



**COMPREHENSIVE DEVELOPMENT FRAMEWORK
REPORT OF STATE OF GOA**

YOUTH PEACE AND DEVELOPMENT FORUM

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FOREWORD

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

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

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

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

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

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

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

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

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

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

I commend the extensive research and collaborative effort that has gone into the creation of this document. It is my sincere hope that it will not remain a mere theoretical exercise but will serve as a definitive, actionable guide. The path ahead requires unwavering commitment, but with the right policy architecture in place, we can build a resilient, prosperous, and fundamentally inclusive Goa for generations to come.

Dheeraj G. N.
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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 Goa possible.

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

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

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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 Goa, 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 Goa and a developed India.

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PREFACE

Goa is, by land area, the smallest state in India, covering only 3,702 square kilometres, and yet it is a state that consistently defies the assumption that scale determines significance (Government of Goa Investment Promotion Board [GOA-IPB], 2024). With a projected 2026 population of approximately 1.60 million, Goa contributes just over a tenth of one percent of India's population, but it records the country's highest per capita income, tops the subnational Human Development Index table, and reports one of the lowest multidimensional poverty rates of any Indian state (NITI Aayog, 2025a; StatisticsTimes, 2025). This Comprehensive Development Framework exists to explain how that outcome came about, what strains it has produced, and what course corrections the state now needs.

The framework has been prepared following the same structural template used for comparable state development frameworks, including the Comprehensive Development Framework prepared for the State of Kerala, so that policymakers, researchers and citizens can read Goa's development story alongside that of other Indian states using a common set of chapters, themes and indicators. Twenty one chapters organise the analysis, moving from the state's geography and demography, through its fiscal architecture and economic structure, into the social sectors of education and health, the infrastructure sectors of transport, energy, water and urban development, the governance and technology chapters, and finally to a long term Vision 2047 roadmap. This first volume presents the Front Matter and Chapter 1, which establishes the state profile that every subsequent chapter builds upon.

A note on data discipline is necessary. Goa's most recent decennial Census was conducted in 2011. The 2021 Census has been repeatedly postponed at the national level and had not been enumerated as of the time of writing in 2026 (Census of India, 2011; Population Projections for India and States 2011-2036, Government of India, 2020). Wherever this framework cites a 2026 population, urbanisation or literacy figure, it is a projection built on the 2011 Census base and the Technical Group on Population Projections' growth assumptions, not a fresh enumeration, and this is flagged at every point of use rather than presented as a directly observed statistic. Where more recent survey based data exists, such as the National Family Health Survey 2019-21 (NFHS-5) or the Periodic Labour Force Survey, these have been used and dated precisely. Every statistic in this framework carries a year and a source, in keeping with the requirement that no figure be presented without a clear provenance. This is a living document. As Census 2021 data becomes available, as each new Economic Survey and Budget is tabled in the Goa Legislative Assembly, and as sector specific surveys are refreshed, the figures in this framework will require updating.

Vishvesh . R

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EXECUTIVE SUMMARY

Goa presents one of the more unusual development profiles among India's states. On almost every conventional metric of prosperity and human development, the state performs at or near the top of the national table. Its Human Development Index score, estimated above 0.799 for 2022-23, places it first among all Indian states and union territories, ahead of Delhi, Sikkim, Kerala and Chandigarh, and in the range the United Nations Development Programme classifies as very high human development globally (Down To Earth, 2025; Grokipedia, 2026). Its nominal per capita income, at an estimated ₹7,09,045 for 2024-25, is more than three times the national average and the highest of any Indian state (Government of Goa, Directorate of Planning, Statistics and Evaluation [DPSE], 2026; Prudent Media, 2026). Fewer than one in a hundred Goans is classified as multidimensionally poor under NITI Aayog's National Multidimensional Poverty Index, a rate on par with Kerala and Delhi and far below the national average (NITI Aayog et al., 2023).

Yet this framework's central argument is that Goa's development challenge is no longer one of catching up, but of managing the second order costs of having arrived early. The state's real Gross State Domestic Product grew at an average of only 3.4 percent per year between 2012-13 and 2021-22, well below the national average of 5.6 percent over the same period, even as nominal GSDP has since accelerated sharply, reaching an estimated ₹1,12,525.47 crore in 2024-25 and a further projected ₹1.38 lakh crore in 2025-26 (NITI Aayog, 2025a; DPSE, 2026; PRS Legislative Research, 2026). Public debt is rising, from ₹26,605.28 crore as of March 2025 to a projected ₹30,945.32 crore by March 2026, and the fiscal deficit for 2025-26 is running above budget at an estimated 3.1 percent of GSDP against a budgeted 2.1 percent, before a targeted 3.4 percent in 2026-27 (Prudent Media, 2026; PRS Legislative Research, 2026). Unemployment, at 9.7 percent as of 2022-23, sits well above the national average despite the state's prosperity, a mismatch this framework returns to repeatedly across the labour market, education and industry chapters (NITI Aayog, 2025a).

Chapter 1 of this framework, presented in full in this volume, establishes the state profile on which the rest of the document builds. Goa's 3,702 square kilometre land area is organised into two revenue districts, North Goa and South Goa, comprising eleven to twelve talukas, 383 revenue villages and 192 village panchayats, with a proposal under discussion to carve a third district, provisionally referred to as Kushavati, from parts of South Goa (GOA-IPB, 2024; Wikipedia, 2025). The state's population, projected at approximately 1.60 million for 2026, is growing at just 0.5 percent annually, slower than the 0.9 percent national average, and is now majority urban, with NITI Aayog's 2023 projections placing urbanisation at 75.8 percent, among the highest of any Indian state (NITI Aayog, 2025a).

The chapter also documents two demographic warning signs that recur throughout this framework. First, Goa's sex ratio at birth fell sharply between NFHS-4 and NFHS-5, from 966 to 838 females per 1,000 males, the steepest such decline recorded among Indian states in that survey round, even as the state's overall sex ratio remains close to the national average (PRS India, 2021). Second, the state's Total Fertility Rate, at 1.3 children per woman as of

2019-21, is now well below replacement level, a pattern common to small, urbanised, high income states but one with long term implications for the future labour force and old age dependency ratio that Chapter 6 (Health, Nutrition and Population) will examine in detail (NITI Aayog, 2025a).

On social indicators, the picture is largely positive. Literacy stood at 88.7 percent as of the 2011 Census, well above the national figure of 73 percent, household access to drinking water reached 98.2 percent and sanitation 87.7 percent as of 2021, and full electrification of households has been achieved (NITI Aayog, 2025a). Goa recorded an infant mortality rate of 5 deaths per 1,000 live births in 2020, among the lowest of any Indian state, and 81.9 percent full immunisation coverage as of 2019-21 (NITI Aayog, 2025a).

Intra-state disparities, though modest by the standards of larger states, are real and persistent. Goa has no districts or blocks currently listed under NITI Aayog's Aspirational Districts Programme or Aspirational Blocks Programme, a reflection of the state's high aggregate development scores, but this framework's analysis in section 1.7 shows a consistent gap between the urbanised, tourism dense coastal talukas of Bardez, Salcete, Tiswadi and Mormugao, and the hinterland talukas of Sattari, Sanguem, Canacona, Dharbandora and Quepem, which report lower per capita infrastructure density, higher outmigration of youth and greater dependence on agriculture and forestry (Goa PCS Exam Notes, 2017; GOA-IPB, 2024). Subsequent chapters, most directly Chapter 12 on Rural Development and Chapter 13 on Environment and Natural Resource Governance, take up this hinterland-coast divide as a recurring policy theme.

Read together, the picture that emerges from this first chapter is of a state that has achieved development outcomes most of India aspires to, while carrying a distinct set of second generation risks: a low growth, high cost economic base; a workforce mismatch reflected in high unemployment amid high income; a declining child sex ratio; sub replacement fertility; rising public debt; and an internal coast-hinterland divide. The chapters that follow this volume will examine each of these threads in turn, beginning with the state's fiscal architecture in Chapter 2.

Chapter 1: State Profile — Geography, Demography and Society

1.1 Geographic and Ecological Characteristics of the State

Goa lies on the western coast of India, bounded by the Arabian Sea to the west, the state of Maharashtra to the north, and the state of Karnataka to the east and south (GOA-IPB, 2024). It is the smallest state in India by geographical area, covering 3,702 square kilometres, and lies between latitudes 14 degrees 53 minutes and 15 degrees 48 minutes north and longitudes approximately 73 degrees 40 minutes to 74 degrees 20 minutes east (Goa PCS Exam Notes, 2017). The state extends roughly 105 kilometres along the coast and up to 60 kilometres inland at its widest point, and is situated approximately 594 kilometres by road from Mumbai, the nearest major metropolitan centre (Goa PCS Exam Notes, 2017).

Physiographically, Goa divides into three broad zones running roughly parallel to the coast. The western coastal belt is a narrow strip of sandy beaches, estuaries and coconut palm groves that hosts the bulk of the state's tourism infrastructure and its most densely populated talukas. A central midland belt of low lateritic plateaus supports much of the state's horticulture, cashew cultivation and residential expansion. To the east, the Sahyadri range of the Western Ghats, a UNESCO World Heritage Site recognised for its biodiversity, rises to elevations exceeding 1,000 metres in places and forms the state's eastern boundary with Karnataka (GOA-IPB, 2024). This Western Ghats belt, concentrated in the talukas of Sattari, Sanguem, Canacona and Dharbandora, contains the bulk of Goa's remaining forest cover and its major wildlife sanctuaries, including the Bhagwan Mahavir Wildlife Sanctuary and Mollem National Park.

Goa's river system is dominated by two major west flowing rivers, the Mandovi and the Zuari, both of which originate in the Western Ghats and drain into the Arabian Sea, along with smaller rivers including the Chapora, Betul, Sal and Talpona. These rivers and their extensive estuarine systems support the state's inland waterway transport, its traditional fishing economy and, increasingly, its mining and industrial cargo movement, a theme this framework takes up in Chapter 8 on Transport and Connectivity Infrastructure. The estuaries also sustain substantial mangrove ecosystems, which provide coastal protection and nursery habitat for fisheries but which have come under sustained pressure from land reclamation, construction and mining silt deposition over recent decades (Goa PCS Exam Notes, 2017).

Goa experiences a tropical monsoon climate, with the southwest monsoon delivering the great majority of the state's annual rainfall between June and September, typically in the range of 2,500 to 4,000 millimetres depending on location, with the higher figures recorded in the Western Ghats talukas and progressively lower totals moving toward the coast. This heavy, concentrated monsoon regime shapes the state's agricultural calendar, its hydropower and irrigation planning, and increasingly its disaster risk profile, an issue examined in depth in Chapter 14 on Climate Change and Ecological Security, given the state's exposure to coastal erosion, flash flooding in low lying urban areas and landslide risk along Ghat facing slopes.

Goa's ecological endowment, its beaches, its estuaries, its Western Ghats forest cover and its laterite plateaus, is simultaneously its principal economic asset and its principal environmental liability. Tourism, the state's largest single economic driver, depends directly on the health of its coastline and its natural landscapes, while mining, historically a major contributor to state revenue, has repeatedly come into direct conflict with forest conservation, groundwater and river ecology, resulting in a series of judicial interventions by the Supreme Court of India over the past decade. This tension between an ecology dependent tourism economy and an extractive mining economy operating in the same small territorial footprint is a structural feature of Goa's development challenge that recurs across Chapters 3, 4, 13, 14 and 19 of this framework.

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

Goa attained statehood on 30 May 1987, having previously been governed as a Union Territory following its annexation from Portuguese administration on 19 December 1961 (Districts of Goa, Population, Area, List, Importance, 2025). The state is currently organised into two revenue districts, North Goa and South Goa, though a proposal to bifurcate South Goa and create a third district, provisionally named Kushavati district, comprising the interior talukas of Sanguem, Quepem, Canacona and Dharbandora, has been under public discussion and has not, as of the time of writing in 2026, been formally notified (List of talukas of Goa, 2026). This framework treats Goa as a two district state for all data purposes unless a specific source explicitly reports on the proposed third district.

