete implementation status well over a decade later, this Report notes, is consistent with the broader pattern this Report has documented across multiple infrastructure sectors, in which the difficult physical and administrative preconditions for construction in Shimla specifically, including the cadastral and slope stability constraints discussed in section 11.3, extend project timelines considerably beyond what comparable urban renewal projects would require in easier terrain, a pattern this Report considers should temper expectations for the pace at which any future slum rehabilitation commitment in Shimla can realistically be delivered, even where funding and formal approval are already in place.

The corporation is simultaneously, as of May and June 2026, inviting bids for door to door garbage collection services in all 34 of its wards, an active and current procurement process that illustrates the ongoing, rather than completed, nature of even basic service delivery establishment within the state's largest urban entity (Shimla Municipal Corporation, 2026).

More broadly, urban poverty in Himachal Pradesh sits in an ambiguous analytical position. On the one hand, the state's low overall multidimensional poverty discussed in Chapter 1, its near universal public health coverage discussed in Chapter 6, and its formal HIMCARE and Ayushman Bharat health insurance architecture discussed in Chapter 6 together suggest that the absolute deprivation associated with the most severe forms of urban poverty, inadequate food, no healthcare access, no sanitation, is considerably rarer in Himachal Pradesh's urban areas than in the slum belts of India's larger metropolitan cities.

On the other hand, the affordable housing deficit, the slow pace of slum rehabilitation, the growing encroachments on steep slopes and forest land documented in academic assessments of Shimla, and the particular vulnerability of the state's seasonal migrant urban workers, who fall into the gaps between the state's welfare architecture and the access criteria that most of its schemes apply, together indicate a meaningful and underserved urban poor population that this Report considers substantially invisible in the aggregate statistics and that targeted urban poverty policy, informed by the kind of rigorous local survey the state's Urban Local Bodies have not consistently conducted, needs to make legible before it can be addressed effectively.

This Report notes a specific overlap between this urban poverty discussion and the informal economy and social justice themes examined in Chapters 3 and 7, since seasonal migrant construction and hospitality workers in towns such as Shimla and Manali plausibly include a meaningful share of interstate migrant labourers whose eligibility for Himachal Pradesh's own domicile linked welfare schemes, discussed in Chapter 7, is limited or absent entirely, leaving this specific urban poor population reliant on whatever portable social security benefits their state of origin, rather than Himachal Pradesh itself, may provide, a gap this Report's recommendations in Chapter 21 identify as warranting a dedicated, interstate coordination mechanism rather than continued reliance on Himachal Pradesh's own domicile based welfare architecture alone.

Chapter 12: Rural Development and Decentralised Governance

12.1 Panchayati Raj Institutions: Structure, Devolution and Capacity

Himachal Pradesh's Panchayati Raj system has its legislative roots in the Himachal Pradesh Panchayati Raj Act of 1952, the state's first statutory framework for rural self-government, subsequently replaced by the Himachal Pradesh Panchayati Raj Act of 1968 following the merger of the hilly areas of Punjab into the state in November 1966, and finally comprehensively overhauled through the current Himachal Pradesh Panchayati Raj Act of 1994, enacted to bring the state's local governance framework into full conformity with the 73rd Constitutional Amendment (PRIA, 2020). The 1994 Act, further amended by the Himachal Pradesh Panchayati Raj Amendment Act of 2025, establishes the three tier system of Gram Panchayats at the village level, Panchayat Samitis at the block level and Zila Parishads at the district level, providing the constitutional framework for devolution of powers, functions and finances to elected local bodies across the state's twelve districts (Panchayati Raj Department, Government of Himachal Pradesh, 2026).

This succession of three distinct legislative frameworks across little more than four decades, this Report notes, reflects a state that has been willing to revisit and substantially rework its own local governance architecture as circumstances changed, first to accommodate the 1966 territorial reorganisation and subsequently to align with the 73rd Amendment's national constitutional mandate, a pattern of institutional responsiveness this Report regards as broadly favourable, even as the practical devolution gaps documented later in this section show that legislative amendment alone has not been sufficient to achieve fully substantive decentralisation.

As of 2024, the state operated 3,615 Gram Panchayats, a number that increased from 3,226 to 3,615 during the 2020 Panchayati Raj elections when 389 new panchayats were officially registered following a rationalisation process, and which is expected to increase further following proposals for new Gram Panchayat formation sought from all twelve district Deputy Commissioners ahead of the panchayat elections scheduled for December 2025, with six additional panchayats already under notification in Kangra and Solan districts as of December 2025 (The News Himachal, 2024; The Tribune, 2025). This continuing expansion in the total number of Gram Panchayats, this Report observes, mirrors in structure, though not in underlying cause, the school and health facility density challenges documented in Chapters 5 and 6, since a growing number of smaller administrative units inevitably means a growing number of individually modest sized panchayats, each requiring a comparable baseline of elected representatives, administrative staff and Finance Commission grant allocation regardless of the population it serves, a dynamic that plausibly strains the state's capacity to provide uniformly adequate administrative support across an expanding roster of Gram Panchayats even as it brings governance formally closer to a larger number of individual villages.

The Panchayati Raj elections themselves faced judicial scrutiny at the time of writing, with the Himachal Pradesh High Court examining a petition challenging the deferment of elections

under Disaster Management Act provisions, a legal process this Report flags as reflecting the broader tension between election cycle obligations and the state's recurring monsoon and climate disaster response demands discussed in Chapter 14. This tension, between the constitutional imperative to hold local elections on schedule and the practical administrative burden of doing so in a year when the same district administrations are simultaneously engaged in disaster response, is not, in this Report's assessment, a uniquely Himachal Pradesh problem, but the state's particular exposure to recurring, severe monsoon disruption, documented extensively in Chapter 1 and Chapter 14, makes this tension a more frequently recurring feature of the state's electoral calendar than in less disaster prone states, and this Report recommends that the state's Election Commission and Disaster Management Authority develop a standing, pre-agreed protocol for managing this specific conflict, rather than resolving it through ad hoc litigation each time it arises.

Himachal Pradesh's performance on the national Panchayat Devolution Index, prepared by the Indian Institute of Public Administration for the Ministry of Panchayati Raj, places it in the medium scoring category with a score between 50 and 55, alongside Andhra Pradesh, Madhya Pradesh and Odisha, above the national average of 43.89 but considerably below the leading states of Karnataka, Kerala, Tamil Nadu and Maharashtra, which score above 60 (Decentralization Net, 2025; IDR Online, 2026). This medium tier placement is, in this Report's assessment, broadly consistent with the pattern this Report has now documented across several other governance and service delivery domains, a state whose formal institutional architecture and headline achievement indicators are frequently strong, even leading nationally in specific respects such as women's panchayat reservation, but whose underlying implementation depth, whether in learning outcomes discussed in Chapter 5, public sector enterprise governance discussed in Chapter 4, or functional devolution examined here, more often places it in a solid middle tier rather than among the small number of genuinely leading states.

A more granular reading of the same assessment reveals a specific weakness on the functions dimension, which evaluates how actively panchayats are involved in scheme targeting and implementation, where none of the northeastern and hilly states, a group explicitly comprising both Himachal Pradesh and Uttarakhand alongside the northeastern states, scored above the national average of 29.18, indicating that the challenge of substantive functional devolution in hill terrain is a structural rather than state-specific problem, shared across every Himalayan and hill state in India regardless of the quality of their respective Panchayati Raj frameworks (IDR Online, 2026). This shared hill state weakness on the functions dimension specifically, this Report notes, suggests that the underlying cause lies less in any particular state's legislative design and more in a common structural feature of hill terrain governance itself, namely that the same dispersed, low density settlement pattern and difficult physical accessibility that this Report has documented as complicating school, health and road infrastructure delivery throughout this Report also complicates the practical exercise of devolved scheme implementation authority by elected panchayat representatives, who face genuine logistical difficulty monitoring and coordinating scheme delivery across the same difficult terrain that constrains every other service documented in this Report.

An older but still analytically relevant assessment prepared by PRIA identified what it called a "diarchy" at the district level as the core problem, whereby Zila Parishads are formally responsible for implementing developmental schemes across agriculture, horticulture, education and rural development departments, but have no actual authority over the district level officers of those same departments whose schemes they are supposed to supervise, creating a structural accountability gap between formal responsibility and actual operational control that persists in the absence of a more complete functional transfer of field staff to Panchayati Raj Institution oversight (PRIA, 2020). This diarchy, this Report considers, is the single most consequential specific finding in this section, since it identifies precisely the mechanism by which formal devolution under the 1994 Act and its 2025 amendment can coexist with the persistently low functions score documented above, a Zila Parishad chairperson may hold the formal title of overseeing agricultural extension delivery within the district, while the actual agricultural extension officers report administratively, and are evaluated and promoted, entirely within their own line department's separate hierarchy, leaving the Zila Parishad's oversight role largely advisory rather than genuinely supervisory in practice.

The Rashtriya Gram Swaraj Abhiyan, implemented nationally to strengthen institutional and governance capacity of Panchayati Raj Institutions, does operate in Himachal Pradesh and provides Finance Commission grants to Gram Panchayats for strengthening local governance and improving basic services, with the Panchayati Raj Department's own website noting the scheme's role in enabling transparent and accountable resource utilisation, including through the mandatory adoption of e-procurement for goods, services and works valued above Rs 5 lakh (Panchayati Raj Department, Government of Himachal Pradesh, 2026). This mandatory e-procurement threshold, this Report notes, represents a genuinely meaningful transparency safeguard for larger panchayat level works, though this Report was unable to locate current, disaggregated data on e-procurement compliance rates specific to Himachal Pradesh's Gram Panchayats, a further instance of the kind of implementation monitoring data gap this Report has identified across multiple sectors throughout this document.

Women's political representation within the Panchayati Raj system has already been discussed in Chapter 7's treatment of gender equity, where this Report noted that Himachal Pradesh is one of twenty Indian states to have legislated 50 per cent reservation for women in Panchayati Raj institutions, well beyond the constitutional minimum of one third, a provision directly visible in the state's recent Zila Parishad chairperson seat reservation notifications (Panchayati Raj Department, Government of Himachal Pradesh, 2026). This formal structural achievement in women's representation does not, by itself, guarantee substantive women's participation in local governance decision making, a broader challenge documented in academic literature on panchayat functioning across India, but it does provide Himachal Pradesh with a considerably stronger formal foundation for such participation than the majority of Indian states, and this Report's recommendations in Chapter 21 build on this foundation by calling for dedicated capacity building support for women elected representatives at the Gram Panchayat level, particularly in the tribal and high altitude

districts where educational attainment and prior public participation experience among elected women panchayat members are likely to be most variable.

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

A development of significant national importance, with direct implications for rural livelihoods across Himachal Pradesh, was the replacement of the Mahatma Gandhi National Rural Employment Guarantee Act, in force since 2006, with the Viksit Bharat Guarantee for Rozgar and Aajeevika Mission Gramin Act, known as VB G-RAM-G, passed by both houses of Parliament and enacted in December 2025, following a government argument in the Economic Survey of 2025-26 that demand for MGNREGA jobs had declined by approximately 53 per cent between 2020 and 2025, a figure attributed in part to the base effect of extremely high pandemic year participation, implying the scheme was becoming progressively less central to rural income support as broader economic conditions normalised (Wikipedia, 2026). The new framework retains the core guarantee of 100 days of assured wage employment for rural households willing to do unskilled manual work, while aiming to update the implementation mechanism and align it more explicitly with the wider livelihood and skilling priorities of the central government's Viksit Bharat agenda.

This national demand decline figure of 53 per cent, this Report notes, should be read with some caution as applied specifically to Himachal Pradesh, since the state's own demand pattern for the scheme is shaped by a somewhat distinct set of local factors, including the youth outmigration documented extensively in Chapters 1, 3 and 6, which removes a share of the working age population that might otherwise seek MGNREGA employment from the state's rural labour pool entirely, and the below replacement fertility rate discussed in Chapter 6, which implies a gradually shrinking rural working age cohort over time independent of any change in the scheme's own attractiveness or administration. This Report was unable to locate a precise, current, Himachal Pradesh specific demand decline figure disaggregated from the national 53 per cent average cited above, and recommends that the state's own Rural Development Department publish such a state specific figure, given how materially different the underlying demographic drivers of demand decline in Himachal Pradesh are likely to be relative to the national pattern.

Within Himachal Pradesh, the wage rate applicable under the predecessor MGNREGA scheme for the 2025-26 financial year was Rs 266 per day, increased from the previous year's rate as part of the annual revision notified by the Ministry of Rural Development on 27 March 2025 on the basis of the Consumer Price Index for Agricultural Labour (NregaGuide, 2026; HRInformative, 2025). This figure, while representing a genuine, inflation linked increase, remains considerably below the daily wage rates prevailing in comparable unskilled employment in the state's more economically active districts, and this Report treats the scheme's role in the state primarily as a seasonal income floor and social protection mechanism for the poorest rural households in the least economically diversified areas, rather than as the state's principal labour market instrument, a framing consistent with the scheme's

original legislative intent and with the Economic Survey's own assessment of declining demand in better performing labour markets.

This wage differential, this Report notes further, connects directly to the near 1 per cent headline consumer price inflation discussed in Chapter 3, since a wage rate indexed to the Consumer Price Index for Agricultural Labour will itself rise only modestly in a low inflation environment, meaning that VB G-RAM-G beneficiaries in Himachal Pradesh are unlikely to see a materially improved real wage floor under the new framework unless the scheme's implementing rules introduce a more generous wage revision formula than the predecessor MGNREGA's Consumer Price Index linkage provided, a design question this Report was unable to resolve given the newness of the VB G-RAM-G framework at the time of writing.

The scheme's convergence with trekking trail development in Himachal Pradesh, explicitly noted in documentation of the predecessor MGNREGA's innovative use within the state, illustrates one of the more creative local adaptations of what is nominally a generic employment guarantee framework, one that aligns the scheme's asset creation mandate with the state's tourism economy priorities discussed in Chapters 3 and 19 (Wikipedia, 2026). This Report regards this trekking trail convergence model as a genuinely valuable template for the successor VB G-RAM-G framework specifically, and recommends, in Chapter 21, that the state's Rural Development Department formally document and expand this convergence approach, potentially extending it further to asset creation projects supporting the cold chain and last mile agricultural marketing infrastructure discussed in section 12.5 below and in Chapter 18, so that the scheme's mandated asset creation component continues to generate durable, economically productive rural infrastructure rather than only short term wage income.

Administratively, the state's Panchayati Raj Department maintains an active Social Audit Unit under the Rural Development Department, with ongoing recruitment for a MGNREGA Social Audit Director at the time of writing, reflecting the continuing emphasis the state places on independent, community based verification of employment scheme implementation, a governance tool this Report considers more valuable in a hill state where the physical dispersal of worksites across difficult terrain makes conventional administrative oversight considerably more resource intensive than in plains states where inspector access is straightforward (Panchayati Raj Department, Government of Himachal Pradesh, 2026). This Report recommends that this Social Audit Unit's mandate be explicitly and formally extended to cover VB G-RAM-G implementation from the outset of the new scheme's operation, rather than requiring a separate administrative transition process once the predecessor MGNREGA's own audit arrangements are fully wound down.

The establishment of a Migration Support Centre through the Deen Dayal Upadhyaya Grameen Kaushalya Yojana scheme, with a retender process underway as of March 2025, separately reflects the state government's recognition that migration, documented in this Report's Chapter 1 and Chapter 3 as a defining feature of Himachal Pradesh's demographic and economic landscape, is not simply a problem to be reduced but a social phenomenon that requires dedicated support infrastructure for the migrants themselves, including information,

pre-departure orientation and return reintegration services (Panchayati Raj Department, Government of Himachal Pradesh, 2026). This Migration Support Centre, this Report notes, offers a natural institutional home for the kind of migration linked family structure support this Report recommended in Chapter 6's discussion of psychological health among migration affected households, and this Report's recommendation in Chapter 21 is that the Centre's mandate be explicitly broadened, once the current retender process concludes, to include coordination with the mental health and family welfare services discussed in Chapter 6, rather than confining its remit to the narrower economic and employment information functions its current design emphasises.

12.3 Rural Housing: PMAY-Gramin and State Schemes

Rural housing in Himachal Pradesh is delivered principally through the Pradhan Mantri Awas Yojana Gramin, the central government's flagship rural housing scheme that absorbed and expanded the earlier Indira Awaas Yojana programme, targeting households living in kutcha and dilapidated dwellings and providing financial assistance for the construction of a permanent, weather resistant house meeting minimum area and facility norms (Ministry of Rural Development, Government of India, 2026). The scheme's implementation in Himachal Pradesh faces the same terrain cost disabilities this Report has documented across every other infrastructure sector, since the higher cost of transporting construction materials to hill and tribal villages, the increased structural requirements for earthquake resistant construction in Seismic Zones IV and V discussed in Chapter 1, and the need for appropriate weather resistant design for the state's extreme winter conditions at high altitude all combine to make the per unit construction cost of a genuinely adequate rural house in Himachal Pradesh materially higher than in plains states, a cost disability that this Report considers should be explicitly reflected in the per unit central assistance formula rather than requiring state beneficiaries to make up the difference from their own modest resources or to accept a structurally inadequate dwelling.

This gap between the scheme's standard, nationally uniform per unit assistance amount and the genuinely higher construction cost facing hill state beneficiaries, this Report notes, mirrors precisely the same structural funding formula mismatch this Report has identified in Chapter 11's discussion of AMRUT and Smart Cities Mission funding for hill towns, and in Chapter 5's discussion of school and Anganwadi centre per unit costs, suggesting a consistent, cross-sectoral pattern in which national scheme design, calibrated primarily around plains state cost assumptions, systematically under-resources genuinely equivalent outcomes in Himachal Pradesh's more difficult terrain, a pattern this Report's consolidated recommendations in Chapter 21 propose the state raise as a formal, unified representation to the relevant central ministries rather than addressing sector by sector in isolation.

Complementing the national scheme, the state government's own Mukhya Mantri Awas Yojana provides state level housing support, and the Rajiv Gandhi Awas Yojana, though now formally succeeded by PMAY, had established a pipeline of rural housing assistance that the state continues to manage through its completion phase. The 2025-26 state budget allocated Rs 128 crore for the Pradhan Mantri Awas Yojana rural housing scheme, a line item that this

Report contextualises alongside the state's overall capital expenditure constraint discussed in Chapter 2, which recorded a 55 per cent reduction in total capital outlay for 2025-26, noting that this allocation level, while representing a continuing commitment to rural housing assistance, may be insufficient to clear any accumulated backlog of sanctioned but uncompleted units of the kind that persists in several districts where construction season is limited to the summer months by winter snowfall (PRS Legislative Research, 2025).

This seasonal construction window constraint, this Report notes, is a further terrain specific factor this Report considers insufficiently reflected in national scheme timelines, since a rural housing scheme with a standard, nationally uniform completion deadline effectively grants Himachal Pradesh's high altitude beneficiaries considerably fewer practical working months in which to complete construction than an equivalent beneficiary in a plains state facing no comparable winter construction shutdown, meaning that even beneficiaries who receive their sanctioned assistance promptly may still find themselves unable to meet a uniform national completion deadline through no fault of their own administrative diligence.

This Report recommends, in Chapter 21, that PMAY-Gramin per unit assistance rates for Himachal Pradesh be revised through the appropriate central government review mechanism to reflect the genuine, terrain-determined construction cost differentials documented throughout this Report, and further recommends that the scheme's completion timelines for high altitude beneficiaries be extended to explicitly account for the reduced annual construction window that winter snowfall imposes in districts such as Lahaul and Spiti, Kinnaur, and the higher elevation subdivisions of Chamba and Kullu.

12.4 Livelihood Promotion: SHGs, Cooperatives and Rural Enterprise

The National Rural Livelihoods Mission, known as Aajeevika at the national level and implemented in Himachal Pradesh through the state's Rural Development Department, provides the principal institutional framework for Self Help Group formation, skill development, microfinance access and rural enterprise promotion across the state (Indiastat, 2026). The broader national programme's emphasis on Lakhpati Didis, aiming to assist at least one crore rural women achieve annual household incomes of at least Rs 1 lakh through skill and enterprise support, extends to Himachal Pradesh's own Self Help Group network and frames the state's ambition for the rural women it reaches not as mere subsistence support but as a pathway toward sustained economic independence, an aspiration consistent with the state's own Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana discussed in Chapter 7.

This Report notes a potentially valuable, though not currently formalised, complementarity between the Lakhpati Didi income target and the direct cash transfer provided under the Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana, since the guaranteed monthly transfer discussed in Chapter 7 could plausibly function as a modest, stable base income that reduces the immediate subsistence pressure on Self Help Group members, potentially freeing up household time and risk tolerance for the kind of enterprise development activity the Lakhpati Didi initiative seeks to encourage, a hypothesis this Report was unable to test against dedicated impact evaluation data but recommends the state's Rural Development

Department examine explicitly, given the two schemes' shared target population of rural women and their potential for mutually reinforcing impact if deliberately coordinated rather than administered as entirely separate programme silos.

Cooperatives represent a distinct and longstanding pillar of rural economic organisation in Himachal Pradesh, rooted in a state tradition of community managed resource sharing that predates the formal cooperative movement, as illustrated by the kuhl irrigation systems discussed in Chapter 10 and the Gaddi community's collective transhumant livestock management discussed in Chapter 1. The state's cooperative sector spans milk procurement cooperatives linked to the Himachal Pradesh Milk Federation, horticultural marketing cooperatives connecting apple growers to market intermediaries, and primary agricultural credit societies providing institutional credit to smallholders who would otherwise depend on informal, high-cost borrowing, all administered through a dedicated Department of Cooperation whose mandate overlaps substantially with both the rural livelihoods and agricultural marketing priorities examined in Chapter 18.

This cooperative structure, this Report notes, connects directly to the milk procurement price support discussed in Chapter 3, since the state's cooperative dairy societies are the principal channel through which the government's minimum support price for cow and buffalo milk actually reaches individual farmers, meaning that the roughly 1.2 lakh litres per day procured through this formal cooperative channel, discussed in Chapter 3, represents only a fraction of total state milk production precisely because cooperative society coverage itself remains incomplete across the state's dairy farming households, a gap this Report considers directly relevant to the informal economy discussion in Chapter 3 and one that strengthening and extending cooperative society reach would meaningfully help to close.

This Report's assessment is that the state's cooperative institutions, while functioning, remain considerably below their potential as vehicles for aggregating the small, fragmented landholdings documented in Chapter 3's discussion of agricultural structure into commercially competitive supply chains capable of competing on quality and consistency rather than price alone, a transformation that Chapter 18 examines in more detail in the context of agricultural value chain development.

12.5 Rural Infrastructure: PMGSY, Connectivity and Market Linkages

The Pradhan Mantri Gram Sadak Yojana, discussed in Chapter 8's comprehensive treatment of the state's road network, is examined here from the perspective of its rural development function rather than its transport infrastructure significance, since the two framings, roads as connectivity infrastructure and roads as rural development investment, are, in a hill state, functionally inseparable. Chapter 8 has already documented that Phase IV of the Pradhan Mantri Gram Sadak Yojana targets 1,438 kilometres of new roads for 294 villages with populations exceeding 250, with Shimla, Kullu and Chamba receiving the largest district level allocations, and that sixteen Sixteenth Finance Commission grants for Himachal Pradesh explicitly include maintenance funding for PMGSY roads, reflecting the long recognised challenge that rural hill roads, once built, require disproportionately frequent and

expensive maintenance relative to plains roads of comparable length (The News Himachal, 2025; Vajiram and Ravi, 2026).

This explicit Finance Commission recognition of PMGSY maintenance funding needs, this Report notes, represents a genuinely important, if easily overlooked, complement to the initial road construction investment discussed in Chapter 8, since a rural road built but subsequently allowed to deteriorate through inadequate maintenance funding delivers a rapidly diminishing connectivity benefit, particularly in terrain subject to the landslide and monsoon damage risk documented throughout this Report, and this Report regards the state's continuing access to dedicated maintenance grants as a necessary, rather than optional, complement to the construction focused targets discussed in Chapter 8.

This Report adds here the specifically rural development dimension of this investment: that for villages still lacking all-weather road access, the connectivity gap translates directly into reduced access to agricultural input markets, lower farm gate prices due to dependence on middlemen who absorb the transport cost disadvantage, restricted access to school, health and government services, and an additional push factor driving the out-migration documented in Chapters 1 and 3.

Market linkage infrastructure, complementing road connectivity, includes the development of rural haats and periodic market facilities at block and Gram Panchayat levels, a programme area this Report was unable to document comprehensively from current, publicly available state government data, an evidentiary gap this Report flags consistent with similar limitations already noted for other rural infrastructure subsectors. This Report notes that the absence of comprehensive data on rural haat and periodic market coverage specifically limits this Report's ability to assess whether the state's considerable investment in physical road connectivity, discussed in Chapter 8, has been matched by a comparable investment in the market infrastructure that connectivity is ultimately intended to serve, since a well connected village without a nearby functioning market still leaves farmers dependent on travelling further afield or selling through intermediary traders who visit the village directly, an intermediary dependence this Report's discussion of horticulture marketing in Chapter 3 has already identified as a persistent constraint on farm gate price realisation.

Cold chain infrastructure for horticultural produce, examined in more detail in Chapter 18, is the most economically significant specific market linkage investment for the state's hill farming communities, and this Report's treatment throughout multiple chapters consistently identifies cold chain investment as a first order rural development priority rather than a merely sectoral agricultural interest, given how directly it determines whether the apple and stone fruit economy's potential value reaches growers or is captured by intermediaries at the expense of already stressed farm incomes.

12.6 Community-Based Development Institutions and Participatory Planning

Himachal Pradesh's rural development architecture is distinguished by a relatively strong, though incompletely realised, tradition of community based planning institutions operating alongside, rather than simply as conduits for, government schemes. The Gram Sabha, the

constitutional body of all voters within a Gram Panchayat's jurisdiction, provides the formal democratic forum within which participatory planning, social audit and public accountability for scheme implementation are supposed to occur, and the Panchayati Raj Department's own operational guidance for Gram Panchayats explicitly covers procedures for Gram Sabha meetings, transparent account keeping and the maintenance of e-Pariwar registers, reflecting an institutional recognition that participatory processes require both legal mandate and administrative infrastructure to function in practice (Panchayati Raj Department, Government of Himachal Pradesh, 2026).

This Report was unable to locate current, disaggregated data on actual Gram Sabha attendance rates or the frequency with which mandated meetings are in fact convened across the state's 3,615 Gram Panchayats, a further instance of the implementation depth data gap this Report has identified throughout its treatment of the Panchayati Raj system in section 12.1, and recommends that the state's Panchayati Raj Department incorporate Gram Sabha meeting frequency and attendance into its regular public reporting, given how directly this specific, granular participation data would allow independent assessment of whether the formal participatory architecture described in the Department's own operational guidance translates into genuinely regular practice at the village level.

Beyond the Gram Sabha, several more specialised community institutions contribute to rural development within the state. Village level Water and Sanitation Committees, formally empowered in many panchayats following the convergence of Jal Jeevan Mission implementation with local governance discussed in Chapter 10, provide community oversight of drinking water infrastructure that this Report considers a genuinely effective accountability mechanism relative to the purely departmental management it supplements. Van Panchayats, community forest management institutions with legal roots in colonial era forest governance, provide a distinct model of participatory natural resource governance that Chapter 13's treatment of forest management examines in full, but whose relevance to rural livelihoods through managed collection and sale of non-timber forest products, discussed briefly in Chapter 3, makes them a significant rural development institution independent of their forest governance function.

This Report notes that these three community institutions, Gram Sabhas, Water and Sanitation Committees and Van Panchayats, together represent a genuinely rich, multi-layered tradition of participatory local institution building in Himachal Pradesh, one considerably more developed than the bare Panchayat Devolution Index score discussed in section 12.1 might suggest on its own, and this Report's assessment is that the state's genuine institutional strength lies less in the formal, top down functional devolution measured by that index and more in this more organic, community anchored layer of specialised participatory institutions, a distinction this Report considers important for policymakers to recognise, since strengthening the state's rural governance further may be more productively pursued by building on and better resourcing these existing community institutions than by pursuing further formal devolution reform through the Zila Parishad and Panchayat Samiti tiers alone.

The state's localisation of the Sustainable Development Goals through the nine thematic Localisation of SDGs modules, promoted by the Panchayati Raj Department and available through its official website including video documentation of specific Gram Panchayat efforts, represents an ambitious attempt to connect the globally agreed development goals framework directly to local planning at the Gram Panchayat level, and this Report's consolidated recommendations in Chapter 21 specifically propose that this Localisation of SDG framework be more systematically incorporated into the state's own district planning processes, so that the thematic priorities identified in this Report across its twenty one chapters find their most granular implementation expression in the Gram Sabha and Gram Panchayat plans that ultimately determine what development actually happens in the villages where the overwhelming majority of Himachal Pradesh's citizens continue to live.

This Report's overall assessment of the rural development and decentralised governance landscape examined throughout this chapter is that Himachal Pradesh possesses a genuinely rich formal and community institutional architecture, spanning a comprehensively legislated Panchayati Raj system, leading national performance on women's political reservation, a diverse cooperative and Self Help Group ecosystem, and a distinctive tradition of specialised participatory institutions extending well beyond the Panchayati Raj system's own formal tiers. What this chapter's analysis has consistently found lacking, however, is the harder, second generation achievement of substantive functional devolution, transparent implementation monitoring data, and nationally calibrated scheme design that adequately reflects the state's genuine terrain cost disabilities, a pattern this Report has now identified as recurring across nearly every sector examined in this Report, and one that this Report's consolidated recommendations in Chapter 21 address as a unified, cross-cutting reform priority rather than a series of unconnected, sector specific gaps.

Chapter 13: Environment and Natural Resource Governance

13.1 Forest Cover, Biodiversity and Wildlife Conservation

Himachal Pradesh occupies a position of exceptional global significance within the biodiversity landscape of the Indian Himalayan Region, a fact increasingly acknowledged in international conservation literature even as the practical challenge of reconciling that significance with the state's continuing development imperatives grows more acute. The Himachal Pradesh Forest Department records total forest cover, assessed through satellite imagery under the biennial India State of Forest Report process, at 15,443 square kilometres, equivalent to 27.73 per cent of the state's geographical area, against a Recorded Forest Area, the land legally classified as forest regardless of actual tree cover, of 37,948 square kilometres, or 68.16 per cent of the state's total area, the wide gap between the two figures reflecting the vast, legally protected tracts at high altitude that lie above the tree line and therefore carry no satellite detectable vegetation cover (Himachal Pradesh Forest Department, 2026).

This gap between actual tree cover and legally recorded forest area, this Report notes, is a genuinely important distinction for policy purposes, since the roughly 22,500 square kilometre difference between the two figures represents land that carries the full legal protections and restrictions of forest classification, discussed further in this section's treatment of Scheduled Tribe and forest rights governance in Chapter 7, without corresponding to the kind of biomass rich, carbon sequestering forest that a simple headline forest cover percentage might suggest, a distinction this Report considers essential for any reader seeking to compare Himachal Pradesh's forest statistics against those of a plains or lower altitude state where recorded forest area and actual canopy cover typically align much more closely.

The India State of Forest Report 2023, the eighteenth edition of the Forest Survey of India's biennial national assessment, records that Himachal Pradesh has the third highest per hectare carbon stock among all Indian states and union territories, at 163.68 tonnes per hectare, exceeded only by Jammu and Kashmir at 174.10 and Sikkim at 169.20, a ranking that places the state's forests, measured by their carbon density, among the most ecologically valuable in the country regardless of their relatively modest share of national forest area (Forest Survey of India, 2023). This carbon density ranking, this Report notes, carries direct relevance to the state's broader climate mitigation credentials discussed in Chapter 9's treatment of the state's forest carbon stock increase of 79 million tonnes between 2017 and 2023, since a state whose forests sequester carbon at a rate exceeded by only two other Indian jurisdictions possesses a genuinely significant national climate asset, one this Report considers should command a correspondingly significant share of national and international climate finance directed toward forest conservation, a possibility this Report's recommendations in Chapter 21 identify as an underexploited revenue opportunity for the state.

The same report records forest cover growth in Himachal Pradesh of 333.52 square kilometres compared with the previous assessment in the India State of Forest Report 2019,

attributed primarily to plantation activity and conservation efforts, making the state one of a smaller number of Himalayan states that showed net forest cover expansion rather than contraction in that reporting period, a finding described by independent analysis as evidence of the state's balanced combination of managed forest use and ecosystem conservation relative to the greater fragility visible in comparable neighbouring states such as Uttarakhand (Geohimachal, 2025). This comparative resilience relative to Uttarakhand specifically, this Report notes, sits in an interesting tension with the broader pattern this Report has documented throughout, in which Himachal Pradesh's hill terrain infrastructure and governance challenges are generally comparable to, rather than more favourable than, those facing Uttarakhand, suggesting that forest cover trend specifically may be one of the few domains in which Himachal Pradesh's management record has genuinely outperformed its closest demographic and geographic peer state, a divergence this Report recommends be studied explicitly to identify which specific forest management practices might be transferable to other comparably placed Himalayan states.

The ecological value of this forest cover extends well beyond its carbon density. The Himachal Pradesh Forest Department records the state's forests as home to over 7 per cent of India's reported 45,000 floral species, with more than 95 per cent of those species endemic to the western Himalayan region, a level of floristic endemism that places the state within a globally recognised biodiversity hotspot (TERI, 2020). Faunal diversity is equally rich, encompassing the snow leopard, Himalayan brown bear, Himalayan tahr, Himalayan ibex, musk deer and the western tragopan, a pheasant that serves as the state bird and whose conservation status is classified as vulnerable on the International Union for Conservation of Nature Red List (TERI, 2020; Himachal Pradesh Forest Department, 2026).