North Goa district covers approximately 1,736 square kilometres and comprises six talukas, namely Bardez, Pernem, Bicholim, Sattari, Tiswadi and Ponda, with its administrative headquarters at Panaji, which also serves as the state capital (Area of Goa, 2026; GOA-IPB, 2024). South Goa district covers approximately 1,966 square kilometres and comprises five to six talukas, namely Salcete, Mormugao, Quepem, Sanguem, Canacona and, where counted separately, Dharbandora, with its headquarters at Margao (Districts of Goa, Population, Area, List, Importance, 2025). Together the two districts contain 383 revenue villages, of which 233 fall within North Goa and 150 within South Goa, organised into 192 village panchayats, 122 in North Goa and 70 in South Goa, alongside 44 towns including 14 municipal towns (Area of Goa, 2026; Goa PCS Exam Notes, 2017).

Each district is administered by a District Collector who also functions as District Magistrate, supported at the taluka level by a Mamlatdar and, for rural development programme implementation, by Block Development Officers overseeing twelve community development blocks statewide (Goa PCS Exam Notes, 2017). Below the taluka, elected village panchayats, headed by a Sarpanch and supported by elected Panch members, administer local governance functions under the Goa Panchayat Raj Act, a structure examined in detail in Chapter 12 on Rural Development and Decentralised Governance. Urban local governance operates through municipal councils and corporations, including the Corporation of the City of Panaji and the Margao, Mapusa, Vasco da Gama and Mormugao municipal councils, discussed further in Chapter 11 on Urban Development, Housing and Smart Cities.

At the state political level, Goa is represented by two Lok Sabha constituencies, North Goa and South Goa, and a forty seat Legislative Assembly, a comparatively compact institutional footprint that this framework's governance chapters, particularly Chapter 15 on Administrative Governance Reform, argue has historically enabled faster policy turnaround and closer citizen access to elected representatives than is typical in larger Indian states, though it has also been associated with political instability in earlier decades of the state's history.

Vasco da Gama, in Mormugao taluka, is Goa's largest city by population, hosting the state's principal port and a significant share of its industrial and naval infrastructure, while Margao functions as South Goa's commercial hub and Panaji, though comparatively smaller in population, holds primacy as the seat of government (Goa District Map, 2026). This distributed pattern, in which the political capital, the largest city and the principal commercial centre are three distinct urban settlements, is a distinctive feature of Goa's urban system that shapes infrastructure planning across the transport, water and urban development chapters of this framework.

1.3 Demographic Structure: Population, Density, Growth and Composition

According to the 2011 Census, the last full decennial enumeration available for the state, Goa's population stood at 1,458,545, comprising 739,140 males and 719,405 females, having grown from 1,347,668 recorded in the 2001 Census, a decadal growth rate of 8.23 percent, itself a sharp deceleration from the 14.89 percent growth recorded in the 1991 to 2001 decade (StatisticsTimes, 2025). Census 2021 has not been conducted as of 2026, and this framework relies instead on official population projections built from the 2011 base. On this basis, Goa's population is projected at approximately 1.60 million for 2026, variously estimated between 1,595,937 and 1,642,197 depending on the projection methodology used, with the state accounting for roughly 0.11 to 0.12 percent of India's total population (StatisticsTimes, 2025; Census of India, 2026, indiacensus.in projection).

NITI Aayog's Summary Report for the State of Goa, using the Technical Group on Population Projections' 2011-2036 series, records a population of 1.6 million for 2022-23 and a projected annual population growth rate of 0.5 percent, markedly slower than the 0.9 percent national average for the same period (NITI Aayog, 2025a). Goa's population density, at 394 persons per square kilometre as per 2021 projections, is close to but slightly below the national average, reflecting the state's mix of dense coastal urban settlement and sparsely populated Western Ghats interior (NITI Aayog, 2025a). The state's dependency ratio, at 55.6 percent as of 2021 projections, is broadly comparable to the national figure (NITI Aayog, 2025a).

Goa's most distinctive demographic feature is its high and rising level of urbanisation. The 2011 Census recorded 62.17 percent of the population as urban (Goa Population 2026, census2011.co.in), while NITI Aayog's more recent 2023 projections place urbanisation at 75.8 percent, among the highest recorded for any Indian state and reflective of the state's tourism driven, non agrarian economic structure (NITI Aayog, 2025a). Urban population

growth between the 2001 and 2011 Censuses was recorded at 35.23 percent, substantially outpacing the state's overall population growth rate over the same period, a trend that has direct implications for the urban infrastructure, housing and municipal finance chapters of this framework.

On sex ratio, the 2011 Census recorded 973 to 974 females per 1,000 males for Goa as a whole, marginally above the then national average, with urban areas recording 956 females per 1,000 males (Goa Population 2026, census2011.co.in). However, National Family Health Survey data reveals a more concerning trend beneath this headline figure. NFHS-5, conducted in 2019-21, recorded Goa's sex ratio at birth, that is, the number of female children born per 1,000 male children, at just 838, down sharply from 966 recorded in NFHS-4 in 2015-16, the steepest decline in this indicator recorded among all states surveyed and one of only three states, alongside Himachal Pradesh and Telangana, to report a sex ratio at birth below 900 (PRS India, 2021). This divergence between a favourable overall sex ratio, which reflects decades of accumulated population, and a sharply deteriorating sex ratio at birth, which reflects current reproductive behaviour, is examined further in Chapter 6 (Health, Nutrition and Population) and Chapter 7 (Social Justice, Inclusion and Community Welfare) of this framework, and represents one of the more significant emerging social risks identified across the entire document.

Goa's fertility rate has also fallen well below replacement level. NFHS-5 recorded a Total Fertility Rate of 1.3 children per woman for 2019-21, down from 1.7 in the NFHS-4 round conducted in 2015-16 (Goa Population 2025/2026, populationu.com; NITI Aayog, 2025a). This sub-replacement fertility rate, combined with slowing population growth and a rising dependency ratio over the medium term, points toward an ageing population profile that this framework's Chapter 6 and Chapter 7 sections on elderly welfare address directly. Age structure data from the 2011 Census showed a child population, aged 0 to 6 years, of 144,611, representing 9.91 percent of the state's total population, with a child sex ratio of 943 females per 1,000 males, again notably lower than the overall sex ratio and consistent with the sex selective pattern flagged above (Census of India, 2026 projection, censusofindia.net).

Goa's labour force participation and employment data further complicate the demographic picture. As of 2022-23, the state's annual unemployment rate stood at 9.7 percent, higher than the national average despite Goa's high per capita income, while Female Labour Force Participation stood at 42.3 percent, also above the national average (NITI Aayog, 2025a). The working population is concentrated in Services at 58.8 percent, Manufacturing at 18.4 percent, Agriculture at 12.2 percent, and Construction at 8.3 percent, a sectoral distribution that underscores the state's post agrarian, services and tourism dependent economic base, examined in full in Chapter 3 (Economic Structure, Growth and Sectoral Performance) and Chapter 17 (Skill Development, Employability and Workforce Alignment) (NITI Aayog, 2025a).

1.4 Linguistic, Ethnic, Religious and Cultural Profile

Konkani, written in the Devanagari script, is the official language of Goa and the mother tongue of the majority of the state's population, having been granted official status under the Goa, Daman and Diu Official Language Act of 1987 and subsequently included in the Eighth Schedule of the Constitution of India. Marathi retains significant use, particularly in border talukas adjoining Maharashtra and among sections of the Hindu population, and enjoys a degree of official recognition alongside Konkani for specified government purposes. English is widely used in administration, education, tourism and commerce, reflecting Goa's extensive integration into national and international tourism markets, while Hindi and Portuguese retain smaller but culturally significant presences, the latter a legacy of over four centuries of Portuguese colonial administration that ended only in 1961.

On religious composition, the 2011 Census recorded Hindus as the majority community at 66.08 percent of the population, followed by Christians at 25.10 percent, Muslims at 8.33 percent, and smaller populations of Jains at 0.08 percent, Sikhs at 0.10 percent and Buddhists at 0.10 percent, with a further 0.21 percent recording no particular religion (Goa Population 2026, censusofindia.net). This religious composition, and in particular the substantial Christian population concentrated in the Salcete, Tiswadi, Bardez and Mormugao talukas, distinguishes Goa's social fabric from most other Indian states and is directly attributable to over four centuries of Portuguese colonial rule, during which extensive conversion to Roman Catholicism took place alongside the survival and eventual resurgence of Hindu religious and temple institutions, particularly in the interior talukas.

Goa's cultural profile reflects this layered Indo-Portuguese history. Architecturally, the state's Portuguese era churches, several of which, including the Basilica of Bom Jesus and the Se Cathedral in Old Goa, hold UNESCO World Heritage status, coexist with Hindu temple complexes rebuilt in distinctive Goan temple architecture following the demolition of earlier temples during periods of Portuguese religious intervention, and with vernacular Indo-Portuguese residential architecture found across the state's older settlements. Goan cuisine, music, particularly the Konkani sung mando and dulpod traditions and the fusion Goa trance genre associated with the state's electronic music scene, and festivals spanning both Christian celebrations such as the Feast of St. Francis Xavier and Carnival, and Hindu festivals such as Shigmo and Ganesh Chaturthi, together constitute a cultural economy that underpins the state's tourism sector, a linkage examined in depth in Chapter 19 (Tourism, Culture and Creative Economy).

Goa's population also includes recognised Scheduled Tribe communities, principally the Gawda, Kunbi and Velip communities, concentrated in the interior and Western Ghats facing talukas of Sattari, Sanguem, Canacona and Quepem, whose socio-economic profile, land rights and forest dwelling status are examined in Chapter 7 (Social Justice, Inclusion and Community Welfare). Goa's Scheduled Caste population, though smaller as a share of the total than in most Indian states, similarly warrants dedicated policy attention, addressed in the same chapter.

A further demographic feature relevant to this framework's cultural and labour market analysis is Goa's substantial migrant population. The state's tourism, construction, mining and

fisheries sectors draw significant interstate migrant labour from states including Karnataka, Maharashtra, Uttar Pradesh, Bihar, Jharkhand and West Bengal, alongside a distinct history of international emigration, particularly to Gulf countries, Portugal, the United Kingdom and other European Union states, facilitated in part by the ability of Goans born before 1961 and their descendants to claim Portuguese, and by extension European Union, citizenship. This dual migration pattern, substantial in-migration of low wage labour alongside substantial out-migration of skilled and semi-skilled Goan residents, is examined further in Chapter 20 (Migration: Internal, Inter-State and International Dimensions) and has direct implications for the state's labour market composition described in section 1.3 above.

1.5 Human Development Index: State Ranking and Trend Analysis

Goa consistently ranks first among Indian states on subnational Human Development Index estimates. Analysis published in 2025, using 2022-23 data, places Goa's HDI score above 0.799, a level the United Nations Development Programme classifies as very high human development, comparable to several Eastern European countries, and ahead of Delhi, Sikkim, Kerala and Chandigarh, the next four highest ranked states and union territories (Down To Earth, 2025). A separate academic analysis published in late 2025 similarly places Goa at the top of the state HDI table with an even higher estimated score, driven substantially by the state's very strong Income Index performance, recorded at 0.979, the highest of any Indian state, reflecting Goa's exceptionally high per capita income relative to the rest of India (Groklopedia, 2026; Wani & Krande, 2025).

Goa's HDI performance is not uniform across its three constituent dimensions. On the Income Index, Goa's performance is exceptional and drives much of its overall HDI ranking. On the Health Index, Goa performs strongly but is not the national leader, with states such as Himachal Pradesh and Maharashtra recording comparably high or higher health index scores reflecting strong life expectancy and healthcare access outcomes (Wani & Krande, 2025). On the Education Index, Goa performs well, with an estimated score of 0.684, again among the higher states, close to Kerala, though below Delhi's education index performance of 0.749 for the same period, indicating that Goa's education system, addressed in full in Chapter 5 of this framework, though above the all India average, has some ground to close relative to the very top performing states on education specific outcomes (Wani & Krande, 2025).

At the national level, India's own HDI has continued to improve, rising to a score of 0.685 in 2023, placing the country 130th out of 193 countries in the United Nations Development Programme's 2025 Human Development Report, still within the medium human development category but moving closer to the high human development threshold of 0.700 (United Nations Development Programme [UNDP], 2025). Goa's HDI performance, situated within the very high development band, therefore places the state not merely ahead of the Indian average but in a different UNDP development category altogether, underscoring the scale of the development gap between Goa and much of the rest of the country, a gap this framework's comparative analysis in section 1.8 quantifies further.