The state's protected area network, comprising five national parks, including the Great Himalayan National Park in Kullu district inscribed as a UNESCO World Heritage Site in 2014 and the Pin Valley National Park in Lahaul and Spiti, and between 28 and 32 wildlife sanctuaries, provides a formal conservation framework for this biodiversity, and the Himachal Pradesh Forest Department is actively implementing the SECURE Himalaya Project, a UNDP supported initiative specifically targeting conservation of snow leopard and other globally significant high altitude species in Lahaul and Spiti, upper Kinnaur and the Pangri valley in Chamba, through a combination of habitat assessment, community co-management and wildlife crime enforcement capacity building (Himachal Pradesh Forest Department, 2026). This geographic targeting of the SECURE Himalaya Project, concentrated specifically in Lahaul and Spiti, upper Kinnaur and Pangri, aligns closely with the same remote, high altitude tribal districts this Report has repeatedly identified across Chapters 1, 6, 7 and 8 as facing the state's most acute infrastructure and service delivery gaps, suggesting a genuine, if likely unintentional, alignment between the state's most biodiversity significant landscapes and its most development constrained human communities, a coincidence this Report considers should inform a more deliberately integrated conservation and human development strategy for these specific districts rather than treating wildlife conservation and human welfare policy as separate workstreams.

The department has separately completed a Participatory Monitoring Protocol for snow leopard and associated species in collaboration with the Wildlife Institute of India, and has commissioned TRAFFIC India to assess and strengthen the enforcement mechanisms available to wildlife crime agencies within the state, reflecting a recognition that the state's wildlife protection capacity has not always matched the legal and conservation significance of the species it is mandated to protect (Himachal Pradesh Forest Department, 2026).

Community forestry has a long and distinctive history in Himachal Pradesh, predating by several decades the national Joint Forest Management policy introduced in 1990. Cooperative Forest Societies involving local people in the management of forests were constituted in Kangra district as early as 1940, and the tradition of Deo Van, or sacred forests managed by village communities, is documented across much of the middle hill belt (TERI, 2020). Van Panchayats, legally constituted community forest management institutions, provide the most widespread contemporary expression of this tradition, managing defined forest tracts for non-timber forest product collection, fuelwood access and local ecological protection at the village level, and their status as significant rural development institutions, noted in Chapter 12's treatment of community based development institutions, reflects the dual function these bodies serve as both ecological and livelihood governance mechanisms.

Joint Forest Management was formally initiated in Himachal Pradesh in 1993 and subsequently strengthened through the Sanji Van Yojana or participatory forest management scheme in 1998, establishing a network of community based forest protection and management institutions that work alongside, rather than replacing, the Van Panchayat network (TERI, 2020). Despite this long participatory management history, an important independent conservation assessment has documented that the populations of several large mammal species, including Himalayan brown bear, Himalayan tahr, Himalayan ibex and musk deer, appear to have declined markedly across significant areas of the state compared with historical records, attributing this to habitat destruction driven by domestic grazing pressure, timber extraction, road construction and the extension of agriculture into temperate forest zones, with the assessment specifically noting that snow leopard had disappeared entirely from the Inner Seraj area of Kullu district at the time of observation, a finding this Report treats as a conservation warning signal of considerable gravity in a state whose tourism and green credentials are built in no small part on its wildlife heritage (ResearchGate, 2020).

This local extirpation of snow leopard from a specific, named area, rather than a generalised statement of decline, is, in this Report's assessment, a particularly consequential finding precisely because of its specificity, since it demonstrates that the broader, more diffuse decline trends documented for other large mammal species can, in the most severely affected localities, culminate in complete local extinction, a threshold considerably more difficult to reverse than a population decline that has not yet reached zero, and this Report recommends that any current wildlife population assessment the state commissions specifically verify whether snow leopard presence has been confirmed or remains absent in the Inner Seraj area today, as a direct test of whether the decline trajectory documented in the cited assessment has continued, stabilised or reversed in the years since.

This Report recommends, in Chapter 21, that the state's Forest Department commission and publish a current, district level wildlife population assessment using standardised methodology, so that the trends visible in older academic assessments can be evaluated against contemporary baseline data and targeted conservation investment directed toward the most acutely declining species and habitats.

13.2 Land Use Change, Soil Degradation and Land Resource Management

Land use change in Himachal Pradesh is driven by an interlocking set of pressures that this Report's earlier chapters have documented from their own sectoral perspectives but that require examination here in their combined environmental consequences. Agricultural land use is expanding into formerly forested and degraded areas as the intensification of horticulture, discussed in Chapter 3 and examined further in Chapter 18, pushes orchard development onto steeper slopes and higher altitudes that were previously under natural vegetation, a process documented in a detailed land use and land cover change assessment for the Sainj River Valley in Kullu district, which found marked shifts from natural vegetation to agriculture and settlement between 1989 and 2020 as captured by Landsat satellite imagery, with the valley's biodiversity core visibly fragmented by the expansion of productive land uses over the same period (ResearchGate, 2020).

This upward migration of orchard cultivation into higher, previously forested altitude bands, this Report notes, connects directly to the winter chilling hour and climate stress discussion in Chapter 3, since growers seeking cooler microclimates for apple cultivation as lower altitude chilling hours decline face a direct incentive to expand into exactly the higher altitude forested land whose conversion this section identifies as ecologically costly, creating a structural tension between the horticulture sector's own climate adaptation strategy and the forest and biodiversity conservation priorities discussed in section 13.1, a tension this Report considers requires deliberate, zoned land use planning rather than allowing market driven orchard expansion to determine the pace and location of this land conversion unchecked.

Road construction, examined in Chapter 8 as a connectivity and economic development priority, simultaneously functions as a significant and poorly accounted driver of slope destabilisation and forest fragmentation in mountain terrain, since the cuts and fills required to align a road across steep Himalayan gradients inevitably expose unstable soil and rock faces whose long term stability under the monsoon precipitation discussed in Chapter 1 is considerably lower than the original, undisturbed slope, a dynamic that successive monsoon seasons of the severity documented in this Report's preface and Chapter 1 have repeatedly converted from a theoretical risk into documented landslide events on newly opened road alignments.

This Report notes that the tension between road connectivity, discussed extensively and favourably in Chapter 8 as a development priority, and slope destabilisation, discussed here as an environmental cost, represents one of the more genuine trade-offs this Report has identified across its full range of chapters, since the same last mile road connectivity this Report's Chapter 8 recommendations identify as urgently needed for the state's most isolated

villages inherently carries a slope stability cost that, absent adequate engineering safeguards, including proper drainage, retaining structures and bioengineering slope stabilisation techniques, can itself become a source of the very landslide risk that road connectivity is otherwise meant to help communities escape by providing faster evacuation and emergency access, and this Report's recommendation is that all future rural road construction under the Pradhan Mantri Gram Sadak Yojana and state road schemes discussed in Chapters 8 and 12 incorporate mandatory slope stabilisation engineering standards specifically calibrated to Himachal Pradesh's geology, rather than applying generic national road construction standards designed primarily for plains terrain.

Soil degradation is most acute in three specific land use contexts. Riverbed sand and gravel extraction, examined in more detail in section 13.3 and 13.4, directly degrades alluvial soils along the state's major river valleys, removing the fine sediment that sustains riparian agriculture and lowering the water table in areas where shallow groundwater depends on riverbed infiltration. Agricultural intensification on terraced hillsides, particularly the conversion from rain-fed cereal crops to higher value but more chemical input demanding horticultural production, has increased nutrient loading and pesticide runoff on slopes where natural drainage channels are short, steep and directly connected to streams and rivers, with downstream water quality implications discussed in section 13.5. Uncontrolled livestock grazing in alpine meadows above the tree line, a centuries old practice by Gaddi, Gujjar and other transhumant pastoral communities discussed in Chapter 7, has, in the most heavily used pastures, contributed to vegetation loss and surface erosion at altitudes where soil formation rates are extremely slow relative to the geological and ecological timescales needed to restore degraded high altitude turf.

This alpine grazing pressure, this Report notes, sits in a particularly delicate policy position given the Fifth Schedule protections and traditional livelihood rights discussed in Chapter 7's treatment of Scheduled Tribe welfare, since any grazing restriction imposed to address alpine soil degradation risks directly curtailing the traditional transhumant pastoral livelihoods of exactly the tribal communities whose land and forest access rights this Report's Chapter 7 discussion has already identified as requiring stronger, rather than weaker, protection, meaning that any alpine grazing management intervention must be designed in genuine partnership with the affected Gaddi and Gujjar communities themselves, rather than imposed as an external conservation mandate that treats traditional pastoral practice as simply an environmental problem to be restricted.

The Himachal Pradesh Forest Department's SECURE Himalaya Project specifically includes a component on defining the extent and intensity of habitat degradation and developing a mitigation plan for alpine and sub-alpine areas, addressing this last category of land degradation at its most ecologically significant elevation (Himachal Pradesh Forest Department, 2026). The state's natural farming mission, discussed in Chapter 3 and further in Chapter 18, simultaneously addresses the chemical input dimension of soil degradation in productive agricultural areas by actively encouraging conversion away from synthetic fertiliser and pesticide use, a land resource management intervention whose environmental

co-benefits this Report considers should be more systematically measured and reported alongside the scheme's primary agricultural income and public health objectives.

13.3 Water Bodies, Wetlands and River Ecosystem Health

The health of Himachal Pradesh's river systems is the single most consequential environmental governance challenge documented in this chapter, and it is also the one on which the state's own regulatory record is most publicly and critically scrutinised. The Supreme Court of India has expressed deep concern about the state of environmental degradation in Himachal Pradesh, with the bench of Justices J.B. Pardiwala and R. Mahadevan specifically warning that environmental degradation in the state had reached a critical stage and that the state could, in the bench's own words, vanish in thin air if urgent corrective action was not taken, adding that revenue generation could not be permitted to come at the expense of ecological destruction (The News Himachal, 2025).

This judicial characterisation, delivered by the country's highest court in language of unusual severity, this Report considers should be read as a formal, authoritative signal that the state's environmental governance gaps documented throughout this chapter have now attracted the most serious level of national institutional attention available within India's constitutional system, and this Report regards the Supreme Court's specific framing, that revenue generation cannot be permitted to come at the expense of ecological destruction, as directly relevant to this Report's own recurring observation, across Chapters 3, 4 and 9, that the state's hydropower, cement and construction material extraction revenue streams carry environmental costs that current fiscal and revenue reporting, discussed in Chapter 2, does not appear to internalise or offset through dedicated environmental restoration funding.

The National Green Tribunal has separately and repeatedly intervened on matters of riverbed mining regulation in the state, and both bodies have specifically linked unscientific and unregulated riverbed extraction of sand, gravel and stone from rivers including the Beas, Sutlej, Ravi and Swan to the intensified flash floods documented in Chapter 1 and Chapter 14, since the removal of riverbed material destabilises banks, accelerates erosion and deposits loose sediment downstream where it magnifies inundation during monsoon high flow events (The News Himachal, 2025; Nimbusias, 2025).

Specific documented consequences of unregulated riverbed extraction include severe bank erosion and channel widening along sections of the Swan River in Una district, undermining of the foundations of bridges and irrigation structures along the Chakki River in Kangra district, destruction of fish breeding grounds and loss of aquatic biodiversity through increased water turbidity in rivers across the Kangra, Mandi, Solan and Sirmaur districts where extraction is most intense, and falling water tables in agricultural areas adjacent to intensively mined riverbeds, with the Yamuna riverbed in Sirmaur district specifically documented as a location where excessive extraction has reduced groundwater availability for irrigation borewells (Nimbusias, 2025).

Separate from extraction pressure, the hydropower sector's diversion tunnels and run-of-river diversions, discussed in Chapter 9, have been documented in community surveys conducted

by organisations including Down To Earth as causing the drying of springs and irrigation kuhls whose water source is the same hillside aquifer that a headrace tunnel passes through, an indirect hydrological impact that is more difficult to monitor and regulate than direct riverbed extraction but is cumulatively significant across the state's dense network of run-of-river hydropower infrastructure (Down To Earth, 2026). This spring and kuhl drying phenomenon, this Report notes, carries a direct and troubling connection to the kuhl irrigation revival this Report's Chapter 10 recommendations identify as a cost effective climate adaptation investment, since a kuhl rehabilitation programme invested in restoring a traditional irrigation channel whose underlying water source has itself been dried by a nearby hydropower headrace tunnel would represent a wasted investment addressing the visible symptom, channel disrepair, rather than the underlying cause, hydrological diversion, and this Report recommends that any future kuhl revival programme first verify that the source spring or stream feeding each candidate kuhl retains adequate flow, rather than assuming historical water availability continues to hold given the hydropower diversion pressure documented here.

The state's wetlands, including the Renuka Lake in Sirmaur district, the Pong Dam reservoir in Kangra district, designated as a Ramsar wetland of international importance, and the high altitude lakes of Lahaul and Spiti including Chandertal, subject of a dedicated integrated management plan prepared with support from the Wetlands International South Asia, represent a further dimension of water body governance requiring sustained attention (Himachal Pradesh Forest Department, 2026). This Report was unable to locate current, publicly available water quality assessment data for these wetlands of sufficient comprehensiveness to characterise their ecological status with confidence, and recommends, consistent with evidentiary gaps already identified in Chapter 10, that the Himachal Pradesh Pollution Control Board publish regular, publicly available water quality monitoring data for the state's designated wetlands alongside its industrial and sewage treatment plant monitoring obligations, so that wetland ecological status can be tracked over time rather than assessed only when a visible degradation event triggers an inquiry or legal challenge.

13.4 Mining and Mineral Resource Governance

Mining governance in Himachal Pradesh spans two distinct regulatory streams. Major minerals, defined as those specified in the schedule to the Mines and Minerals Development and Regulation Act of 1957 and including limestone as the state's most commercially significant example, fall under central legislative jurisdiction with state level administration, while minor minerals, defined under the Minor Mineral Concession Rules and including river sand, gravel, stone and building materials as the most economically and ecologically significant categories within Himachal Pradesh, are regulated entirely at the state level under the Himachal Pradesh Minor Minerals Concession and Minerals Prevention of Illegal Mining, Transportation and Storage Rules of 2015 (Government of Himachal Pradesh, Department of Mining and Geology, 2026).

Applications for mining leases for minor minerals are processed through a Joint Inspection Committee chaired by the concerned Sub-Divisional Magistrate, whose recommendations

trigger a letter of intent conditional on the completion of forest and environmental clearances before any lease is granted and executed (Government of Himachal Pradesh, Department of Mining and Geology, 2026). This Sub-Divisional Magistrate chaired committee structure, this Report notes, embeds mining lease decision making within the state's general administrative hierarchy rather than within a dedicated, specialised environmental or geological technical body, a structural choice that offers the advantage of local administrative accountability but the corresponding disadvantage of relying on generalist administrative officers, rather than dedicated geological or hydrological specialists, to assess the specific environmental risk profile of each proposed extraction site, a limitation this Report considers relevant to understanding why the enforcement gaps documented later in this section persist despite a facially reasonable approval process.

The Emerging Himachal Department of Industries portal further describes the state government's use of a technology driven Mineral Transport Management System intended to ensure real time digital tracking of mineral transit from mine to destination, specifically framed as a mechanism to prevent illegal diversion of legally extracted material and to support the verification of Environmental Impact Assessment clearance compliance across the state's extensive limestone and minor mineral extraction network (Emerging Himachal, 2026).

Despite this regulatory architecture, illegal mining, primarily of river sand and gravel driven by the booming construction demand associated with the state's own infrastructure programmes, tourism hotel expansion and residential construction in hill towns, is consistently documented by investigative media, academic researchers and judicial bodies as a persistent and serious governance failure. This Report notes the genuine irony embedded in this pattern, that the very infrastructure and tourism investment this Report has championed throughout its other chapters, the highway four-laning discussed in Chapter 8, the urban housing expansion discussed in Chapter 11, and the hotel and hospitality growth discussed in Chapter 3 and Chapter 19, together constitute the principal demand driver for exactly the illegal sand and gravel extraction this section identifies as causing severe river ecosystem damage, meaning that the state's construction material supply chain requires a deliberate strategy for sourcing legally extracted, sustainably managed aggregate at the scale this ongoing development agenda demands, rather than allowing continued reliance on illegal extraction to fill the gap between legal supply and actual construction material demand.

The most specific documented examples cited in current reporting include the Una district's Swan River, where persistent illegal extraction has caused extensive and ongoing bank degradation, the Kangra district's Chakki River bridge, whose structural foundations have been repeatedly threatened by nearby sand extraction, and the Mandi and Kangra districts more broadly, where haphazard hillside mining blasting is linked to increased landslide incidence during the monsoon season (Nimbusias, 2025). Communities near quarry sites in Solan district specifically report respiratory illness from dust generated by stone crushers and heavy vehicle traffic on unsurfaced access roads, illustrating the direct public health dimension of inadequate mining pollution control that sits alongside the ecological and hydrological impacts discussed above (Nimbusias, 2025).

The state's own Directorate of Geology oversees the scientific management mandate for major mineral operations alongside the Department of Industries, with an Environment Management Plan framework requiring Environmental Impact Assessment clearance for larger extraction operations, and the 2015 minor minerals rules providing a statutory basis for penalty and closure action against violators (Emerging Himachal, 2026). This Report's assessment, consistent with the Supreme Court's own characterisation of the state of environmental degradation in the state, is that the gap between the regulatory framework that exists on paper and the actual ecological outcomes documented in riverbed, air quality and groundwater monitoring data remains large, and that closing this gap requires not only stronger enforcement capacity within the Directorate of Geology and the Himachal Pradesh Pollution Control Board but a structural shift toward greater public transparency in the real time monitoring of both legal and illegal extraction, of the kind that digital mineral transport management systems, properly implemented and publicly reported, could in principle deliver.

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

The Himachal Pradesh State Pollution Control Board, constituted in 1975 under the Water Prevention and Control of Pollution Act of 1974 and subsequently operating under the Environment Protection Act of 1986, serves as the state's primary environmental regulatory authority across all pollution categories, responsible for monitoring air and water quality, regulating industrial and municipal waste streams including biomedical, plastic, hazardous, electronic waste and construction waste, and issuing the Consent to Establish and Consent to Operate approvals that determine whether any new industrial or infrastructure installation may legally commence and continue operations (HPSPCB, 2026; Susbio, 2025).

The Board has in recent years moved toward digital modernisation, implementing a Himachal Pradesh Online Consent Management and Monitoring System through which water, air, hazardous waste and solid waste samples are integrated into a single platform, consent orders are issued with QR codes and digital signatures after approval, and standard operating procedures are documented electronically rather than through paper based processes, a digitalisation effort this Report regards as a genuinely positive governance improvement whose real world environmental impact depends entirely on whether the data the system collects is acted upon promptly when it reveals violations (HPSPCB, 2026). This qualification, that digital monitoring infrastructure delivers real environmental benefit only if it is paired with a functioning, adequately resourced enforcement response to the violations it detects, is, in this Report's assessment, directly relevant to the persistent gap between regulatory framework and enforcement outcome this Report has documented throughout section 13.4's treatment of mining specifically, since a sophisticated digital tracking system that flags an illegal mineral shipment delivers no environmental protection benefit if the responsible enforcement authority lacks the staffing or political backing to act on that flag promptly.

The Board has separately announced a ban on PET water bottles in government institutions and issued a draft notification on fuel policy in May 2025, along with a public notice directed at manufacturers, producers, refurbishers and recyclers of electronic waste, indicating active

regulatory attention to the newer waste streams that a growing urban and tourist economy generates (HPSPCB, 2026).

The state's most significant and most complex air quality and waste management challenge arises from the concentration of pharmaceutical and fast moving consumer goods manufacturing in the Baddi-Barotiwala-Nalagarh belt discussed throughout this Report. Pharmaceutical manufacturing generates solvent vapours, particulate matter and chemically complex process effluents whose treatment requires specialised infrastructure beyond the capacity of a conventional industrial estate common effluent treatment plant, and the Board's Consent to Operate framework is the primary mechanism through which individual plant compliance with emission and effluent standards is verified and, where necessary, enforced, a function the Board discharges alongside the threat, explicitly documented in its own public communications, of prosecution, imprisonment or operational shutdown for persistent non-compliance (Susbio, 2025).

This concentration of chemically complex pharmaceutical process waste within a single, geographically compact industrial belt, this Report notes, represents precisely the kind of specialised, high consequence pollution monitoring challenge that the Board's broader, state-wide monitoring mandate must be adequately resourced to address with commensurate technical specificity, since the general environmental monitoring competence appropriate to the state's more dispersed, lower intensity pollution sources elsewhere is unlikely to be sufficient for detecting and characterising the specific chemical signatures that pharmaceutical manufacturing effluent can generate, and this Report recommends, in Chapter 21, that the Board maintain a dedicated, specialist pharmaceutical effluent monitoring unit specifically resourced and trained for the Baddi-Barotiwala-Nalagarh belt, rather than relying solely on its general purpose regional monitoring capacity for this uniquely concentrated and technically demanding industrial cluster.

Cement plant operations in Bilaspur, Solan and Sirmaur districts generate a separate and historically significant air quality challenge in the form of cement dust and stack emissions, with communities near major plants long documenting respiratory health concerns attributable to particulate exposure, and with the Board's air quality index monitoring, published on its official website, providing the primary public evidence base for assessing whether ambient air quality standards around these facilities are being met in practice (HPSPCB, 2026).

Noise pollution, while legislatively covered under the Noise Pollution Regulation and Control Rules of 2000 under which the Board has regulatory responsibility, was not subject to any publicly available, comprehensive monitoring or compliance data specific to Himachal Pradesh that this Report was able to locate, a gap this Report considers significant given the documented community health concerns around mining blasting activity discussed in section 13.4 and around vehicular noise in congested tourist towns discussed in Chapter 8 and Chapter 11.

13.6 Coastal and Marine Resource Management

Himachal Pradesh is a landlocked mountain state with no coastline, no tidal zone and no marine territory, and this section of the standardised framework template therefore requires explicit acknowledgment that it cannot be applied to Himachal Pradesh in the form in which it was designed for coastal states. This Report declines to manufacture a relevance for coastal and marine resource management where none exists geographically, and instead uses this section to address the riverine and freshwater resource dimension that is, for Himachal Pradesh, the functional equivalent of the coastal and marine resource governance challenges that the template addresses for states such as Kerala or Goa.

The state's rivers, examined in section 13.3 from an ecosystem health perspective, also constitute a form of shared resource requiring governance frameworks that span both Himachal Pradesh's own jurisdiction and the downstream interests of Punjab, Haryana, Rajasthan and other water dependent states to which the Beas, Sutlej, Ravi, Chenab and Yamuna ultimately flow, a trans-boundary resource governance dimension most directly visible in the Bhakra Beas Management Board's joint management of the Bhakra and Beas dam systems discussed in Chapter 4.

The freshwater fisheries of the state's rivers, primarily cold water trout and the mahseer species historically regarded as among the sport fishing world's most prized freshwater fish, represent both an ecological indicator of river health and a potential ecotourism and rural livelihood asset whose current status is under pressure from the hydrological disruption, increased water turbidity and habitat destruction documented in section 13.3. This mahseer sport fishing tradition specifically, this Report notes, connects to a broader, currently under-promoted ecotourism asset this Report's Chapter 8 discussion of reservoir based recreational boating and Chapter 19's treatment of tourism diversification have both touched upon separately, and this Report considers a well managed, catch-and-release regulated sport fishing tourism offering, contingent on genuinely restoring the river health that current mining and hydropower pressures are degrading, could represent a meaningful, high value, low environmental footprint addition to the state's tourism portfolio, provided river ecosystem health is restored to a level capable of sustaining a genuinely healthy mahseer and trout population rather than the currently degraded status this section has documented.

CHAPTER 14: CLIMATE CHANGE AND ECOLOGICAL SECURITY

14.1 State Climate Vulnerability and Risk Profile

No chapter of this Report is more consequential, or more supported by the weight of converging evidence from government, scientific and independent sources, than this one. Himachal Pradesh is, without qualification, among the most climate vulnerable territories in India, and the evidence for that vulnerability has, between the preparation of the state's first generation climate policy documents in the early 2010s and the present day, moved from projection to lived reality at a pace that even the more alarming scientific assessments of the previous decade did not fully anticipate. The Himachal Pradesh Human Development Report 2025, prepared by the state's Department of Environment, Science, Technology and Climate Change in collaboration with the United Nations Development Programme and released in October 2025, documents cumulative disaster related losses of Rs 46,000 crore over the four years preceding its publication, a figure the report explicitly attributes to natural disasters driven by climate change, while separately recording that approximately 1,700 people lost their lives across the five most recent monsoon seasons to weather related events in the state (The Tribune, 2025).

The same report notes that 70 per cent of the state's traditional water sources, the springs, seasonal streams and natural seeps that have sustained hill village agriculture and drinking water supply for centuries, are drying up or under severe duress due to erratic precipitation patterns and the loss of the cold season snowpack that has historically recharged them through summer meltwater, a finding so structurally significant that this Report considers it deserves emphasis beyond the narrower disaster loss statistics: that Himachal Pradesh is losing not only crops, roads and houses in each successive monsoon but the foundational hydrological infrastructure on which its villages have depended since they were settled (The Tribune, 2025).

The scientific basis for this vulnerability rests on three intersecting physical processes. First, and most consequential over the long term, is the accelerating retreat of the Himalayan glaciers that ultimately regulate the seasonal flow of the Beas, Sutlej, Chenab, Ravi and Yamuna river systems whose water and hydropower value underpins the state's economy as described throughout this Report. The Hindu Kush Himalaya region as a whole experienced a 12 per cent decline in glacial cover between 1990 and 2020, with glacial melting having nearly doubled over the past two decades, while the Indian Space Research Organisation's own Glacial Lakes Atlas identifies approximately 2,400 glacial lakes across the Himalayan region, of which 601 have doubled in size and are assessed as carrying a material risk of Glacial Lake Outburst Floods of the kind that devastated Sikkim in October 2023, when permafrost erosion and a landslide into South Lhonak Lake produced a flood surge 20 metres in height that destroyed the Teesta III dam, killing at least 90 people and inundating 276 square kilometres of agricultural land (Daily Pioneer, 2026; ICIMOD, 2026). Rapid glacier retreat is documented specifically in districts including Kinnaur, Lahaul and Spiti and Kullu,

the same districts where the state's most ambitious hydropower projects are concentrated, creating the darkly ironic prospect of the state's primary revenue generating infrastructure outlasting the glacial water source it depends upon if the current rate of ice loss continues into the second half of this century (The News Himachal, 2025). Scientific projections suggest that meltwater contributions to river flows will increase temporarily through enhanced melting until approximately mid-century, producing initially higher and more erratic flood flows of the kind already visible in current monsoon seasons, before declining sharply thereafter as the ice reserves themselves become depleted, posing severe and eventually irreversible risks to water availability for the state's own residents and for the hundreds of millions of people in the plains states below who depend on these rivers for irrigation and drinking water (ScienceDirect, 2025).

Second, the intensity and spatial distribution of precipitation within the state's monsoon season is changing in ways that convert rainfall from an agricultural resource into a recurring hazard. The state recorded 436 per cent above normal rainfall over just three days, from 7 to 10 July 2023, triggering landslides, flash floods and losses that formed part of the broader Rs 46,000 crore four year total cited above, while the 2025 monsoon season brought 68 per cent above normal rainfall in August 2025 alone, making it the ninth highest August rainfall in Himachal Pradesh since 1901 and the highest since 1949, with the State Emergency Operation Centre recording 91 flash floods, 45 cloudbursts and 93 major landslides during the season through mid-September 2025, resulting in Rs 4,465 crore in damages and the loss of 386 lives, of which 218 were attributable directly to rain related disasters including landslides, flash floods and cloudbursts (The Federal, 2026; Mongabay India, 2026; Business Standard, 2025; Devdiscourse, 2025). Of the 2025 monsoon season's 46 documented cloudburst events, 19 struck Mandi district alone, with 12 in Kullu and 6 in Chamba, and a single day in Mandi's remote Seraj area saw 10 cloudbursts, a concentration of extreme rainfall events that, while attributable in immediate meteorological terms to mesoscale convective systems, is increasingly recognised by climate scientists as part of the broader pattern of intensifying precipitation extremes associated with Himalayan warming (The Federal, 2026). Rainfall intensity across the broader Indian Himalayan region has increased by an estimated 15 to 20 per cent since the 1950s, a trajectory this Report treats as a structural change to the state's precipitation regime rather than as year to year weather variability (Daily Pioneer, 2026).

Third, rising temperatures are simultaneously extending the snowmelt season, reducing snowpack depth and persistence, accelerating permafrost thaw on steep slopes, reducing the number of winter chilling hours required for apple and stone fruit production as documented in Chapter 3, and reducing the reflective albedo of snow covered surfaces in ways that feed back into further local warming, each of these consequences further compounding the other two and together producing a physical environment that is becoming measurably less stable, less predictable and less hospitable to the agricultural and hydrological systems on which the state's economy and its people's livelihoods depend. Black carbon particles from vehicular emissions, biomass burning and the heavy construction activity accompanying the state's ongoing infrastructure programme settle on snow and ice surfaces, reducing reflectivity and

accelerating melting beyond what greenhouse gas warming alone would produce, a finding highlighted in a scientific assessment titled *Scientific Assessment of Tackling Non-CO2 Emissions: Pathways for Himachal Pradesh*, released in February 2026 and acknowledged by Chief Minister Sukhvinder Singh Sukhu, who specifically cited unprecedented cloudbursts, flash floods and shrinking glaciers as clear warning signals of accelerating climate change that his government is committed to addressing (The News Himachal, 2026).

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

Himachal Pradesh's first formal climate policy document, the State Strategy and Action Plan on Climate Change, was prepared in 2012 by the state's Department of Environment, Science and Technology, following the direction issued by the Prime Minister of India in 2009 for all state governments to develop comprehensive state level climate action plans aligned with the National Action Plan on Climate Change (Government of Himachal Pradesh, 2012; SCOPE, 2025). This document addressed key economic and livelihood sectors including agriculture, water, energy, transport and forestry, detailing proposed actions, timelines and budgets for the five year period following its adoption, and represented a genuine, if necessarily preliminary, attempt to translate national climate policy ambition into state specific implementation commitments across a government whose fiscal and technical capacity to take on additional planning obligations was, even in 2012, considerably more constrained than that of larger, more resource rich states (SCOPE, 2025). Academic assessment of the first generation State Action Plan on Climate Change framework nationally notes that most states completed their plans between 2010 and 2012, often with external consultant support provided by bilateral development agencies, and that the focus subsequently shifted toward implementation, where the promised central funding to support state climate action had not materialised at anywhere near the scale the national framework implied, leaving states including Himachal Pradesh to implement climate adaptation and mitigation commitments from their own, increasingly strained budgets rather than from the dedicated central climate financing the original framework had implicitly assumed (SCOPE, 2025).

Himachal Pradesh has now moved further than any other Indian state in embedding climate vulnerability directly into its human development planning framework, through the 2025 Human Development Report's introduction of a Climate Adjusted Human Development Index, discussed in Chapter 1, a methodological innovation that the United Nations Development Programme has specifically highlighted as a model for other climate vulnerable states nationally and internationally (Government of Himachal Pradesh and United Nations Development Programme, 2025). Complementing this, the state's Department of Health and Family Welfare has separately prepared a State Action Plan on Climate Change and Human Health, which establishes a dedicated State Climate Change and Human Health Cell under the Directorate of Health Services, maps current and projected vulnerabilities of the state's population to climate sensitive disease and extreme weather related injury, and provides a five year implementation framework for building climate responsive health services, explicitly targeting vulnerable groups including children, women and marginalised

populations (National Centre for Disease Control, 2025). These two planning instruments, the Climate Adjusted Human Development Index and the State Action Plan on Climate Change and Human Health, together represent what this Report considers a genuine and substantive second generation evolution of Himachal Pradesh's climate policy framework, moving beyond the sector by sector action plan template of the 2012 document toward an integrated, human centred approach that treats climate change not as an environmental externality to be managed separately from development planning but as a fundamental determinant of whether the state's development gains can be sustained.

The state government has further announced a comprehensive scientific study to analyse the rate of glacier melting and its specific implications for river flow and flood management within the state, to be conducted by a team of national and international scientists drawn from reputed institutions and including young researchers embedded in the state's own academic ecosystem, a commitment the Chief Minister's Principal Advisor has publicly framed as motivated by the recognition that large scale infrastructure projects including road construction and hydropower development close to the snowline are contributing to the destabilisation of glacial environments alongside broader global warming drivers (The Federal, 2026). This Report considers this proposed study both necessary and overdue, and recommends, in Chapter 21, that its scope explicitly include the production of a publicly accessible, district level Glacial Lake Outburst Flood risk mapping product comparable to the ISRO national atlas, so that the district specific spatial planning implications of glacial lake expansion in Kinnaur, Lahaul and Spiti and upper Kullu can be incorporated directly into town planning, road alignment and hydropower project siting decisions rather than remaining abstract scientific findings detached from land use governance.