This framework treats Goa's HDI leadership as an asset to be sustained rather than a problem that has been solved. The Income Index driven nature of Goa's HDI ranking means that the state's overall human development score is disproportionately exposed to volatility in its tourism and services led economy, examined in Chapter 3, and to the fiscal pressures documented in Chapter 2. A sustained shock to tourism revenue, mining output or state finances would be expected to erode Goa's Income Index performance more sharply than it would affect states whose HDI ranking rests more evenly across health, education and income dimensions. Chapter 21 (State Vision 2047) returns to this vulnerability when setting out medium and long term priorities for diversifying the foundations of Goa's human development performance.

1.6 Poverty, Inequality and Multidimensional Deprivation Indices

Goa reports one of the lowest rates of multidimensional poverty of any Indian state. NITI Aayog's National Multidimensional Poverty Index: A Progress Review 2023, based on National Family Health Survey data collected in 2019-21, identifies Goa, alongside Kerala, Delhi and Tamil Nadu, as having the lowest incidence of multidimensional poverty among all major states, with the headcount ratio for both Goa and Kerala recorded at under 1 percent of the population (NITI Aayog et al., 2023; Factly, 2023). This places Goa among a group of fourteen Indian states that had achieved a multidimensional poverty rate below 10 percent as of the 2019-21 survey round, a group that had numbered only seven states in the preceding 2015-16 survey round, indicating that while Goa was an early and consistent leader on this measure, several other states have since narrowed the gap (Level Up IAS, 2025).

The National Multidimensional Poverty Index is constructed across three equally weighted dimensions, health, education and standard of living, disaggregated into twelve underlying indicators covering nutrition, child and adolescent mortality, maternal health, years of schooling, school attendance, cooking fuel, sanitation, drinking water, electricity, housing, assets and bank account access (NITI Aayog et al., 2023). Goa's strong aggregate performance on this index is consistent with the state level indicators presented in section 1.3 of this chapter, namely near universal household access to drinking water, at 98.2 percent, sanitation, at 87.7 percent, and electricity, at effectively 100 percent of households, all recorded as of 2021 (NITI Aayog, 2025a).

Income inequality within Goa, though less thoroughly documented at the state level than multidimensional poverty, is understood through the lens of the state's dual economy, in which a tourism, real estate and services driven coastal economy coexists with a lower income agrarian and forest dependent interior economy, a divide examined in detail in section 1.7 below and revisited throughout the framework's chapters on rural development, environment and social justice. Goa's exceptionally high measured per capita income, more than three times the national average as of 2021-22, should therefore be read alongside this internal economic bifurcation rather than as evidence of uniformly distributed prosperity across the state's population (NITI Aayog, 2025a).

A further consideration for this framework's poverty and inequality analysis is the state's substantial migrant labour population, discussed in section 1.4. Migrant workers employed in Goa's construction, tourism, fisheries and, historically, mining sectors are frequently under-enumerated in state level household surveys conducted on a de jure or usual residence basis, meaning that official poverty and deprivation statistics for Goa may understate the incidence of deprivation among this working population, a methodological caveat this framework flags explicitly rather than resolves, pending more granular migrant specific survey data that Chapter 20 examines further.

1.7 Intra-State Disparities: Backward Talukas and Aspirational Areas

Goa has no districts currently listed under NITI Aayog's Aspirational Districts Programme, launched in 2018 to identify 112 relatively underdeveloped districts across 27 states for accelerated, convergence based development, nor does the state appear, based on available programme documentation, to have any blocks listed under the subsequent Aspirational Blocks Programme, launched in January 2023 to extend a similar approach to 500 blocks across 27 states and 4 union territories (National Health Mission, 2026; Aspirational Blocks Programme, World Health Organization India, 2026). This is consistent with Goa's high aggregate scores on the health and nutrition, education, agriculture and water resources, financial inclusion and skill development, and basic infrastructure indicators that determine both programmes' district and block selection criteria.

The absence of any formally designated backward district or block within Goa should not, however, be read as evidence of uniform development across the state's territory. This framework's review of taluka level infrastructure, connectivity and economic activity data points to a persistent and structurally embedded divide between Goa's coastal talukas and its Western Ghats facing interior talukas. Bardez, Salcete, Tiswadi and Mormugao, the four talukas that host the great majority of the state's tourism infrastructure, port and industrial activity, and urban settlement, together account for a disproportionate share of the state's private investment, formal sector employment and municipal infrastructure spending (Goa PCS Exam Notes, 2017; GOA-IPB, 2024).

By contrast, the interior talukas of Sattari, Sanguem, Canacona, Quepem and, where separately administered, Dharbandora, remain comparatively more dependent on agriculture, horticulture, forestry and, historically, mining, carry lower population density, and have seen sustained out-migration of younger residents toward the coastal urban centres and, in some cases, toward Portugal, the United Kingdom and Gulf states, a pattern this framework's Chapter 12 (Rural Development and Decentralised Governance) and Chapter 20 (Migration) chapters examine in detail. These talukas also host the great majority of Goa's remaining forest cover and its Scheduled Tribe population, discussed in section 1.4, meaning that development interventions in these areas necessarily intersect with forest rights, conservation obligations and tribal welfare policy, a set of overlapping considerations addressed jointly in Chapter 7 and Chapter 13 of this framework.

Mining dependent talukas present a distinct and time sensitive dimension of intra-state disparity. Following the Supreme Court of India's suspension and subsequent conditional resumption of mining operations in Goa over the past decade, talukas historically dependent on iron ore mining revenue and mining linked employment, including parts of Sanguem, Bicholim and Sattari, have experienced significant local economic disruption, a theme this framework's Chapter 4 (Investment, Industry and Private Sector Development) and Chapter 13 (Environment and Natural Resource Governance) chapters return to when assessing the state's mineral resource governance framework and its implications for regional economic stability.

The proposal, discussed in section 1.2, to create a third administrative district covering several of these interior talukas, provisionally referred to as Kushavati district, reflects in part a recognition within the state's own administrative and political discourse that the interior talukas require differentiated governance attention and more localised development planning than a two district structure, in which South Goa district spans both the highly urbanised coastal talukas of Salcete and Mormugao and the sparsely populated interior talukas of Sanguem and Canacona, can readily provide (List of talukas of Goa, 2026).

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

Goa's position across national ranking exercises is, with the notable exception of economic growth rate and unemployment, overwhelmingly favourable relative to other Indian states, and this section draws together the comparative rankings referenced individually throughout this chapter into a single consolidated view.

On per capita income, Goa records the highest nominal per capita income of any Indian state, with an estimated figure of ₹7,09,045 for 2024-25, more than three times the national average, and ahead even of Sikkim on a nominal basis in several recent comparative rankings, although Sikkim leads on a per capita GSDP basis in certain compilations depending on the base year and methodology used (DPSE, 2026; StatisticsTimes, 2025). In United States dollar terms, Goa's GDP per capita was recorded at approximately 8,286 dollars for 2023, again the highest, or near highest, among Indian states depending on the comparative dataset (StatisticsTimes, 2025).

On the Human Development Index, as detailed in section 1.5, Goa ranks first among all Indian states and union territories on the most widely cited 2022-23 subnational estimates, with a score placing it in the very high human development category by UNDP global standards (Down To Earth, 2025). On the National Multidimensional Poverty Index, as detailed in section 1.6, Goa ranks among the very lowest states for multidimensional poverty incidence, alongside Kerala, Delhi and Tamil Nadu, with a headcount ratio below 1 percent as of the 2019-21 survey round (NITI Aayog et al., 2023).

On literacy, Goa's 88.7 percent rate as of the 2011 Census remains well above the national average of 73 percent recorded in the same Census, though it is not the highest among Indian states, with Kerala's literacy rate exceeding Goa's over the same period (NITI Aayog, 2025a).

On health outcomes, Goa's infant mortality rate of 5 deaths per 1,000 live births as of 2020 places it among the best performing states nationally, though again not uniformly the single best performer across every specific health indicator, with certain states recording marginally lower infant mortality in specific survey years.

On fiscal and economic growth indicators, Goa's position is markedly less favourable. The state's real GSDP growth rate of 3.4 percent per year on average between 2012-13 and 2021-22 lagged the national average growth rate of 5.6 percent over the same period by a substantial margin, and the state's debt-to-GSDP ratio, at 33.5 percent as of 2022-23, exceeds that of a median major Indian state, as does its fiscal deficit, recorded at 4.8 percent of GSDP for the same year against a median state's more moderate deficit, and its expenditure-to-GSDP ratio, at 24.7 percent, again above the median (NITI Aayog, 2025a). Goa's unemployment rate of 9.7 percent as of 2022-23 likewise exceeds the national average, an unusual and policy relevant combination given the state's simultaneously very high per capita income and very low poverty rate, and one that recurs as a central analytical theme across Chapter 2 (Fiscal Architecture), Chapter 3 (Economic Structure), and Chapter 17 (Skill Development, Employability and Workforce Alignment) later in this framework (NITI Aayog, 2025a).

Taken together, the comparative rankings assembled in this section reinforce the central finding of this chapter: Goa is, on almost every social and human development metric, a national leader among Indian states, but this leadership rests on an economic and fiscal base that is growing more slowly than the national average, carrying rising public debt, and generating employment outcomes that lag behind the state's income and welfare achievements. The chapters that follow this volume, beginning with Chapter 2 on Fiscal Architecture and Chapter 3 on Economic Structure, take up this tension as their central point of departure.

Chapter 2: Fiscal Architecture of the State

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

Goa's total revenue receipts for 2026-27 are budgeted at ₹23,636 crore, an increase of 6 percent over the revised estimate for 2025-26 (PRS Legislative Research, 2026). Of this, the state expects to raise ₹16,708 crore, or 71 percent, through its own resources, comprising own tax revenue and own non-tax revenue, while the remaining ₹6,928 crore, or 29 percent, is expected from the Centre, split between the state's share in central taxes, at 24 percent of revenue receipts, and grants-in-aid, at 6 percent (PRS Legislative Research, 2026). This own-resource share is relatively high by the standards of Indian states generally, reflecting Goa's comparatively strong tax base, examined further below.

Own tax revenue is budgeted at ₹10,136 crore for 2026-27, an increase of 7 percent over the 2025-26 revised estimate, and is projected to reach 7.7 percent of GSDP, itself an increase over the 2025-26 revised figure, though below the 8.4 percent of GSDP recorded in the 2024-25 actuals (PRS Legislative Research, 2026). State Goods and Services Tax is the single largest component of own tax revenue, accounting for a 47 percent share and budgeted at ₹4,766 crore for 2026-27, an 8 percent increase over the revised 2025-26 estimate (PRS Legislative Research, 2026). Sales tax and value added tax, levied principally on petroleum products and alcohol that fall outside the GST regime, is budgeted at ₹2,174 crore, a 10 percent increase, while stamp duty and registration fees, closely tied to Goa's active real estate and property market, are budgeted at ₹1,484 crore, an 8 percent increase. State excise, a significant revenue head given Goa's tourism driven alcohol consumption, is budgeted at ₹1,050 crore, taxes on vehicles at ₹475 crore, and land revenue at ₹127 crore (PRS Legislative Research, 2026).

Own non-tax revenue is budgeted at ₹6,572 crore for 2026-27, a 4 percent increase over the revised 2025-26 estimate, and here Goa's fiscal structure diverges notably from most other Indian states. Because power distribution in Goa is conducted as a departmental activity of the state government rather than through a separate state-owned power distribution company, as is the case in most other states, a substantial share of the state's non-tax revenue is generated directly from electricity operations. In 2026-27, the state has budgeted non-tax revenue of ₹4,573 crore from power, comprising ₹3,850 crore from the sale of power, ₹320 crore from electricity duty charges, and ₹280 crore from fuel and power purchase cost adjustment (PRS Legislative Research, 2026). This departmental structure means that Goa's revenue and expenditure accounts both carry power sector transactions that, in most states, would sit outside the state budget entirely on the books of a separate distribution utility, a structural feature this framework's Chapter 9 (Energy, Power and Renewable Transition) returns to when assessing the state's electricity sector governance.

Devolution from the Centre, in the form of the state's share in central taxes, is budgeted at ₹5,571 crore for 2026-27, a 3 percent increase over the revised 2025-26 estimate of ₹5,377 crore as reported in Union Budget documents, though Goa's own Annual Financial Statement

reports a slightly higher 2025-26 revised figure of ₹5,412 crore, a modest discrepancy between the central and state accounting of the same transfer that this framework flags rather than reconciles (PRS Legislative Research, 2026). Grants-in-aid from the Centre are budgeted at ₹1,358 crore for 2026-27, a 25 percent increase over the revised 2025-26 estimate, though this follows a year in which grants-in-aid actually received, at ₹741 crore in 2024-25, fell 51 percent short of the ₹1,507 crore that had been budgeted, a pattern of grant shortfall examined further in section 2.6 below (PRS Legislative Research, 2026).

2.2 Expenditure Profile: Composition, Quality and Efficiency

Total expenditure, excluding debt repayment, is budgeted at ₹28,061 crore for 2026-27, a 5 percent increase over the revised 2025-26 estimate of ₹26,615 crore, itself already 4 percent above the original 2025-26 budget estimate (PRS Legislative Research, 2026). Revenue expenditure, covering salaries, pensions, interest payments, grants and subsidies, is budgeted at ₹21,970 crore, a 7 percent increase, while capital outlay, representing spending on asset creation, is budgeted at ₹6,083 crore, a comparatively modest 1 percent increase over the revised 2025-26 figure (PRS Legislative Research, 2026).

Committed expenditure, comprising salaries, pensions and interest payments, is budgeted at ₹11,291 crore for 2026-27, representing 48 percent of the state's estimated revenue receipts (PRS Legislative Research, 2026). This breaks down to salaries at 26 percent of revenue receipts, or ₹6,152 crore, pensions at 12 percent, or ₹2,847 crore, an increase of 10 percent over 2025-26, and interest payments at 10 percent, or ₹2,292 crore, essentially flat year on year (PRS Legislative Research, 2026). A committed expenditure share approaching half of revenue receipts constrains the state's discretionary fiscal space, a constraint this framework's Chapter 15 (Administrative Governance Reform) addresses when examining civil service strength and pension liability management.

On sector-wise allocation, energy is Goa's single largest budget head, allocated ₹5,068 crore for 2026-27, an increase of 14 percent, of which ₹2,644 crore is earmarked for the purchase of power from NTPC, KPTCL and RSPCL (PRS Legislative Research, 2026). This represents 18.1 percent of the state's total sectoral expenditure, more than three times the 5.3 percent average allocation to energy across 31 Indian states and union territories in their 2025-26 budgets, a divergence directly attributable to Goa's departmental power distribution model described in section 2.1 (PRS Legislative Research, 2026). Education, Sports, Arts and Culture is the second largest sector at ₹3,868 crore, representing 13.8 percent of sectoral expenditure, marginally below the 14.5 percent average across states, while Health and Family Welfare is allocated ₹2,210 crore, representing 7.9 percent of sectoral expenditure, above the 6.2 percent state average (PRS Legislative Research, 2026). Transport receives ₹1,892 crore, Water Supply and Sanitation ₹1,215 crore, representing 4.3 percent of sectoral spending against a 2.8 percent state average, Social Welfare and Nutrition ₹1,179 crore, Police ₹1,065 crore, Agriculture and Allied Activities ₹807 crore, Irrigation and Flood Control ₹723 crore, and Urban Development ₹631 crore, the last recording a 21 percent increase over the revised 2025-26 estimate (PRS Legislative Research, 2026).

A recurring feature of Goa's expenditure record, examined further in section 2.3, is the gap between budgeted and actual spending. In 2024-25, actual expenditure across several major sectors fell well short of budget estimates, including a 55 percent shortfall in allocations for the welfare of Scheduled Castes, Scheduled Tribes, Other Backward Classes and Minorities, a 40 percent shortfall in Rural Development spending, and an 18 percent shortfall in Education, Sports, Arts and Culture spending, even as Energy expenditure exceeded its budget estimate by 10 percent and Irrigation and Flood Control by 13 percent (PRS Legislative Research, 2026). This pattern, of underspending on social and rural sectors alongside overspending on energy and infrastructure, is a theme this framework's Chapter 7 (Social Justice, Inclusion and Community Welfare) and Chapter 12 (Rural Development) revisit when assessing the on-the-ground delivery of welfare and rural programmes.

2.3 Capital Expenditure: Infrastructure Investment and Asset Creation

Capital outlay, the component of state expenditure directed toward the creation of durable assets such as roads, buildings and power infrastructure, has been a persistent area of underperformance in Goa's budget execution. Between 2021-22 and 2024-25, the state underspent its capital outlay budget by an average of 29 percent relative to what was originally budgeted (PRS Legislative Research, 2026). The shortfall was most severe in 2021-22, when a budgeted ₹5,920 crore capital outlay resulted in actual spending of only ₹2,681 crore, a 55 percent shortfall, and remained substantial in 2022-23, at 28 percent, and 2023-24, at 29 percent (PRS Legislative Research, 2026). The gap narrowed considerably in 2024-25, when a budgeted ₹4,853 crore resulted in actual spending of ₹4,640 crore, a shortfall of only 4 percent, suggesting some improvement in capital budget execution discipline in the most recent completed fiscal year (PRS Legislative Research, 2026).

For 2025-26, the pattern reversed direction, with capital outlay in the revised estimate running 13 percent above the original budget estimate, at ₹6,036 crore against a budgeted ₹5,330 crore, driven principally by higher capital spending in the energy sector and in roads and bridges (PRS Legislative Research, 2026). Capital outlay for 2026-27 is budgeted at ₹6,083 crore, a comparatively modest 1 percent increase over the revised 2025-26 figure, of which ₹1,143 crore is allocated as capital outlay toward roads and bridges and ₹1,551 crore toward capital outlay on power projects (PRS Legislative Research, 2026).

This chronic gap between capital budget allocation and capital budget execution, more pronounced in Goa across 2021-22 through 2023-24 than the narrower 2024-25 shortfall might suggest as an established trend, has direct implications for the infrastructure chapters that follow later in this framework, particularly Chapter 8 (Transport and Connectivity Infrastructure), Chapter 9 (Energy, Power and Renewable Transition) and Chapter 10 (Water, Sanitation and Solid Waste Management), each of which depends on sustained and predictable capital spending to close documented infrastructure gaps. A capital budget that is announced but not fully executed functions, in practice, as a lower actual investment rate than headline budget figures suggest, a distinction this framework maintains throughout its infrastructure analysis.

2.4 Fiscal Deficit, Primary Deficit and Debt Sustainability

Goa's fiscal deficit, the excess of total expenditure over total receipts excluding borrowings, has widened considerably in recent years and now exceeds both the state's own original budget targets and the ceiling recommended by the Sixteenth Finance Commission. In 2024-25, the fiscal deficit came in at 1.6 percent of GSDP, or ₹1,782 crore, comfortably within target and in fact well below the 2.58 percent originally budgeted for that year (PRS Legislative Research, 2026). For 2025-26, however, the revised estimate places the fiscal deficit at 3.1 percent of GSDP, or ₹4,335 crore, 49 percent higher than the original budget estimate of 2.1 percent of GSDP, and for 2026-27 the fiscal deficit is targeted at 3.4 percent of GSDP, or ₹4,422 crore (PRS Legislative Research, 2026). The Sixteenth Finance Commission has recommended an annual fiscal deficit limit of 3 percent of GSDP for all states over the 2026-31 period, excluding the fifty-year interest-free central capital expenditure loans extended to states since 2020-21 from this ceiling calculation, meaning that Goa's targeted 2026-27 fiscal deficit of 3.4 percent, and its 2025-26 revised deficit of 3.1 percent, both exceed the newly recommended limit (PRS Legislative Research, 2026).

The state's revenue account, by contrast, remains in surplus, a structurally important distinction from the fiscal deficit measure. Goa recorded a revenue surplus of 2.5 percent of GSDP, or ₹2,868 crore, in 2024-25, well above the 1.42 percent originally budgeted. The revised 2025-26 estimate lowers this to 1.2 percent of GSDP, or ₹1,708 crore, 29 percent below the original budget estimate, and the 2026-27 target is 1.3 percent of GSDP, or ₹1,667 crore (PRS Legislative Research, 2026). This combination, a persistent revenue surplus alongside a widening fiscal deficit, indicates that Goa's growing deficit is being driven primarily by capital account borrowing rather than by an inability to cover day to day government operations from current revenue, a materially different fiscal risk profile than would be implied by a revenue deficit.

The primary deficit, which excludes interest payments from the fiscal deficit calculation and thereby isolates the deficit attributable to current policy decisions rather than the legacy cost of past borrowing, tells a similar story. Goa recorded a primary surplus of 0.2 percent of GSDP in 2024-25, but the revised 2025-26 estimate shows a primary deficit of 1.5 percent of GSDP, or ₹2,038 crore, 229 percent above the original budget estimate, with the 2026-27 target set at 1.6 percent of GSDP, or ₹2,130 crore (PRS Legislative Research, 2026).

On overall debt sustainability, NITI Aayog's Summary Report for the State of Goa recorded a debt-to-GSDP ratio of 33.5 percent as of 2022-23, higher than that of a median major Indian state, with debt sustainability projections indicating this ratio is likely to increase by more than three percentage points over the subsequent five years under baseline growth assumptions (NITI Aayog, 2025a). More recent state budget data places outstanding liabilities at an estimated 29.3 percent of GSDP by the end of 2026-27, up from 27 percent in the 2025-26 revised estimate (PRS Legislative Research, 2026). The state's public debt in absolute terms is projected to rise from ₹26,605.28 crore as of March 2025 to ₹30,945.32 crore by March 2026, comprising loans from the Centre and the National Small Savings Fund, market borrowings, and loans from institutions including the Life Insurance

Corporation, the National Bank for Agriculture and Rural Development, the National Cooperative Development Corporation, the Power Finance Corporation, the Housing and Urban Development Corporation, the Economic Development Corporation and the Small Industries Development Bank of India (Prudent Media, 2026). Debt sustainability, and the appropriate pace of continued capital borrowing given Goa's comparatively slow economic growth documented in Chapter 1, is a theme this framework's Chapter 21 (State Vision 2047) returns to when assessing the fiscal headroom available for the state's long term investment priorities.

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

Beyond the on-budget borrowings reflected in the fiscal deficit and debt figures presented in section 2.4, Goa carries a modest but non-trivial volume of contingent and off-budget liabilities. Outstanding government guarantees, extended by the state to cover the borrowings of State Public Sector Enterprises from financial institutions, stood at an estimated ₹234 crore as of March 2026, equivalent to 0.2 percent of GSDP (PRS Legislative Research, 2026), broadly consistent with NITI Aayog's earlier finding that Goa's contingent liabilities, at 0.8 percent of GSDP as of 2021-22, were lower than those of a median Indian state (NITI Aayog, 2025a).

A more significant concern relates to off-budget borrowings identified by the Comptroller and Auditor General of India in its 2025 compliance audit report. The CAG found that in 2023-24, the Government of Goa had off-budget borrowings amounting to ₹706 crore, or 0.66 percent of GSDP, that were not reflected in the state's finance accounts, raised by state-owned entities including the Goa State Infrastructure Development Corporation Limited, which accounted for ₹605 crore, and the Sewerage and Infrastructural Development Corporation of Goa Limited, which accounted for ₹101 crore (Comptroller and Auditor General of India, 2025, as cited in PRS Legislative Research, 2026). Adjusting for these off-budget liabilities, the state's actual outstanding debt at the end of March 2024 would stand at ₹33,573 crore, rather than the ₹32,867 crore reported in official finance accounts (PRS Legislative Research, 2026). The Sixteenth Finance Commission has explicitly recommended discontinuing this practice of off-budget borrowing and mandating that all such liabilities be incorporated into official fiscal deficit and debt calculations going forward, a recommendation this framework's Chapter 21 flags as a specific compliance priority for the Goa government over the 2026-31 award period (PRS Legislative Research, 2026).

The practice of routing borrowing through state-owned corporations to keep it outside the headline fiscal deficit calculation, while not unique to Goa among Indian states, represents a transparency gap that understates the state's true liability position by a meaningful, if not large, margin, and this framework treats the CAG's off-budget borrowing findings as a material qualification to the debt sustainability figures presented in section 2.4.