14.3 Disaster Risk Profile: Hazard, Exposure and Vulnerability Mapping

Himachal Pradesh's disaster risk profile is multi-hazard in character, combining geological, hydrological, climatological and technological risk categories in a compound exposure profile that few Indian states of comparable size can match in terms of sheer diversity of hazard types. The state's seismic exposure, discussed in Chapter 1's examination of geographic characteristics, places it across Zones IV and V under the Bureau of Indian Standards classification, with districts including Kangra, Chamba, Hamirpur, Mandi, Kullu and parts of Kinnaur in the highest nationally recognised seismic hazard category, a classification whose real world implications the 1905 Kangra earthquake, which killed close to 20,000 people and remains among the most destructive seismic events in recorded Indian history, places beyond reasonable scientific doubt (The Tribune, 2026). The Town and Country Planning Department's Disaster Management Plan, drawing on an assessment conducted by TARU, identifies approximately 59 villages in the Beas basin and 280 villages in the Sutlej basin as potentially at risk from inundation caused by glacial lake outburst events, with an additional 11 glacial lakes within the state itself assessed for outburst potential, figures this Report treats as a minimum rather than a comprehensive estimate given the documented expansion of glacial lake areas nationally discussed in section 14.1 (Town and Country Planning, Government of Himachal Pradesh, 2019).

Landslide and flash flood risk, already discussed extensively in Chapter 1, Chapter 8 and Chapter 13, constitute the most frequent, most widely distributed and most cumulatively costly disaster category in the state, as the four year Rs 46,000 crore loss figure and the multi-season mortality data documented in section 14.1 make clear. The Himachal Pradesh State Disaster Management Authority's annual Memorandum of Damages, described by Himdhara as the principal official compilation of yearly disaster impacts, provides the primary institutional record of this cumulative loss, and this Report considers the sustained, consistent maintenance and public accessibility of this instrument as a genuine governance asset that the state government should ensure is fully resourced regardless of the fiscal pressures documented in Chapter 2, since the evidence base it provides is foundational to every other risk reduction, response and reconstruction decision examined in this chapter (Himdhara, 2025).

The building vulnerability dimension of the state's disaster risk profile is particularly significant given the rapid shift in construction practices documented by Mongabay India's December 2025 assessment, which found that post-disaster reconstruction in Mandi, Kullu and Kangra districts is replacing the traditional Kath-Kuni timber and stone masonry buildings, whose interlocking wood and stone layers without mortar provide genuine, proven earthquake and landslide resistance through the principle of flexible energy dissipation, with modern concrete structures whose quality control is frequently inadequate and whose rigidity under seismic loading can make them more rather than less vulnerable to the earthquake hazard they are supposed to withstand (Mongabay India, 2026). The same assessment notes that the state government's ban on construction within 500 metres of water bodies, introduced by the Town and Country Planning Minister specifically in response to the post-2025-monsoon reconstruction context, represents a meaningful planning intervention but one that experts warn is insufficient without the deeper systemic reform of spatial planning and building control discussed further in Chapter 11 and Chapter 15 (Mongabay India, 2026).

Exposure to these compound hazards is not uniform across the state's territory. The Sutlej and Beas basins, whose riverine flooding risk was documented above, collectively concentrate the highest number of at risk villages, while the remotest parts of Lahaul and Spiti and Kinnaur face the combination of glacial hazard, seismic risk and extreme seasonal inaccessibility that makes both initial warning and post-event response more difficult than anywhere else in the state. The paradox that the 2025 Human Development Report's Climate Adaptation Index documents these same two districts as the state's strongest climate adaptation performers, discussed in Chapter 1, reflects a different dimension of vulnerability and resilience, the long established community practices, traditional water management systems and cultural knowledge of extreme environment management in Lahaul and Spiti and Kinnaur, rather than any absence of physical hazard, and this distinction is critical for policy design since the adaptation practices that give these districts their strong performance on the index would be precisely what outside-driven reconstruction processes risk destroying if they proceed without genuine community consultation.

14.4 Disaster Risk Reduction: Institutional Mechanisms and Preparedness

The institutional architecture for disaster risk reduction in Himachal Pradesh rests on the framework established by the Disaster Management Act of 2005, comprising the Himachal Pradesh State Disaster Management Authority at the apex level, under which the State Executive Committee coordinates and monitors the implementation of the National Policy, National Plan and State Disaster Management Plan across line departments, with each of the state's twelve districts maintaining a parallel District Disaster Management Authority headed by the district Deputy Commissioner (Town and Country Planning, Government of Himachal Pradesh, 2019). The State Emergency Operation Centre serves as the operational nerve centre for real time disaster monitoring, having issued cumulative loss reports throughout the 2025 monsoon season of the kind cited extensively in this chapter, and the state's police department maintains a dedicated Disaster Management Plan coordinated with the State Disaster Management Authority, reflecting the reality that law enforcement, as the most widely distributed uniformed presence across the state's territory, is frequently the first institutional responder to localised disasters before dedicated National Disaster Response Force teams can be mobilised (Himachal Pradesh Police, 2020).

The preparedness challenge in a state of Himachal Pradesh's topographic complexity is fundamentally different from that facing plains states, and both the central government's own disaster relief and reconstruction costing frameworks and the media and public discourse around Indian disaster management have been systematically under-equipped to recognise this difference. The Himachal Pradesh State Disaster Management Authority has publicly and repeatedly stated that rebuilding mountain infrastructure requires 20 to 30 times higher expenditure per unit than comparable reconstruction in the plains, a cost differential that explains how the 2023 monsoon produced a Post-Disaster Needs Assessment valuation of Rs 9,000 crore in reconstruction requirements, against which the Ministry of Home Affairs released only Rs 2,000 crore by mid-2025, more than two years after the event, leaving the state to carry the remaining approximately Rs 7,000 crore financing gap from its own already strained fiscal resources of the kind documented in full in Chapter 2 (Himdharma, 2025; Business Standard, 2025). This persistent and structural underfunding of mountain state disaster reconstruction from the State Disaster Response Fund and National Disaster Response Fund, both of which apply uniform per unit cost norms that do not account for terrain related cost multiples, is in this Report's assessment as significant a policy failure as any in the domain of disaster risk governance, and one that compounds the fiscal fragility documented in Chapter 2 in a way that directly undermines the state's ability to rebuild to higher, more resilient standards after each successive monsoon, since the available reconstruction funding is insufficient even to rebuild at the standards that existed before the event.

Community based disaster preparedness occupies an important but institutionally underfinanced space within this architecture. The Jagori NGO study conducted in Kangra district following the 2023 disaster found that while over 63 per cent of surveyed households had suffered property damage and 55 per cent had lost their homes entirely, approximately 40

per cent reported receiving no government relief, with many families still living in temporary arrangements as late as 2025, two years after the event, indicating a significant gap between the formal institutional response documented in government loss reports and the actual relief experienced by affected households at the individual level (Mongabay India, 2026). The same study noted that women and elderly residents showed the lowest resilience levels and the highest sustained stress and anxiety during subsequent monsoon seasons, findings consistent with Chapter 7's discussion of the compounding vulnerabilities of these demographic groups that this Report considers should be explicitly incorporated into the state's community based preparedness planning rather than treated as welfare concerns separate from disaster management (Mongabay India, 2026). This Report recommends, in Chapter 21, that the state's Disaster Management Authority mandate a minimum allocation of district disaster contingency funds specifically toward community based early warning systems and household level preparedness materials in the 50 most chronically disaster affected Gram Panchayats, identified through the cumulative Memorandum of Damages data discussed above, treating this as a core preparedness investment rather than as discretionary welfare spending.

14.5 Post-Disaster Response, Relief and Reconstruction Framework

Post-disaster response in Himachal Pradesh follows the standard national framework under the Disaster Management Act, with immediate relief operations coordinated through district level authorities, National Disaster Response Force deployment for search and rescue where required, and State Disaster Response Fund disbursements for emergency relief items including food, shelter materials and livestock compensation against notified rates. The 2025 monsoon season's Rs 4,465 crore in losses, involving 1,544 houses fully destroyed, damage to Public Works Department road and bridge assets worth Rs 2,743 crore, damage to Jal Shakti water supply infrastructure worth Rs 2,518 crore and damage to power supply infrastructure worth Rs 139 crore, together with three national highways and 897 link roads blocked at the peak of the disaster period and 1,497 power transformers and 388 drinking water supply schemes disrupted, illustrates the scale and sectoral distribution of reconstruction requirements that each major monsoon now generates in the state (DD News, 2025; Devdiscourse, 2025). Prime Minister Narendra Modi separately announced Rs 1,500 crore in central aid for rain affected areas in Himachal Pradesh during 2025, a commitment welcomed by the state government but characterised in independent commentary as still falling well short of the reconstruction quantum the State Disaster Management Authority had assessed (Business Standard, 2025).

The reconstruction quality challenge is, in this Report's assessment, as important as the reconstruction financing challenge. The expert consensus documented in the December 2025 Mongabay India assessment is that post-disaster reconstruction in Himachal Pradesh is proceeding too quickly, driven by the imperative of providing affected residents with shelter before the next monsoon season, and too cheaply, using modern concrete construction that ignores both traditional earthquake resilient building practices and the specific siting constraints, including proximity to river channels and on vulnerable slopes, that made the

original buildings susceptible to the disaster that destroyed them (Mongabay India, 2026). This Report considers the traditional Kath-Kuni building technique, whose alternating layers of deodar wood and slate stone without mortar provide genuine flexibility under seismic and slope movement loads, a reconstruction technology this state's own built heritage has empirically validated over centuries of precisely the seismic and landslide hazard that modern reconstruction must now address, and recommends, in Chapter 21, that the state government establish a Himachal Pradesh Traditional Architecture Resilience Cell within the Town and Country Planning Department, tasked specifically with adapting Kath-Kuni and Dhajji Dewari construction principles into materials specifications and structural guidelines applicable to public building reconstruction using locally available deodar, slate and stone, so that traditional knowledge is formalised into a regulatory instrument rather than simply admired as cultural heritage while concrete construction continues to spread (Mongabay India, 2026). The state government's ban on construction within 500 metres of water bodies, discussed in section 14.3, represents a meaningful step toward safer siting of reconstructed buildings, but this Report considers its impact will depend entirely on the enforcement capacity of the Town and Country Planning Department and local building control authorities, discussed further in Chapter 15, both of which have historically struggled to enforce even less spatially specific building regulations in the state's dispersed rural and peri-urban settlements.

14.6 Green Economy Transition: Opportunities and Structural Challenges

Despite the severity of climate impacts documented throughout this chapter, Himachal Pradesh is also positioned, partly by virtue of the very ecological endowments that climate change is now threatening, to be a meaningful participant in, and beneficiary of, India's broader green economy transition, provided the state pursues this positioning strategically rather than allowing its existing environmental credentials to substitute for the structural economic reforms discussed throughout this Report. The state's overwhelmingly hydropower based electricity generation, examined in Chapter 9, produces a grid that is among the cleanest, in terms of operational carbon intensity, of any state in India, giving industries that locate in Himachal Pradesh a genuine, low carbon grid advantage relative to the coal heavy grids of neighbouring states, a competitive differentiator for the pharmaceutical sector discussed in Chapters 3 and 4 and for any future data centre or green hydrogen facility as these sectors' own carbon accounting pressures intensify. The state's forests, with their third highest per hectare carbon stock in the country documented in section 13.1, represent a carbon sequestration asset of national and global significance, and the state government's documentation of a 79 million tonne increase in forest carbon stock between 2017 and 2023 cited in Chapter 9 provides the baseline against which a credible Article 6 carbon credit programme or Payment for Ecosystem Services mechanism could be designed, providing a recurring revenue stream from the state's forests that supplements hydropower and tourism revenue without requiring any additional extraction or development (Invest India, 2026).

The state's natural farming programme, discussed in Chapter 3 and examined further in Chapter 18, simultaneously reduces the agricultural sector's chemical input costs and

associated soil and water pollution discussed in Chapter 13, reduces nitrous oxide emissions from synthetic fertiliser application, a non-CO2 greenhouse gas highlighted in the February 2026 scientific assessment discussed in section 14.1, and enhances the market positioning of Himachal Pradesh's agricultural products in premium, residue free and organic market segments nationally and internationally (The News Himachal, 2026). The traditional kuhl irrigation system, explicitly cited in international academic literature as a proven example of Nature Based Solutions whose community based, ecosystem integrated design enhances resilience to the changing precipitation patterns documented throughout this chapter, represents a further existing green economy asset whose revival, discussed in Chapter 10, carries simultaneous climate adaptation, water security and rural livelihood benefits (Frontiers, 2026). Solar energy expansion, discussed in Chapter 9, and the state's growing electric vehicle fleet, discussed in Chapter 8 and Chapter 9, both contribute to decarbonising energy use in sectors where hydropower's own clean generation capacity can substitute for fossil fuel imports, reducing the state's external energy dependence and its exposure to global fossil fuel price volatility simultaneously.

The structural challenge for this green economy transition is primarily one of fiscal sequencing and institutional alignment rather than of resources or political will. The state's fiscal crisis, documented in Chapter 2, constrains the public capital budget from which green infrastructure investment, climate resilient road reconstruction, solar installation, natural farming support and kuhl rehabilitation all draw, at precisely the moment when mounting climate losses are increasing the urgency of that investment. The gap between the state's genuine green economy potential and its fiscal capacity to realise it independently is the strongest argument this Report has encountered for the kind of dedicated, needs based central and multilateral climate financing, distinct from general fiscal transfers, that the state's own Finance Department has publicly argued for (HimbuMail, 2026). This Report recommends, in Chapter 21, that the state develop and publish a consolidated, costed Green Economy Transition Investment Plan, integrating the climate adaptation, natural farming, renewable energy, forest carbon and traditional architecture resilience priorities identified across Chapters 9, 10, 13 and 14 into a single, bankable document capable of attracting the bilateral and multilateral development finance institution funding discussed in Chapter 4, rather than presenting each of these priorities to potential funders as separate, sectoral requests that individually fall below the threshold of transformative impact needed to attract sustained international climate finance attention.

CHAPTER 15: ADMINISTRATIVE GOVERNANCE REFORM

15.1 Structure of State Administration and Inter-Departmental Coordination

The administrative architecture of Himachal Pradesh rests on a Secretariat based system typical of Indian states, in which the apex of executive decision making is concentrated in the state Secretariat at Shimla, from which policy directions flow downward through Commissioner level administrative divisions, then through Deputy Commissioners at the district level, who function simultaneously as District Magistrates coordinating law and order, as chairpersons of District Disaster Management Authorities discussed in Chapter 14, as district heads for the implementation of central and state schemes, and as the primary interface between the elected state government and the twelve districts that comprise the state's geographical and administrative territory (HIPA, Government of Himachal Pradesh, 2026). This dual function of the Deputy Commissioner, simultaneously a revenue officer managing land records and courts and an administrative coordinator overseeing developmental programmes, is a structural inheritance from British colonial administration that India's hill states, including Himachal Pradesh, have retained with fewer modifications than most plains states, reflecting in part the genuine practical advantages of concentrating authority in a single officer in terrain where distance, seasonal inaccessibility and the small size of each district's professional workforce make a more elaborately differentiated administrative hierarchy difficult to staff and sustain (PRIA, 2020).

Below the district level, the tehsil has remained the state's primary sub-district unit, with 117 tehsils and 83 sub-divisions providing the operational field presence of the revenue and administrative apparatus across settlements and villages that are, as Chapter 1 has documented, among the most dispersed and difficult to access of any state in India (HIPA, Government of Himachal Pradesh, 2026). This Report's earlier treatment of Panchayati Raj in Chapter 12 has already documented the structural tension between formal Panchayati Raj authority and the continued dominance of the district line administration in operational scheme implementation, a tension that manifests most visibly in what PRIA has described as a diarchy at the district level, where Zila Parishads carry formal developmental responsibility but lack authority over the district officers whose schemes they are notionally overseeing (PRIA, 2020). Addressing this structural gap requires not only the functional transfer of field staff oversight to Panchayati Raj Institutions discussed in Chapter 12 but a complementary reform of the Secretariat's own working culture, examined further in this chapter's sections on regulatory governance, red tape reduction and civil service capacity.

Inter-departmental coordination within the Secretariat is managed through a combination of formal inter-departmental committees, cabinet approval processes for major policy decisions, and the coordination function of the Chief Secretary's office, which sits at the apex of the state's civil service hierarchy and is responsible for translating cabinet direction into administrative action across the state's more than fifty departments and attached offices. A public interest litigation heard by the Himachal Pradesh High Court in May 2026, concerning

the appointment of an Additional Chief Secretary to the acting Chief Secretary charge despite three First Information Reports registered against him by the State Vigilance and Anti-Corruption Bureau, illustrated a specific and publicly visible coordination failure in the state's own vigilance clearance machinery, the 2024 revision of vigilance clearance guidelines requiring vigilance status to be considered before appointments to sensitive posts having apparently not been consistently applied at the most senior level of the administrative hierarchy (HimbuMail, 2026). This Report treats this specific episode not as a characterisation of the state's overall administrative culture, which as section 15.2 below discusses has historically been among the country's most favourably regarded by corruption perception surveys, but as a reminder that formal governance frameworks, however well designed, depend critically on consistent application at every tier of the administrative hierarchy and not only in the standard cases where their requirements are uncontroversial.

15.2 Anti-Corruption Framework: Lokayukta, Vigilance and Enforcement

Himachal Pradesh's reputation as the country's least corrupt state, established by the Centre for Media Studies corruption perception survey of 2017, a finding the state government continues to cite in its investment promotion materials discussed in Chapter 4, rests on an anti-corruption institutional architecture comprising two principal elements: the Lokayukta as an independent ombudsman for corruption allegations against public servants and political figures, and the State Vigilance and Anti-Corruption Bureau as the state's specialised investigative and law enforcement agency for corruption and economic offences (Wikipedia, 2026). The Himachal Pradesh Lokayukta, operating under the Himachal Pradesh Lokayukta Act of 1983, exercises jurisdiction over allegations of corruption against ministers, members of the legislative assembly, officers of state public sector undertakings and other specified classes of public servants, though with two significant statutory constraints that independent comparative analysis identifies as limiting the institution's practical effectiveness: the Himachal Pradesh Lokayukta cannot initiate an investigation suo motu, meaning it can only act on a filed complaint rather than identifying and pursuing corruption proactively as the more powerful Karnataka model pioneered under Justice Santosh Hegde allows, and its jurisdiction is formally limited to corruption allegations rather than extending to the broader category of general maladministration that some states' Lokayukta legislation covers (StudyOAS, 2025; Grokipedia, 2026). This Report recommends, in Chapter 21, that the state government review the Lokayukta Act with a view to extending suo motu powers to the institution, both because proactive investigation of systemic corruption patterns, rather than passive response to individual complaints, is more likely to detect the kind of structured, collusive corruption that individual complainants may be unable or afraid to identify, and because the grant of suo motu powers would align Himachal Pradesh's Lokayukta more closely with the stronger models practised by leading states nationally.

The State Vigilance and Anti-Corruption Bureau was constituted in 2006 through the merger of the erstwhile Anti-Corruption Unit and the Enforcement Department, and began functioning as a separate entity with its own independent budget allocation from 1 April 2007, a structural reform that gave it the institutional independence from the police hierarchy

that effective anti-corruption investigation requires (Abhipedia, 2026). The Bureau is organised into three ranges, Southern Range at Shimla, Central Range at Mandi, and Northern Range at Dharamshala, with a Special Investigation Unit at Shimla and twelve police stations distributed across Shimla, Solan, Nahan, Reckong Peo, Bilaspur, Hamirpur, Mandi, Kullu, Keylong, Una, Dharamshala and Chamba, a network that provides, at least in principle, district level presence across all twelve administrative districts of the state, including the remote tribal and high altitude districts where governance oversight is most challenging (Abhipedia, 2026). The Bureau investigates complaints and registers cases under the Prevention of Corruption Act of 1988, the Himachal Pradesh Prevention of Specific Corrupt Practices Act of 1983, the Essential Commodities Act, the Narcotic Drugs and Psychotropic Substances Act and general Indian Penal Code provisions for economic and related offences, giving it a broad statutory mandate across the full spectrum of public sector corruption, procurement fraud and economic crime that are most relevant to a state economy in which government spending constitutes a substantial share of total economic activity (Abhipedia, 2026).

Comprehensive, current data on the Bureau's annual case registration, conviction and pendency rates was not publicly available in a form this Report was able to verify precisely, a transparency gap this Report flags as significant in an institution whose primary social value is in deterrence, and which can only effectively deter corruption if prospective offenders believe that detection, investigation and conviction are both probable and timely. The state's ongoing legislative and judicial activity on vigilance matters, including the High Court's review of the acting Chief Secretary appointment discussed in section 15.1, and the annual Comptroller and Auditor General compliance audit findings that have been cited extensively in Chapter 2's treatment of public financial management, together provide indirect evidence of a system that is active and institutionally functioning but that, like most Indian state anti-corruption architectures, faces the perennial challenges of witness availability, case pendency in special anti-corruption courts and the difficulty of building robust evidentiary records in complex financial crime cases, challenges that this Report considers more amenable to institutional strengthening, including dedicated prosecutorial capacity and digital forensics capabilities, than to structural redesign of the anti-corruption framework itself.

15.3 Legal and Judicial Administration: Pendency, Access and Reform

The Himachal Pradesh High Court, established on 25 January 1971 simultaneously with the state's own formal constitution as a full state of the Indian Union, operates from its principal seat at Bemloe in Shimla with circuit benches at Mandi and Dharamshala, a geographic arrangement whose logic mirrors the state's dual capital framework discussed in Chapter 1 and that reflects the practical difficulty, familiar throughout this Report, of requiring litigants from remote northern and western districts to travel to Shimla for every judicial hearing (Grokikipedia, 2026). Under its Chief Justice Gurmeet Singh Sandhawalia, who took charge on 29 December 2024 and whose tenure extends to 31 October 2027, the court recorded a case clearance rate of 89.99 per cent for the calendar year 2025, disposing of 72,981 cases against 81,092 fresh cases filed, and reducing the court's pending caseload from 93,942 at the start of

2025 to 1,02,053 by year's end, despite functioning with only 12 judges against a sanctioned strength of 17, including the Chief Justice, a significant judicial shortfall whose impact on case disposal the court has partially compensated for by declaring 12 working Saturdays during the year specifically to address pending litigation (The Tribune, 2026; LiveLaw, 2026). A detailed analysis of India's judicial pendency, drawing on data current through the end of 2025, notes that the Himachal Pradesh High Court has seen its pendency worsen considerably over the period from 2018 to 2025, with a rise of over 150 per cent in High Court pending cases over this period, placing it alongside Uttarakhand as among the courts experiencing the most substantial deterioration in pendency relative to their historical position, a trend this Report attributes not primarily to institutional failure within the court but to the structural mismatch between the rate of new case filing, itself driven partly by economic growth and growing legal awareness, and the sanctioned judicial strength available to address the resulting caseload (Data for India, 2026).

At the district court level, the picture for 2025 is considerably more encouraging. The district courts recorded 6.31 lakh cases pending as of 1 January 2025, against which 8,02,478 new cases were filed and 8,52,488 cases were disposed of during the year, reducing the year-end pendency to approximately 5.81 lakh cases, a net reduction of 50,000 cases that is, by the standard of district court pendency trends nationally, a genuinely positive outcome (The Tribune, 2026). Judicial infrastructure was expanded during the year through the laying of the foundation stone for the Judicial Court Complex at Sarahan in Sirmaur district in March 2025, the inauguration of the Judicial Court Complex at Arki in Solan district in May 2025, and the inauguration of a residential colony for judicial officers at Nalagarh in July 2025, complemented by the operationalisation of three newly created courts of Additional District and Sessions Judges at Nurpur, Amb and Bilaspur on 1 January and 7 January 2026, each initiative reflecting the state's continuing investment in the physical and human capital of court administration even amid fiscal pressures (The Tribune, 2026; LiveLaw, 2026). This Report considers these infrastructure and appointment developments encouraging but notes that the continued shortfall of five judges at the High Court level, four appointed judges and the Chief Justice against a sanctioned strength of 17, has the most consequential pending caseload implications, since High Court delays compound subordinate court backlogs by preventing final resolution of cases appealed upward, and recommends, in Chapter 21, that the state government work with the Collegium to fill the High Court bench to its full sanctioned strength as the single highest leverage intervention available to improve judicial access across the state.

Digital transformation of court administration has advanced meaningfully if incompletely. The High Court adopted e-filing systems in 2022 through dedicated rules enabling electronic submission of cases and documents, integrated virtual hearings have been maintained since the pandemic period and have been cited as having enabled 2.63 crore proceedings via video conferencing, and both the High Court and the district judiciary are actively transitioning toward a paperless ecosystem under the national e-Courts project (Grokipedia, 2026; LiveLaw, 2026). Legal aid and access to justice for the state's most geographically isolated residents is supported through the Himachal Pradesh State Legal Services Authority and its

twelve district counterparts, which conducted a programme of legal literacy outreach camps during 2025, including a Mega Legal Literacy Camp at Naya in Shillai tehsil of Sirmaur district on 8 June 2025 attended by approximately 650 participants, with a thematic focus on drug abuse, human trafficking, and poverty and underdevelopment (LiveLaw, 2026). This Report considers the choice of drug abuse and human trafficking as the specific thematic focus for legal literacy outreach in a remote Sirmaur tehsil as both administratively perceptive and socially significant, reflecting the state government's own recognition that these are live concerns in rural and tribal Himachal Pradesh rather than purely urban or plains phenomena.

15.4 Police Modernisation and Internal Security Management

The Himachal Pradesh Police, functioning under the Department of Home Affairs directly under the Chief Minister as Home Minister, operates with an approved annual budget of Rs 1,645 crore for 2025-26 and maintains its headquarters at Nigam Vihar, Chotta Shimla, with operational jurisdiction across 168 police stations distributed across the state's twelve districts and their associated tehsils (Wikipedia, 2026; HIPA, Government of Himachal Pradesh, 2026). The force is organised under a Director General of Police, with an acting Director General as of the most recent available staffing notification, and includes the State Vigilance and Anti-Corruption Bureau discussed in section 15.2, the State Disaster Response Force discussed in Chapter 14, and three India Reserve Battalions located at Bangarh, Sakoh and Pandoh, each of which maintains its own training school (Wikipedia, 2026). Training for the broader police force is conducted at the Police Training College at Daroh in Kangra district, an institutional asset this Report considers central to the quality and consistency of officer preparation across the force, alongside the India Reserve Battalion training schools and specialised unit induction programmes for the crime branch, cyber crime unit and traffic police (Wikipedia, 2026).

Himachal Pradesh is widely regarded as among India's most internally secure states, a reflection partly of the specific demographic and socioeconomic characteristics documented throughout this Report, including comparatively low urbanisation and a population with among the highest literacy and lowest multidimensional poverty rates in the country, and partly of a policing model that has historically emphasised community familiarity and local knowledge over the more anonymised patrol policing prevalent in larger metropolitan forces. Crime statistics available through the National Crime Records Bureau for the most recent available period show Himachal Pradesh's reported crime rates across major categories including murder, rape, theft and robbery to be among the lower recorded figures for major Indian states, though this Report notes that reported crime rates reflect both actual crime incidence and reporting and registration practices, and that comparatively favourable reported crime rates in a well governed small state are not necessarily interpretable as absence of crime rather than as absence of reporting. Narcotics crime represents the most significant and most documented internal security challenge specific to the state, given Himachal Pradesh's geographic proximity to the Malana and Parvati valley cannabis cultivation areas in Kullu district, whose resin has a longstanding and well documented international market, and whose

cultivation and trade involves a complex interaction of local economic incentives, forest and land use regulations, and law enforcement priorities that simple criminalisation alone has proved unable to resolve over several decades of law enforcement attention (Wikipedia, 2026). This Report's assessment is that narcotics governance in the state requires a development-oriented complement to enforcement, specifically the alternative livelihood interventions for communities economically dependent on cultivation in the most affected Parvati valley settlements, whose sustainability this Report discusses in greater detail in Chapter 18's treatment of agricultural diversification.

15.5 Regulatory Governance: Quality, Consistency and Independence

Regulatory governance in Himachal Pradesh spans a heterogeneous set of institutions, from the independent, professionally constituted Himachal Pradesh Electricity Regulatory Commission, discussed in Chapter 9 and assessed in this Report as a comparatively functional and transparent regulatory body, to the more administratively embedded environmental regulatory function of the Himachal Pradesh State Pollution Control Board discussed in Chapter 13, to the essentially departmental regulatory role exercised by the Irrigation and Public Health Department over water supply pricing discussed in Chapter 10, and to the sector specific inspection and enforcement functions exercised by district line departments in areas including food safety, drug quality and building control. This heterogeneous landscape reflects a common pattern in Indian state governance in which independent, professionally staffed regulatory bodies exist in sectors where national legislative mandates have required their establishment, principally electricity and environment, while large areas of economically significant regulatory activity, water supply pricing, construction approval, food adulteration enforcement, drug licensing and industrial safety inspection, remain within the general administrative apparatus rather than within dedicated, independent regulatory institutions.

The Business Reforms Action Plan Top Achiever status achieved by Himachal Pradesh in 2024 and documented in Chapter 4 reflects the state's genuine progress in streamlining the regulatory processes most relevant to formal private sector investment, including the Himachal Pradesh Single Window Investment, Promotion and Facilitation Act of 2018 and the earlier Public Service Guarantee Act of 2011, both of which establish statutory timelines and legally enforceable contact points for investment and citizen service clearances (The News Himachal, 2025). The 150-plus online government services now available through the state's single window system, cited by the Industries Minister at the time of the BRAP award, represent a meaningful improvement in formal regulatory process efficiency for businesses interacting with the state's investment facilitation infrastructure (The News Himachal, 2025). This Report's assessment is that the governance gap most likely to limit the practical impact of this commendable regulatory streamlining for formal business lies less in the front-end clearance architecture, where the BRAP award reflects genuine achievement, and more in the back-end enforcement and inspection infrastructure, where the same terrain related access costs documented across every other sector of this Report create structural difficulties for

consistent, routine regulatory oversight in the state's smaller, more dispersed business establishments and construction sites.

The Himachal Pradesh Electricity Regulatory Commission stands out as the state's most institutionally independent and most professionally staffed regulatory body, and Chapter 9's detailed treatment of its tariff orders, resource adequacy framework and consumer category rationalisation provides this Report with a model against which other state regulatory bodies can be measured. This Report recommends, in Chapter 21, that the state government evaluate whether the regulatory governance model demonstrated by the Electricity Regulatory Commission, specifically its statutory independence, its requirement for professionally qualified commissioners, its transparent order publication and consultation process, and its annual review cycle with public participation, can be adapted for application to other significant regulatory domains, starting with water supply pricing and urban building control, where the current administrative model lacks both the technical depth and the formal independence from the regulated entities that effective regulatory oversight requires.

15.6 Reduction of Red Tapism: Simplification and Way Forward

The state's 2011 Public Service Guarantee Act and its successor single window framework have addressed the most visible, most investor-facing tier of procedural red tape, and the BRAP Top Achiever award of 2024 validates this achievement with an independently assessed score of 98 out of 100 on the national reform framework (The News Himachal, 2025). However, this Report's engagement with governance challenges across Chapters 2 through 14 has surfaced a different and more deeply structural form of red tape that the BRAP framework's current design is less well equipped to assess, the cumulative procedural burden that citizens and small enterprises face in interactions with the state's forest clearance machinery, its building permission processes in terrain constrained hill towns, its agricultural subsidy and marketing support application processes, and its social welfare scheme eligibility certification systems, each of which involves multiple documents, multiple issuing authorities and, frequently, multiple visits to tehsil or district headquarters that may involve, for a resident of a remote hill village, a journey of several hours over roads that are themselves subject to the seasonal closures and landslide disruptions documented throughout this Report.

The December 2025 fiscal responsibility statement presented to the state legislative assembly, discussed in Chapter 2, included a proposal that the state government consider closing up to 30 per cent of existing government institutions as part of its expenditure rationalisation, a proposal the Finance Department framed as a fiscal necessity given the trajectory of committed expenditure documented in Chapter 2 but that this Report treats as carrying a significant and under-discussed governance risk (ETV Bharat, 2026). In a state where physical distance from the nearest government office is itself a form of effective denial of access to government services, rationalisations that reduce the geographic density of government presence, whether in education, health or general administration, without simultaneously improving digital service delivery alternatives of the kind discussed in Chapter 16, risk converting fiscal rationalisation into a de facto withdrawal of the state from

precisely the remote communities that most depend on its presence. This Report recommends, in Chapter 21, that any institutional rationalisation programme be conditioned on a prior assessment of the geographic service coverage implications for residents of villages affected by the proposed closure, so that no rationalisation decision inadvertently creates a governance vacuum in a location where no alternative service delivery mechanism is yet available.

15.7 Civil Service Strength: Vacancy Rates and Training Institutions

Himachal Pradesh's state civil service is recruited primarily through the Himachal Pradesh Administrative Service Combined Competitive Examination, conducted by the Himachal Pradesh Public Service Commission at Shimla on a pattern closely modelling the Union Public Service Commission's own three stage Preliminary, Mains and Interview sequence, and serving as the primary entry route for Class I gazetted positions in the Himachal Pradesh Administrative Service, the Himachal Pradesh Police Service and a set of allied state services (HPPSC, 2025). The 2025 notification for this examination declared 30 vacancies for HPAS and related services, a modest recruitment quantum relative to the scale of the state's civil service establishment that this Report reads as reflecting both the genuine fiscal constraints on the salary bill, discussed exhaustively in Chapter 2, and the state's own Finance Department's publicly stated recommendation that new government employees be recruited under the Unified Pension Scheme rather than the Old Pension Scheme, an implicit acknowledgement that the latter's open-ended liability makes further large scale public sector recruitment fiscally unsustainable at current salary and pension cost levels (HPPSC, 2025; ETV Bharat, 2026). Constable level police recruitment, whose notification was separately issued by the HPPSC with eligibility limited to candidates who have completed their secondary and senior secondary schooling from institutions situated within Himachal Pradesh, or who are bonafide Himachalis regardless of schooling location, reflects the state's deliberate local content preference in recruitment that this Report has documented across multiple other sectors, from small hydropower to vocational education (HPPSC, 2025).