2.6 Finance Commission Awards: Allocation and Utilisation

Goa's share in the divisible pool of central taxes, determined by successive Finance Commissions on the basis of a weighted formula incorporating population, income distance, area, forest cover, tax effort and demographic performance, has remained consistently small in absolute percentage terms, reflecting the state's small population base, but has fluctuated modestly across award periods. Under the Fourteenth Finance Commission, covering 2015-2020, Goa's share stood at 0.38 percent of the divisible pool. This rose marginally to 0.39 percent under the Fifteenth Finance Commission, covering 2021-26, before falling to 0.37 percent under the Sixteenth Finance Commission, chaired by Dr. Arvind Panagariya and tabled in Parliament on 1 February 2026, covering the 2026-31 period (PRS Legislative Research, 2026). The Sixteenth Finance Commission has kept the overall states' share of the divisible pool unchanged from the Fifteenth Commission's award at 41 percent, meaning Goa's marginal decline in share reflects a reallocation among states rather than a reduction in the aggregate pool available for devolution (PRS Legislative Research, 2026).

In absolute terms, tax devolution to Goa has nonetheless grown in nominal terms across award periods, consistent with overall growth in central tax collections. Union Budget documents record Goa's tax devolution at ₹4,918 crore for 2024-25 actuals, rising to a revised ₹5,377 crore for 2025-26 and a budgeted ₹5,571 crore for 2026-27 (PRS Legislative Research, 2026), figures that differ modestly from the ₹4,967 crore and ₹5,412 crore recorded in Goa's own Annual Financial Statement for the corresponding years, a discrepancy this framework attributes to differences in the timing of in-year adjustments for excess or shortfall in prior year devolution rather than to any substantive dispute over the underlying entitlement.

On grants, the Sixteenth Finance Commission has recommended a total of ₹9.47 lakh crore in grants to states over the 2026-31 period, concentrated in two categories, grants for urban and rural local bodies and grants for disaster management, while explicitly discontinuing three categories of grant that had been available under the Fifteenth Finance Commission, namely revenue deficit grants, sector-specific grants and state-specific grants (PRS Legislative Research, 2026). For Goa specifically, the Sixteenth Finance Commission has recommended ₹726 crore for urban local bodies, ₹174 crore for rural local bodies and ₹112 crore in disaster management grants over the five-year award period, alongside eligibility for a one-time grant tied to the merger of peri-urban villages into adjoining larger urban local bodies with a population of one lakh or above (PRS Legislative Research, 2026). Given Goa's high level of urbanisation, documented in Chapter 1, and the state's declining recourse to grants relative to its own tax revenue, this shift in the composition of Finance Commission grants toward urban local body financing is examined further in Chapter 11 (Urban Development, Housing and Smart Cities) of this framework.

Goa's actual utilisation of grants-in-aid has, in recent years, fallen well short of budgeted amounts, with actual grants-in-aid received in 2024-25 at ₹741 crore against a budgeted ₹1,507 crore, a 51 percent shortfall (PRS Legislative Research, 2026). Whether this shortfall reflects delayed central disbursement, unmet conditionalities attached to specific grant schemes, or overly optimistic state budgeting assumptions is not resolved by the available

data, and this framework flags it as an area warranting further scrutiny in subsequent Economic Survey and CAG audit publications rather than offering a conclusive explanation on the basis of currently available sources.

2.7 GST Implementation: Revenue Impact and Compensation Status

The Goods and Services Tax, introduced nationally in July 2017, has become the single most important source of Goa's own tax revenue. State GST collections are budgeted at ₹4,766 crore for 2026-27, representing 47 percent of the state's total own tax revenue, an increase of 8 percent over the revised 2025-26 estimate of ₹4,413 crore, which itself had come in 6 percent below the original 2025-26 budget estimate of ₹4,682 crore (PRS Legislative Research, 2026). GST's dominant and growing share of Goa's own tax base reflects the state's consumption driven, tourism and services oriented economy, in which a large share of economic activity, spanning hospitality, retail, food and beverage services and recreational activity, falls within the GST net rather than within the narrower excise and sales tax categories that continue to apply to petroleum products and alcohol.

The national GST compensation mechanism, under which states were guaranteed compensation for revenue shortfalls relative to a fourteen percent annual growth assumption for the first five years of GST implementation, expired at the national level in June 2022, with the associated GST compensation cess continuing thereafter principally to service the back-to-back loans extended to states during the compensation shortfall years of 2020-21 and 2021-22 (Union Budget Receipt Budget documents, 2025). This framework does not have Goa-specific data on the state's realised GST compensation receipts during the 2017-2022 compensation period and flags this as a gap for a future revision of this chapter to address using state-specific CAG audit reports, rather than extrapolating a Goa-specific compensation figure from the national compensation mechanism's aggregate design.

The end of guaranteed GST compensation places a greater onus on Goa's underlying GST buoyancy, defined as the responsiveness of GST collections to nominal GSDP growth, to sustain the state's own tax revenue base going forward. Given that State GST revenue growth of 8 percent budgeted for 2026-27 is being projected against a GSDP that is itself budgeted to contract in nominal terms for that year, discussed further in Chapter 3 (Economic Structure, Growth and Sectoral Performance), the sustainability of continued GST revenue growth at rates exceeding nominal GSDP growth is a specific point of fiscal risk this framework flags for closer monitoring in subsequent Economic Survey publications.

2.8 Public Financial Management Reforms and Audit Compliance

Goa's fiscal responsibility legislation, intended to anchor the state's deficit and debt trajectory to statutory targets, has been the subject of some naming and dating inconsistency across the sources consulted for this framework. NITI Aayog's Summary Report for the State of Goa refers to the "Goa Fiscal Responsibility and Budget Management (FRBM) Act 2007," enacted following recommendations of the Twelfth Finance Commission and subsequently amended in 2014, 2021 and 2022 (NITI Aayog, 2025a), while PRS Legislative Research's

2026-27 budget analysis refers to the "Goa Fiscal Responsibility Act, 2006" (PRS Legislative Research, 2026). This framework has not been able to resolve this discrepancy from the sources available at the time of writing and flags it explicitly, consistent with the sourcing discipline set out in the Preface, rather than silently adopting one source's dating over the other. Both sources agree on the substance of the legislation, which requires the State Government to present a Macroeconomic Framework Statement, a Medium Term Fiscal Policy Statement and a Fiscal Policy Strategy Statement alongside the annual budget, and which sets statutory targets for the revenue deficit, fiscal deficit and outstanding liabilities ratios (NITI Aayog, 2025a).

Compliance with these statutory targets has been mixed. The Comptroller and Auditor General of India noted that the State Government had not prepared the required Medium Term Fiscal Policy Statement since 2011-12, though the government assured its inclusion in the 2023-24 Budget (NITI Aayog, 2025a). Over the period 2017-18 to 2021-22, the state missed its revenue deficit targets in two of five years, 2019-20 and 2020-21, years that coincided with the broader disruption of the COVID-19 pandemic on state finances nationally, but met its fiscal deficit targets in all five years of that period. The state failed, however, to achieve its targeted ratios for outstanding liabilities in every one of those five years (NITI Aayog, 2025a), a pattern consistent with the rising debt-to-GSDP trajectory documented in section 2.4 and one that, combined with the fiscal deficit overshoot recorded in the 2025-26 revised estimates discussed in that same section, suggests the state's more recent compliance record on fiscal deficit targets specifically may be deteriorating relative to the 2017-2022 period the CAG's audit covered.

On off-budget financial management, the CAG's 2025 compliance audit finding regarding ₹706 crore in unreported off-budget borrowings, discussed in section 2.5, represents the most significant recent audit finding bearing on the transparency of Goa's public financial management, and the Sixteenth Finance Commission's explicit recommendation to discontinue this practice statewide provides a clear external benchmark against which Goa's compliance can be tracked in subsequent budget cycles (PRS Legislative Research, 2026).

2.9 Centre-State Fiscal Relations: Trends and Themes

Goa's fiscal relationship with the Centre is shaped by three distinct channels of transfer, tax devolution under successive Finance Commission awards, discussed in section 2.6, grants-in-aid, including both Finance Commission grants and centrally sponsored scheme transfers, and central capital expenditure loans, a comparatively recent instrument that has grown to occupy a significant place in Goa's capital financing.

The fifty-year interest-free loan scheme for capital expenditure, extended by the Central Government to state governments since 2020-21 and explicitly excluded from the calculation of states' borrowing ceilings under Finance Commission fiscal deficit rules, has become an increasingly important source of capital finance for Goa. Receipts from central capital expenditure loans came in at ₹1,267 crore in 2024-25 actuals, well above the ₹450 crore originally budgeted, and are estimated at ₹2,015 crore in the 2025-26 revised estimate, more

than double the original ₹900 crore budget estimate, before being budgeted at ₹1,650 crore for 2026-27 (PRS Legislative Research, 2026). At 1.5 percent of GSDP in the 2025-26 revised estimate, this instrument now represents a capital financing channel of comparable scale to a meaningful share of the state's own capital outlay, and its growth reflects both the Centre's expanding use of this instrument nationally and Goa's own capacity to absorb and utilise capital linked central transfers.

The broader trajectory of Sixteenth Finance Commission recommendations for the 2026-31 award period, discussed in section 2.6, signals a shift in the Centre-State fiscal relationship away from open-ended, negotiated grant categories, such as the discontinued revenue deficit grants, sector-specific grants and state-specific grants, toward more formulaic, local-body-linked and disaster-management-linked grant channels (PRS Legislative Research, 2026). For a state such as Goa, whose revenue account already runs a surplus and whose primary fiscal challenge, as this chapter has documented, lies in the capital account and in the pace of capital investment relative to the state's development needs, this shift in the composition of central transfers places a greater premium on the state's own capacity to access and execute capital-linked instruments, including the fifty-year interest-free loan scheme, rather than on recurring revenue support from the Centre.

Taken as a whole, this chapter's review of Goa's fiscal architecture reinforces the tension identified in Chapter 1 between the state's strong social and human development outcomes and its comparatively strained economic and fiscal growth trajectory. Goa maintains a revenue surplus, a moderate debt-to-GSDP ratio relative to some larger states, and a strong own-tax revenue base anchored in GST. At the same time, its fiscal deficit is now exceeding both its own targets and the Sixteenth Finance Commission's recommended ceiling, its capital expenditure execution has been historically inconsistent, and its off-budget borrowing practices have drawn explicit CAG and Finance Commission attention. Chapter 3, which follows, examines the economic structure and growth performance that underlies this fiscal picture in greater detail.

Chapter 3: Economic Structure, Growth and Sectoral Performance

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

Goa's Gross State Domestic Product at current prices has grown substantially in nominal terms over the past decade, though this nominal growth masks a comparatively modest real growth rate. GSDP at current prices stood at ₹97,838.56 crore in 2023-24, provisional estimates from the Ministry of Statistics and Programme Implementation indicate, rising to ₹1,12,525.47 crore in 2024-25 (Government of Goa, Directorate of Planning, Statistics and Evaluation [DPSE], 2026). Estimates for 2025-26 place GSDP at approximately ₹1.38 lakh crore, while the projected figure for 2026-27, at ₹1.31 lakh crore, represents a nominal contraction from the preceding year, an unusual pattern this framework flags for further scrutiny once final 2025-26 actuals become available (India Brand Equity Foundation [IBEF], 2026a; PRS Legislative Research, 2026). Goa's Net State Domestic Product, a closely related but distinct measure that nets out consumption of fixed capital, stood at ₹92,522 crore at current prices in 2023-24, having grown at a compound annual growth rate of 7.90 percent between 2015-16 and 2023-24 (IBEF, 2026a).

Despite this nominal growth, Goa's real GSDP growth rate, which adjusts for inflation and therefore better reflects underlying economic expansion, has lagged the national average considerably. Real GSDP grew at an average of only 3.4 percent per year between 2012-13 and 2021-22, well below the 5.6 percent national average over the same period (NITI Aayog, 2025a). More recent year-on-year Gross Value Added growth data for 2022-23 shows differentiated performance across the three broad sectors, with the primary sector growing at 4.73 percent, the secondary sector at 6.52 percent, and the tertiary sector at 9.66 percent (IBEF, 2026a), indicating that services led growth has, in the most recent data available, outpaced both agriculture and industry, a pattern examined further in section 3.5 below.

On sectoral composition, Gross State Value Added at current prices for 2023-24 was distributed with the secondary sector accounting for 51.32 percent, the tertiary sector for 42.31 percent, and the primary sector for only 6.37 percent (IBEF, 2026a). This composition differs somewhat from an earlier NITI Aayog estimate for a different reference year, which placed industry at 52.2 percent, services at 40.1 percent and agriculture at 7.7 percent of GSVA (NITI Aayog, 2025a), a discrepancy this framework attributes to differing reference years and possibly differing sectoral classification conventions between the two sources, rather than a substantive disagreement on Goa's broad sectoral structure. Both sources agree that Goa's economy is unusual among Indian states for having a secondary sector share of GSVA that exceeds its tertiary sector share, a structural feature driven substantially by the state's manufacturing base and, at various points over the past decade, its mining sector, examined in sections 3.4 and 3.9 respectively.

3.2 Per Capita Income and Purchasing Power Analysis

Goa's per capita income is the highest of any Indian state by a wide margin. Nominal per capita income stood at ₹6,19,624 for 2023-24 and rose to an estimated ₹7,09,045 for

2024-25, an increase of approximately 14 percent, more than three times the corresponding national per capita income figure (DPSE, 2026; NITI Aayog, 2025a). In United States dollar terms, Goa's GDP per capita was recorded at approximately 8,286 dollars for 2023, again the highest or near highest among Indian states depending on the specific comparative dataset used and the base year applied (StatisticsTimes, 2025).

This per capita income leadership, examined comparatively in Chapter 1's section 1.8, reflects Goa's dense concentration of high value tourism, services and select manufacturing activity within a small population base rather than an economy of unusual scale, given that Goa's absolute GSDP remains modest relative to India's larger states. The purchasing power implications of this income level are substantial for Goa's resident population, contributing directly to the state's exceptionally low multidimensional poverty rate documented in Chapter 1, section 1.6, and its strong Income Index performance within the Human Development Index framework documented in section 1.5. At the same time, this framework's discussion in Chapter 1, section 1.6, of income inequality within Goa's dual coastal and hinterland economy applies with equal force here. A single, high, state-average per capita income figure does not indicate that purchasing power is evenly distributed between the tourism dense coastal talukas and the more agrarian interior talukas, and this framework does not have granular, taluka-level per capita income data to quantify that internal disparity precisely, a gap flagged for future editions of this framework to address as more granular data becomes available.

Goa's per capita income growth has also outpaced its real GSDP growth in recent years, a pattern consistent with the state's slowing population growth rate documented in Chapter 1, section 1.3. With population growing at only 0.5 percent annually against a national average of 0.9 percent, a given rate of aggregate GSDP growth translates into a comparatively larger increase in per capita terms for Goa than it would for a faster growing state, a demographic dividend of sorts that this framework's Chapter 21 (State Vision 2047) notes cannot be relied upon indefinitely given the sub-replacement fertility rate documented in Chapter 1.

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

Agriculture in Goa, though contributing only 6.37 percent of Gross State Value Added as of 2023-24, retains social and rural livelihood significance, particularly in the state's interior talukas discussed in Chapter 1, section 1.7. Rice is the principal foodgrain crop of the state, cultivated across the coastal and midland alluvial and lateritic soils, though the sector faces persistent challenges from land conversion, labour shortages and the comparative profitability of non-agricultural land use, particularly in coastal talukas where agricultural land competes directly with tourism and real estate development for the same territory (Indian Council of Agricultural Research [ICAR], 2026).

Cashew is Goa's most significant horticultural and export oriented crop, cultivated predominantly as a rain fed crop on hill slopes and covering approximately 56,934 hectares according to one Government of Goa estimate, with production estimated at around 27,000 to 27,070 tonnes annually and a productivity of approximately 690 kilograms per hectare

(ICAR, 2026; The Goan, 2025). A more recent Second Advance Estimate from the Union Ministry of Agriculture and Farmers Welfare for 2025-26, however, places Goa's cashew production considerably lower, at approximately 17.87 thousand tonnes, within a broader Konkan region estimate of 266.48 thousand tonnes shared with Maharashtra, at 182.79 thousand tonnes, and Karnataka, at 65.82 thousand tonnes (Tarun Bharat, 2026). This framework flags the sizeable gap between these two production estimates, one drawn from state government and ICAR sources and the other from the Union Ministry's most recent advance estimate, as a data inconsistency requiring resolution in subsequent editions rather than a discrepancy this framework can adjudicate from the sources presently available. In recognition of the crop's distinct regional character, the Goan cashew received Geographical Indication registration on 3 October 2023, marketed as "Goa Kaju" or "Goa Caju" (Wikipedia, 2026).

Coconut is Goa's second largest horticultural crop, cultivated across approximately 25,100 to 26,683 hectares depending on the source, with productivity of around 4,868 nuts per hectare per year, a yield ICAR attributes in part to the prevalence of senile, low productivity palms, recurrent drought stress, and limited adoption of modern nutrient management practices (ICAR, 2026). Mango, arecanut and banana together occupy approximately 9,632 hectares, vegetable cultivation spans approximately 8,374 hectares, and a range of other horticultural and plantation crops, including oil palm, pineapple, pepper, tree spices, kokum, chikoo, papaya, jackfruit, lemon, sugarcane, pulses and groundnut, occupy a further 6,732 hectares (The Goan, 2025).

The Government of Goa has sought to modernise and diversify the sector through the Goa State Amrit Kaal Agricultural Policy 2025 and the earlier Swayampurna Goa vision document for agriculture, which set out plans to improve productivity in paddy, cashew and coconut cultivation, promote crop diversification, develop integrated farming system models, expand mechanisation, and strengthen value addition and market linkages (Government of Goa, Directorate of Agriculture, 2025; The Goan, 2025). A notable market intervention under this policy framework is government procurement of vegetables at a minimum price equivalent to 150 percent of the cost of cultivation, alongside assured price mechanisms for cashew, coconut and paddy, intended to reduce market risk and encourage diversification away from lower value legacy cropping patterns (The Goan, 2025).

Fisheries, both marine and inland, remain an economically and culturally significant activity along Goa's approximately 104 kilometre coastline and its extensive estuarine river systems described in Chapter 1, section 1.1, though this framework was unable to source a current, disaggregated GSVA contribution figure specifically for the fisheries sub-sector from the government data sources consulted, an area flagged for more detailed treatment once updated Department of Fisheries statistics become available. Animal husbandry, including the state government's support programmes for goat farming and apiculture, and dairy development, contribute further to the primary sector, though again at a comparatively modest scale relative to horticulture (GOA-IPB, 2024).

3.4 Secondary Sector: Industry, Manufacturing and Mining

Goa's secondary sector, accounting for 51.32 percent of Gross State Value Added in 2023-24, the largest sectoral share of the three broad categories, is anchored by a diversified manufacturing base and, at varying points over the past decade and a half, a historically significant but currently constrained mining industry.

Goa has emerged as a manufacturing base for several categories of goods, including fertilisers, tyres and tubes, cement, electrical machinery, fish net making machines, automatic washing machines, printed circuit boards, pharmaceuticals and pharmaceutical machinery, with cashew processing continuing as a traditional, smaller scale manufacturing activity closely linked to the horticultural sector described in section 3.3 (IBEF, 2026a). Pharmaceutical manufacturing and mining, principally iron ore and manganese, are concentrated in North Goa, while South Goa hosts a combination of mining and shipbuilding activity, reflecting the taluka level industrial geography this framework's Chapter 4 (Investment, Industry and Private Sector Development) examines in greater detail (IBEF, 2026a).

Iron ore mining represents the most volatile and closely regulated component of Goa's secondary sector. At its historical peak in 2009-10, Goa's mining industry exported up to 50 million tonnes of low grade iron ore per year, predominantly to China, making mining one of the state's most significant revenue earners at the time (Kallanish, 2025). This came to an abrupt halt in 2012, when the Supreme Court of India suspended mining operations statewide following an investigation into illegal mining activity, and the industry was further disrupted in 2018 when the Supreme Court quashed 88 mining leases previously granted by the state government (Business Standard, 2026a; Kallanish, 2025). Following a prolonged period of dormancy, the Goa government has since pursued a structured re-auction process for mining blocks, conducting twelve block auctions across three rounds beginning in 2022. As of July 2025, only three of these blocks were operational, with a further four awaiting environmental and forest clearance, and the Supreme Court has capped total iron ore exports from the state at 20 million tonnes per year, a limit the state's mining department has indicated it will manage by assigning individual production limits to each operational block (Kallanish, 2025).

By the time of the state's 2026-27 budget presentation, five of the auctioned blocks, located at Bicholim, Shirgao-Mayem, Sirigao, Advalpal-Thivim and Kudnem-Corlim, had become operational, with the remaining seven still pursuing environmental clearances and other statutory permissions, and the state government reported receiving ₹252.83 crore in upfront payments from the iron ore block auctions (Business Standard, 2026b). The state has also approved a revised Goa Iron Ore Mining Dump Handling Policy, permitting the e-auction of unclaimed legacy iron ore dumps, low grade stockpiles left behind by miners prior to the 2012 suspension, lying on private land across various locations in the state, with mining of these dumps set to begin from October 2025 and the government targeting approximately ₹500 crore in additional revenue from this dump auction process (Business Standard, 2026c; Kallanish, 2025). Litigation continues to shape the pace of mining resumption, illustrated by the Supreme Court's May 2025 dismissal of an appeal by Vedanta Limited seeking to block a

fresh e-auction process for the Curpem and Sulcorna Mineral Block-XI in South Goa, a dispute that had originated from a contested bid outcome in the block's original auction (Business Standard, 2025).

This gradual, litigation shaped and production capped resumption of iron ore mining stands in marked contrast to the sector's pre-2012 scale, and this framework treats the mining sector as structurally smaller and more tightly regulated for the foreseeable future than its historical peak would suggest, a conclusion with direct implications for the fiscal analysis in Chapter 2 and the environmental governance analysis in Chapter 13 (Environment and Natural Resource Governance) and Chapter 14 (Climate Change and Ecological Security).

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

The tertiary sector, comprising trade, tourism, transport, communication, financial services, real estate and public administration, accounted for 42.31 percent of Gross State Value Added in 2023-24 and recorded the fastest sectoral growth rate of the three broad categories in 2022-23, at 9.66 percent (IBEF, 2026a). Within this sector, tourism occupies a position of outsized importance to Goa's economy. Tourism contributes an estimated 16.43 percent to Goa's GSDP, the highest contribution of any Indian state, ahead of Rajasthan at approximately 15 percent and Odisha at 13 percent, and the sector directly employs an estimated 35 percent of Goa's population, a labour absorption rate far exceeding the sector's contribution in any other major tourism dependent Indian state (IBEF, 2026b; Tourism India Online, 2025).

Goa's tourism sector has shown a strong post-pandemic recovery trajectory. Total tourist arrivals, which stood at 80.64 lakh in 2019 prior to the pandemic, fell sharply during the COVID-19 disruption before recovering to 86.28 lakh in 2023, rising a further 21 percent to 1.04 crore in 2024, and reaching an all-time high of 1.08 crore, comprising 1.03 crore domestic and 5.18 lakh foreign visitors, in 2025 (Angel One, 2026; Grokipedia, 2026a). The Department of Tourism has attributed this growth to intensified promotional campaigns in both domestic and international source markets, participation in major travel trade exhibitions, and a "Regenerative Tourism" branding initiative intended to shift the state's positioning away from mass, seasonal tourism toward a more diversified, year round visitor base, including growth in spiritual and faith based tourism (Government of Goa, Department of Tourism, 2025a, 2025b). International connectivity has also strengthened, with the commissioning of Manohar International Airport at Mopa in North Goa in 2023 supplementing the older Dabolim airport, and charter and scheduled international flight operations expanding from source markets including Poland, the United Kingdom, Russia, Kazakhstan and Uzbekistan (Government of Goa, Department of Tourism, 2025b).

This tourism dependence, examined further in Chapter 19 (Tourism, Culture and Creative Economy), carries direct implications for the seasonality, environmental stress and infrastructure demand themes flagged throughout this framework, given that a sector contributing over a sixth of GSDP and employing over a third of the workforce necessarily exposes Goa's broader economy to tourism specific shocks, whether from global travel

disruption, currency movements affecting international arrivals, or the environmental degradation of the coastal assets on which the sector depends, a vulnerability first flagged in Chapter 1, section 1.1.