Civil service training is concentrated at the Dr. Manmohan Singh Himachal Pradesh Institute of Public Administration, the state's apex civil service training institution, which delivers a calendar of departmental examinations, in-service training programmes and workshops for officers across the state's administrative hierarchy (HIPA, Government of Himachal Pradesh, 2026). The institute's active 2025-26 training calendar included programmes on Official Communication Skills including Noting and Drafting, Disciplinary Proceedings, Conduct Rules and Departmental Enquiry, the Online Public Financial Accounting system and the Integrated Financial Management System, and a Colloquium Series on Disaster Risk Reduction, whose booklet was at the printing stage as of February 2026, illustrating a deliberate attempt to build disaster governance capacity within the general civil service that this Report considers directly consistent with the disaster risk profile documented in Chapter 14 (HIPA, Government of Himachal Pradesh, 2026). A revised syllabus for the Indian Administrative Service and Himachal Pradesh Administrative Service foundational training

was separately notified in November 2025, indicating ongoing curriculum modernisation at the pre-service training stage as well (HIPA, Government of Himachal Pradesh, 2026).

This Report's overall assessment of the state's civil service capacity is that the existing institutional infrastructure, the Public Service Commission, the HIPA, the police training college at Daroh and the departmental training wings of major line departments, provides an adequate if under-resourced foundation, and that the binding constraints on civil service quality in Himachal Pradesh relate less to the design of training programmes than to three structural features whose effects this Report has documented across multiple chapters. First, the disproportionate concentration of the state's most experienced officers in Shimla and in the more accessible districts, leaving the remote tribal and high altitude districts, where governance is most difficult, systematically understaffed by the most qualified and experienced civil servants, a geographic maldistribution analogous to the teacher and doctor deployment imbalances documented in Chapters 5 and 6. Second, the constrained space for technocratic, domain specialist expertise within an administrative culture still heavily oriented toward generalist IAS and HAS cadre dominance, a limitation this Report's treatment in Chapters 4 and 9 has already identified as directly contributing to underperformance in state public sector enterprises staffed by career generalists rather than sector specialists. Third, the fiscal environment, documented in full in Chapter 2, that constrains both the volume of new civil service recruitment and the salary scales necessary to attract and retain domain specialists in technical departments, most visibly the engineering, medical and agricultural departments whose service delivery quality this Report has examined in multiple earlier chapters, against a private sector market that for the most qualified candidates offers substantially higher remuneration and more professionally stimulating work environments than generalist public administration can currently match. Addressing all three constraints simultaneously is, in this Report's assessment, a more effective civil service reform agenda than any revision of recruitment examination syllabuses or training programme curricula alone could achieve, however well designed the latter may be.

Chapter 16: Technology-Enabled Service Delivery

16.1 Digital Infrastructure: Broadband, Optical Fibre and Connectivity Coverage

The digital infrastructure story of Himachal Pradesh is, in structural terms, a more compressed version of the broader story this Report has told across every other physical infrastructure sector: a state where natural endowment, in this case a relatively early start in e-governance and a politically committed investment programme, is systematically offset by the same terrain, weather and fiscal constraints documented throughout every other chapter, producing a connectivity landscape that is meaningfully better than the state's mountainous geography alone would predict, but still considerably more uneven and more fragile than the aggregate statistics suggest. The single most significant current infrastructure initiative in this domain is the Amended BharatNet Program, launched through BSNL with the groundbreaking ceremony held at Dharampur block, for which the central government has allocated Rs 2,450 crore specifically to Himachal Pradesh, targeting the transformation of the state's rural broadband backbone from a first generation, largely linear optical fibre architecture connecting only 409 of the state's 3,615 Gram Panchayats with limited bandwidth, to a next generation Optical Fibre Cable ring architecture connecting all 3,615 Gram Panchayats and approximately 15,500 non-Gram Panchayat villages by 2027 (The Tribune, 2025).

This scale of investment, at Rs 2,450 crore directed specifically at Himachal Pradesh's rural broadband backbone, represents one of the more significant single digital infrastructure commitments this Report has documented for the state across any sector, and this Report regards the decision to route this investment through a ring rather than linear architecture as a genuinely sound, terrain appropriate engineering choice, directly analogous in its underlying logic to the redundant transmission routing this Report recommended for the state's electricity grid in Chapter 9, since both interventions address the same fundamental challenge, that single point of failure infrastructure in landslide and flood prone terrain delivers unreliable service regardless of how comprehensive its initial coverage may appear on a map.

The ring architecture, a specific technical design choice of considerable practical significance in a terrain where linear cable runs are routinely severed by landslides and monsoon flooding, provides automatic network rerouting when a single point on the cable ring is broken, meaning that connectivity is maintained from the opposite direction around the ring rather than failing entirely until the break is physically repaired, a resilience feature this Report considers specifically appropriate and necessary for Himachal Pradesh's terrain conditions in a way that simple linear deployment is not (The Tribune, 2025).

The infrastructure specification of the Amended BharatNet Program goes beyond ring connectivity alone. The full deployment includes an Internet Protocol Multiprotocol Label Switching network with block and Gram Panchayat level routers, a Remote Fibre Monitoring System providing real time digital visibility into the condition of the cable network, power backup for all network nodes, and a 10-year operations and maintenance commitment that

addresses one of the most persistent weaknesses of earlier BharatNet phases nationally, where infrastructure was commissioned but subsequently fell into disrepair or non-operational status for want of structured maintenance support (The Tribune, 2025). This explicit 10-year operations and maintenance commitment, this Report notes, directly addresses a gap this Report has identified as recurring across multiple infrastructure sectors in this Report, most notably the Smart Cities Mission's own post-mission maintenance financing gap discussed in Chapter 11, and this Report regards the Amended BharatNet Program's built-in maintenance commitment as a genuinely superior programme design relative to several of the state's other, more construction-focused infrastructure schemes examined elsewhere in this Report.

BSNL's Chief General Manager for Himachal Pradesh separately noted that the central government is spending Rs 500 crore under a 4G Saturation Plan specifically to provide high-speed telecom and broadband connectivity to the remote areas of the state, with approximately 498 locations connected under this plan at the time of the announcement, a parallel investment stream targeting mobile connectivity in areas where fixed optical fibre installation is impractical (The Tribune, 2025). This dual track approach, combining fixed fibre ring infrastructure for Gram Panchayat and village level institutional connectivity with a parallel mobile 4G saturation programme for individual household and personal device access, reflects a sensible recognition that these two connectivity modes serve complementary rather than substitutable functions, fibre providing the high bandwidth backbone capacity institutional users such as schools and health centres require, and mobile 4G providing the more flexible, lower infrastructure cost access that reaches individual residents more quickly and at lower per-connection cost than extending fixed fibre to every household individually.

Once completed, connectivity under the Amended BharatNet Program is intended to extend via fibre to individual government facilities at the village level, specifically including schools, health centres, Anganwadis, police stations and private institutions and households, the last category recognising that bringing fibre to a Gram Panchayat building without extending it to the actual points of service delivery and residential use delivers only a fraction of the programme's potential public value (The Tribune, 2025). This explicit inclusion of schools, health centres and Anganwadis within the connectivity extension plan directly addresses the specific digital education connectivity gap this Report identified in Chapter 5, where only 66 per cent of schools had internet connectivity as of the 2025-26 reporting period, and the electricity reliability precondition this Report identified in Chapter 9 as a necessary complement to any school connectivity investment, since a school connected to fibre under this programme still requires the reliable electricity supply discussed in Chapter 9 to actually make use of that connectivity on a consistent basis.

The significance of this programme as context for every other digital initiative discussed in this chapter cannot be overstated. Virtually every e-governance, telemedicine, digital education and citizen service delivery programme described in sections 16.2 through 16.6 depends, in a fundamental sense, on the quality, reliability and reach of the underlying connectivity infrastructure, and the current limitation of functional broadband connectivity to 409 of the state's 3,615 Gram Panchayats, while partially compensated by satellite

connectivity in some remote areas and by the 4G Saturation Plan investment, means that the most ambitious digital service delivery ambitions documented elsewhere in this chapter are, for the majority of the state's rural population at this moment, conditional on the successful and timely completion of the Amended BharatNet Program rather than already deliverable. This Report's assessment of every digital initiative discussed in the sections below therefore explicitly distinguishes between what is currently functional in connected areas and what is planned or aspirational for the unconnected majority.

In January 2026, a further milestone was recorded when HFCL's domestically designed and manufactured IP/MPLS routers were deployed by ITI Limited for the BharatNet programme at Rouri Gram Panchayat in Solan district, the first deployment of indigenously designed routing technology in India's telecommunications history for rural broadband delivery, simultaneously marking a national first in indigenous manufacturing and a specific, locally verified installation within Himachal Pradesh that validates the programme's technical ambitions in practice (Business Standard, 2026). This indigenous manufacturing dimension, this Report notes, carries a strategic significance beyond its immediate technical function, since a rural broadband programme built on domestically designed and manufactured core networking equipment reduces the state's, and the nation's, longer term dependence on imported telecommunications hardware for critical rural infrastructure, a consideration of particular relevance given the border proximity and national security sensitivity of several of the districts this programme is intended to serve, discussed in Chapter 8's treatment of the Bhanupli-Leh rail corridor and Ladakh connectivity.

The same announcement confirmed deployments in Uttar Pradesh, Punjab, West Bengal and the Andaman and Nicobar Islands alongside Himachal Pradesh, indicating that the state is participating in an early rollout wave of what the manufacturer describes as a programme validating India's own telecommunications research and development capacity.

An important caveat on this progress is flagged by BSNL's own senior management in reporting on the Amended BharatNet Programme launch, which explicitly noted that during the 2025 monsoon season, heavy rain, cloudbursts, flash floods and landslides had severely disrupted telecommunication networks in Chamba, Kullu, Lahaul-Spiti and the Thunag area of Mandi district, causing difficulties for citizens in accessing communication services (The Tribune, 2025).

This climate related fragility of telecommunications infrastructure, discussed from a disaster risk perspective in Chapter 14, constitutes a structural limitation on digital inclusion in precisely the districts whose communities most need reliable connectivity to access services that physical access and terrain constrained road networks otherwise deny them, and this Report recommends, in Chapter 21, that the Remote Fibre Monitoring System and power backup components of the Amended BharatNet Program be treated as mandatory requirements for every node in the state's most disaster-prone districts rather than as optional enhancements to be fitted only where budget permits.

16.2 E-Governance Architecture and Digital Public Infrastructure

The institutional foundation of Himachal Pradesh's e-governance ecosystem is the Department of Digital Technologies and Governance, established in January 2004 as what was then the Department of Information Technology, making it one of the earlier dedicated state e-governance agencies in India and giving the state a head start on the institutional accumulation of digital governance capacity that newer entrants to this domain took a decade to develop (Department of Digital Technologies and Governance, Government of Himachal Pradesh, 2026). This early institutional head start, this Report notes, is broadly consistent with the pattern this Report has documented across several other sectors, including the state's early adoption of vocational education mainstreaming discussed in Chapter 5 and its early achievement of high ease of doing business scores discussed in Chapter 4, suggesting a recurring institutional characteristic in which Himachal Pradesh's smaller administrative scale has, in several specific policy domains, allowed it to adopt and embed new governance approaches somewhat ahead of larger, more administratively complex states.

The department's responsibilities span the development and maintenance of the state's digital public infrastructure, including the central Him Seva and Him Parivar citizen service platforms, the promotion of the Information Technology and electronics industry through the state's dedicated IT parks at Shimla and Kangra, the implementation of the national Digital India programme at the state level, and the oversight of the e-District project, discussed further in section 16.3, that has served as the primary vehicle for moving government-to-citizen service delivery from physical counters to online portals (Department of Digital Technologies and Governance, Government of Himachal Pradesh, 2026).

A significant and publicly recognised achievement in Himachal Pradesh's digital public infrastructure was recorded in 2025, when the Department of Digital Technologies and Governance integrated 51 HIMSeva e-District services, alongside the HimParivar family registry platform and the HimAccess Card, into the national DigiLocker platform, enabling citizens to access digital copies of state-issued documents, including income certificates, domicile certificates, caste certificates and other key government-to-citizen services, through the same DigiLocker digital wallet that already stores their Aadhaar numbers, driving licences and vehicle registration certificates (The Tribune, 2025).

This integration of caste and domicile certificates specifically into DigiLocker carries particular significance given this Report's discussion in Chapter 7 of the domicile requirement applicable to reserved category recruitment and the certification processes required for Scheduled Caste, Scheduled Tribe and Other Backward Class welfare scheme access, since a citizen able to produce a digitally verified, DigiLocker stored domicile or caste certificate instantly, rather than needing to physically retrieve and present an original paper document, experiences a meaningfully reduced administrative burden in accessing exactly the reservation and welfare benefits this Report's Chapter 7 discussion identified as central to the state's social justice architecture, particularly for residents of remote districts for whom a physical trip to obtain or replace a lost certificate can require a full day's travel.

In recognition of this integration achievement, the state was conferred the People First Integration Award at the National Workshop and Conference on DigiLocker 2025 held in New Delhi, with the award presented to the Secretary of the Department of Digital Technologies and Governance by the Secretary of the Ministry of Electronics and Information Technology, a national recognition that this Report treats as independent validation of the state's digital governance ambition rather than simply as a self-assessed achievement (The Tribune, 2025).

The DigiLocker integration is specifically significant as a digital public infrastructure milestone because it builds on the India Stack, the layered digital infrastructure comprising Aadhaar for identity, the Unified Payments Interface for financial transactions and DigiLocker for document verification, that the central government has progressively assembled as the foundational architecture for digital service delivery across all Indian states, meaning Himachal Pradesh's integration of 51 state services into this national architecture represents genuine interoperability with a much wider digital ecosystem rather than an isolated state specific application.

The HimParivar family registry, separately mentioned as one of the three systems integrated into DigiLocker, represents a foundational data asset for the state's social welfare architecture discussed in Chapter 7, since a comprehensive, continuously updated family registry provides the common beneficiary identification database that can rationalise, and reduce duplication across, the multiple separate scheme databases currently maintained by different welfare departments, an integration benefit this Report has identified in Chapter 7's recommendation for a consolidated welfare beneficiary registry. This Report's recommendation, developed jointly across Chapter 7 and this chapter, is that the state explicitly designate HimParivar as the authoritative source database underpinning the consolidated welfare registry recommended in Chapter 21, rather than constructing a separate, purpose built registry from first principles when a functioning, DigiLocker integrated family data platform already exists and could plausibly be extended to serve this consolidating function directly.

The operational integration of HimParivar with DigiLocker means that family composition data, once verified, can underpin automated eligibility determination for welfare schemes without requiring each applicant to submit separately certified documents to each scheme authority, a procedural simplification whose value in a state where a trip to the tehsil headquarters for document attestation may require a full day's travel is considerably higher than in a plains state where the same service may be available within walking distance.

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

Citizen facing digital service delivery in Himachal Pradesh rests on two principal channels, the online Him Seva portal for services accessible directly by citizens with internet access, and the network of Lok Mitra Kendras, the state's designation for the Common Service Centres operating under the national CSC scheme, which provide assisted digital service access for citizens who lack personal internet connectivity or digital literacy (Department of Digital Technologies and Governance, Government of Himachal Pradesh, 2026).

This two channel design, this Report notes, is a genuinely well considered response to the digital divide this chapter has documented throughout, since a purely self-service, internet dependent portal model would systematically exclude exactly the rural, lower digital literacy population segments this Report has identified across Chapters 5 and 6 as facing the state's greatest general infrastructure and service access constraints, while the assisted Lok Mitra Kendra channel provides a genuinely accessible alternative pathway for citizens who lack either the connectivity or the digital confidence to navigate an online portal independently.

The e-District project, which provides the service layer behind both channels, currently offers 65 government-to-citizen services across nine state departments at district and sub-division level, having won the Best Public Service Initiative Award at the Digital India Summit 2019, and these services are being progressively migrated to the Lok Mitra Kendra network to ensure that even citizens in villages without personal internet access can reach them through a staffed, assisted kiosk at the Gram Panchayat level (Department of Digital Technologies and Governance, Government of Himachal Pradesh, 2026).

Services currently available through the Him Seva portal and the Lok Mitra Kendra network include Himachal Road Transport Corporation bus ticket booking, e-Aadhaar printing, updating of demographic details in Aadhaar, Permanent Enrolment Centre services for new Aadhaar enrollment, Shimla Municipal Corporation water bill collection and Shimla Municipal Corporation house tax collection, a mix that reflects both the most frequently accessed government services for rural households and the specific urban payment services where digitisation can replace both the queue at a physical counter and the risk of cash handling (Department of Digital Technologies and Governance, Government of Himachal Pradesh, 2026).

This Report notes that the current service catalogue, while genuinely useful, remains weighted toward transport, identity documentation and urban municipal payment services, and has not yet, on the evidence available to this Report, been extended comprehensively to the welfare scheme applications, agricultural extension services and health appointment booking functions that this Report's discussion of the state's social justice, agricultural and health sectors in Chapters 3, 6 and 7 suggests would deliver the greatest additional public value if digitised and made available through the same Lok Mitra Kendra channel, a gap this Report's consolidated recommendation at the end of this chapter addresses directly.

The 150-plus government services now available online through the state's single window system, noted in Chapter 4 and Chapter 15 in the context of the state's ease of doing business performance, represent the investor and business facing complement to the citizen facing services discussed here, and the same Department of Digital Technologies and Governance provides the shared backend infrastructure that makes both possible through a common identity verification and workflow automation architecture.

Mobile governance, the delivery of government services through mobile phones rather than desktop computers or physical kiosks, is particularly significant in a state with the geographic characteristics documented throughout this Report, since the smartphone penetration

documented in national consumer surveys, which shows rural smartphone ownership continuing to expand rapidly even as rural internet quality remains variable, suggests that mobile-first service design has the potential to extend meaningful digital service access well beyond the current reach of both fixed broadband and Lok Mitra Kendras.

This Report was unable to locate a current, state specific survey of Himachal Pradesh's own rural smartphone ownership or mobile internet penetration rates sufficient to quantify this potential precisely, but treats the national trend as likely applying with equal or greater force in a state where the alternative of physical service access requires unusually long and terrain-constrained travel, and recommends, in Chapter 21, that the Department of Digital Technologies and Governance publish annual data on digital service uptake, disaggregated by channel, district and service category, to provide the kind of transparent, publicly available performance tracking that is necessary to identify which services and which districts remain below the digital service access threshold regardless of the availability of both portals and Lok Mitra Kendras.

16.4 Data Governance, Open Data Policy and Privacy Framework

Data governance, in the sense of the policies and institutional mechanisms that determine how government held data is collected, stored, shared and used, sits at the intersection of this chapter's concerns with citizen service delivery efficiency and the cybersecurity and privacy considerations addressed in section 16.5 below. Himachal Pradesh, like all Indian states, now operates within the national data protection framework established under the Digital Personal Data Protection Act of 2023, which provides a statutory basis for the protection of citizens' personal data processed by digital fiduciaries including government agencies, mandates the appointment of Data Protection Officers for significant data processing entities, and establishes the Data Protection Board of India as the adjudicatory body for complaints and violations (Ministry of Electronics and Information Technology, 2023).

The integration of 51 state services into DigiLocker discussed in section 16.2 directly engages this framework, since DigiLocker's operation involves the processing and sharing of documents that contain sensitive personal information, and the state's own Department of Digital Technologies and Governance, as the issuer of these documents within the DigiLocker ecosystem, assumes specific obligations as a document issuer under the DigiLocker regulatory framework that require technical and procedural compliance with both national data protection standards and the DigiLocker's own security and interoperability protocols.

Open data, the proactive publication of non-personal government data in machine readable formats for public access and reuse, has been promoted at the national level through the data.gov.in portal operated by the National Informatics Centre, and Himachal Pradesh state government datasets are among those published on this portal, covering areas including land records, budget and expenditure, health facilities, educational institutions and agricultural data.

This Report treats the availability of open government data as a genuine governance transparency asset, consistent with this Report's repeated recommendations across multiple chapters for more systematic, publicly available data disclosure on sectoral performance indicators, and notes that the DigiLocker integration award's explicit framing around the principle of People First, prioritising citizen experience in accessing their own documents and entitlements, is broadly aligned with the open data philosophy of treating government held information as a public resource to be made as accessible as possible rather than as an administrative asset to be held close.

This Report notes, drawing together the specific data transparency gaps it has identified across nearly every preceding chapter, including rural health workforce vacancy data in Chapter 6, higher education Gross Enrolment Ratio in Chapter 5, mining and hazardous waste inventories in Chapter 13, and Gram Sabha meeting frequency in Chapter 12, that the state's current open data publication practice, while creditable in the categories it does cover, falls considerably short of the comprehensive, cross-sectoral disclosure this Report has repeatedly recommended, and this Report's assessment is that the Department of Digital Technologies and Governance is uniquely well positioned, given its existing data.gov.in publication relationship and its DigiLocker integration experience, to serve as the central coordinating body through which the many sector specific data transparency recommendations scattered throughout this Report could be consolidated into a single, systematic state open data expansion programme.

This Report recommends, in Chapter 21, that the state government commission a comprehensive audit of its currently published open data holdings against the state's own data generation across the sectors examined in this Report, specifically to identify the high-value, non-personal datasets in areas including environmental monitoring, water quality, transport disruption, health facility staffing and scheme implementation progress that this Report has found partially or completely absent from current public sources, and develop a prioritised publication schedule for those datasets through the state's own digital governance portal.

16.5 Cybersecurity: State-Level Institutional Mechanisms

Himachal Pradesh's cybersecurity governance operates within the national framework established by the Indian Computer Emergency Response Team under the Ministry of Electronics and Information Technology, which issues advisories, coordinates incident response and sets technical standards applicable to all states and union territories, and within the specific provisions of the Information Technology Act of 2000 and its subsequent amendments that define cyber offences and their penalties (Ministry of Electronics and Information Technology, Government of India, 2025).

At the state level, the Himachal Pradesh Police maintains a dedicated Cyber Crime Unit, consistent with the national direction to all state police forces to establish specialised cyber crime investigation capacity, and the state's 168 police stations discussed in Chapter 15 provide the field infrastructure through which cyber crime complaints are registered and, where relevant to physical assets or suspects within the state, investigated (Wikipedia, 2026).

The growing volume of online citizen service transactions discussed in sections 16.2 and 16.3, including the DigiLocker integration, Aadhaar-linked service delivery and UPI based payments through the Lok Mitra Kendra network, creates an expanding surface area of government-to-citizen digital transactions whose security depends on both the robustness of the underlying platform architecture, maintained at the national level by the Ministry of Electronics and Information Technology and the National Informatics Centre, and on the operational security practices of the state's own digital service delivery administrators.

This expanding transaction surface, this Report notes, carries a particular vulnerability given the Lok Mitra Kendra network's role in serving citizens with lower digital literacy, discussed in section 16.3, since exactly this population segment, less familiar with common digital fraud patterns such as phishing and impersonation scams, is disproportionately vulnerable to social engineering attacks that exploit trust in an assisted service kiosk model, and this Report recommends that the state's Cyber Crime Unit develop and deliver targeted digital literacy and fraud awareness training specifically for Lok Mitra Kendra operators, so that these operators can serve not only as service access points but as a first line of citizen protection against digital fraud attempts targeting exactly the population segment least equipped to recognise such attempts independently. This Report was unable to locate a published, state-specific cybersecurity policy document or incident response framework for Himachal Pradesh, distinct from the state's participation in national schemes and the police's general cyber crime function, an absence this Report notes as consistent with the pattern observed nationally in which many smaller Indian states have not yet developed the dedicated, institutionally anchored state-level cybersecurity frameworks that the scale of their government digital service transactions increasingly requires.

The state's pharmaceutical manufacturing cluster in Baddi-Barotiwala-Nalagarh, discussed extensively in Chapters 3 and 4 as the state's most economically significant industrial asset, represents a specific and high-value cybersecurity risk domain, since pharmaceutical manufacturing systems are increasingly integrated with industrial control and supply chain management platforms, and their disruption by cyber attack would carry both economic and, in the context of drug supply integrity, public health consequences that generic cybersecurity frameworks not calibrated to industrial control system specific vulnerabilities may be inadequate to prevent. This Report recommends, in Chapter 21, that the state government, in coordination with the Ministry of Electronics and Information Technology's CERT-In framework and with the Baddi-Barotiwala-Nalagarh pharmaceutical cluster's industry association, develop and publish a sector-specific cybersecurity guidance framework for the pharmaceutical and chemical manufacturing sector within the state, addressing the industrial control system vulnerabilities, supply chain digital security and incident reporting protocols specific to this industry's technical environment.

16.6 Emerging Technologies: AI, Geospatial Systems and Smart Governance

Himachal Pradesh's engagement with emerging technologies, including artificial intelligence, geospatial information systems and the broader category of smart governance tools, is, at the time of writing, more visible in planning documents, award recognitions and announced

initiatives than in fully deployed, operationally proven applications at scale, a characterisation this Report intends not as criticism but as an accurate description of where a comparatively small, fiscally constrained hill state is realistically positioned relative to more resource-rich states in the adoption curve for these newer technology categories.

The most concrete documented deployment is the use of geospatial data and satellite imagery in the state's disaster management and planning frameworks, where tools including ISRO's Bhuvan platform and the Geological Survey of India's landslide susceptibility mapping have been incorporated into the Town and Country Planning Department's risk assessment work discussed in Chapter 14, and where the Remote Fibre Monitoring System component of the Amended BharatNet Program represents a real-time geospatial infrastructure monitoring application rather than a purely theoretical capability (Town and Country Planning, Government of Himachal Pradesh, 2019; The Tribune, 2025).

This Report notes that the geospatial and satellite mapping capability already demonstrated in the state's landslide susceptibility work could plausibly be extended, at comparatively modest incremental cost given the underlying platform and expertise already exists, to several other applications this Report has identified as data gaps elsewhere in this Report, including monitoring the pace of illegal riverbed mining discussed in Chapter 13, tracking forest cover change at a more granular, district disaggregated level than the current biennial state level India State of Forest Report provides, and monitoring horticultural land use expansion into higher altitude, previously forested zones, also discussed in Chapter 13, all applications for which satellite based geospatial monitoring is a genuinely appropriate and proven technology, and this Report recommends that the state's existing geospatial planning capacity, developed initially for disaster risk purposes, be formally expanded into a shared, cross-departmental geospatial monitoring service available to the Forest Department, the Directorate of Geology and the Department of Agriculture alike, rather than remaining confined to its original disaster management application.

Artificial intelligence applications in state governance are, at this stage, largely aspirational within Himachal Pradesh's own institutional planning rather than operationally deployed at the scale achieved by larger states such as Andhra Pradesh or Telangana, though the Dr. Manmohan Singh Himachal Pradesh Institute of Public Administration's training calendar, discussed in Chapter 15, includes capacity building components on digital governance that are designed to equip state officials with the conceptual foundation for engaging with AI-enabled administrative tools as they mature nationally (HIPA, Government of Himachal Pradesh, 2026).

The state's startup and innovation ecosystem, examined more fully in Chapter 17, includes early stage ventures in agricultural technology, health technology and education technology that themselves represent applications of machine learning and data analytics to specifically Himalayan context problems, and this Report treats these private sector innovation efforts as a more realistic near-term pathway to AI-enabled service improvement in the state than top-down government deployment of complex AI systems whose procurement, data

preparation and implementation requirements would place additional demands on an already stretched public administration capacity.

This Report notes a specific, plausible near-term application of artificial intelligence that would build directly on infrastructure already discussed in this chapter, namely the use of machine learning models trained on the state's existing weather, terrain and historical landslide data to generate more granular, real time landslide and flash flood early warning specific to individual road segments and village clusters, an application that would draw on the same geospatial data foundation discussed above and would directly serve the disaster risk reduction priorities examined in Chapter 14, and this Report recommends the state's Disaster Management Authority explore a pilot partnership with one of the state's own agricultural or health technology startups, or with a national academic institution, to develop and test such a model for a limited number of the state's most landslide prone corridors before considering wider deployment.

Smart governance at the urban level, in the sense of sensor-networked urban management systems of the kind promoted under the Smart Cities Mission discussed in Chapter 11, has the most concrete current expression in Shimla, where the Smart City Limited vehicle implemented elements of information technology-based urban management during its operational tenure, including systems for traffic monitoring, parking management and public Wi-Fi in key commercial areas. This Report notes, consistent with its assessment in Chapter 11, that the formal wind-down of Shimla Smart City Limited in 2022 raises a genuine question regarding the continued operational status and maintenance of these specific smart governance systems, a question this Report was unable to resolve given the absence of published post-mission operational status data, and recommends that the Directorate of Urban Development conduct and publish a current operational audit of all Smart City era digital systems in Shimla and Dharamshala, verifying which specific systems remain functional, which have degraded, and what maintenance investment would be required to restore full functionality to any systems currently non-operational.

BSNL's Amended BharatNet Program's explicit ambition to extend fibre connectivity to non-Gram Panchayat villages for e-governance, education, healthcare and private use, discussed in section 16.1, represents the most consequential single emerging technology investment for the state's service delivery capacity overall, since it will, when complete, create the connectivity substrate on which virtually every other digital governance ambition documented in this chapter can be realised in practice rather than only in planning documents (The Tribune, 2025).

This Report's consolidated recommendation for the digital governance sector, developed fully in Chapter 21, prioritises three linked actions that sit above all other digital initiatives in terms of their foundational importance. First, unconditional, non-negotiable insistence on the timely, full-specification completion of the Amended BharatNet Program across all 3,615 Gram Panchayats and the 15,500 non-Gram Panchayat villages, with the Remote Fibre Monitoring System and power backup components treated as mandatory rather than optional, and with disaster-prone districts receiving priority sequencing in the rollout schedule rather

than deferred to later phases. Second, the systematic expansion of the Him Seva e-District service catalogue from its current 65 services across 9 departments to a broader range spanning the welfare, agriculture, transport and health entitlements that the state's rural population most frequently needs to access, specifically designed to be deliverable through the Lok Mitra Kendra network rather than only through personal internet access, so that the benefit of digital service delivery reaches households that lack smartphones or home broadband. Third, the development and publication of a state digital governance performance dashboard, updated quarterly and publicly accessible, reporting the specific metrics that would allow citizens, legislators and this Report's own successors to assess whether the digital initiatives described in this chapter are delivering measurable improvement in service access, transaction volumes and user experience rather than simply demonstrating the technical existence of a functioning digital service infrastructure.

Chapter 17: Innovation, Research and Knowledge Economy

17.1 State Innovation Ecosystem: Startups and Accelerators

Himachal Pradesh's startup and innovation ecosystem is, by the standards of most Indian hill states, unexpectedly dynamic, anchored by a small number of high quality knowledge institutions whose deliberate, institution-building investment in entrepreneurship infrastructure over the past decade has created a functional, if still nascent, startup valley in what might otherwise have remained a purely academic mountain landscape. The state's primary institutional vehicle for startup development in the technology and deep-tech domain is IIT Mandi Catalyst, which occupies the dual distinction of being Himachal Pradesh's first Technology Business Incubator and the only IIT-based incubator located in the Western Himalayas, positioning it as a natural hub for innovation specifically attuned to Himalayan and mountain environment challenges rather than replicating the information technology and consumer startup focus more characteristic of incubators in plains metropolitan centres (IIT Mandi Catalyst, 2026).

This geographic and thematic specialisation, this Report notes, is a genuinely sound strategic positioning choice for a hill state incubator competing for national attention and investment against considerably larger, better resourced metropolitan ecosystems, since a Bengaluru or Hyderabad incubator, however well funded, cannot easily replicate the direct, on-site access to Himalayan terrain, climate and community context that IIT Mandi Catalyst's Kamand Valley location provides for ventures whose core value proposition depends on genuine mountain environment expertise rather than generic technology development.

The Catalyst's portfolio as of mid-2026 includes a range of deep-tech ventures that have secured meaningful external investment, among them Medyseva Technologies, which raised Rs 4 crore in a funding round led by Unicorn India Ventures and develops technology solutions for rural healthcare access, directly relevant to the health infrastructure gaps documented in Chapter 6, WattCycle Sustainable Solutions, which received a Rs 10 crore grant commitment from GIC Re for sustainable energy solutions, Mitigata, a cybersecurity startup that raised \$5.9 million in a Series A round led by Nexus Venture Partners, and Deep Algorithms Solutions, which raised Rs 10.8 crore in seed funding, again led by Unicorn India Ventures, for artificial intelligence based applications (IIT Mandi Catalyst, 2026).

This Report notes that Mitigata's cybersecurity focus specifically, and its comparatively large \$5.9 million Series A raise relative to the other ventures listed, connects directly to the state level cybersecurity institutional gap this Report identified in Chapter 16, where this Report found no published, state-specific cybersecurity policy framework distinct from national schemes, suggesting a potentially valuable, currently unexploited opportunity for the state government to draw on a homegrown, well capitalised cybersecurity venture already operating within its own borders when developing the sector-specific cybersecurity guidance framework this Report recommended in Chapter 16 for the Baddi-Barotiwala-Nalagarh pharmaceutical cluster specifically.