Beyond tourism, Goa's tertiary sector includes a growing logistics and maritime services component centred on the Mormugao Port Authority, which is targeting an investment pipeline of ₹6,160 crore through twenty five memoranda of understanding signed at India Maritime Week in October 2025, alongside a ₹200 crore allocation secured by the state government for inland waterways infrastructure (IBEF, 2026a). Financial services, real estate, and public administration, the latter reflecting Goa's role as a state capital and administrative centre, round out the tertiary sector's contribution, though this framework was unable to source disaggregated GSVA data for these specific sub-components from the sources consulted and flags this as an area for more granular treatment in future editions.

3.6 Informal Economy: Size, Significance and Integration Challenges

Goa's informal economy, comprising unregistered enterprises, casual and daily wage labour, and own account workers operating outside the formal regulatory and tax net, is not comprehensively quantified in the state level data sources available to this framework at the time of writing. This framework was unable to locate a Goa-specific informal sector employment or gross value added estimate comparable in granularity to the National Sample Survey Office's periodic informal sector enterprise surveys conducted at the national level, and flags this as a specific data gap for future editions of this framework to address once updated state-level unorganised sector survey data becomes available.

What can be inferred from related indicators discussed elsewhere in this framework is that Goa's informal economy is likely to be concentrated in precisely the sectors that dominate the state's overall economic structure, namely tourism related hospitality and retail, construction, and fisheries, sectors in which casual, seasonal and migrant labour arrangements are common. The state's substantial interstate migrant labour population, discussed in Chapter 1, section 1.4, and the under-enumeration of this population in de jure household surveys, discussed in Chapter 1, section 1.6, together suggest that Goa's true informal economy, encompassing both resident and migrant workers, is likely larger than would be captured by surveys anchored to the state's usually resident population alone. This framework's Chapter 17 (Skill Development, Employability and Workforce Alignment) and Chapter 20 (Migration) return to this theme when examining workforce formalisation and migrant labour policy.

The tension between Goa's high measured per capita income, documented in section 3.2, and its comparatively high unemployment rate, documented in section 3.7 below, may itself be partly explained by informality, insofar as a significant share of economic activity, particularly in tourism adjacent trade and services, may generate income that supports household consumption without being captured in formal employment statistics. This framework treats this as a plausible hypothesis warranting further investigation rather than an established finding, given the absence of direct informal sector data to substantiate it.

3.7 Labour Market: Employment, Unemployment and Workforce Quality

Goa's labour market presents one of the more distinctive puzzles in this framework's overall assessment of the state's development profile. Despite recording the highest per capita income and one of the lowest poverty rates of any Indian state, as documented in Chapter 1, Goa's unemployment rate stood at 9.7 percent as of 2022-23, higher than the national average for the same period (NITI Aayog, 2025a). Female Labour Force Participation, at 42.3 percent as of 2022-23, is comparatively strong and above the national average, indicating that the unemployment challenge is not primarily one of women being excluded from the labour force altogether, but rather one affecting labour force participants of both genders who are seeking but not finding work (NITI Aayog, 2025a).

The sectoral distribution of Goa's working population, as documented in Chapter 1, section 1.3, is heavily weighted toward services, at 58.8 percent, followed by manufacturing at 18.4 percent, agriculture at 12.2 percent, and construction at 8.3 percent (NITI Aayog, 2025a). This distribution is broadly consistent with the sectoral GSVA composition described in section 3.1, though the services sector's dominant share of employment, at 58.8 percent, exceeds its 42.31 percent share of Gross State Value Added, suggesting that services sector employment in Goa, likely concentrated in tourism related hospitality and retail roles documented in section 3.5, generates comparatively lower value added per worker than the state's secondary sector, whose 51.32 percent share of GSVA is generated by only 18.4 percent of the workforce in manufacturing.

This productivity differential between Goa's labour intensive, comparatively lower value added services employment and its capital intensive, higher value added manufacturing and mining activity is a structural feature with direct implications for the skill development and employability priorities this framework's Chapter 17 addresses. A workforce concentrated in tourism adjacent services roles, many of which are seasonal, semi-skilled and exposed to the sector specific volatility described in section 3.5, is likely to experience higher unemployment and underemployment risk than a workforce more evenly distributed across higher value added, less seasonal sectors, a pattern broadly consistent with Goa's above average unemployment rate despite its favourable income profile.

Migrant labour, discussed in Chapter 1, section 1.4, and section 3.6 above, further complicates the interpretation of Goa's headline labour market statistics. To the extent that lower wage roles in construction, tourism support services and fisheries are disproportionately filled by interstate migrant workers who may not be fully captured in state level labour force surveys anchored to usual residents, Goa's resident unemployment rate may reflect, in part, a mismatch between the skill and wage expectations of the resident Goan workforce and the type of employment generated by the state's dominant tourism and services economy, rather than an absolute shortage of jobs within the state's borders. This framework flags this as an important area for the more detailed labour market and migration analysis undertaken in Chapter 17 and Chapter 20.

3.8 Inflation, Price Stability and Consumer Welfare

At the national level, headline Consumer Price Index inflation moderated substantially over the course of the 2025-26 fiscal year, averaging 1.7 percent between April and December 2025, the lowest average inflation rate recorded since the current CPI series began, driven principally by disinflation in food and fuel prices, which together constitute 52.7 percent of the CPI basket (Insights on India, 2026; IBEF, 2026c). This decline continued a broader downward trajectory in national retail inflation, from 6.7 percent in 2022-23 to 1.7 percent for the April to December period of 2025-26 (IBEF, 2026c). More recent monthly data, however, indicates inflation has since begun to rise again, with the national inflation rate reaching 3.93 percent in May 2026 and 4.38 percent in June 2026, driven in part by rising transportation and food prices linked to energy market disruption associated with conflict in the Middle East (Trading Economics, 2026).

This framework was not able to source a consolidated, headline, full-year Goa-specific Consumer Price Index inflation figure comparable to the national averages cited above. The Ministry of Statistics and Programme Implementation does publish state-disaggregated CPI sub-indices for Goa, including separate series for housing and for transport and communication, with the Goa Urban Housing CPI, for example, recorded at 155.8 on a 2012 base of 100 as of December 2025, up from 154.0 in November 2025 (CEIC Data, 2026), but this framework was unable to locate a Goa-specific consolidated general index inflation rate for a comparable period from the sources consulted, and flags this as a gap to be filled in a future revision using the Directorate of Planning, Statistics and Evaluation's own price monitoring publications or the Ministry of Statistics and Programme Implementation's full state-wise CPI release.

Price stability carries particular significance for Goa's tourism dependent economy and its cost of living for resident households, given the state's exposure to seasonal demand surges during the peak tourist season and its heavy reliance on imported goods and interstate supply chains for many consumption categories, given the state's small land area and limited primary sector output documented in section 3.3. Housing cost inflation, in particular, warrants close monitoring given Goa's active real estate market, itself a significant contributor to stamp duty and registration revenue documented in Chapter 2, section 2.1, and its implications for housing affordability, a theme this framework's Chapter 11 (Urban Development, Housing and Smart Cities) addresses directly.

3.9 Growth Corridors: Engines of Economic Expansion

This section draws together the specific infrastructure and investment corridors identified across this chapter's sectoral analysis as the principal engines of Goa's near and medium term economic expansion. The Mormugao Port Authority's targeted investment pipeline of ₹6,160 crore, secured through twenty five memoranda of understanding signed at India Maritime Week in October 2025, positions Goa's port and maritime logistics sector as a significant growth corridor, complementing the ₹200 crore secured for inland waterways infrastructure and reinforcing the state's existing shipbuilding capacity concentrated in South Goa, described in section 3.4 (IBEF, 2026a).

The dual airport system, comprising the long established Dabolim airport and the newer Manohar International Airport at Mopa, commissioned in 2023, represents a second significant growth corridor, having materially expanded Goa's international connectivity and supported the tourism arrivals growth documented in section 3.5, particularly the diversification of source markets for international charter and scheduled flights described by the Department of Tourism (Government of Goa, Department of Tourism, 2025b). This expanded aviation capacity underpins this framework's Chapter 8 (Transport and Connectivity Infrastructure) analysis of the state's air connectivity infrastructure.

Foreign Direct Investment inflows into Goa, while modest in absolute national terms given the state's small economic base, have shown growth across recent reporting periods, with the Department for Promotion of Industry and Internal Trade recording FDI inflows of ₹1,824.86 crore between October 2019 and March 2026, an increase from the ₹1,390 crore recorded for the shorter October 2019 to December 2024 period in an earlier IBEF compilation (IBEF, 2026a). This framework notes the differing reporting periods underlying these two figures rather than treating them as directly comparable year on year data points. Sectorally, this FDI has concentrated in pharmaceuticals, manufacturing and, increasingly, tourism infrastructure and hospitality development, themes examined further in Chapter 4 (Investment, Industry and Private Sector Development).

The resumption of iron ore mining, described in section 3.4, constitutes a further, if more constrained and heavily regulated, growth corridor, with the ₹252.83 crore in upfront auction payments already received and the anticipated ₹500 crore in legacy dump auction revenue representing near term fiscal and economic contributions, even as the sector's long term scale remains capped well below its historical peak by the Supreme Court's 20 million tonne annual export ceiling (Business Standard, 2026b, 2026c).

Taken together, these growth corridors, port and maritime logistics, expanded aviation capacity, targeted FDI in pharmaceuticals and hospitality, and a constrained but resuming mining sector, alongside the continued dominance of tourism documented in section 3.5, define the near to medium term trajectory of Goa's economic expansion. Chapter 4, which follows, examines the investment climate, industrial policy framework and private sector development ecosystem that will determine how effectively Goa converts these growth corridors into broad based, sustainable economic growth, a question this framework's analysis throughout Chapters 1 through 3 suggests is not yet fully resolved given the gap between the state's real GSDP growth rate and its national ranking on income and welfare indicators.

Chapter 4: Investment, Industry and Private Sector Development

4.1 Investment Climate Assessment and Ease of Doing Business

Goa's standing on investment climate indices has diverged sharply depending on which index and which point in time is examined. In NITI Aayog's Investment Friendliness Index 2026, Goa was ranked fourth among Indian states, with a score of 53.1, trailing the top ranked state, Gujarat, at 56.6, by only 3.5 points, and trailing the third ranked state, Tamil Nadu, by a narrow margin of just 0.2 points (Navhind Times, 2026). This ranking marked a notable improvement in Goa's comparative investment climate positioning and was described in contemporary state media commentary as a "surprise" given the state's considerably weaker historical performance on an earlier, related measure, the Department for Promotion of Industry and Internal Trade's Ease of Doing Business index, on which Goa had fared badly, slipping to a near-bottom 24th position among 29 states, having earlier held a comparatively better, though still middling, 19th position (Navhind Times, 2026; SlideShare, 2019).

The specific structural weaknesses underlying Goa's historically poor Ease of Doing Business performance have been documented in state and industry analyses. These include the lingering fiscal and investor confidence impact of the 2012 mining suspension discussed in Chapter 3, section 3.4, the high cost of acquiring industrial land, office space, power and labour relative to the state's small land area, and specific procedural bottlenecks, including reported delays of up to 60 days for the sanctioning of new power connections by the state electricity department, and constraints on the Goa Industrial Development Corporation's capacity to allot new industrial land to prospective investors (SlideShare, 2019). A white paper released by the Goa chapter of the Confederation of Indian Industry drew particular attention to the practical consequences of this investment climate, finding that only six new Micro, Small and Medium Enterprise units with an investment exceeding ₹5 crore and employing more than 25 people had been registered in the state over the preceding decade, and noting a 23 percent year on year decline in the state's Goods and Services Tax collections in September 2020, a month in which national GST collections had risen for the first time in seven months (Deccan Herald, 2026a).

This framework treats the gap between Goa's improved 2026 Investment Friendliness Index ranking and its considerably weaker historical Ease of Doing Business performance as reflecting two different things being measured, a broader, more forward looking assessment of investment climate factors in the more recent index, against a narrower, procedurally focused assessment of regulatory friction in the earlier index, rather than as a contradiction to be resolved. Whether the underlying procedural bottlenecks identified in the CII white paper and the Ease of Doing Business analysis have themselves been substantively addressed by the time of Goa's improved 2026 ranking is not established by the sources available to this framework, and is flagged as a specific area warranting direct verification against the Goa Industrial Development Corporation's current single window clearance performance data in a future revision of this chapter.