The range and scale of these funding rounds, for early stage ventures headquartered in or originating from a comparatively small state that does not feature in national startup ecosystem rankings alongside Bengaluru, Hyderabad, Pune and Delhi, is genuinely notable and represents concrete evidence that the knowledge institution ecosystem discussed in section 17.4 is capable of generating investment quality ventures in globally competitive sectors.

The most distinctive regular innovation event in the state's startup calendar is the Himalayan Startup Trek, organised annually by IIT Mandi Catalyst. The ninth edition of this event, held from 2 to 4 January 2026 in the Kamand Valley, brought together startups, mentors, policymakers and ecosystem leaders under the thematic framing of building a Startup Valley in the Himalayas, reflecting the Catalyst's explicit ambition to position the Kamand Valley campus and its surrounding ecosystem as not merely a local incubation facility but a distinctive, nationally significant geography for deep-tech and mountain context innovation (IIT Mandi Catalyst, 2026). This vision, while ambitious relative to the state's current size and fiscal constraints, has a specific and defensible logic: the problems most relevant to a mountainous Himalayan environment, climate adaptation, high altitude health, remote connectivity, landslide early warning, glacier monitoring, sustainable hill agriculture and mountain tourism, are precisely the problem domains where India's innovation ecosystem most needs solutions and where a geographically embedded institution has a natural research and development advantage that no Bengaluru or Hyderabad incubator can replicate simply by funding desk research on mountain issues.

This ninth annual edition, this Report notes, represents nearly a decade of sustained, continuous event organisation, a durability that itself constitutes a meaningful institutional achievement relative to the more common pattern in which state level innovation events are launched with considerable fanfare but discontinued within a few cycles once initial funding or political sponsorship wanes, and this Report regards the Trek's continued operation across nine consecutive years as evidence of a genuinely embedded, rather than merely episodic, institutional commitment to sustaining the state's innovation ecosystem infrastructure.

IIT Mandi Catalyst is separately serving as State Knowledge Partner for the establishment of 36 Pre-Rural Incubation Centres in collaboration with the Department of Industries, Government of Himachal Pradesh, and the Himachal Pradesh Centre for Entrepreneurship Development, an initiative that represents the Catalyst's deliberate extension of its deep-tech urban startup focus toward a more geographically distributed rural entrepreneurship support architecture, drawing on its simultaneously held collaboration with the Small Industries Development Bank of India to nurture the Rural Entrepreneurship Development Program in parallel with the mainstream startup pipeline (IIT Mandi Catalyst, 2026). This dual track, supporting sophisticated, externally funded deep-tech ventures alongside rural micro-entrepreneurs, is this Report's preferred model for state startup ecosystems in economies with the structural dualism of Himachal Pradesh's, where the challenge is simultaneously to retain and reward the state's most technically educated residents and to create meaningful economic opportunity for the overwhelming majority of the workforce that lacks the educational profile to participate in the formal startup economy.

Shoolini University in Solan, the state's most research active private university by most available metrics and the institution most explicitly committed to an IP-first innovation model, has separately built what its Vice Chancellor describes as a cradle-to-commercialisation pipeline encompassing the SPRINT skills acceleration programme, an end-to-end zero-cost IP support system and a triple Technology Business Incubator network (DQ India, 2025). The Protosphere 2026 innovation competition, launched under the university's Student Research Council, engaged 400 students across 70 teams in a structured startup development programme aimed specifically at first and second year undergraduates, resulting in five startups securing seed funding of Rs 30,000 each and full registration support as private limited companies, with one team receiving a direct investment offer of Rs 1 lakh from the Government of Bihar in exchange for a 5 per cent equity stake, a level of early stage investor interest in student ventures from a Himachali private university that this Report considers indicative of a genuinely maturing startup culture within the state's private higher education sector (The Tribune, 2026; Himachal Tonight, 2026).

This specific instance of the Government of Bihar investing directly in a Himachal Pradesh student startup, this Report notes, is a genuinely interesting data point illustrating that the state's student innovation output is attracting interstate, rather than purely local, investor interest, a pattern that, if sustained and expanded, could position Himachal Pradesh's undergraduate innovation pipeline as a genuine, if currently small scale, exporter of investable venture concepts to investors well beyond the state's own borders, complementing rather than competing with the outward migration of the state's educated youth documented throughout this Report, since a student venture that attracts external investment while its founders remain based in Himachal Pradesh represents a meaningfully different, and more locally beneficial, outcome than the same graduates simply migrating to take up employment elsewhere.

The Student Research Council anticipates 14 startups will be formally incubated and introduced to investors on completion of the final phase of the programme, a target that, if achieved, would represent a substantive annual contribution to the state's overall startup pipeline from a single university's undergraduate programme alone (The Tribune, 2026). State government support for the broader startup ecosystem is channelled through the Startup Policy of 2022, discussed briefly in Chapter 4, and the Rajiv Gandhi Self-Employment Start-up Scheme with an outlay of Rs 680 crore, which extends fiscal incentives, registration support and market access facilitation to first generation entrepreneurs across the state's twelve districts rather than limiting support to the startup incubator ecosystem centred on Solan and Mandi.

17.2 Research and Development: Academic-Industry Linkages

The most significant national research institution with a specific and long-established Himachal Pradesh presence is the CSIR-Institute of Himalayan Bioresource Technology, located at Palampur in Kangra district, which conducts research across a wide range of domains relevant to the state's own ecological and economic character, including high altitude plant biology, aromatic and medicinal plant cultivation, bioprospecting of Himalayan plant

resources, and sustainable agriculture for mountain ecosystems (National Mission on Himalayan Studies, 2026). The Institute's location within the state rather than at a distant metropolitan research campus gives it a specific and irreplaceable fieldwork advantage across the state's multiple altitudinal zones, and its research outputs in areas including essential oil extraction from hill plants, biocontrol agents for horticulture pest management and tissue culture propagation of threatened Himalayan plant species are directly relevant to the agricultural diversification and natural resource conservation priorities examined in Chapters 13 and 18.

IIT Mandi, established in 2009 on a 538 acre campus in the Kamand Valley on the left bank of the Uhl River in Mandi district, is described as the only Indian Institute of Technology situated in the Western Himalayas and has, despite its relative youth among the IIT family, developed what independent academic rankings and the FICCI Higher Education Excellence Awards 2025 specifically recognise as two nationally significant capabilities, its interdisciplinary mountain environment research and its technology business incubation platform discussed in section 17.1 (IIT Mandi Catalyst, 2026; IIT Mandi, 2026).

This comparatively rapid rise to national recognition for an institution established only in 2009, well after most of the older, more established IITs, this Report regards as a genuinely notable institutional achievement, suggesting that the deliberate mountain environment specialisation strategy discussed throughout this section, rather than attempting to compete directly with older IITs across the full conventional engineering curriculum, has allowed IIT Mandi to establish a distinctive, differentiated national reputation more quickly than a strategy of undifferentiated competition with longer established peer institutions would likely have achieved.

IIT Mandi iHub and HCI Foundation, established under India's National Mission on Interdisciplinary Cyber-Physical Systems and structured as a Section 8 not-for-profit company registered at the IIT Mandi campus, focuses specifically on Human-Computer Interaction research and technology translation, with a vision of being an internationally recognised hub that nurtures HCI research, enables technology translation for industry adoption and scales skill development (IIT Mandi iHub and HCI Foundation, 2026). Its specific focus on human-computer interaction, rather than on conventional computer science or engineering domains, reflects the emerging recognition that designing digital interfaces suited to the literacy levels, languages, connectivity constraints and device types actually prevalent in rural and tribal Himalayan communities requires dedicated research rather than adaptation of solutions designed for urban, high-bandwidth, high-literacy users, a research agenda directly relevant to the digital governance challenges documented in Chapter 16.

This Report considers the iHub and HCI Foundation's research agenda directly relevant to several specific digital service delivery gaps this Report has identified elsewhere, including the design of Lok Mitra Kendra interfaces discussed in Chapter 16 that must serve citizens with varying digital literacy levels, and the mobile governance design challenge this Report's Chapter 16 discussion identified as requiring dedicated research rather than assumption that plains state mobile interface conventions transfer unmodified to Himachal Pradesh's specific

rural user base, and this Report recommends, in Chapter 21, that the state's Department of Digital Technologies and Governance formally engage the iHub and HCI Foundation as a design research partner for its Him Seva portal and Lok Mitra Kendra interface development, rather than developing these interfaces internally or through generic external contractors without this specialised research input.

The institution's expression of interest for skill development training partners, inviting collaboration on HCI-focused training programmes, illustrates the research-to-employability pipeline this Report considers essential for converting academic excellence in specialised research domains into workforce capabilities that local industry and government can actually use.

The Himachal Pradesh Council for Science, Technology and Environment, known as HIMCOSTE and headquartered at Kasumpti in Shimla, serves as the state government's own science and technology planning and coordination body, operating the Biotechnology Incubation Centre at Himachal Pradesh University and co-organising the Himachal Pradesh Science Congress with IIT Mandi, the fourth edition of which was held in April 2024 on the theme of the role of science, technology and innovation in achieving sustainable development goals, with subject areas spanning agriculture, horticulture and forest sciences, biotechnology and microbiology, disaster management and environmental science, rural technology, mathematics and nanotechnology, energy and climate change, artificial intelligence and geospatial technology, and traditional knowledge and intellectual property rights (HIMCOSTE, 2026; Careers360, 2024). The breadth of this thematic agenda is itself a statement of the state government's understanding that addressing Himachal Pradesh's most pressing development challenges, documented across every chapter of this Report, requires research engagement across all of these domains simultaneously rather than concentration in any single field.

The National Mission on Himalayan Studies, a central government initiative whose knowledge network explicitly encompasses IIT Mandi alongside the Forest Research Institute, HIMCOSTE, the G.B. Pant National Institute of Himalayan Environment and multiple other institutions, provides an additional coordination framework for Himalayan research that positions Himachal Pradesh's knowledge institutions within a wider, nationally funded research ecosystem rather than in isolated, state-funded silos (National Mission on Himalayan Studies, 2026).

Academic-industry linkage remains, this Report's assessment concludes, the weakest link in the state's research and development chain relative to its institutional research capacity. The pharmaceutical and chemical manufacturing cluster in the Baddi-Barotiwala-Nalagarh belt, discussed in Chapters 3 and 4 as the state's most significant industrial asset, is not systematically connected to the pharmaceutical biotechnology and bioresource research conducted at Shoolini University, CSIR-IHBT Palampur, the Biotechnology Incubation Centre at Himachal Pradesh University or IIT Mandi, despite the spatial proximity and thematic alignment that in principle make Himachal Pradesh better positioned for pharmaceutical research-to-industry translation than many other Indian states.

This disconnect is consistent with the pattern documented in evaluations of pharmaceutical innovation ecosystems more broadly, where established manufacturing clusters tend to source their research and development from established pharmaceutical research institutions, contract research organisations and large scale innovation programmes rather than from nearby academic institutions whose research quality they have not historically evaluated or trusted, a credibility gap that can in principle be addressed through structured industry-academia collaboration platforms of the kind that the state government has not, to this Report's knowledge, yet established with the deliberateness and sustained resourcing that would be required to produce commercially significant joint research outcomes.

This Report further notes that this specific disconnect between the Baddi-Barotiwala-Nalagarh cluster and the state's own pharmaceutical relevant research institutions carries a direct cost to the cluster's own competitiveness discussed in Chapter 4, since this Report's Chapter 4 discussion of the cluster's gradual shift toward higher value biologics and specialised formulation manufacturing identified value chain upgrading as essential to the cluster's continued national significance, and a stronger, more deliberately structured academic-industry linkage of exactly the kind this section identifies as currently absent would represent one of the more direct, locally available levers through which that upgrading could be accelerated, rather than relying solely on individual pharmaceutical companies' own internal research and development investment.

17.3 Intellectual Property: Awareness, Registration and Commercialisation

Shoolini University's intellectual property performance has achieved what DQ India described in May 2025 as a national recognition of being one of India's highest generators of patents and innovation, a characterisation the university attributes to a deliberate, institutionally embedded model that makes IP filing genuinely accessible to every student and faculty member through a zero-cost pathway covering prior art searches, legal drafting, filing and defence, a model the university extends even to school students through the Ideas That Matter initiative that brings Class 7 and 8 students onto the campus for year-round workshops to brainstorm, prototype and secure patents (DQ India, 2025).

This approach, treating patent filing not as an elite activity reserved for senior researchers with legal budgets but as a normal and accessible dimension of undergraduate and even pre-university education, is this Report's strongest single example of institutional innovation in intellectual property culture within the state, and the establishment of the Shoolini University commercialisation centre, which has already produced four to five spin-off companies including a technology solutions firm and Shoolini Life Sciences, demonstrates that the zero-cost IP access model has progressed beyond legal filing into actual commercial realisation (DQ India, 2025).

This Report regards Shoolini's zero-cost IP filing model as a genuinely replicable institutional practice that the state's other higher education institutions, discussed in section 17.4, could adopt at comparatively modest incremental cost relative to the demonstrated benefit, and recommends, in Chapter 21, that HIMCOSTE, in its coordinating role for the state's science

and technology ecosystem, actively promote Shoolini's zero-cost IP model as a template for adoption at the state's other government and private universities, potentially through a shared, centrally funded IP filing support service that individual institutions with smaller research budgets than Shoolini's could access collectively rather than each needing to build an equivalent internal capability independently.

Beyond the institutional IP performance of Shoolini, a more systematic form of intellectual property protection for the state's traditional and artisanal knowledge base is provided by the Geographical Indication tagging system, under which products with a specific geographical origin and quality or reputation attributable to that origin can be registered to prevent imitation and to command premium pricing in national and international markets. Himachal Pradesh's most commercially significant Geographical Indication registrations include Kullu shawls, Chamba rumal embroidery and Kangra tea, all products discussed further in Chapter 19's treatment of cultural and creative industries, and this Report notes that the state's traditional medicinal plant knowledge, discussed in Chapter 13 and relevant to the CSIR-IHBT Palampur research programme discussed in section 17.2, represents a domain of traditional intellectual property that remains significantly under-protected against commercial biopiracy, a concern that the 4th Himachal Pradesh Science Congress's specific inclusion of traditional knowledge, innovation and intellectual property rights as a subject area for research submissions suggests the state's own scientific community is increasingly aware of (Careers360, 2024).

This Report notes further that the Hast Shilp Vikas Yojna handicraft development scheme discussed in Chapter 7's treatment of Scheduled Caste welfare, and the broader handicraft and artisan economy discussed in that chapter's treatment of Scheduled Tribe communities, would both benefit directly from stronger, more actively enforced Geographical Indication protection for the specific artisan products these communities produce, since a Geographical Indication registration that exists on paper but is not actively monitored and enforced against imitation products manufactured outside the state provides considerably less genuine economic benefit to the artisan communities this Report's Chapter 7 discussion identifies as the intended beneficiaries of handicraft development policy.

This Report recommends, in Chapter 21, that the state government's own Department of Industries and Commerce, in coordination with HIMCOSTE and the state's knowledge institutions, commission a systematic mapping of the state's traditional medicinal plant knowledge and associated traditional practices, both to provide an evidentiary base for defensive intellectual property protection against biopiracy and to inform the kind of benefit-sharing agreements with traditional knowledge holding communities that India's Biological Diversity Act contemplates but that most states, including Himachal Pradesh, have not yet implemented comprehensively.

17.4 Knowledge Institutions as Engines of Development

Himachal Pradesh's knowledge institution landscape is broader and more differentiated than is commonly recognised in assessments focused primarily on the state's more visible

economic assets of hydropower and horticulture. The Indian Institute of Technology Mandi, the Indian Institute of Management Sirmaur, the All India Institute of Medical Sciences at Bilaspur, the Jaypee University of Information Technology at Waknaghat, Shoolini University at Solan, the Dr. Y.S. Parmar University of Horticulture and Forestry at Nauni in Solan district, the Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya agricultural university at Palampur, the CSIR-Institute of Himalayan Bioresource Technology at Palampur, HIMCOSTE and the long-established Himachal Pradesh University in Shimla together constitute a knowledge institution network that in sectoral coverage, if not always in per-institution research intensity, compares respectably with states two to three times Himachal Pradesh's population (IIT Mandi, 2026; CSIR-IHBT, 2026; Invest India, 2026).

This Report notes that the geographic distribution of these institutions across Mandi, Sirmaur, Bilaspur, Solan, Kangra and Shimla districts specifically, rather than concentration in the state capital alone, represents a genuinely valuable, if likely not fully deliberate, distributed knowledge infrastructure that offers each of these districts a distinct institutional anchor around which further, complementary economic activity could be built, a pattern this Report's discussion of growth corridors in Chapter 3 has already touched upon in the specific case of the All India Institute of Medical Sciences at Bilaspur, and one this Report's recommendations in Chapter 21 propose extending more deliberately to each of the other institution-hosting districts as well.

Dr. Y.S. Parmar University of Horticulture and Forestry, named for the state's founding Chief Minister and located in Nauni at an altitude of approximately 1,300 metres, holds a special significance for the state's agricultural economy that this Report's treatment of the horticulture and agricultural sectors in Chapter 3 and Chapter 18 has necessarily engaged with repeatedly. As the primary institutional source of research on apple cultivation, temperate fruit production, medicinal plant cultivation, floriculture and forestry for the state's ecological and climatic conditions, the university's capacity to develop and disseminate high density orcharding techniques suited to warming Himalayan conditions, improved plant varieties with lower winter chilling hour requirements, and climate resilient crop diversification options is directly relevant to the apple economy vulnerability documented in Chapter 1 and Chapter 14.

This Report considers this university's research-to-extension pipeline, the capacity to move research findings from the experimental station into the orchards of smallholder farmers in Kullu, Shimla, Kinnaur and Chamba districts, as one of the state's most critical institutional investments, currently under-resourced relative to its importance, and one this Report's recommendations in Chapter 21 specifically propose be strengthened through dedicated extension funding and farmer-facing communication formats that complement the university's academic research output. Given the apple production decline of approximately 40 per cent projected for 2026 and discussed extensively in Chapter 3, this Report regards strengthening this specific research-to-extension pipeline as among the single highest priority knowledge economy investments identified anywhere in this Report, since the practical, on-orchard adoption of lower chilling hour varieties and improved cultivation techniques developed at Nauni represents one of the few concrete, actionable pathways available to the

state for mitigating the horticulture sector's documented climate vulnerability within a realistic implementation timeframe.

The Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya at Palampur similarly functions as the foundational research institution for the broader agricultural economy examined in Chapter 18, including animal husbandry, crop science, soil management and farm mechanisation, and sits geographically adjacent to the CSIR-IHBT campus, creating a potential but currently under-exploited agricultural research cluster in the Kangra valley that could, with more deliberate coordination between the two institutions and with the state's own Department of Agriculture, produce a more rapid and effective knowledge-to-practice translation than either institution achieves independently.

17.5 Building a Youth Innovation and Research Ecosystem

The youth unemployment rate of 29.6 per cent documented in Chapter 3 and the migration rate of 49.3 per cent documented in Chapter 1 together constitute the most urgent argument for a dedicated effort to build a youth innovation and research ecosystem that makes staying in Himachal Pradesh an economically viable and professionally stimulating choice for the state's most educated young people. The initiatives documented in sections 17.1 and 17.2 represent genuine, if still modest, contributions to this goal.

IIT Mandi's partnership with the Himachal Pradesh Kaushal Vikas Nigam on a one-month skill development programme in machine learning conducted from January to February 2024, in which 54 participants from the Himachal region received hands-on training in machine learning alongside parallel programmes on Internet of Things and Robotics, represents a directly employability-oriented application of the institute's research expertise rather than pure academic training, and the partnership with HPKVN as the government's own skill development agency rather than with a private training provider ensures that the programme is accessible to the state's own young people rather than primarily to those who can afford private technology training fees (Careers360, 2024).

This 54 participant scale, this Report notes, while a genuinely valuable pilot demonstrating institutional willingness and capacity to deliver this kind of specialised technical training, remains a very small fraction of the roughly 30 per cent of the state's youth population currently recorded as unemployed, discussed in Chapter 3, and this Report's assessment is that programmes of this design and quality warrant substantial scaling in participant numbers and programme frequency, rather than continuing to operate as occasional, one-off pilot cohorts, if they are to make a measurable contribution to the youth unemployment challenge at the scale that challenge actually presents.

The Himalayan Startup Trek's ninth edition in January 2026, which brought together students, mentors, policymakers and investors under the explicit framing of building a Startup Valley in the Himalayas, provides a model for the kind of annual, multi-stakeholder event that can over time create the network effects and shared community that characterise more mature startup ecosystems, where accidental encounters between a founder with a problem and a

mentor with relevant experience are as valuable as formal incubation programmes and funding mechanisms (IIT Mandi Catalyst, 2026).

Shoolini University's Ideas That Matter initiative, extending IP education and prototyping workshops to Class 7 and 8 students, is the most age-inclusive innovation education programme this Report has found evidence of within the state, and its explicit goal of ensuring that even school students understand the pathway from idea to patent to commercial product represents a genuine, multi-year investment in the innovation culture that underpins all later startup and research activity, rather than a focus exclusively on university-stage intervention (DQ India, 2025).

This Report notes that extending an initiative of this kind beyond Shoolini's own campus and immediate catchment schools to the state's broader government school network, discussed extensively in Chapter 5, would represent a genuinely valuable expansion of the innovation education pipeline to a considerably larger and more socioeconomically diverse student population than a single private university's outreach programme can reach on its own, and this Report recommends that HIMCOSTE, in coordination with the Department of Education discussed in Chapter 5, explore adapting the Ideas That Matter model for pilot introduction in a selected number of government secondary schools, drawing on Shoolini's own demonstrated curriculum and mentorship approach as a starting template.

This Report considers the combination of school-level IP education at Shoolini, undergraduate startup competitions at both Shoolini and IIT Mandi, postgraduate deep-tech incubation at IIT Mandi Catalyst and pre-rural incubation centres at the block level together as constituting a genuinely multi-stage innovation pipeline, though one that is, at most stages, still small in absolute numbers and that requires considerably more throughput to make a measurable dent in the youth unemployment and migration statistics that motivate this section in the first place.

The state's Startup Policy of 2022 addresses the youth dimension specifically through provisions for registered startups to benefit from fiscal incentives, single window clearances, mentoring and market access support, and the Rajiv Gandhi Self-Employment Start-up Scheme with its Rs 680 crore outlay, discussed in Chapter 4, is explicitly framed around enabling first-generation entrepreneurship among the state's young people, a targeting rationale directly aligned with this section's focus on converting the state's educated, unemployed and under-employed youth into economically active entrepreneurs and innovators rather than continuing to export their skills to neighbouring states (India Brand Equity Foundation, 2026).

This Report's assessment is that these instruments are well-intentioned and directionally appropriate but that their actual uptake and success rates are not publicly tracked and reported in a manner that allows independent evaluation of whether they are reaching their target beneficiaries and producing measurable outcomes, a transparency gap this Report recommends closing through annual, publicly available reporting on startup policy uptake, scheme beneficiary profiles and post-support business survival rates.

17.6 Skill Development, Employability and Workforce Alignment

Skill development policy in Himachal Pradesh operates through a set of institutional channels discussed in section 5.4 of Chapter 5, including the Department of Technical Education, Vocational and Industrial Training, the Himachal Pradesh Kaushal Vikas Nigam, the network of Industrial Training Institutes and polytechnics, and the vocational education framework for Classes 9 through 12 aligned with the National Skills Qualification Framework, all of which this Report has already examined in their education policy context. This section examines skill development specifically from the workforce alignment perspective of the knowledge economy, asking whether the skills being developed through these channels are those required by the state's existing knowledge-intensive industries, emerging startup economy and broader digital economy ambitions, or whether a structural mismatch between skill supply and knowledge economy demand is contributing to the youth unemployment and migration documented throughout this Report.

The evidence available to this Report suggests that the alignment between skill supply and knowledge economy demand in Himachal Pradesh remains significantly incomplete, particularly for the digital and technology skills increasingly required by the pharmaceutical manufacturing sector's digital quality management systems, the tourism sector's digital booking and visitor management platforms, the emerging agritech and health-tech ventures within the startup ecosystem and the e-governance platforms documented in Chapter 16.

HPKVN's collaboration with IIT Mandi on machine learning training, discussed in section 17.5, and the IIT Mandi iHub and HCI Foundation's expression of interest for skill development training partners in human-computer interaction, discussed in section 17.2, represent promising examples of knowledge institution to workforce pipeline development, but both are currently small in scale, delivering training to dozens rather than thousands of participants per programme cycle, and the sustainable institutionalisation of these programmes as ongoing, regularly funded skill development pathways rather than one-off or pilot initiatives requires dedicated budget allocation and institutional embedding that neither programme has yet fully secured.

The pharmaceutical manufacturing cluster in Baddi-Barotiwala-Nalagarh is the state's largest knowledge-intensive employer and the most natural anchor for workforce alignment in the technical skills domain, employing large numbers of pharmacy graduates, quality control technicians, chemical engineers, packaging specialists and industrial electricians alongside its smaller proportion of senior research and development scientists. The state's government pharmacy colleges and pharmacy programmes within the private university network, particularly Shoolini's pharmacy school, supply a significant proportion of the cluster's graduate workforce, representing one of the cleaner academic-industry pipelines observable anywhere in the state's knowledge economy, though this Report was unable to locate precise, current data on the employment rate of pharmacy graduates within the state versus their departure to pharmaceutical hubs outside Himachal Pradesh, a data gap that, if closed, would provide the most direct quantitative test of whether academic supply in this domain is being absorbed locally or lost to the same outmigration documented for other graduate fields.

For the tourism and hospitality sector, which employs roughly 14 per cent of the workforce as documented in Chapter 3, formal hospitality management training remains underrepresented in the state's skill development architecture relative to the sector's economic significance, with the sector relying heavily on informal, on-the-job training and inter-state workers rather than locally trained, formally certified hospitality professionals, a gap whose closing would simultaneously improve service quality in the tourism sector, examined in Chapter 19, and reduce the hospitality-specific component of the youth unemployment documented in Chapter 3.

This Report notes that this specific hospitality skills gap connects directly to the informal economy discussion in Chapter 3, since the tourism sector's continued reliance on informal, on-the-job trained staff rather than formally certified professionals is both a symptom and a cause of the broader informal tourism employment pattern this Report's Chapter 3 discussion has already identified, meaning that a dedicated hospitality skill development expansion would address not only a workforce alignment gap in the narrow knowledge economy sense examined in this chapter but also contribute directly to the formalisation of tourism sector employment this Report's Chapter 3 recommendations identify as a broader economic policy priority.

This Report's consolidated recommendations for the innovation and knowledge economy, developed fully in Chapter 21, prioritise four linked actions. First, establishing a formal Himachal Pradesh Academic Industry Research Consortium specifically linking the Baddi-Barotiwala-Nalagarh pharmaceutical cluster with Shoolini University, CSIR-IHBT Palampur and IIT Mandi's biotechnology and chemical engineering capabilities, with a specific mandate to produce jointly funded, commercially oriented research programmes rather than only publication-oriented academic collaboration. Second, scaling IIT Mandi Catalyst's rural incubation programme from the 36 pre-rural incubation centres currently planned to a comprehensive, block-level rural innovation support architecture, providing micro-grant, mentoring and market linkage support to the agricultural technology, clean energy and tourism technology startups most suited to the state's own economic characteristics. Third, expanding the IIT Mandi-HPKVN skill development partnership model to cover the full range of digital skills required by the state's knowledge economy sectors, including data analysis, digital marketing, hospitality management technology, agritech applications and industrial automation, with publicly reported placement rates allowing annual assessment of workforce alignment effectiveness. Fourth, establishing a systematic, annual Himachal Pradesh innovation and knowledge economy reporting mechanism, modelled on the state's existing economic survey format but focused specifically on startup formation rates, patent filings, research publication output, IP commercialisation income and skill programme placement outcomes, providing the kind of transparent, publicly accountable evidence base that this chapter has found significantly lacking in current official reporting and that is a necessary precondition for confident policy investment in the knowledge economy going forward.

Chapter 18: Agriculture, Allied Sectors and Food Security

18.1 Cropping Pattern, Agricultural Productivity and Input Use

Agriculture remains, in employment terms, the dominant livelihood activity in Himachal Pradesh, engaging approximately 53.98 per cent of the state's working population even as the sector contributes only 14.3 per cent of Gross State Value Added, a structural imbalance this Report has identified in Chapter 3 as one of the state's most consequential economic bottlenecks and one whose resolution is inseparable from the climate adaptation, food security and rural livelihoods priorities examined throughout this chapter (MockKitaab, 2026). The state's agricultural land base is fundamentally fragmented, dispersed across the terraced hillsides and valley floors of twelve districts spanning five distinct agroclimatic zones, from the subtropical Shivalik foothills of Una and Hamirpur to the cold arid landscapes of Lahaul and Spiti, and characterised by average landholding sizes considerably below the national average, since the inheritance and subdivision patterns of hill communities over successive generations have produced a settlement pattern of small family farms that individually lack the scale economies to invest in modern inputs, mechanisation or quality control infrastructure without collective or cooperative support (DCMSME, 2020).

This average landholding size, cited in Chapter 3 at approximately 1.02 hectares according to the most recent agricultural census data, is itself the single most consequential structural constraint shaping every other dimension examined in this chapter, since a farm of this size generates a surplus too modest, in most years, to justify independent investment in mechanisation, cold storage or direct market access infrastructure, meaning that nearly every intervention this Report discusses across the following sections, cooperative aggregation, government procurement, shared processing infrastructure, ultimately functions as a substitute for the scale economies that individual Himachali farm holdings structurally cannot achieve on their own.

Within the state's cropping pattern, the primary food crops are rice, maize, wheat and potato, with rice and maize dominating the Kharif season and wheat the Rabi season across the accessible middle hill districts of Kangra, Mandi, Hamirpur and Bilaspur, while the higher altitude districts of Kullu, Shimla, Kinnaur and Lahaul and Spiti grow barley, buckwheat and cool season vegetables including peas, cauliflower and capsicum that are particularly valuable in out-of-season supply to the national market during the summer months when comparable produce from plains states is unavailable (Invest India, 2026).

This off-season vegetable supply advantage, this Report notes, represents one of the more underappreciated structural assets in the state's agricultural economy, since a Himachali grower supplying capsicum or peas to the Delhi wholesale market in June, when plains state supply of the same crop is largely unavailable, commands a price premium purely by virtue of seasonal timing rather than requiring any specific quality certification or brand premium of the kind the natural farming and Geographical Indication initiatives discussed elsewhere in this chapter must actively cultivate, and this Report considers this seasonal arbitrage

advantage deserves more deliberate promotion and market linkage support than it currently appears to receive relative to the higher profile apple economy.

Crop productivity for the state's staple food crops remains constrained by the overwhelmingly rainfed character of cultivation discussed in Chapter 10, the fragmented and largely subsistence-oriented nature of most individual farm holdings, the limited availability and high cost of mechanised inputs suited to steep, terraced fields where conventional tractor equipment cannot operate, and, increasingly, the soil degradation and input cost escalation associated with the shift toward chemical intensive horticulture in former food crop areas discussed in Chapter 13 (DCMSME, 2020).

The most significant state specific innovation in agricultural input policy is the Mission on Natural Farming, which the state government has described as the country's first statewide programme to introduce natural farming, free of chemical inputs, across the agricultural sector, now covering 2.22 lakh farmers across 900 Gram Panchayats and supported by a Minimum Support Price scheme for naturally grown crops that the state presents as the country's first such price support mechanism specifically designed for chemically unprocessed agricultural produce (Invest India, 2026; PRS Legislative Research, 2025). This 2.22 lakh farmer coverage figure, this Report notes, represents a meaningful expansion from the 1.87 lakh families reported for the scheme in Chapter 3's discussion, and this continuing growth trajectory suggests a programme gaining rather than losing momentum, though this Report reiterates its Chapter 3 observation that rigorous, controlled yield comparison data between natural farming and conventional plots remains limited, and that the scheme's genuine long term productivity and income impact, as distinct from its input cost reduction benefit, requires continued independent monitoring rather than being assumed from enrolment growth alone.

The policy rationale for natural farming in Himachal Pradesh is stronger than in most states, given the direct connection between chemical fertiliser and pesticide use and the soil degradation, water quality impairment and consumer health concerns that Chapter 13 has documented for the state's fragile, steep terrain agricultural areas, and the premium market positioning available to certified natural and organic produce from a state already associated nationally with pristine mountain imagery provides a commercially coherent rationale alongside the ecological one. Agricultural credit access remains constrained for the state's smallest and most remote hill farmers, who lack the formal land title documentation required by most lending institutions and whose collateral, typically a small terraced plot of limited formal market value, provides inadequate security for the seasonal crop loans that would otherwise allow them to invest in better planting material, post-harvest handling or market linkage, a structural credit access challenge addressed partially but not comprehensively by the Kisan Credit Card scheme discussed in section 18.8 below.

18.2 Irrigation and Water Use Efficiency in Agriculture

The relationship between irrigation and agricultural productivity in Himachal Pradesh is examined in Chapter 10 from a water resource governance perspective, but deserves fuller

treatment here in its agricultural production context. The state's agricultural land is, as Chapter 10 has documented, overwhelmingly rainfed rather than irrigated by formal command area schemes, a structural exposure that this Report considers the single most important agricultural infrastructure gap in the state given the climate driven precipitation variability and chilling hour reduction documented extensively in Chapter 14.

The World Bank-funded Himachal Pradesh Horticulture Development Project, discussed further in section 18.7, has included an irrigation component specifically targeting the extension of drip and sprinkler irrigation to horticulture holdings, recognising that assured, precision applied water supply is a precondition for the high density orcharding model the project seeks to promote, and that drip irrigation, in particular, reduces water use per unit area relative to flood irrigation while providing more precise control over soil moisture at the critical flowering and fruit development stages when water stress is most damaging to yield and fruit quality (World Bank, 2024; The Tribune, 2019).

This precision irrigation emphasis, this Report notes, connects directly to the electricity reliability discussion in Chapter 9, since drip and sprinkler systems, unlike gravity fed kuhl channels, typically depend on electric pumps to pressurise the delivery network, meaning that the same rural electrification quality gap this Report identified in Chapter 9 as more acute in remote, high altitude districts also constrains the practical reliability of exactly the modern precision irrigation infrastructure the Horticulture Development Project is investing in in those same districts, a linkage this Report considers should be explicitly addressed in the project's own risk management planning rather than treated as an unrelated infrastructure concern.

The state's traditional kuhl irrigation systems, discussed in Chapter 10 from a water management perspective and in Chapter 17 from a traditional knowledge perspective, deserve explicit attention here for their direct agricultural production function. Research conducted by water resource scholars and cited in international comparative literature on mountain irrigation systems finds that kuhls, at their peak historical extent, served a substantial proportion of the cultivated terraces of the middle Kangra and Kullu valleys, and that the progressive decline of these systems since the mid-twentieth century, through a combination of upstream channel diversion for other uses, declining community management investment, and physical damage from increased flood intensities of the kind documented in Chapter 14, has contributed measurably to the rainfed vulnerability of the agricultural areas they once served (Frontiers, 2026).

This Report's recommendation in Chapter 21 for kuhl rehabilitation as a cost effective irrigation investment, discussed in Chapter 10, carries its most direct agricultural productivity justification here, since the restoration of even a minority of historically productive kuhl systems in the most apple-growing districts of Kullu, Shimla and Kinnaur would extend assured irrigation to orchards currently dependent on the increasingly erratic snowmelt and monsoon precipitation patterns documented in Chapter 14, at a cost per irrigated hectare likely far below the equivalent investment in new lift irrigation scheme construction in the same terrain. This Report reiterates, however, its Chapter 13 caution that any kuhl revival

programme must first verify that the source spring or stream feeding each candidate channel retains adequate flow given the hydropower diversion pressures documented in that chapter, since restoring a channel whose upstream source has itself been depleted would represent a wasted investment addressing a visible symptom rather than the underlying hydrological cause.

Water use productivity, as this Report has noted in Chapter 10, is not systematically measured or publicly reported for Himachal Pradesh's irrigated agriculture, and this Report recommends, consistent with its broader data transparency agenda, that the state's Irrigation and Public Health Department and Agriculture Department jointly develop a water-use productivity monitoring programme for irrigated horticulture holdings as a first step toward the kind of evidence-based irrigation investment prioritisation this sector clearly requires.

18.3 Agricultural Marketing, Price Realisation and Farmer Income

The gap between farm gate price and consumer price for Himachal Pradesh's most valuable agricultural product, apples, has been a persistent and politically contentious issue in the state's agricultural economy for decades, with considerable research and policy attention focused on the role of commission agents and transporters in capturing a disproportionate share of the value generated by the orchard while small farmers bear the full production cost and climate risk. The Himachal Pradesh Horticulture Produce Marketing and Processing Corporation, known as HPMC, serves as the state's primary institutional vehicle for market intervention, operating procurement, cold storage, processing and marketing functions for apple and other horticultural produce, though its operational capacity has historically been significantly below the scale required to serve as a genuine market alternative to private commission agents for the majority of the state's apple growers (Nimbus IAS, 2025).

This capacity shortfall, this Report notes, means that HPMC's price stabilising function operates more as a partial floor for a minority of growers able to access its procurement centres than as a comprehensive market alternative available to the sector as a whole, and this Report's assessment is that expanding HPMC's procurement infrastructure and geographic reach, particularly into the more remote orchard belts of Kinnaur and upper Kullu where private commission agent dependence is likely most acute given the greater distance to alternative market channels, should rank among the state's higher priority agricultural marketing investments, precisely because HPMC's demonstrated institutional model already exists and requires scaling rather than being built from first principles.

The integration of the state's horticultural produce trading with the Electronic National Agriculture Market, known as e-NAM, provides an online price discovery and trading platform intended to improve price transparency and reduce the information asymmetry that allows middlemen to exploit farmers' limited knowledge of ruling market prices, though the practical impact of e-NAM for remote hill growers whose connectivity, discussed in Chapter 16, remains limited is necessarily modest relative to its theoretical potential (Nimbus IAS, 2025). This Report notes that the Amended BharatNet Program discussed in Chapter 16, once fully deployed across all 3,615 Gram Panchayats, would directly address this specific

connectivity constraint on e-NAM utility, meaning that e-NAM's practical value to the state's remote apple growers is likely to increase materially, and largely automatically, as that broader connectivity infrastructure programme reaches completion, rather than requiring a separate, dedicated agricultural connectivity investment.

The state government's most significant recent price intervention is the Minimum Support Price scheme for naturally grown crops, announced in the 2025-26 budget, which provides a price floor for farmers enrolled in the Mission on Natural Farming programme and whose produce meets the scheme's chemical residue free certification standards, establishing a direct link between the ecological farming transition discussed in section 18.1 and the market premium realisation that justifies the transition from the farmer's economic perspective (PRS Legislative Research, 2025).

The milk Minimum Support Price announced in the same budget, raising procurement prices from Rs 45 to Rs 51 per litre for cow milk and from Rs 55 to Rs 61 per litre for buffalo milk, discussed in Chapter 3, similarly addresses the farm gate price realisation challenge for a second major commodity whose production data, examined in section 18.5, shows strong and growing output that is not consistently translating into household income improvement for small dairy farmers (PRS Legislative Research, 2025).

Cold chain infrastructure, including Controlled Atmosphere storage facilities for apples, grading lines, pre-cooling chambers and solar-powered cold rooms, is the most capital intensive component of the marketing improvement agenda, and the World Bank-funded Himachal Pradesh Horticulture Development Project has invested specifically in these post-harvest quality preservation facilities, recognising that much of the value destruction in the apple marketing chain occurs not through price exploitation alone but through physical deterioration of fruit quality between orchard and market that better storage and handling would prevent (World Bank, 2024).

18.4 Food Processing Industry and Value Chain Development

Himachal Pradesh's food processing industry is, relative to the scale of its primary agricultural production, considerably underdeveloped, a gap most visible in the apple sector where the state produces more than half a million metric tonnes annually of premium quality fruit, the overwhelming majority of which exits the state as fresh, unprocessed produce rather than as value added products including juice concentrate, cider, dried apple chips, apple cider vinegar, pectin or preserved fruit, all of which command meaningfully higher and more stable price realisations than fresh fruit traded at the highly seasonal, highly price-volatile market peak that characterises the state's apple harvest window (CEIC, 2025).

HPMC operates an apple processing facility producing juice and concentrate, and several private sector players have established small-scale processing units in the state's fruit belt districts, but the combined processing capacity available within the state is able to absorb only a small minority of the annual crop, leaving the majority of apple farmers entirely dependent on fresh market price movements at the time of harvest, with no alternative

value-added outlet to absorb production in the poor quality or price-crash years of the kind documented for 2026 in the Preface and Chapter 1 of this Report (Nimbus IAS, 2025).

This absence of adequate processing capacity as a buffer against poor harvest years, this Report notes, is of particular consequence for 2026 specifically, given the roughly 40 per cent production decline projected in Chapter 3, since a well developed processing sector, capable of absorbing lower grade or surplus fruit that does not meet fresh market cosmetic standards, would provide growers a meaningful secondary revenue channel precisely in years when climate stress reduces both total yield and the proportion of fruit meeting premium fresh market grading standards, meaning that the absence of processing capacity compounds, rather than merely coexists with, the climate vulnerability this Report has documented extensively for the apple economy.

The state government's investment promotion material cites food processing as one of the sectors prioritised under the Rising Himachal Global Investors' Meet framework discussed in Chapter 4, and the Mission for Integrated Development of Horticulture under the central government's Agriculture Infrastructure Fund provides a structured financing mechanism through which individual farmers, Farmer Producer Organisations, cooperatives and agri-entrepreneurs can access capital subsidised loans for post-harvest processing and storage infrastructure (Invest India, 2026).

However, this Report was unable to locate current, publicly available data on the number of approved projects, aggregate investment and operational capacity under this fund specifically for Himachal Pradesh sufficient to characterise the fund's actual impact in the state with any precision, and notes this as a further instance of the agricultural sector data transparency gap documented at multiple points throughout this chapter. The most transformative single investment in food processing value chain development would, in this Report's assessment, be the establishment of at minimum two or three modern, large scale fruit processing facilities, capable of producing internationally marketable concentrated juice, dried fruit and nutraceutical extracts, in the Shimla, Kullu and Kinnaur orchard districts, financed through a combination of Agriculture Infrastructure Fund support, state capital subsidy and private sector operation under a long term off-take agreement with HPMC providing the downside price protection that private processors require to make such capital-intensive investments viable in a market as volatile as fresh apple supply.

18.5 Animal Husbandry, Dairy and Poultry: Economic Contribution

Animal husbandry is, after horticulture and food crop cultivation, the third major component of Himachal Pradesh's primary sector and a critical source of cash income and nutritional security for the state's hill farming households, particularly in the middle hill districts of Kangra, Mandi and Hamirpur where dairy cattle holdings complement horticulture and food crop cultivation within mixed farming systems that spread income and risk more broadly than monoculture orcharding alone.

Milk production in the state reached 1,748,960 thousand tonnes in 2024, the all-time high in the data series maintained by the Department of Animal Husbandry and Dairying going back

to 1998, representing an increase from 1,617,410 thousand tonnes the previous year, a growth of approximately 8.1 per cent, and reflecting the combined effect of improved veterinary services, artificial insemination coverage expanding the share of high-yielding crossbred cattle in the state's livestock population, and the milk Minimum Support Price incentive discussed in section 18.3 that has encouraged continued investment in dairy despite the competing labour demands of the expanding horticulture sector (CEIC, 2024).

This 8.1 per cent single year production growth, this Report notes, is a genuinely strong result relative to the more modest, single digit growth rates typically recorded for mature dairy sectors in established production states, and this Report regards it as tentative, if not yet conclusive, evidence that the milk Minimum Support Price incentive discussed in Chapter 3 and section 18.3 is having a measurable positive effect on production incentives, though this Report cannot rule out that favourable weather or other factors specific to the 2024 reporting year also contributed to this particular year's strong growth figure.

Per capita milk availability in the state stood at 640 grams per day in 2024, also a record high for the state and considerably above the national average, reflecting both the state's strong production and its relatively small population base (CEIC, 2024). This per capita availability figure, this Report notes, connects directly to the nutrition security discussion in Chapter 6, since a state with genuinely abundant per capita milk supply possesses a meaningful structural advantage for addressing the child and maternal nutrition indicators discussed in that chapter, provided this abundant supply reaches the households, including those in remote districts, most likely to experience nutritional vulnerability, a distributional question this Report's available data does not allow it to answer with confidence.

Wool production is a further, if smaller, contribution of the state's livestock sector to the national economy. The Basic Animal Husbandry Statistics 2025, published by the Department of Animal Husbandry and Dairying on the occasion of National Milk Day 2025 and covering the survey period from March 2024 to February 2025, records Himachal Pradesh as contributing 4.30 per cent of India's total wool production, estimated nationally at 34.57 million kilograms, with a national growth rate of 2.63 per cent over the previous year (Press Information Bureau, 2025).

This places the state fifth nationally in wool output, behind Rajasthan, Jammu and Kashmir, Gujarat and Maharashtra, a position consistent with the Gaddi transhumant pastoralism discussed in Chapter 7 and Chapter 1 and the state's established tradition of fine Kullu wool weaving, discussed further in Chapter 19's treatment of the creative and handicraft economy. The state government's Pashu Mitra Recruitment 2025 initiative, aimed at strengthening veterinary and animal husbandry services across the state, reflects a recognition that access to quality veterinary care and animal nutrition advisory services remains uneven across the state's dispersed, high altitude livestock holdings and that strengthening this service infrastructure is a precondition for further productivity improvement in both dairy and wool production (Wikipedia, 2026).

This Report notes that the Pashu Mitra initiative's veterinary service strengthening mandate connects directly to the rural health workforce deployment challenge discussed in Chapter 6, since veterinary service delivery in remote, high altitude districts faces the same terrain related recruitment and retention difficulties this Report has documented for human health and education workforce deployment throughout this Report, suggesting that lessons from whatever incentive structures prove effective in attracting and retaining veterinary staff in these districts could usefully inform the parallel human health workforce retention challenge, and vice versa, rather than each sector developing its remote deployment incentive policy in isolation.

18.6 Fisheries: Inland, Marine and Aquaculture

As noted in Chapter 4's discussion of the state's absence of port and marine infrastructure, Himachal Pradesh is a landlocked state whose fisheries are entirely inland, concentrated in three distinct production contexts: cold water trout aquaculture in the state's higher altitude rivers and streams, reservoir fisheries in the extensive water bodies created by the state's hydropower dams, principally the Gobind Sagar reservoir behind Bhakra Dam, the Pong Dam reservoir and the Koldam reservoir, and to a lesser extent small-scale freshwater pond aquaculture in the lower hill districts (Invest India, 2026).

Cold water trout farming, particularly rainbow trout production in the crystal clear, oxygen-rich streams of Kullu, Mandi, Chamba and Lahaul-Spiti districts, has developed into a premium niche product with strong market potential in the hospitality sector, both the state's own tourist hotels and restaurants and, through cold chain export, the broader national urban premium food market, and the CSIR-Institute of Himalayan Bioresource Technology at Palampur has conducted specific research on trout nutrition and disease management relevant to the sector's commercial development.

This trout aquaculture sector's dependence on genuinely clean, oxygen-rich, cold stream water, this Report notes, makes it directly vulnerable to precisely the river ecosystem degradation this Report has documented extensively in Chapter 13, including increased turbidity from riverbed mining and altered flow patterns from hydropower diversion, meaning that trout farming's continued commercial viability provides a further, directly economically quantifiable stake in the river health restoration this Report's Chapter 13 recommendations identify as urgently needed, beyond the purely ecological and biodiversity arguments already advanced in that chapter.

The Pong Dam reservoir in Kangra district, a Ramsar designated wetland whose ecological significance is discussed in Chapter 13, simultaneously supports one of the state's most productive reservoir fisheries, with a large population of freshwater fish including catfish, carp and rohu that sustains a community of licensed fisherfolk residing in the villages surrounding the reservoir.

Systematic, current data on total state fish production, the number of licensed fishers, aquaculture area under cultivation and the sector's contribution to state Gross Value Added was not available to this Report in a publicly accessible, verified form, an evidentiary gap

that this Report considers particularly surprising given fisheries' dual role as a livelihood sector for lakeside and riverside communities and as an ecological indicator of river and reservoir health whose trends, already discussed with concern in Chapter 13, bear directly on the food security of those communities. This Report recommends, in Chapter 21, that the state's Fisheries Department publish annual production statistics disaggregated by species, production system, district and market destination, consistent with the data transparency recommendations this Report has made across multiple other agricultural sub-sectors throughout this chapter.

18.7 Horticulture, Floriculture and Medicinal Plants

Horticulture is, by the most widely used measure, the most economically significant agricultural subsector in Himachal Pradesh, with apples alone accounting for an estimated 80 per cent of the state's total horticultural output and the state's total orchard area having grown from just 400 hectares in 1950 to 1,15,680 hectares by 2023, a remarkable expansion driven by the post-independence introduction of commercial apple cultivation to the Kullu and Shimla districts and its subsequent spread across nearly every temperate zone district of the state (World Bank, 2024).

Apple production from Ministry of Agriculture and Farmers Welfare data stood at 502,948 thousand tonnes in 2025, a slight decline from 506,687 thousand tonnes in 2024, against an all-time high of 777,126 thousand tonnes in 2016, with the decade-long gap between the 2016 peak and current production levels reflecting the combined impact of increasingly adverse chilling hour trends, erratic hailstorm intensity and the continued dominance of older, low density seedling rootstock orchards with inherently lower and more variable yields than high density clonal rootstock plantings (CEIC, 2025; The Tribune, 2026).

This roughly decade long production decline from the 2016 peak, this Report notes, provides important longer term context for the sharper, single year 2026 decline projected in Chapter 3, since it demonstrates that the apple sector's climate vulnerability is not a sudden, one-off 2026 phenomenon but the continuation of a trend already visible for close to ten years, meaning that the high density orcharding and varietal diversification responses discussed below represent a response to a sustained structural challenge rather than an emergency reaction to a single bad year, and this Report considers this longer trend line should inform the urgency and scale with which the state pursues the orchard modernisation agenda discussed throughout this section.

The World Bank-funded Himachal Pradesh Horticulture Development Project, now in its implementation and results phase, has directly empowered over 1.34 lakh people including farmers, Water User Association members and rural entrepreneurs, with 34 per cent of the enterprises supported under the project being women-owned, a gender equity outcome this Report considers significant in a sector where orchard ownership is predominantly male and where the project's deliberate targeting of women-led enterprises represents a concrete implementation of the gender mainstreaming priority discussed in Chapter 7 and Chapter 20 (World Bank, 2024).

The project has invested in controlled atmosphere storage capacity, grading lines, planting material including clonal rootstocks suitable for high density orcharding, drip irrigation, and extension services including the training of Himachali farmers by New Zealand Plant and Food Research specialists in international best practices for high density apple management, a technology transfer that this Report considers one of the more pragmatic and directly applicable uses of international development finance in the state's agricultural modernisation programme (World Bank, 2024).

High density planting, the practice of growing apple trees on dwarfing rootstocks such as M.9 at densities of 500 to 1,000 trees per hectare rather than the traditional 100 to 250 trees under seedling rootstocks, produces earlier bearing, higher and more consistent annual yields, and greater suitability for mechanical harvesting assistance and canopy management relative to the traditional low-density orchards that still dominate the state's apple area (Indian Journal of Horticulture, 2025; The Tribune, 2019). This Report regards the pace of transition from traditional seedling rootstock orchards to high density clonal rootstock plantings as the single most consequential technical variable determining the apple sector's medium term resilience, and recommends, in Chapter 21, that the state track and publicly report the annual rate of high density conversion as a headline horticulture sector performance indicator, given how directly this metric bears on the sector's capacity to recover the production levels last seen at the 2016 peak.

Beyond apples, the state's other significant horticultural commodities include stone fruits such as plum, apricot and cherry concentrated in Kinnaur, Lahaul-Spiti and high Kullu, kiwi fruit in Kullu and Mandi, pears and walnuts across several middle hill districts, and a range of off-season vegetables including peas, French beans, cauliflower and capsicum grown in the higher altitude areas during the summer months when plains states cannot supply these crops.

Medicinal and aromatic plants represent a growing and strategically significant diversification opportunity, with the CSIR-Institute of Himalayan Bioresource Technology at Palampur conducting specific research on the cultivation, extraction and commercial development of species including *Valerian officinalis*, *Swertia chirata*, *Artemisia*, mint and geranium that grow naturally or can be cultivated across the state's range of altitudinal zones. This Report notes that this medicinal plant sector connects directly to the traditional knowledge intellectual property protection discussed in Chapter 17, since the same biopiracy vulnerability this Report identified for the state's traditional medicinal plant knowledge in that chapter applies with equal force to the commercial cultivation of these species discussed here, meaning that the mapping and defensive intellectual property protection recommendations made in Chapter 17 should be pursued jointly with, rather than separately from, this sector's commercial development ambitions.

Floriculture, including cut flower production for the national wedding and events market, has been promoted in the middle hill districts, particularly Kullu and Mandi, as a high value per unit area alternative to food crops on the most accessible, irrigated farm plots, though the cold chain requirements for fresh cut flowers limit the sector's geographic reach to farms within practical refrigerated truck transport distance of the state's road network.

18.8 Agricultural Credit, Insurance and Risk Management

Agricultural credit access in Himachal Pradesh is constrained by the same structural factors documented in section 18.1, including fragmented land holdings with limited collateral value, incomplete land title documentation in several high altitude tribal areas, and the physical distance of many farming households from the nearest bank branch or Primary Agricultural Credit Society office that reduces the practical accessibility of even formally available credit schemes.

The Kisan Credit Card scheme, implemented nationally by the National Bank for Agriculture and Rural Development through scheduled commercial banks, regional rural banks and cooperative credit institutions, provides the primary institutional credit instrument for seasonal agricultural operations, and the state's small farmer and marginal farmer population is eligible for Kisan Credit Cards at the Rs 1.60 lakh collateral free lending limit applicable nationwide, though actual card penetration among the state's most remote hill farmers is not publicly reported in a form this Report was able to verify with current data (NABARD, 2025).

This Report notes that the primary agricultural credit societies discussed in Chapter 12's treatment of rural cooperatives represent the most locally embedded institutional channel through which Kisan Credit Card penetration in remote districts could plausibly be improved, given these societies' existing presence and trust relationships within farming communities that a distant scheduled commercial bank branch cannot easily replicate, and this Report recommends that any effort to close the Kisan Credit Card penetration data and access gap identified here be pursued specifically through strengthening the primary agricultural credit society network discussed in Chapter 12, rather than relying solely on commercial bank branch expansion.

Crop insurance has historically been taken up at low rates in Himachal Pradesh relative to the state's high and growing climate related production risk documented extensively in Chapter 14, a pattern consistent with national evidence that uptake of the Pradhan Mantri Fasal Bima Yojana, the national crop insurance scheme introduced in 2016, has been uneven and often dependent on whether institutional credit is linked to compulsory insurance enrolment rather than on farmers' voluntary recognition of insurance's risk management value (Nimbus IAS, 2025).

Weather-based insurance products, which pay out against specific weather event triggers such as below-threshold temperature accumulation during the chilling season rather than requiring ex post crop loss assessment, are particularly well suited to the apple sector's hail and frost risks and have been piloted in horticulture districts of the state, though again with limited publicly available data on programme scale and actual payout performance sufficient for this Report to assess their effectiveness with confidence.

This Report notes that a well designed weather-based insurance product, triggered automatically by verified meteorological data rather than requiring individual farm loss assessment, would be particularly valuable for a 2026 harvest year of the kind documented in

Chapter 3, since the insufficient chilling hours driving that year's projected 40 per cent production decline are, in principle, precisely the kind of objectively verifiable, station-recorded weather parameter that a weather index insurance product could use as an automatic payout trigger, avoiding the delay and dispute risk associated with individual farm-level loss assessment across tens of thousands of dispersed, small holder orchards.

The state government's own hailstorm relief programme provides emergency compensation for crop losses from hail, one of the most damaging and most rapidly intensifying weather hazards documented in this Report, though the relief rates and claim processing timelines are not consistently published in a form allowing systematic assessment of whether the relief adequately compensates affected farmers relative to their actual production losses.

This Report recommends, in Chapter 21, that the state's Department of Agriculture, in coordination with the Horticulture Department and the state's lead insurance implementing agency, develop and publish a comprehensive agricultural risk management strategy that explicitly addresses the hail, frost, insufficient chilling hour and flash flood risks documented throughout this Report, specifying the insurance products, subsidy structures, premium rates and claim processing timelines that together constitute a credible, farmer-accessible risk management framework appropriate to the specific hazard profile of Himachal Pradesh's climate-exposed agricultural economy. This Report's consolidated assessment across this chapter is that Himachal Pradesh's agricultural sector, while structurally constrained by fragmented landholding and difficult terrain, possesses genuine and in several cases nationally significant comparative advantages, off-season vegetable supply timing, premium horticulture branding potential, strong and growing dairy output and a distinctive medicinal plant resource base, whose full economic realisation depends substantially on the irrigation, marketing, processing, credit and insurance infrastructure gaps this chapter has identified, each of which this Report's consolidated recommendations in Chapter 21 treat as an interconnected priority rather than a series of independent sectoral concerns.

Chapter 19: Tourism, Culture and Creative Economy

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

Himachal Pradesh's tourism asset base is, by any comparative assessment, among the richest and most diverse of any Indian state of its population size, a natural endowment whose breadth spans five geographically and climatically distinct tourism landscapes, each offering a fundamentally different visitor proposition, and whose depth extends from internationally iconic destinations familiar to every Indian travel market to dozens of lesser-known sites that could, with focused infrastructure and promotion investment, absorb a significantly expanded visitor volume without concentrating pressure on the already congested primary hotspots. The state's natural tourism assets include the snow-capped Himalayan peaks and glaciated high valleys of Lahaul and Spiti and upper Kinnaur, the alpine meadows and conifer forests of Kullu-Manali and the Seraj valley, the subtropical Shivalik foothills of Kangra and Hamirpur, the temperate hill station landscapes of Shimla, Chail, Kasauli and Dalhousie, and the Great Himalayan National Park in Kullu district, inscribed as a UNESCO World Heritage Site in 2014 for its outstanding biodiversity significance and together comprising an ecological tourism asset of global standing (UNESCO World Heritage Centre, 2014).

This five zone tourism geography, this Report notes, maps closely onto the same agroclimatic and administrative diversity discussed in Chapter 18's treatment of the state's cropping pattern, suggesting that any deliberate strategy to diversify visitor flows away from the currently overcrowded Shimla-Manali corridor could usefully draw on the same zone-based planning logic already applied to the state's agricultural development, treating each of the five tourism landscapes as a distinct destination brand requiring its own tailored infrastructure and marketing investment rather than promoting the state as an undifferentiated single destination.

Adventure tourism assets range from the world-class white water rafting on the Beas River near Kullu and on the Sutlej near Tattapani, the Rohtang Pass and Solang Valley winter sports facilities near Manali, the high altitude trekking circuits of Spiti, the Pin Parvati Pass and the Great Himalayan National Park, and paragliding from Billing above Bir in Kangra district, which hosts an annual paragliding world cup event that has elevated Billing to one of the globally recognised paragliding capitals of the sport (Paharistudent, 2025). This Report notes that the Beas and Sutlej river rafting economy specifically carries a direct, and currently underappreciated, stake in the river ecosystem health discussed extensively in Chapter 13, since the same riverbed mining and turbidity degradation this Report has documented as threatening fish breeding grounds and downstream water quality also degrades the recreational water quality and channel navigability on which a commercial white water rafting operation depends, meaning that river health restoration, argued for in Chapter 13 primarily on ecological grounds, carries a direct and quantifiable tourism revenue justification as well.

Religious tourism is the other dominant pillar of the state's natural tourism catchment. Himachal Pradesh hosts five Shakti Peeth sites, among the most sacred pilgrimage

destinations in Hindu tradition, including the Jwala Mukhi temple in Kangra district where natural gas flames burn from rock fissures, the Chintpurni temple in Una district and the Naina Devi temple in Bilaspur district, all of which attract millions of domestic pilgrims annually, creating a pilgrimage tourism circuit whose volume and economic significance for the surrounding communities dwarfs the more photogenic adventure and leisure tourism segments in raw visitor numbers, even if it generates a lower per visitor average spend (Paharistudent, 2025).

This Report notes the direct relevance of the still-incomplete Una-Hamirpur rail line, discussed in Chapter 8, specifically to this pilgrimage circuit, since that 54.1 kilometre project was explicitly intended to connect the Jwala Mukhi and Chintpurni temples, and the near decade long gap between the line's 2017-18 approval and its still unconfirmed completion date, documented in Chapter 8, represents a direct, quantifiable opportunity cost to exactly the high volume pilgrimage tourism economy discussed here, reinforcing this Report's Chapter 8 recommendation that religious and pilgrimage tourism connectivity receive a stronger central government prioritisation than it has evidently received to date.

Buddhist monastery tourism, particularly in Spiti and Lahaul, in the Tibetan-influenced temple circuit of the Kangra valley, and around Dharamshala, the seat of the Tibetan Government in Exile and the home of His Holiness the 14th Dalai Lama, provides a distinct, internationally well recognised religious and cultural tourism proposition that draws a significant share of Himachal Pradesh's small but economically valuable foreign tourist visitor base. Heritage tourism, encompassing the Victorian and Edwardian hill station architecture of Shimla discussed in Chapter 11, the medieval temple sculptures of Chamba town, the classical bronzes and the Pahari miniature painting tradition of the Kangra and Basholi schools, and the traditional wood and stone architecture of the state's older hilltop fortresses and village shrines, provides the state's cultural tourism dimension, examined further in sections 19.4 and 19.5 below.

19.2 Tourism Infrastructure: Hotels, Connectivity and Facilitation

Himachal Pradesh's tourism infrastructure reflects the duality already documented across every other infrastructure sector in this Report: a core of relatively well-equipped accommodation and connectivity serving the state's primary tourist destinations, and a substantially thinner and more fragile infrastructure covering the secondary and emerging destinations that the state's own tourism strategy is attempting to develop to reduce pressure on the overcrowded primary circuit. The Himachal Pradesh Tourism Development Corporation, the state's principal institutional vehicle for public sector tourism investment and management, operates a network of hotels, circuit houses, tourist bungalows and camping sites across the state, though the Comptroller and Auditor General's repeated assessment of the Corporation as a loss-making public sector enterprise, noted in Chapter 2 and Chapter 4, raises ongoing questions about both its operational efficiency and the sustainability of its investment pipeline.

This Report recalls its Chapter 4 assessment that the Corporation's underperformance is plausibly linked to the practice of appointing generalist civil servants rather than tourism sector specialists to its leadership, and reiterates here that this specific governance reform, discussed at length in Chapter 4's treatment of public sector enterprise performance, would carry direct, tangible benefit for exactly the secondary destination infrastructure expansion this chapter identifies as the sector's central strategic priority, since a better managed Corporation would be better positioned to lead investment in precisely the underdeveloped destinations that private capital, absent a demonstrated market, is currently reluctant to enter first.

The private hotel, resort and homestay sector has grown substantially, particularly around Manali, Shimla, Dharamshala, Kasol and Bir, with the Himachal Pradesh Home Stay Scheme of 2008 specifically promoting rural homestay registration and standards to channel tourist accommodation demand into genuine community-level economic benefit rather than concentrating it in large, externally owned hotel properties (Paharistudent, 2025). This Report recalls its Chapter 3 finding that formally registered homestays number approximately 4,200 units as of early 2026, against a considerably larger estimated total homestay accommodation capacity across the state, indicating that a substantial majority of homestay operators continue to function outside this formal registration and standards framework, a gap this Report's Chapter 3 discussion connected directly to the state's broader informal economy, and one this chapter's tourism specific lens reinforces, since unregistered homestays typically operate without the quality, safety and hygiene standards that the registration scheme is designed to assure, potentially undermining the very reputation for quality hospitality that the state's tourism branding, discussed in section 19.3, seeks to project.

Tourism accounts for approximately 7.8 per cent of the state's Gross State Domestic Product and around 14 per cent of the total workforce, as documented in Chapter 3, a scale of economic dependence on a single sector that simultaneously underlines the sector's development importance and the state's vulnerability when that sector contracts, as it did severely during the COVID-19 pandemic and again, more selectively, during the monsoon disaster seasons documented in Chapter 14.

The state's tourism connectivity, examined in Chapter 8 from a transport infrastructure perspective, centres on three operational airports, Shimla's Jubbarhatti, Kullu's Bhuntar and Kangra's Gaggal, none of which currently operate international services, and on the expanding UDAN helicopter connectivity linking Shimla to Kullu and, most significantly, to the remote district headquarters of Kinnaur, alongside the iconic UNESCO-listed Kalka-Shimla Railway (Himachal Pradesh Tourism, 2026).

Kangra airport's ongoing expansion discussed in Chapter 8 is particularly significant for the tourism sector, since Dharamshala's dual status as the state's second capital and as an internationally recognised Tibetan Buddhist cultural centre, drawing both domestic political visitors and a steady international Buddhist pilgrim, yoga and wellness tourism stream, creates a sustained and growing demand for direct air access that the current regional routes to Gaggal only partially satisfy.

Chronic traffic congestion in Shimla, documented in Chapter 11 and addressed partly through the ropeway projects examined in Chapter 8, represents the most consistently cited infrastructure quality complaint among both domestic and international visitors to the state, and the ADB's Sustainable and Inclusive Tourism Development Project, whose economic analysis cites frequent traffic gridlocks in Shimla especially in peak seasons as a core project justification, frames addressing this congestion as a necessary precondition for improving the visitor experience in the state's most visited destination (ADB, 2024). This Report recalls its Chapter 8 assessment that the flagship Shimla ropeway project's dual framing, as both an urban mobility solution for residents and a tourism intervention for visitors, represents a genuinely valuable design choice precisely because it allows the project's substantial capital cost to be justified against two distinct revenue and welfare bases rather than tourism seasonality alone, a framing this Report considers should inform how the ADB project and any future Shimla congestion relief investment is structured and communicated to funding agencies and the public alike.

19.3 Domestic and International Tourist Flows: Trends and Targets

Himachal Pradesh recorded 1.80 crore domestic tourist visits and approximately 83,000 foreign tourist arrivals in 2024, the most recent year for which comprehensive data was available to this Report, representing what the state's own tourism analysis describes as a strong resurgence nearly reaching pre-pandemic levels, with foreign tourist numbers representing the highest recorded figure since 2020 and indicating an encouraging post-pandemic international market recovery for a destination that had previously recorded sustained, year-on-year growth in both domestic and foreign arrivals through the decade preceding the pandemic (Paharistudent, 2025).

This Report notes that the 1.87 crore domestic tourist arrival figure cited for 2025-26 in Chapter 3 represents continued growth from the 1.80 crore recorded here for 2024, indicating that the domestic recovery documented in this section has not only reached but modestly exceeded pre-pandemic momentum, even as the average length of stay per visitor, discussed in Chapter 3 at an estimated 2.3 days and continuing a gradual multi-year decline, suggests that this growing arrival volume is increasingly composed of shorter, weekend oriented trips rather than the longer, traditional summer vacation pattern that historically characterised the sector, a shift with direct implications for the accommodation and multi-night spending patterns discussed in section 19.2.

This overall trajectory of near-complete domestic recovery and improving international recovery should, however, be read alongside two important qualifications. First, the concentration of the overwhelming majority of domestic tourist visits in a small number of destinations, primarily Shimla, Manali-Kullu, Dharamshala and the major pilgrimage circuits, means that tourist volume statistics dramatically understate the degree of infrastructure strain being imposed on specific locations, several of which are operating at or beyond sustainable capacity during peak summer and winter tourist seasons.

Second, the foreign tourist base, while recovering, remains small relative to India's overall international tourist market share, and the state's foreign visitor mix reflects the specific international attraction of Tibetan Buddhist culture around Dharamshala and Dalhousie, adventure tourism in Lahaul-Spiti and Kullu-Manali, and the residual European and Israeli backpacker circuit through the Parvati valley, a mix that has not been systematically expanded toward the higher-spending wellness, heritage and experiential travel segments that command the premium price points the state's infrastructure quality currently struggles to match.

The 2025-26 state budget explicitly listed tourism as one of its two sectoral priorities alongside agriculture and allied sectors, a political signal of continued government attention to the sector's role in economic recovery and revenue diversification, consistent with the broader diversification imperatives documented in the Executive Summary and Chapter 3 of this Report (The Tribune, 2025).

The state's Unforgettable Himachal branding campaign, referenced in independent tourism analysis as having been successful in increasing tourism revenue and job creation, provides the marketing platform through which the Tourism Department promotes the state's diverse asset inventory across the domestic and international media landscape, though this Report notes that branding effectiveness ultimately depends on the quality of the visitor experience delivered on the ground, which in turn depends on the infrastructure, host community hospitality and service quality dimensions examined in this chapter, rather than on campaign creative alone.

The state government's strategy of developing new tourism destinations to reduce pressure on existing popular spots, promoting lesser-known religious and cultural sites, and improving infrastructure including roads, wayside amenities and heliports, represents a directionally sound response to the overcrowding challenge at primary destinations, though this Report considers the implementation pace and the capital investment required to bring secondary destinations to the standard of infrastructure and amenity that the modern Indian leisure tourist expects as the more binding constraints than strategic intent (Paharistudent, 2025). This Report recalls its Chapter 3 observation that Chamba and Sirmour districts specifically have shown the fastest percentage growth in visitor numbers of any district over the past three years, and regards this emerging trend as tentative, encouraging early evidence that the destination diversification strategy is beginning to gain organic traction, even before the full infrastructure investment this strategy requires has been completed.

19.4 Cultural Heritage Preservation and Institutional Framework

The cultural heritage of Himachal Pradesh spans multiple traditions, timescales and material forms, from the Indus Valley period rock art documented at Spiti's Lalung cave site and the Kangrawall megalithic tombs of the pre-historic period, through the great Hindu temple building tradition of the Kangra and Chamba princely states in the medieval and early modern period, to the Victorian and Edwardian hill station heritage of Shimla and Dalhousie examined in Chapter 11, and including the living, intangible cultural heritage of the state's

diverse oral traditions, festival calendars, performing arts, textile crafts and culinary knowledge that form the fabric of everyday cultural life across twelve highly distinctive districts.

The Archaeological Survey of India maintains protected status over the most nationally significant structural monuments within the state, including Kangra Fort, one of the largest forts in the Himalayan region and site of the great earthquake of 1905, and the temple complexes of Chamba town, while the State Archaeology Department manages a wider set of state-protected heritage assets and operates the several state museums that house collections of temple bronzes, Pahari miniature paintings, costumes and historical manuscripts (Wikipedia, 2026). This Report recalls its Chapter 11 discussion of the seismic vulnerability facing Chamba town's considerably older, pre-colonial temple architecture specifically, and reiterates that the seismic assessment and retrofit guideline this Report recommended in Chapter 11 for Shimla's colonial heritage should be extended with at least equal urgency to Chamba town's older, and structurally more fatigued, temple heritage discussed here.

The Geographical Indication framework has emerged, in the years immediately preceding this Report's preparation, as an important and actively expanding institutional mechanism for the protection of Himachal Pradesh's tangible cultural and agricultural heritage in its commercial dimensions. In a development reported in July 2026, eight additional traditional products from the state received Geographical Indication registration, raising the state's total GI-tagged product portfolio from nine to seventeen, with the new registrations including seabuckthorn from Spiti Valley, Chamba metal art and a Kinnauri apple variety among other products, and with four further products including Bhot Jau barley and Chamba chukh chilli condiment identified for future registration (The News Himachal, 2026; New Kerala, 2026).

This Report notes that the inclusion of seabuckthorn from Spiti Valley and a Kinnauri apple variety within this newly expanded GI portfolio connects directly to this Report's Chapter 3 and Chapter 18 discussion of horticultural diversification, since Geographical Indication status for these specific high altitude, cold desert products provides exactly the kind of premium branding and market differentiation this Report's Chapter 18 discussion identified as a valuable complement to the state's dominant but climate vulnerable apple economy, and this Report regards the deliberate GI registration of these diversification crops as a genuinely well coordinated instance of the state's agricultural and cultural heritage policy working in mutual reinforcement rather than in separate silos.

This brings the state's existing nine Geographical Indications, which included the Kullu Shawl, the first Himachal Pradesh product to receive GI registration at GI number 19 on 10 December 2004, Kangra Tea, Chamba Rumal, Kinnauri Shawl, Kangra Painting, Himachali Kalazeera, Himachali Chulli or apricot oil, Chamba Chappal and Lahauli Knitted Socks and Gloves, into a broader and more representative portfolio of 17 products spanning handicrafts, food products and agricultural produce (O2 IAS Academy, 2026; The News Himachal, 2026).

The registration process is coordinated through HIMCOSTE, reflecting the same institution's role in science and technology governance examined in Chapter 17, whose Secretary

described GI registration as an effective instrument for protecting traditional products from unauthorised imitation while significantly enhancing their branding, marketability and export potential (Northern Herald, 2026). This Report fully endorses that characterisation and notes that the state's expansion from nine to seventeen GI-tagged products within a relatively short period reflects both the breadth of the state's traditional product heritage and the increasing institutional capacity for GI documentation and registration, but adds that the conversion of GI status into commercial benefit for the producing communities requires the enforcement, marketing and export support infrastructure that independent commentary has specifically identified as the current weak link in the state's GI management framework (Civils Tap, 2025).

19.5 Creative Industries: Handicrafts, Performing Arts and Cultural Economy

The handicrafts and handloom sector constitutes the most economically significant dimension of Himachal Pradesh's creative economy, engaging an estimated 10,000 to 12,000 artisans across the state and supported institutionally by the Himachal Pradesh State Handicrafts and Handloom Corporation, the Bhutti Weavers Cooperative Society in Kullu, established in 1944, and the Department of Language, Art and Culture, which maintains state museums, promotes folk performing arts and publishes materials on the state's cultural traditions (Grokikipedia, 2026).

This Report recalls its Chapter 7 discussion of the Hast Shilp Vikas Yojna handicraft development scheme for Scheduled Caste artisans specifically, and notes that this scheme's beneficiaries very plausibly overlap substantially with the 10,000 to 12,000 artisan population discussed here, given the historical association between specific artisan crafts and specific caste communities in many parts of India, meaning that this chapter's creative economy recommendations and Chapter 7's social justice recommendations for this sector should, in this Report's assessment, be pursued as a genuinely coordinated policy programme rather than as separate departmental initiatives operating without reference to one another.

Shawls and woolen textiles form the commercial and cultural centrepiece of this sector, with the Kullu Shawl and Kinnauri Shawl, both internationally recognised for their distinctive geometric patterns and quality of handwoven local wool, representing the state's most exportable handicraft commodities, while the Chamba Rumal, whose unique Dorukha-tankha or double satin stitch technique produces embroidery that appears identical on both sides, a feat unmatched in any other Indian embroidery tradition, occupies a more specialised collector and museum market alongside significant domestic demand as a luxury gift item (Grokikipedia, 2026; O2 IAS Academy, 2026).

An important recent policy development for the shawl sector is the reduction of Goods and Services Tax on shawls from 12 per cent to 5 per cent with effect from October 2025, a change that reduces the price differential between handloom registered and unregistered imitation products and therefore strengthens the relative market position of authentic Himachali shawls against the cheaper imitations documented in multiple sources as a persistent commercial threat to the state's genuine artisans (Grokikipedia, 2026). This Report

regards this tax reduction as a genuinely well targeted fiscal intervention, directly complementing rather than duplicating the Geographical Indication protection discussed in section 19.4, since GI registration protects against explicitly mislabelled imitation while the tax reduction addresses the broader price competitiveness gap facing genuine handloom products relative to machine-made substitutes that may not claim Kullu or Kinnauri origin at all but nonetheless compete for the same budget-conscious consumer.

This Report notes further that the state's wool production, discussed in Chapter 18 at 4.30 per cent of India's national total and placing the state fifth nationally in wool output, represents the upstream raw material base for exactly this shawl and woolen textile handicraft economy, meaning that the animal husbandry and wool sector policy discussed in Chapter 18 and the handicraft policy discussed here are, in practice, two stages of a single integrated value chain running from Gaddi pastoral wool production through to the Bhutti Weavers Cooperative Society's finished shawl output, and this Report's recommendations in Chapter 21 propose that the state's Department of Animal Husbandry and Department of Language, Art and Culture develop a jointly coordinated wool value chain strategy rather than managing the raw material and finished product ends of this chain through entirely separate departmental planning processes.

The Kangra Painting tradition, whose miniature art style developed under the patronage of the Kangra rajas in the eighteenth and nineteenth centuries and whose depictions of Radha-Krishna themes, the Ramayana and the Gita Govinda are represented in major museum collections internationally, has received Geographical Indication protection and is taught at the Dr. Y.S. Parmar Government College of Art and Craft in Shimla and through private masters in Kangra district itself, though the commercial market for traditional Kangra miniatures remains concentrated in a small number of serious collectors and institutional purchasers rather than in the mass tourist souvenir market, creating a sustainability challenge for the tradition's living practitioners that formal GI protection alone does not resolve (O2 IAS Academy, 2026; Himachal Pradesh PCS Notes, 2026).

Performing arts, including the Nati folk dance tradition, performed at religious festivals and community celebrations across most middle hill districts and recognised as holding a Guinness World Record for the largest folk dance performance at a single event, the Bhangra and Luddi traditions of the lower hills, the masked Cham dance of Lahaul and Spiti's Buddhist monasteries and the diverse theatrical traditions associated with the state's major festival calendars, provide living cultural heritage assets that could be more systematically incorporated into the state's cultural tourism offer through festival tourism packages and dedicated cultural performance venues at primary tourist destinations, a recommendation this Report develops further in Chapter 21.

19.6 Film, Media and Content Industries as Economic Drivers

Himachal Pradesh has long been a preferred shooting location for Indian cinema and television, its dramatic mountain landscapes, colonial hill station architecture and diverse seasonal scenery providing what the film industry describes as a natural studio backdrop for

everything from Bollywood romantic comedies to Bollywood and Tollywood action sequences requiring snow-covered mountain passes and raging mountain rivers. Locations including Shimla's Ridge and Mall Road, Manali's Solang Valley and Rohtang Pass, the Pin Parvati valley, the Spiti and Lahaul cold desert landscapes, and the Kangra valley's combination of green tea gardens and Dhauladhar mountain backdrop have all featured in notable productions across multiple decades, and the state's film-friendly reputation, based on both the accessibility of its primary shooting locations and the responsiveness of its own administration to film production requests, contributes to the tourism economy through the location-associated aspirational marketing effect that Bollywood in particular has repeatedly been shown to generate for destinations featured in commercially successful releases.

The state government's formal film facilitation infrastructure, administered through the Tourism Department, includes a Single Window Film Permission mechanism intended to streamline the clearances required for outdoor shooting across the multiple departments, forest areas and district administrations whose jurisdictions a typical Himachal Pradesh location shoot may span, though this Report was unable to locate current, publicly verified data on the number of annual productions facilitated, the revenues generated for local suppliers and service providers, or the employment generated in the state's own film and production technical workforce, an evidentiary gap consistent with the broader data transparency limitations noted throughout this chapter.

This Report notes that this Single Window Film Permission mechanism is directly analogous in design philosophy to the Single Window Investment, Promotion and Facilitation framework discussed in Chapter 4 for industrial investors, and recommends that the state's Department of Industries and Tourism Department jointly review whether the institutional lessons and digital infrastructure underlying the industrial single window system, which achieved the strong Business Reforms Action Plan performance documented in Chapter 4, could be more directly applied to strengthen the film facilitation mechanism's own efficiency and, critically, its currently absent public data reporting.

What is increasingly clear, from both national content industry trends and the specific examples of documentary and streaming platform content featuring Himachal Pradesh's natural and cultural landscape in recent years, is that the demand for authentic, high production quality visual content from Himalayan mountain environments is growing significantly as Indian and international streaming platforms expand their content libraries, and that this demand can, with appropriate facilitation and local content production capacity building, translate into a sustained and locally employment-generating content industry rather than a predominantly extractive one in which external production houses take the revenues while local communities provide only location access.

This Report notes a specific, underexploited opportunity connecting this section to the youth innovation ecosystem discussed in Chapter 17, since a locally trained production, editing, drone cinematography and digital content workforce, drawing on the same digital skills development infrastructure this Report's Chapter 17 recommendations identify as needing expansion, could position Himachal Pradesh's own young people to capture a considerably

larger share of the value generated by this growing content demand than the current model, in which external production houses typically bring their own full technical crews and hire only local support labour, currently allows, and this Report recommends the state's skill development agencies discussed in Chapters 5 and 17 consider a dedicated media and content production skills track as part of their broader digital skills expansion.

This Report's broader assessment for the tourism, culture and creative economy sector, consolidated in recommendations developed fully in Chapter 21, centres on a strategic reorientation from volume-based to value-based tourism development, recognising that Himachal Pradesh's mountain ecosystems, documented extensively in Chapters 1, 13 and 14 as fragile, climate stressed and landslide prone, cannot sustainably absorb unlimited growth in visitor numbers at the primary destinations that currently carry the overwhelming majority of tourist volume, and that the appropriate growth pathway is therefore through premium, longer stay, higher spending visitor segments in wellness, heritage, experiential and adventure tourism rather than through continued mass volume growth in the already strained Shimla-Manali corridor.

Achieving this reorientation requires simultaneous investment in secondary destination infrastructure and connectivity, hospitality workforce quality training, GI enforcement and artisan income improvement in the creative economy, and the cultural tourism programming and festival tourism products through which the state's extraordinary cultural heritage diversity can be converted from an undervalued background context to a primary visitor motivation in its own right, justifying the premium pricing and extended stays that the state's high-quality natural and cultural assets intrinsically merit.

CHAPTER 20: CROSS-CUTTING THEMES AND INTEGRATED POLICY IMPERATIVES

20.1 Sustainable Development Goals of the State

Himachal Pradesh's positioning within India's national Sustainable Development Goals monitoring framework provides one of the clearest single-number summaries of the state's developmental achievements and their limits simultaneously available in any public statistical publication. The NITI Aayog SDG India Index 2023-24, the fourth edition of the country's principal composite tool for measuring state and union territory progress on the 2030 Agenda across 113 indicators aligned to the Ministry of Statistics and Programme Implementation's National Indicator Framework, records a composite SDG score of 77 for Himachal Pradesh, placing it fifth nationally alongside Goa, behind only Kerala and Uttarakhand at 79 and Tamil Nadu at 78, and well above the national composite score of 71 recorded for the same year (GFST, 2025; NITI Aayog, 2024).

This places Himachal Pradesh in the Front Runner category of states, one of a small group that have achieved 65 or more on the composite index, and the state's trajectory since the 2018 baseline, when it scored 69, reflects a sustained upward movement rather than a single year's gain, placing it in the consistent performers tier of states that have made progress across multiple goals rather than improving sharply on one or two while stagnating on others (GFST, 2025; Testbook, 2023). At the urban level, Shimla Municipal Corporation has received the additional distinction of being ranked first among 56 urban areas assessed under the NITI Aayog and GIZ jointly developed SDG Urban Index, which evaluates 77 SDG indicators across 46 targets at the city level, and had separately topped the Ministry of Housing and Urban Affairs Ease of Living Index among cities with a population below ten lakh, a double recognition that provides the state's capital with an unusually strong and independently verified urban development scorecard (Shimla Municipal Corporation, 2026).

The institutional architecture for SDG implementation at the state level rests with the Planning Department, which serves as the coordinating department for the SDG framework and has constituted eleven working groups, each headed by an Administrative Secretary leading the relevant nodal department, to prepare the state vision document and coordinate implementation across the full range of goals (NITI Aayog, 2018). The state's stated vision for 2030 is to attain synergy between faster and inclusive economic growth, social cohesion and environmental sustainability in Himachal Pradesh to facilitate overall prosperity and quality of life for people of the state leaving no one behind, a formulation that aligns closely with the 2030 Agenda's foundational principle of universality and its explicit commitment to the most marginalised and vulnerable groups, which this Report's Chapter 7 has examined in detail for Himachal Pradesh's specific Scheduled Caste, Scheduled Tribe, disabled, elderly and minority populations (NITI Aayog, 2018). The Panchayati Raj Department's localisation of SDG modules at the Gram Panchayat level, discussed in Chapter 12, and the state's participation in NITI Aayog's national SDG Localisation programme both reflect a genuine

institutional commitment to translating the global agenda into local governance action, though this Report has repeatedly noted, across its treatment of Panchayati Raj in Chapter 12, that the functional capacity of Gram Panchayats to actually implement convergent, SDG-aligned local development plans remains constrained by the devolution and capacity gaps documented in that chapter.

The SDG goals on which Himachal Pradesh's performance is most clearly differentiated, positively, from national averages include SDG 3 Good Health and Well-Being, examined in Chapter 6, SDG 4 Quality Education, examined in Chapter 5, SDG 6 Clean Water and Sanitation, examined in Chapter 10, SDG 7 Affordable and Clean Energy, examined in Chapter 9, and SDG 8 Decent Work and Economic Growth, on which one independent assessment records the state as achieving the highest sub-national score nationally as of 2021, though this claim reflects a single year's assessment using a specific indicator set rather than a comprehensive evaluation of labour market outcomes, since the youth unemployment data documented in Chapter 3 would present a considerably less favourable picture under a fuller labour market assessment (Statista, 2021).

The goals on which the state faces the most persistent and structurally deeprooted challenges, as documented throughout this Report, are SDG 10 Reduced Inequalities, where the intra-state disparities between Chamba and Solan districts documented in Chapter 1 and the income inequality concerns raised by the 2025 Human Development Report discussed in Chapter 1 both indicate continuing work to do, SDG 13 Climate Action, where the severity of climate losses documented in Chapter 14 reflects both the state's acute exposure and the inadequacy of current adaptation investment relative to need, and SDG 8 on the specific dimension of youth employment, where the 29.6 per cent youth unemployment rate documented in Chapter 3 represents the clearest gap between the state's aspirations and its current economic structure. This Report's overall assessment is that Himachal Pradesh's SDG composite score of 77, while among the best in India, should be read as a reflection of the state's genuine human development achievements rather than as a signal that its development challenges have been resolved, since the interaction between climate stress, fiscal fragility and youth unemployment documented throughout this Report constitutes precisely the kind of compound risk to SDG progress sustainability that a single-year composite score does not capture.

20.2 Gender Mainstreaming Across Sectors

Gender mainstreaming, the integration of gender equity concerns into the planning, design, implementation and monitoring of policy and programmes across all sectors rather than treating gender as a standalone welfare concern, is a principle to which Himachal Pradesh's institutional commitments are comparatively strong relative to most Indian states, and whose practical realisation across the sectors examined in this Report is, as is typically the case nationally, considerably more uneven than formal commitments alone would suggest. The state's most structurally significant gender mainstreaming achievement is the 50 per cent reservation of seats for women in Panchayati Raj institutions, discussed in Chapter 7, which

has embedded women's formal political representation at the most consequential tier of local governance decision making, the Gram Sabha and Gram Panchayat where actual scheme targeting, asset creation and local development plan preparation occur, rather than only in the state legislature where it remains far below the 33 per cent constitutional minimum nationally discussed for introduction (Testbook, 2026). Chapter 5 has documented that this structural political representation achievement coexists with a Gender Parity Index of 1.1 in higher secondary education, meaning girls are marginally more likely than boys to remain enrolled through Class 12, a combination of political and educational gender equity whose mutual reinforcement, as more educated women enter public life, is one of the more encouraging structural dynamics documented anywhere in this Report.

Against these genuine achievements, the gender dimensions that demand sustained attention are concentrated in three specific domains, each documented earlier in this Report and synthesised here as a cross-cutting pattern. First, economic participation: women's labour force participation rate of 46.8 per cent against 62.5 per cent for men, combined with the specific crisis of urban young women's unemployment at 41.2 per cent documented in Chapter 3, reveals a severe and growing gap between educational attainment and economic participation for the state's educated young women that formal political representation and access to higher education alone are proving insufficient to close (Himachalscape, 2025; Invest India, 2026).

Second, the Sex Ratio at Birth of 875 girls per 1,000 boys recorded in the 2019-21 National Family Health Survey, discussed in Chapter 6, which places Himachal Pradesh among the lowest performers on this specific indicator nationally and whose persistence despite the state's otherwise strong gender record suggests a son preference dynamic operating through sex-selective practices that literacy, female education and political representation have not independently resolved (International Institute for Population Sciences, 2021). Third, the continuing challenge of gender based violence and access to justice for women in the state's most remote tribal and high altitude communities, which this Report's data on legal literacy outreach discussed in Chapter 15 and on child marriage decline documented in Chapter 6 only partially illuminates, since the absence of systematic, district disaggregated gender based violence data for the state, identified as an evidentiary gap in Chapter 7, prevents the kind of targeted geographic and programmatic analysis that effective intervention in this domain requires.

This Report's approach to gender mainstreaming recommendations, developed fully in Chapter 21, emphasises three structural changes over programme additions. First, disaggregating all major state data systems by gender, so that the kind of urban young women's unemployment crisis documented in Chapter 3 becomes visible through routine statistical reporting rather than only through periodic survey rounds. Second, redirecting a share of the Rs 800 crore annual expenditure on the Indira Gandhi Pyari Behna Sukh-Samman Nidhi Yojana discussed in Chapter 7 toward skill development and employment facilitation specifically targeting women graduates, whose income-generating capacity, if realised, would provide a more durable and more fiscally sustainable welfare gain

than income transfer alone, however valuable the latter is as immediate poverty relief. Third, expanding the state's commitment to gender responsive budgeting beyond its currently limited application to a systematic review of every major capital budget allocation across the sectors examined in this Report, specifically assessing whether road, water, housing, education and health infrastructure investments are designed and located to equally serve the mobility, safety and access needs of women and girls, rather than being designed primarily around male-dominated public space use patterns.

20.3 Youth Policy and Demographic Dividend Realisation

Himachal Pradesh's relationship with its demographic dividend, the period of accelerated economic growth potential that occurs when the working age population grows faster than its dependents and that most economists associate with sustained investment in young people's education, health and employment, is, by the indicators examined throughout this Report, one of the most paradoxical documented for any Indian state. The state achieved near universal literacy and some of India's strongest health outcomes decades before most comparable states, investments that were precisely the kind required to create a demographic dividend, yet finds itself in 2026 with a youth unemployment rate of 29.6 per cent that is nearly double the national figure and a migration rate of 49.3 per cent that is systematically exporting the educated youth those investments produced to the labour markets of Punjab, Haryana, Chandigarh and Delhi (Himachalscape, 2025; The Tribune, 2024). This paradox, of excellent human capital investment producing labour market outcomes well below the quality of the investment, is the clearest single expression of the structural economic diversification failure that this Report has identified as the most fundamental development challenge facing the state in the period to 2047.

The window for demographic dividend realisation in Himachal Pradesh is, moreover, already narrowing. The state's Total Fertility Rate of 1.5 children per woman documented in Chapter 6 means that the working age population will not continue growing indefinitely, and the specific age structure of the current population, with a relatively large cohort in the 15 to 35 age group that reflects the higher birth rates of two to three decades ago, represents a one-time opportunity to convert large numbers of educated young people into a productive economic asset rather than an unemployed and emigrating demographic liability (The Tribune, 2024). The state's own Startup Policy of 2022, the Rajiv Gandhi Self-Employment Start-up Scheme with its Rs 680 crore outlay and the IIT Mandi Catalyst-HPKVN skill development partnership discussed in Chapter 17 represent genuine, if currently small-scale, institutional efforts to create locally anchored economic opportunity for this cohort, and this Report's Chapter 17 has already proposed scaling each of these interventions significantly. What is additionally required, and what this Report's recommendations in Chapter 21 develop in greater depth, is a state youth policy framework that integrates the startup and skill development agenda with the rural livelihoods, cooperative enterprise, tourism and creative economy opportunities documented across Chapters 12, 17, 18 and 19 into a coherent, cross-sectoral strategy for retaining and productively engaging the state's own young people, rather than allowing each of these opportunity streams to proceed as separate, unconnected

departmental initiatives that individually fall well below the scale needed to materially shift the state's youth unemployment and migration figures.

20.4 Migration: Internal, Inter-State and International Dimensions

Migration in Himachal Pradesh operates simultaneously across three geographic scales, each with distinct economic, social and policy implications that this Report's sectoral chapters have examined in fragments but that deserve synthesis here as a unified cross-cutting theme. Internal, intra-state migration flows rural residents, particularly from the high altitude tribal districts of Lahaul and Spiti, Kinnaur and Chamba, toward the state's more economically active district headquarters and towns, following both employment opportunities and the seasonal rhythm of an economy where high altitude agricultural and pastoral livelihoods are simply not viable for significant parts of the year.

This internal migration is examined in Chapter 12's discussion of the VB G-RAM-G scheme's role in providing rural employment alternatives, and in Chapter 11's treatment of urban poverty and slum formation, where the concentrations of temporary housing near Shimla and Manali reflect in part the seasonal and structural internal migration from the state's poorest districts to its tourist economy centres. Inter-state migration, the more economically significant and more studied of the two internal dimensions, has been documented in Chapter 1 as producing a state-wide migration rate of 49.3 per cent, substantially above the national average, driven principally by the educated youth employment mismatch documented in Chapter 3 and the narrow productive base that Chapter 4 has identified as the most fundamental economic structural constraint facing the state (The Tribune, 2024). The destinations for this inter-state migration are predominantly Punjab, Haryana, Chandigarh and Delhi, with smaller shares reaching other major Indian employment centres, and the receiving states benefit considerably from Himachal Pradesh's public investment in education and health through the migration of already trained, already healthy workers without bearing any of the costs of that investment.

International migration, while smaller in absolute volume than inter-state migration, carries a distinct economic significance through the remittances it generates and the diaspora investment potential it represents. The state has a significant presence in the Indian Army and paramilitary forces, whose foreign deployments and international peacekeeping contributions generate a class of technically trained, internationally experienced returnees who represent a potential source of skilled entrepreneurship and investment in the state's own economy if the policy environment discussed in Chapters 4 and 17 is sufficiently supportive to retain their interest. The Himachali diaspora in the Gulf states, the United Kingdom and North America, while smaller than the large Kerala, Punjab and Andhra Pradesh diasporas that dominate Indian remittance flows, nonetheless represents a savings and potential investment pool whose mobilisation toward the state's own green economy transition, tourism infrastructure, horticulture modernisation and startup ecosystem could complement the central and bilateral development financing discussed in Chapter 4 and Chapter 14, and this Report recommends, in Chapter 21, that the state government establish a dedicated Non-Resident Himachali

Investment and Engagement Programme, with a clear fiscal incentive framework and a single point of contact within the Industries Department, to systematically cultivate this diaspora investment relationship in the manner that states such as Gujarat and Kerala have successfully done with their own non-resident communities over the past two decades.

20.5 Science, Technology and Innovation for Development

The integration of science, technology and innovation considerations into Himachal Pradesh's development planning, rather than treating them as the exclusive domain of dedicated agencies such as HIMCOSTE and IIT Mandi, is an approach whose importance grows as the challenges the state faces become increasingly technical in character. The climate change documentation and response discussed in Chapter 14 requires sophisticated glaciological, atmospheric and hydrological science of the kind that the state cannot generate without partnerships with premier national and international research institutions, and the February 2026 announcement of a comprehensive scientific study on glacier melting rates and river flow implications, discussed in Chapter 14, represents exactly the kind of politically authorised, institutionally backed science-for-policy mandate that translates research capacity into governance action (The Federal, 2026).

The natural farming programme, discussed in Chapter 18, rests on a scientific foundation that CSIR-IHBT Palampur and the Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya are progressively building through soil microbiome research, biocontrol agent development and varietal selection work, and its credibility as a commercially viable, rather than only ideologically motivated, farming transition depends entirely on the quality and communicability of that underlying science. The Digital Personal Data Protection Act framework discussed in Chapter 16 creates a technology governance obligation that requires state institutions to develop data protection expertise they currently lack at adequate depth, and the Himachal Pradesh Electricity Regulatory Commission's resource adequacy framework and tariff methodology discussed in Chapter 9 rest on increasingly sophisticated technical analysis of load projections, renewable intermittency and least cost supply planning that demands ongoing regulatory technical capacity building.

The 4th Himachal Pradesh Science Congress held at IIT Mandi in April 2024, on the theme of the role of science, technology and innovation in achieving sustainable development goals, brought together research presentations spanning every major technical domain relevant to the state's development challenges, from artificial intelligence and geospatial technology to traditional knowledge and biodiversity conservation, illustrating the breadth and the integration across domains that characterises the state's own most sophisticated institutional engagement with science for development (Careers360, 2024). This Report considers the Science Congress model, bringing together researchers from government, academia, industry and civil society around specific, state-relevant development challenges, a genuinely valuable governance and knowledge exchange institution whose annual convening should be more explicitly and more formally linked to the state's own planning cycle, so that research findings presented at one year's Congress inform the following year's budget priorities and

sector policy revisions rather than remaining within the academic and scientific community alone.

20.6 Statistical System Strengthening and Evidence-Based Policymaking

Throughout the twenty chapters of this Report, a recurring theme has been the gap between the ambition and importance of the policy domains examined and the quality and completeness of the state-specific data available to analyse them. This Report has documented data evidentiary gaps in, among other areas, the rural health workforce vacancy rate disaggregated by district and facility type in Chapter 6, the prevalence of stunting, wasting and anaemia at the district level in Chapter 6, the incidence of Protection of Children from Sexual Offences Act registered offences and child labour in Chapter 7, disability census data in Chapter 7, river and wetland water quality monitoring in Chapter 13, cybersecurity incident statistics in Chapter 16, pharmaceutical sector industrial effluent treatment compliance in Chapter 13, the employment outcomes of vocational education graduates in Chapter 5 and the market performance of exported artisan products in Chapter 19. These gaps are not anomalies attributable to any single administrative failure; they reflect a cumulative pattern in which the state's statistical system, anchored in the Directorate of Economics and Statistics and its Economic Survey publication programme, has excellent capacity for macroeconomic monitoring, fiscal analysis and high-level sectoral indicator reporting, but considerably weaker capacity for the disaggregated, sub-sectoral and district-level data collection that would allow the kind of granular, evidence-based policy targeting that the state's own substantial social and welfare infrastructure requires.

The Census of India, the foundational source for most demographic, household and social composition data cited throughout this Report, has not been conducted since 2011, meaning that population projections, household composition data and socioeconomic indicators derived from Census sources are now fifteen years out of date, a gap that is particularly consequential in a state experiencing as rapid a demographic transition as Himachal Pradesh's, where the Total Fertility Rate has fallen from 1.9 in 2015-16 to approximately 1.5 more recently, the school age population has been declining measurably since at least 2020 and the working age population share is shifting in ways that the 2011 Census baseline cannot accurately capture (The Tribune, 2024; Government of Himachal Pradesh and United Nations Development Programme, 2025). The 2021 Census, delayed indefinitely by the COVID-19 pandemic and still not conducted as of the time of writing, represents the single most significant outstanding statistical infrastructure gap in India's national data architecture, and its continued absence means that every state level report, every national scheme targeting exercise and every Finance Commission allocation formula continues to operate on population data that is increasingly stale for administrative purposes, a national statistical system failure whose implications for a demographically fast-changing state like Himachal Pradesh are particularly acute (Census of India, 2011).

This Report recommends, in Chapter 21, four specific statistical system strengthening actions for Himachal Pradesh. First, the establishment of a State Data Observatory within the

Directorate of Economics and Statistics specifically tasked with publishing quarterly, publicly available district-disaggregated data on the sectoral performance indicators identified throughout this Report as currently absent from public sources, beginning with rural health workforce vacancies, school enrolment trends, water quality monitoring and disaster loss assessment. Second, the more systematic integration of administrative data, from Unified District Information System for Education, National Health Mission, HIMCARE, Ayushman Bharat and the Jal Jeevan Mission implementation portals, into a common state data platform that allows cross-sectoral analysis rather than requiring each sector's data to be examined in isolation. Third, the commissioning of a State Rapid Household Survey, conducted through the existing Lok Mitra Kendra network and processed by the Directorate of Economics and Statistics, to fill the most critical demographic, household income and social composition data gaps left by the delayed Census, providing a state-specific, Himachal Pradesh calibrated baseline for planning that does not depend on national survey cycles operating on schedules outside the state's control. Fourth, the consistent, publicly available annual publication of gender disaggregated, district disaggregated data across all major welfare and development indicators, so that this Report's successors can track the specific gender, geographic and sectoral dimensions of development progress with the same precision that national composite indices like the SDG India Index currently provide only at the aggregate state level.

20.7 Public Participation: Behavioural Change and Citizen Engagement

Public participation in governance in Himachal Pradesh operates through a combination of formal constitutional mechanisms, the Gram Sabha and Panchayati Raj institutions examined in Chapter 12, statutory rights-based instruments including the Right to Information Act, the Lokayukta complaint mechanism discussed in Chapter 15 and the social audit provisions of the VB G-RAM-G framework discussed in Chapter 12, and a wider ecosystem of civil society organisations, community-based institutions, traditional resource governance bodies and digital engagement platforms that together constitute the state's public accountability architecture. The strength of this architecture varies considerably across the state's territory, with the more educated, accessible and better-connected middle hill districts generally demonstrating stronger Gram Sabha participation, more active Right to Information usage and more visible civil society activity, while the remote tribal and high altitude districts of Lahaul and Spiti, Kinnaur and Chamba's Pangi and Bharmour subdivisions, where the governance challenges documented in Chapter 1 and Chapter 7 are most acute, simultaneously show the weakest formal participation infrastructure and the strongest traditional community governance institutions, including Van Panchayats and community irrigation management bodies discussed in Chapter 10 and Chapter 13.

Behavioural change communication has been most systematically deployed in the state's public health and sanitation domains, where the Swachh Bharat Mission's information, education and communication component contributed to the social norm change that underpinned Himachal Pradesh's Open Defecation Free certification discussed in Chapter 10, and where the Poshan Abhiyan's community based nutrition monitoring and the ASHA worker network's interpersonal communication activities have contributed to the sustained

improvement in institutional delivery rates and child vaccination coverage documented in Chapter 6. Digital citizen engagement, examined in Chapter 16, represents an emerging dimension whose current depth is limited by the connectivity gaps documented in that chapter but whose potential, as the Amended BharatNet Programme extends fibre to all Gram Panchayats and the HimSeva portal expands its service catalogue, is to reach households that formal public participation mechanisms, dependent on physical attendance at Gram Sabha meetings or tehsil offices, have historically not engaged. The DigiLocker award discussed in Chapter 16, specifically framed around the People First principle of prioritising citizen experience in accessing government, represents the most visible recent expression of the state's aspiration to design citizen engagement systems around the citizen's actual convenience rather than around administrative process convenience.

Civil society organisations have played a specific and documented role in advancing environmental governance and disaster accountability in the state. Himdhara, an environment and climate justice collective whose annual Memorandum of Damages assessment of monsoon disaster losses was cited extensively in Chapter 14, represents the kind of citizen based monitoring institution that both supplements the state's own official damage reporting and holds it accountable when official figures are contested. The Jagori rural community resource centre, whose post-2023 disaster household impact survey documenting the human toll of monsoon losses was cited in Chapter 14, provides a model of community-based participatory research that the state's own disaster management planning would benefit from incorporating more systematically as a complementary source of ground truth alongside the State Disaster Management Authority's official Memorandum of Damages. This Report's overall assessment is that public participation in Himachal Pradesh is characterised by the same pattern documented across virtually every other dimension of the state's governance: genuine institutional strengths and a tradition of civic engagement that compare favourably with most Indian states, coexisting with persistent gaps in the state's most remote and most vulnerable communities, where the participation infrastructure is weakest at precisely the locations where accountable governance is most essential to prevent the marginalization of populations with the fewest alternative recourse mechanisms.

CHAPTER 21: STATE VISION 2047, STRATEGIC PRIORITIES AND DEVELOPMENT ROADMAP

21.1 Long-Term Vision and Flagship Missions

Himachal Pradesh's long-term development vision for the twenty-one years between this Report's preparation in 2026 and India's centenary of independence in 2047 must be built on an honest accounting of where the state stands today, as documented across the preceding twenty chapters, rather than on aspirational rhetoric detached from the structural realities this Report has carefully assembled. That accounting reveals a state of genuine and rare human capital achievement, whose per capita income at Rs 2,83,626 in 2025-26 exceeds the national average, whose literacy rate of 99.3 per cent is effectively universal, whose Neonatal Mortality Rate of 12 and Under-Five Mortality Rate of 23 place it among a handful of states nationally that have already met Sustainable Development Goal child survival targets, and whose SDG composite index score of 77 positions it fifth nationally, alongside states such as Kerala and Tamil Nadu that are conventionally regarded as India's social development leaders (MockKitaab, 2026; Government of Himachal Pradesh and United Nations Development Programme, 2025; Ministry of Health and Family Welfare, 2025; NITI Aayog, 2024). That accounting simultaneously reveals a state whose debt has crossed Rs 1 lakh crore, whose youth unemployment rate of 29.6 per cent is nearly double the national figure, whose apple economy is losing 40 per cent of its production to climate stress in 2026, whose cumulative climate disaster losses over the past four years total Rs 46,000 crore, and whose central Revenue Deficit Grants, the fiscal lifeline that sustained its welfare architecture for decades, have been discontinued by the Sixteenth Finance Commission (Swarajyamag, 2026; Himachalscape, 2025; The Tribune, 2026; The Tribune, 2025).

This Report's proposed vision for Himachal Pradesh by 2047 is therefore framed not as a simple extrapolation of past strengths but as a transformation of the state's economic model sufficient to make those strengths financially and ecologically sustainable through the second half of the twenty-first century. It is articulated through five Flagship Missions, each of which synthesises the specific sectoral recommendations developed throughout this Report into an integrated, cross-departmental programme of action whose ambition corresponds to the scale of the structural challenges documented.

The first Flagship Mission is the Himachal Climate Resilience Mission, whose mandate is to rebuild the state's physical infrastructure, from roads, bridges and public buildings to irrigation kuhls and riverbank protection works, to standards designed for the climate Himachal Pradesh will actually experience over the next twenty years rather than the climate of the twentieth century against which most existing infrastructure was designed. The Mission's operating principle, drawing on Chapter 14's detailed analysis, is that each successive monsoon's destruction of unimproved infrastructure on vulnerable slopes and riverbanks constitutes a fiscal drain and a human cost that systematically undermines every other development investment, and that the only fiscally rational response to a state spending

tens of thousands of crores on post-disaster reconstruction every few years is to shift that spending forward into climate-proof construction at the design stage rather than repeating it at the repair stage.

The second Flagship Mission is the Economic Diversification and Youth Opportunity Mission, whose mandate is to build the state's productive base beyond its current reliance on hydropower revenue, public sector employment, horticulture export and a tourism sector that is itself climate exposed, creating enough local private sector employment of sufficient quality to retain a meaningful share of the educated graduates currently emigrating to Chandigarh, Delhi and Bengaluru. Its central instrument, drawing on Chapters 3, 4, 17 and 18, is deliberate industrial corridor development beyond the Baddi-Barotiwala-Nalagarh cluster into Una, Bilaspur and the emerging Zaskar-Lahaul connectivity corridor, combined with a scaled rural innovation and startup support infrastructure of the kind IIT Mandi Catalyst has pioneered at small scale.

The third Flagship Mission is the Fiscal Sustainability and Governance Reform Mission, whose mandate is to restore the state's public finances to a trajectory where the debt to Gross State Domestic Product ratio declines rather than rises, own tax revenue grows faster than committed expenditure, and capital expenditure recovers from its record low of 1.6 per cent of Gross State Domestic Product in 2025-26 to a level sufficient to sustain the infrastructure investment the state's difficult terrain demands. Drawing on Chapter 2, its instruments span own revenue enhancement, public sector enterprise reform, expenditure rationalisation and sustained central government advocacy for the restoration of assessed, need-based fiscal transfers to hill states.

The fourth Flagship Mission is the Knowledge Economy and Human Capital Deepening Mission, whose mandate is to convert the state's investment in near-universal education and strong public health into a locally employable, innovation-capable workforce, closing the paradox documented in Chapter 3 and Chapter 17 between the state's exceptional human capital outcomes and its failure to retain the talent they produce. Its central instruments are the academic-industry research consortium, the scaled rural incubation centre network and the hospitality and technical skills development reforms proposed in Chapter 17.

The fifth Flagship Mission is the Cultural Heritage and Green Economy Mission, whose mandate is to position the state as India's premier destination for high-value, low-volume cultural, wellness and heritage tourism, converting its 17 Geographical Indication tagged products, its UNESCO-listed national park and its extraordinary traditional architecture, textiles and performing arts tradition into a coherent, premium-priced visitor and export proposition rather than a low-price, high-volume mass tourism offering that the state's fragile mountain ecosystems cannot sustainably support. Drawing on Chapters 13, 14, 18 and 19, it simultaneously frames the state's forests, river systems and biodiversity as the productive ecological infrastructure of this green economy rather than as constraints on conventional development.

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

The medium-term action plan for the five years from 2025 to 2030 translates the five flagship missions into a sequenced set of specific, achievable actions with explicit accountability for delivery, drawn from the sectoral recommendations developed across this Report's twenty chapters. Sequencing matters here because the state's fiscal constraints, documented in Chapter 2, mean that investment choices over the next five years will directly determine which of the longer-term vision's components are financially viable and which remain aspirational.

The highest priority cluster for the 2025-2030 period is fiscal stabilisation, without which every other action on this list becomes progressively less deliverable. This means completing, within the current financial year, a credible medium-term fiscal framework agreed with the Sixteenth Finance Commission that sets out the path from the current fiscal deficit of 6.6 per cent of Gross State Domestic Product to a sustainable trajectory by 2030, backed by specific, quantified own revenue enhancement measures including the property tax base expansion, enhanced hydropower royalty renegotiation and tourism sector levy instruments discussed in section 21.3 below. It simultaneously means protecting the capital budget lines for climate resilient infrastructure reconstruction at the level recommended by the State Disaster Management Authority's own technical assessments, specifically the road, bridge and water supply categories cut by 51 to 58 per cent in 2025-26, funding this protection through the central government's fifty-year interest-free capital expenditure loan facility rather than from the state's own strained fiscal resources.

The second priority cluster encompasses the four major infrastructure completions whose timelines fall within the 2025-2030 window. These are the Amended BharatNet Programme's full connectivity rollout to all 3,615 Gram Panchayats and 15,500 non-Gram Panchayat villages by 2027, discussed in Chapter 16, the 30 faecal sludge co-treatment plant projects by March 2027, discussed in Chapter 10, the Shimla ropeway project's Stage-II forest clearance and construction commencement, discussed in Chapter 8, and the Kangra airport expansion's project completion, discussed in Chapter 8. Each of these infrastructure completions has been described in its relevant chapter as foundational for a wider set of economic and service delivery improvements that cannot be fully realised without it, and their inclusion in a single priority cluster reflects this mutual dependency.

The third priority cluster, for the 2027-2030 period, encompasses the economic transformation investments that require the fiscal stabilisation and foundational infrastructure of the first two clusters as preconditions. These include the establishment of three new industrial nodes in Una, Bilaspur and Lahaul and Spiti, discussed in Chapter 4, with dedicated infrastructure and single-window clearance comparable to the Baddi-Barotiwala-Nalagarh cluster, the scaling of IIT Mandi Catalyst's pre-rural incubation centres from 36 to one per development block across all twelve districts, discussed in Chapter 17, the World Bank-assisted Himachal Pradesh Horticulture Development Project's high-density orcharding programme reaching its target of 1.34 lakh beneficiaries and being extended for a second phase covering the stone fruit and walnut diversification priorities

discussed in Chapter 18, and the formal operationalisation of the Himachal Pradesh Traditional Architecture Resilience Cell proposed in Chapter 14 for adapting Kath-Kuni construction principles into regulatory specifications for public building reconstruction.

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

The financing of this Report's strategic vision requires a fundamentally different revenue architecture from the one documented in Chapter 2, where own tax revenue at 5.5 to 6.3 per cent of Gross State Domestic Product and narrowing central transfers are leaving a structural resource gap of close to Rs 6,000 crore annually even before any new development investment is considered (PRS Legislative Research, 2026; HimbuMail, 2026). This Report identifies five specific, implementable revenue enhancement instruments that together could credibly close a substantial share of that gap without imposing economically harmful tax increases on the state's already stressed farm and small business population.

First, systematic property tax reform in the state's 75 Urban Local Bodies, currently severely underperforming relative to the assessed capital value of urban real estate, particularly in Shimla, Manali, Dharamshala and Baddi, where property values have risen substantially with tourism and industrial development. A rigorous Geographic Information System-based property tax mapping exercise for all Class I Urban Local Bodies, funded through the central government's Fifteenth Finance Commission urban local body grant and completed by 2027, would provide the cadastral foundation for a property tax base that the independent assessment already cited in Chapter 2 identifies as a necessary component of urban fiscal sustainability. Preliminary independent estimates suggest that full, market-value-assessed property tax implementation in Himachal Pradesh's urban local bodies could add Rs 1,200 to Rs 1,500 crore annually to combined state and local government revenues, a figure this Report treats as an order of magnitude estimate rather than a precise forecast.

Second, a Himalayan Ecology and Tourism Levy, applied as a modest per-visitor bed-night charge on all commercial accommodation in the state's tourism destinations, earmarked specifically for climate resilient infrastructure reconstruction and biodiversity conservation, on the model of several South Asian and European mountain economies that have successfully implemented tourism levies without materially suppressing visitor volumes. At even Rs 50 per bed-night across the 1.80 crore domestic visitors who constitute the current tourism base, a levy of this kind would generate approximately Rs 900 crore annually, directly aligning the tourism sector's infrastructure beneficiaries with the funding of the infrastructure they depend on and have historically damaged through overcrowding.

Third, a Forest Carbon Credit Programme, building on the 79 million tonne carbon stock increase documented between 2017 and 2023 and the state's third highest per-hectare carbon density nationally, as discussed in Chapter 13, to develop and register Himachal Pradesh's forest conservation and enhancement activities under Article 6 of the Paris Agreement's carbon market mechanisms. Initial discussions with the Indian Council of Forestry Research

and Education and with the UNDP's climate finance facilitation function could, if initiated by 2027, produce a viable carbon credit methodology and a first registration by 2030, providing an annual, recurring revenue stream whose scale would depend on registered area and credit price but whose potential at even conservative carbon credit pricing and partial forest area coverage is in the range of Rs 500 to Rs 1,000 crore annually by the early 2030s.

Fourth, a renegotiated hydropower revenue sharing framework, specifically addressing the observation in Chapter 9 that the state's current non-tax revenue contribution to total receipts has declined rather than grown, despite the expansion of the hydropower programme, by establishing a systematic process of lease renegotiation as existing project leases expire and by introducing a climate risk adjusted royalty framework that reflects the growing probability, discussed in Chapter 14, of declining long-term river flows as glaciers retreat. Fifth, and complementing domestic revenue enhancement, accelerated utilisation of the fifty-year, interest-free capital expenditure loans available from the central government under the scheme introduced in 2020-21 and discussed in Chapter 2, for which Himachal Pradesh has historically underperformed its allocation capacity relative to better prepared states, and whose full utilisation on a prioritised pipeline of climate-resilient infrastructure projects would provide a substantial, non-borrowing-ceiling-constrained source of capital funding for the medium-term action plan above.

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

The relationship between Himachal Pradesh and the central government on fiscal matters, documented extensively in Chapter 2, is at a structural inflection point whose resolution will shape the state's entire development trajectory through the Sixteenth Finance Commission's award period of 2026 to 2031. The discontinuation of Revenue Deficit Grants has created an immediate annual resource gap whose magnitude, estimated at close to Rs 6,000 crore in 2026-27 alone, cannot plausibly be closed entirely through the own revenue enhancement measures discussed in section 21.3 within the short time horizons those measures require to yield results (HimbuMail, 2026). This Report's recommended advocacy position for the state government in its ongoing negotiations with the central government therefore combines two distinct tracks, neither of which is sufficient alone.

The first track is a principled argument, made in coalition with other Himalayan and hill states including Uttarakhand, Jammu and Kashmir and the northeastern states, for the introduction of a successor mechanism to the Revenue Deficit Grant under a different constitutional or statutory instrument, specifically targeted at states whose structural geographic and ecological cost disabilities mean that their minimum necessary expenditure on roads, health, education and disaster response materially exceeds what even maximum tax effort under their narrow economic bases could finance. The argument draws directly on the same constitutional reasoning that justified Article 275(1) grants and Special Category Status for hill states, and frames it in terms of the new, well-documented evidence of climate vulnerability documented in this Report and the 2025 Human Development Report rather than relying solely on historical precedent. This Report considers this advocacy track both

legitimate and necessary, while recognising that its success is uncertain and therefore insufficient as a standalone financing strategy.

The second track is the more aggressive utilisation of existing Centrally Sponsored Scheme frameworks whose per-unit cost norms can be revised through administrative rather than constitutional processes. The most important specific revision this Report proposes is an upward adjustment of the Pradhan Mantri Awas Yojana Gramin per-unit construction assistance for Himachal Pradesh to reflect the terrain-determined cost differentials documented in this Report, specifically the State Disaster Management Authority's own assessment that mountain reconstruction costs 20 to 30 times more per unit than comparable plains reconstruction, a claim that even conservative administrative adjustment, perhaps a 100 to 150 per cent hill area loading factor rather than the 2,000 to 3,000 per cent the SDMA's maximum figure implies, would substantially improve the quality and resilience of rural housing being constructed under the scheme in the state's more seismically and climatically exposed districts. A comparable cost norm revision for Pradhan Mantri Gram Sadak Yojana's hill construction specifications, and for National Disaster Response Fund disbursement rates for mountain state post-disaster reconstruction, falls within the same administrative revision track and would collectively represent the most impactful policy change available to the state within existing central scheme frameworks without requiring new legislation.

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

Himachal Pradesh's development trajectory is inseparable from its cooperative relationships with the states and union territories that share its rivers, its transport corridors, its industrial supply chains and its tourist markets, and this Report identifies four specific inter-state cooperation priorities whose maturation over the 2025 to 2030 period would materially advance the state's own development objectives.

The Bhakra Beas Management Board, which jointly manages the Bhakra and Beas dam systems for the benefit of Himachal Pradesh, Punjab, Haryana and Rajasthan, provides the longest established model of successful multi-state water resource governance in the northern plains, and this Report recommends that the state proactively propose a systematic review of the Board's benefit-sharing formula to reflect both the upstream ecological services that Himachal Pradesh provides, including watershed protection, forest conservation and flood moderation, and the downstream cost-sharing obligations for climate-resilient dam safety upgradation that future river flow volatility, discussed in Chapter 14, will impose on all four riparian states simultaneously rather than solely on Himachal Pradesh as the dam-owning state.

The Baddi-Barotiwala-Nalagarh industrial cluster's continued competitiveness requires transport and logistics coordination across Himachal Pradesh, Punjab and the Chandigarh union territory that, as Chapter 4 documents, currently functions as a de facto integrated industrial region despite spanning three separate administrative jurisdictions. A formal

tri-state logistics coordination mechanism, covering road widening, freight vehicle regulation, pollution control standard harmonisation and industrial waste treatment, would provide the administrative foundation for the cluster's further development without requiring any single jurisdiction to bear the full coordination cost.

The emerging inter-territorial relationship with Ladakh, created by the Zaskar-Lahaul tunnel discussed in Chapter 4 and the Bhanupli-Leh railway discussed in Chapter 8, represents a new and potentially transformative frontier of inter-state connectivity whose planning implications extend well beyond transport into trade, tourism, defence logistics and border area development. Himachal Pradesh's engagement with the union territory of Ladakh's own administration and with the central government's Border Area Development Programme should, in this Report's assessment, be elevated to a structured, regular inter-governmental dialogue specifically addressing the shared economic opportunities of the new connectivity before the tunnel and railway open rather than reacting ad hoc after the fact.

21.6 International Collaboration: Common Development Agenda and Global Partnership

Himachal Pradesh's international development partnerships, discussed from a foreign investment perspective in Chapter 4, are currently concentrated in two specific channels, the Agence Française de Développement's financing of environmentally sensitive hydropower construction and the World Bank's support for the Himachal Pradesh Horticulture Development Project and, through the Asian Development Bank, the Sustainable and Inclusive Tourism Development Project. This Report's assessment is that both the breadth and the volume of international development finance channelled to the state should be significantly expanded over the 2026 to 2031 period, specifically to finance the climate resilience and green economy transition investments discussed in Chapter 14 and Chapter 21's earlier sections that the state's own fiscal position cannot adequately support.

The most immediately actionable international financing priority is a new, dedicated climate resilience investment programme with one or more bilateral or multilateral development finance institutions, combining concessional loan financing for the climate-proof infrastructure reconstruction discussed in Chapter 14 with technical assistance for the improved building standards, spatial planning reform and disaster risk reduction institutional strengthening also discussed in that chapter. The Agence Française de Développement's existing relationship, structured around environmentally sensitive hydropower financing, provides a proven institutional entry point for this broader climate finance engagement, and this Report recommends that the state government formally propose to AFD, in coordination with the Ministry of Finance's Department of Economic Affairs, the preparation of a Country Programme Note for Himachal Pradesh covering both the climate resilience and the renewable energy transition investment streams that would draw on AFD's established competencies in both domains.

On a broader international knowledge cooperation front, the partnership with the United Nations Development Programme that produced the Climate Adjusted Human Development Index in the 2025 Human Development Report, discussed in Chapter 1, provides Himachal Pradesh with a globally significant intellectual platform that few states of its size can match, and this Report recommends that the state build on this platform through a dedicated series of international knowledge exchanges with comparable mountain economies including Bhutan, Nepal's hill districts, Peru's Andean regions and Switzerland's Alpine cantons, specifically focused on governance models for tourist carrying capacity management, community-based climate adaptation, mountain-specific building standards and the political economy of transitioning from resource extraction to green economy models.

21.7 Monitoring, Evaluation and Results Framework

The monitoring and evaluation architecture through which the vision, missions and action plan proposed in this chapter are tracked for implementation and outcome must be both more rigorous and more public than the current state of Himachal Pradesh's development monitoring, documented in Chapter 20's discussion of the statistical system strengthening agenda. The three tier results framework this Report proposes operates at the state, district and Gram Panchayat levels simultaneously, with different but linked accountability mechanisms at each tier.

At the state level, this Report recommends the establishment of a Chief Minister's Development Review, held quarterly and publicly reported, at which the Secretaries of all major line departments table quantified progress updates against the specific, measurable indicators associated with each of the five Flagship Missions. The quarterly report should be published on the state government's open data portal within fifteen days of each review meeting, and the Department of Planning should maintain a public-facing Himachal Pradesh Development Dashboard, updated in real time where administrative data systems permit, covering at minimum the fiscal indicators discussed in Chapter 2, the climate and disaster loss indicators discussed in Chapter 14, the youth unemployment and migration indicators discussed in Chapter 3 and Chapter 20, and the sectoral infrastructure completion milestones discussed in section 21.2 above.

At the district level, each Deputy Commissioner should be required to maintain and publish an annual District Development Report modelled on the format pioneered by the state government's own Aspirational District Programme for Chamba, extending the programme's granular, indicator-by-indicator baseline and progress tracking methodology to all twelve districts rather than only to the one covered by the Aspirational District designation. This district-level reporting obligation should be formally linked to the District Planning Committee's annual plan preparation process and to the State Finance Department's district-wise expenditure tracking, so that resource allocation and implementation progress are visible alongside each other rather than in separate administrative silos.

At the Gram Panchayat level, the Localisation of SDG modules discussed in Chapter 12 and Chapter 20 provide an existing, partially implemented framework whose systematic completion across all 3,615 Gram Panchayats by 2027 would provide the most granular monitoring tier available to any Indian state for tracking local development outcomes, and this Report recommends that the Panchayati Raj Department allocate a specific, modest budget from the Gram Panchayat Development Grant to support the completion of this localisation exercise in every panchayat alongside the digital reporting infrastructure, connected through the Amended BharatNet network discussed in Chapter 16, necessary to aggregate and analyse the resulting data.

21.8 Accountability Architecture: Legislature, Civil Society and Citizens

The governance of a development vision across a twenty-one-year horizon, spanning multiple elections and multiple governments of potentially different political parties and development philosophies, requires an accountability architecture that outlasts any individual administration's commitment to the specific instruments and priorities discussed in this Report. Himachal Pradesh's existing accountability institutions provide the framework for this, though each requires specific strengthening to function at the level a twenty-five year development vision demands.

The Himachal Pradesh Vidhan Sabha, whose Public Accounts Committee and Estimates Committee provide the formal legislative mechanisms for executive accountability on both financial management and programme delivery, should in this Report's assessment be more systematically engaged with the results framework proposed in section 21.7, specifically by receiving the quarterly Chief Minister's Development Review reports as a matter of course rather than only when specific issues are raised through question hour or calling attention notices. This Report recommends that the Vidhan Sabha establish a dedicated Standing Committee on Climate and Sustainable Development, mirroring similar committees established in the parliaments of several comparably climate-vulnerable nations, to provide sustained legislative oversight specifically over the climate resilience and green economy transition dimensions of this vision that cut across the jurisdictions of multiple existing sector-specific committees.

The Comptroller and Auditor General's role, documented throughout this Report as the most consistently rigorous independent assessor of the state's public financial management, should be actively supported by the state government rather than treated primarily as a compliance obligation. This Report recommends that the state government establish a formal post-tabling response protocol under which each Comptroller and Auditor General report on state finances and public sector undertakings is formally discussed by the Council of Ministers within sixty days of tabling, with the minutes of that discussion and the government's accepted recommendations publicly published, converting the current pattern documented in Chapter 15, where successive Comptroller and Auditor General warnings have not produced commensurate corrective action, into a more structured and publicly verifiable audit response cycle.

Civil society's contribution to accountability, illustrated throughout this Report by the work of Himdhara on disaster governance, Jagori on gender and disaster vulnerability, academic institutions on forest cover, wildlife and traditional knowledge, and the Van Panchayat network on community forest governance, should be formally recognised in the state's accountability architecture rather than treated as an external critique to be managed. This Report recommends a structured Civil Society Development Dialogue, convened biannually by the Planning Department, bringing together credentialed civil society research organisations, environmental groups, community-based organisations and academic institutions around the specific development dashboard indicators discussed in section 21.7, providing a formal, publicly recorded forum through which civil society evidence can inform the quarterly ministerial review process rather than being channelled only through episodic media coverage.

For individual citizens, the combination of an expanded DigiLocker service portfolio, Him Seva portal and Lok Mitra Kendra network discussed in Chapter 16, when fully implemented across all of the state's Gram Panchayats through the Amended BharatNet infrastructure, provides the digital foundation for citizen-initiated feedback, grievance escalation and benefit tracking that would, at scale, constitute the most granular and most continuous source of implementation monitoring available to any tier of the accountability architecture. This Report's final recommendation is that the citizen feedback dimension of this digital infrastructure be treated as a monitoring and evaluation tool of the development results framework, not merely as a citizen service delivery improvement, so that aggregated, anonymised feedback patterns from the Him Seva and Lok Mitra Kendra network are systematically reviewed in the quarterly Chief Minister's Development Review alongside the administrative performance data submitted by line departments, giving the citizens who are the ultimate intended beneficiaries of this vision the clearest and most direct role in assessing whether it is being realised in practice.

END NOTE

This Comprehensive Development Framework Report of the State of Himachal Pradesh was prepared as part of the multi-state series commissioned by the Council for Comprehensive Development Frameworks under the Youth Peace and Development Forum, using the standardised format developed for comparable analysis across all twenty-eight states of the Indian Union. Its preparation drew on publicly available government documents, national statistical publications, independent academic research, judicial and audit findings, multilateral development institution assessments and current media and civil society reporting, with every factual claim attributed to a named source and dated to the year in which it was recorded or reported. No statistical figure has been invented or estimated without explicit acknowledgement that it is an approximation, and where data was genuinely unavailable, this Report has said so plainly rather than filling the gap with a convenient but unverifiable number.

The report has been long. It has been long because Himachal Pradesh is not a simple state to describe or to plan for. A state whose territory compresses five distinct agroclimatic zones, two constitutional schedules, a dual capital arrangement, twelve districts whose populations range from the tens of thousands to more than a million, and a fiscal position that can in the same financial year host a national Top Achiever award for ease of doing business and a Comptroller and Auditor General warning of impending debt unsustainability, demands a report of corresponding complexity. Intellectual honesty about that complexity has required this Report to resist the temptation, common in development planning documents, of presenting a coherent and inspiring narrative that omits the contradictions. The contradiction between near-universal literacy and near-double-the-national youth unemployment rate, the contradiction between third highest per-hectare carbon stock and the steady degradation of rivers and high altitude pastures documented by independent field researchers, the contradiction between one of the country's most governance-clean reputations and the slow, under-resourced translation of audit findings into corrective administrative action, these contradictions are not rhetorical devices. They are the actual landscape within which the state's development choices must be made, and any planning framework that does not grapple with them honestly is unlikely to produce recommendations that survive contact with the terrain they purport to address.

Several themes have surfaced independently across chapters whose subject matter would not, on the surface, appear to have much in common, and this convergence is itself a finding of this Report that the End Note is the appropriate place to make explicit. The first such theme is terrain as governance. In almost every sector this Report has examined, from road construction in Chapter 8 to school deployment in Chapter 5 to drinking water supply in Chapter 10 to disaster reconstruction in Chapter 14, the physical geography of the state has imposed costs, constraints and design requirements that national policy frameworks, built around the needs and economics of plains states, consistently underweight. This is not a complaint to be lodged against any specific policy designer, since India's national frameworks must necessarily serve the median of a vast and diverse country. It is, however, a structural

reality that the state government's own representations to Finance Commissions, central ministries and bilateral development partners must persistently and quantitatively document rather than assume is already understood, since this Report's own research has found that each new generation of national policymakers requires the same re-education about the economics of mountain governance that their predecessors received.

The second recurring theme is the sustainability gap between what the state has achieved and what it can currently afford to maintain. Near-universal electrification, near-universal tap water coverage, near-universal school access and a genuinely extensive public health network are real and hard-won achievements. They are also ongoing expenditure commitments whose maintenance in a terrain that subjects them to recurring monsoon, earthquake and freeze-thaw damage requires a capital budget that the fiscal position documented in Chapter 2 is currently unable to support at the required level. The gap between achievement and maintenance is not a reason to be pessimistic about the state's development model. It is a reason to treat the restoration of fiscal health and the protection of capital expenditure as the preconditions for every other development ambition rather than as technical financial management concerns separate from the human development priorities that dominate the state's public discourse and its national reputation.

The third theme is the visibility gap between the state's formal administrative record and the lived experience of its most remote and most vulnerable communities. The Scheduled Tribe households of Pangi and Bharmour in Chamba, the elderly residents of villages in Lahaul and Spiti that younger generations have left for work in Chandigarh, the urban young women whose 41.2 per cent unemployment rate appears nowhere in the state's economic promotional literature, the apple growers whose 2026 harvest is projected to be 40 per cent below the previous year without any single policy intervention yet capable of addressing that loss, the families in Mandi and Kangra who were still living in temporary arrangements two years after the 2023 monsoon destroyed their homes: these populations and their circumstances are present throughout this Report in the data and analysis, but they are at risk of invisibility in a state whose aggregate statistics are sufficiently strong that the residual gaps can be treated as marginal. They are not marginal. They are the frontier on which the state's genuine development achievement will ultimately be judged, both by the standard of the Sustainable Development Goals' foundational commitment to leaving no one behind and by the more immediate human measure of whether the state's most difficult-to-reach residents experience the same quality of public services, economic opportunity and climate protection as those in its more accessible and more prosperous districts.

The Youth Peace and Development Forum, under whose auspices this Report was commissioned, was established on the premise that young people have both the greatest stake in long-term development outcomes and, frequently, the freshest analytical perspective on why existing institutions are producing those outcomes rather than better ones. The research team that prepared this Report worked within that spirit, approaching the evidence with the assumption that the state's genuine achievements deserve recognition and that its structural challenges deserve candour in equal measure. It is in that spirit that this Report is offered to

the policymakers, administrators, academics, civil society organisations, business leaders and citizens of Himachal Pradesh. Not as a verdict, and certainly not as a prescription to be implemented without scrutiny, but as a resource, as carefully assembled as the available evidence permitted, and as honestly argued as the importance of the subject demands.

Himachal Pradesh gave India the image of what a hill state could achieve in the decades following independence: a demonstration that universal education, accessible public health and honest administration were not privileges of industrial prosperity but preconditions for it, realisable even in the most difficult mountain terrain if a state government chose to prioritise them consistently and bravely over many years. The task that now confronts the state is the harder, less precedented work of building an economy that can sustain those achievements through a century of accelerating climate change, fiscal pressure and demographic transition that the founding generation of Himachali policymakers could not have anticipated and that no comparable mountain economy has yet navigated with complete success. This Report will have served its purpose if it has made the contours of that task more precisely visible, and its navigation even fractionally better informed.

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