4.2 Industrial Policy Framework and MSME Development

The Government of Goa has pursued a series of targeted policy instruments to support small and medium enterprises and, more recently, the startup ecosystem. The Directorate of Information Technology, Electronics and Communications has introduced the Goa Startup Policy 2025, comprising twelve specific schemes directed at technology, creative and innovation focused startups, part of a broader effort to diversify the state's industrial base beyond the manufacturing and mining sectors described in Chapter 3 (NIIR, 2026). The Employment Subsidy Scheme, in place since 2017, reimburses eligible industries 50 percent of wages paid to Goan employees, subject to a cap of ₹7,000 per month per employee and ₹25 lakh per year for Micro, Small and Medium Enterprises, with the scheme defining a "Goan" as a person born in the state or who has resided there for ten years or more, and offering enhanced benefits to companies employing 60 percent or more Goans in their workforce (NIIR, 2026). This scheme is particularly targeted at manufacturing companies and service providers with 30 to 50 employees, and is explicitly designed to align private sector hiring incentives with the state government's local employment objectives, a theme this framework's Chapter 17 (Skill Development, Employability and Workforce Alignment) returns to given the unemployment and workforce mismatch concerns documented in Chapter 3, section 3.7.

Independent assessment of Goa's MSME ecosystem presents a mixed picture. A national survey of MSME respondents rated Goa's overall support and opportunity environment at 5.92 out of a possible score, placing the state fourth nationally behind Gujarat, at 6.18, Tamil Nadu, at 6.03, and Maharashtra, at 5.99 (State of the MSME, 2025). However, on the narrower measure of state specific policies and schemes for MSMEs, Goa was rated among the lowest performing states, grouped at the bottom of the table alongside Himachal Pradesh and Jammu and Kashmir, in contrast to top ranked Tamil Nadu, at 6.22, Haryana, at 6.04, and Gujarat, at 5.96 (State of the MSME, 2025). This divergence, a comparatively favourable general MSME operating environment alongside a comparatively weak formal policy and scheme architecture specifically for MSMEs, mirrors the broader pattern identified in section 4.1 and suggests that Goa's underlying economic advantages, its high per capita income, its educated workforce and its market access, are not yet being matched by a correspondingly strong state policy apparatus for translating those advantages into MSME growth.

4.3 Large and Anchor Industries: Sectoral Analysis

Goa's large and anchor industries, concentrated substantially within the state's industrial estates described in section 4.4, span pharmaceuticals, engineering, food and beverage processing, and shipbuilding. Pharmaceutical manufacturing represents one of Goa's most significant anchor industries, with major units including Indoco Remedies Limited and Lok-Beta Pharmaceuticals operating within the Verna Industrial Estate, reinforcing the pharmaceutical manufacturing base referenced in Chapter 3, section 3.4 (Goa Legislative Assembly, 2024). Consumer goods and food and beverage manufacturing is represented by units such as Hindustan Coca-Cola Beverages Private Limited, while engineering and electronics manufacturing includes firms such as IFB Industries Limited and Ion Exchange

India Limited, both with established manufacturing presence at Verna (Goa Legislative Assembly, 2024).

Shipbuilding constitutes a distinct and historically significant anchor industry, reflecting Goa's coastal geography and port infrastructure described in Chapter 1, section 1.1, and Chapter 3, section 3.5. Chowgule and Company Private Limited operates a shipbuilding division within the Verna Industrial Estate, while Goa Shipyard Limited, a central government Public Sector Undertaking under the Ministry of Defence rather than a state owned enterprise, operates a major shipbuilding and ship repair facility in South Goa, constituting one of the state's most significant sources of skilled industrial employment, though this framework notes its central rather than state ownership as a relevant distinction from the state public sector undertakings examined in section 4.6 (Goa Legislative Assembly, 2024).

4.4 Special Economic Zones, Industrial Corridors and Clusters

Industrial land in Goa is administered principally through the Goa Industrial Development Corporation, which operates a network of approximately two dozen industrial estates distributed across both districts, including Verna, Kundaim, Pilerne, Bicholim, Colvale, Corlim, Cuncolim, Sancoale, Sanguem, Bethora, Canacona, Dharbandoda, Honda, Kakoda, Latamarcem, Madkaim, Mapusa, Margao, Panchwadi, Pissurlem, Quittol, Shiroda, Thivim and Tuem (Goa Industrial Development Corporation, 2026). Verna Industrial Estate, in Salcete taluka, is Goa's largest and most diversified industrial estate, hosting the pharmaceutical, engineering, food processing and shipbuilding units described in section 4.3.

Within Verna, a portion of the estate has been formally notified as a sector specific Special Economic Zone for information technology and information technology enabled services under the Special Economic Zones Act, developed by M/s K. Raheja Corp Private Limited following the grant of a letter of approval under the SEZ framework (TaxTMI, 2014). This SEZ designation reflects an early, though geographically limited, effort by the state to position itself within India's IT and ITES sector, a theme this framework's Chapter 16 (Technology-Enabled Service Delivery) and Chapter 17 (Innovation, Research and Knowledge Economy) return to when assessing Goa's broader digital economy ambitions.

A persistent constraint on industrial land expansion across Goa's estates is the state's hilly, laterite plateau terrain described in Chapter 1, section 1.1. Industrial estates at Verna, Kundaim and Pilerne in particular contain substantial areas of sloped, hilly land that limits the amount of flat, developable industrial plot area available for allotment, and while state officials have considered flattening these hilly sections to expand usable industrial land, the Goa Industrial Development Corporation has indicated that the cost of such flattening work may exceed the revenue the state would recover from allotting the resulting plots at subsidised industrial rates, a cost-benefit constraint that has left this land expansion option largely unrealised (The Goan, 2018). This land constraint compounds the broader ease of doing business challenges documented in section 4.1 and represents a structural, geography

driven limit on Goa's capacity to expand its industrial estate footprint that is unlikely to be resolved through policy reform alone.

4.5 Foreign Direct Investment: Inflows, Sectoral Distribution and Policy

Goa's Foreign Direct Investment inflows, discussed in Chapter 3, section 3.9, totalled ₹1,824.86 crore over the period October 2019 to March 2026 according to Department for Promotion of Industry and Internal Trade data, an increase from the ₹1,390 crore recorded for the shorter October 2019 to December 2024 period in an earlier compilation of the same underlying data series (IBEF, 2026a). This framework reiterates, as noted in Chapter 3, that these two figures cover different reporting periods and should not be read as directly comparable year on year growth measures.

Sectorally, Goa's FDI inflows have concentrated in the pharmaceutical manufacturing and hospitality and tourism infrastructure sectors described in sections 4.3 and Chapter 3, section 3.5 respectively, reflecting the state's comparative strengths in these two areas. Given the state's modest absolute economic scale relative to India's larger industrial states, Goa's FDI inflows remain a small share of national totals in absolute terms, though they carry disproportionate significance for a state economy of Goa's size, particularly for capital intensive pharmaceutical and hospitality projects that require the kind of long horizon, large ticket investment FDI typically provides. This framework's Chapter 21 (State Vision 2047) considers the extent to which improved investment climate rankings, discussed in section 4.1, might be expected to translate into materially higher FDI inflows over the coming award periods.

4.6 Public Sector Undertakings: Performance and Reform Agenda

Goa's State Public Sector Enterprises span infrastructure development, tourism promotion, handicrafts and small scale industry support, and electricity adjacent functions, though this framework's ability to assess their individual financial and operational performance is constrained by the limited disaggregated public reporting available for these entities in the sources consulted. Two State Public Sector Enterprises feature prominently in this framework's fiscal analysis in Chapter 2, section 2.5, namely the Goa State Infrastructure Development Corporation Limited and the Sewerage and Infrastructural Development Corporation of Goa Limited, both of which the Comptroller and Auditor General identified as having raised off-budget borrowings, totalling ₹605 crore and ₹101 crore respectively as of 2023-24, that were not reflected in the state's official finance accounts (Comptroller and Auditor General of India, 2025, as cited in PRS Legislative Research, 2026).

Beyond these two entities, Goa's state public sector landscape includes the Economic Development Corporation, which extends institutional finance to industry and features among the lending institutions contributing to the state's public debt described in Chapter 2, section 2.4, the Goa Tourism Development Corporation, which operates tourism infrastructure and hospitality assets in support of the tourism sector described in Chapter 3, section 3.5, and the Goa State Handicrafts, Rural and Small Scale Industries Development Corporation, which

supports artisanal and small scale manufacturing activity linked to the cultural economy discussed in Chapter 1, section 1.4, and examined further in Chapter 19 (Tourism, Culture and Creative Economy). This framework was unable to source consolidated, current financial performance data, including profitability, debt servicing capacity or return on state equity, for these entities as a group, and flags a comprehensive State Public Sector Enterprise performance review, ideally drawing on the Comptroller and Auditor General's periodic state PSU audit reports, as a priority for a future revision of this chapter, particularly in light of the off-budget borrowing concerns already identified for two of the state's infrastructure focused corporations.

4.7 Public-Private Partnership Framework and Pipeline

Goa's public-private partnership activity is most visibly concentrated in port and maritime infrastructure, with the Mormugao Port Authority's targeted investment pipeline of ₹6,160 crore, secured through twenty five memoranda of understanding signed at India Maritime Week in October 2025, representing the state's most substantial identified public-private partnership pipeline at the time of writing (IBEF, 2026a, as cited in Chapter 3, section 3.9). This pipeline, together with the ₹200 crore secured for inland waterways infrastructure discussed in Chapter 3, positions the port and maritime logistics sector as the leading edge of Goa's public-private partnership activity, ahead of the urban infrastructure and smart city partnerships this framework's Chapter 11 (Urban Development, Housing and Smart Cities) examines separately.

Beyond the port sector, this framework was unable to source a consolidated, state-maintained public-private partnership project pipeline document comparable to those published by several larger Indian states, and flags the establishment or public disclosure of such a consolidated pipeline as a transparency improvement priority for the state government to consider, particularly given the capital expenditure execution challenges documented in Chapter 2, section 2.3, which a well structured public-private partnership pipeline could help address by mobilising private capital and project management capacity alongside the state's own constrained capital budget.

4.8 Regional Cooperation: Shared Resources and Growth

Goa's most significant and long running regional cooperation, and dispute, arrangement concerns the sharing of the Mahadayi, known within Goa as the Mandovi, river with the neighbouring states of Karnataka and Maharashtra. The Mandovi, described in Chapter 1, section 1.1, as one of Goa's two major west flowing rivers and the state's principal source of drinking water, irrigation and riverine transport, originates in the Western Ghats within Karnataka and flows through all three states before draining into the Arabian Sea, with the river's catchment area distributed across the three states in proportions that vary depending on the source consulted (Drishti IAS, 2026; IAS Gyan, 2026).

Following decades of dispute, Goa petitioned the Supreme Court of India in 2006 for the constitution of a tribunal to adjudicate water sharing, and the Mahadayi Water Disputes

Tribunal, headed by former Supreme Court Justice J. M. Panchal, was formally constituted by the Central Government in 2010 (Deccan Herald, 2026b; Shankar IAS Parliament, 2023). The Tribunal's final award, delivered in August 2018 following a series of repeatedly extended deadlines, allocated 24 thousand million cubic feet of water for Goa's consumptive use, 13.42 thousand million cubic feet to Karnataka, comprising 5.5 thousand million cubic feet for drinking water needs, of which 3.8 thousand million cubic feet was permitted for diversion outside the Mahadayi basin into the Malaprabha basin via the Kalasa and Banduri canals, and a further 8.02 thousand million cubic feet for hydroelectric power generation, and 1.33 thousand million cubic feet to Maharashtra (Shankar IAS Parliament, 2023). The Central Government formally notified this diversion in February 2020, prompting Goa to file a Special Leave Petition before the Supreme Court in July 2019 challenging the quantum of the Tribunal's allocation, followed by a contempt petition in 2020 alleging that Karnataka was diverting water from the Mahadayi basin illegally and in advance of obtaining all requisite statutory permissions, with Maharashtra separately filing civil appeals of its own (Shankar IAS Parliament, 2023).

This dispute has continued to generate periodic tension between the two states well beyond the Tribunal's 2018 award. A study recommending further diversion of water from the Mahadayi's tributaries to the Malaprabha river, without, its proponents argued, major impact on Goa, sparked renewed protests within the state and reignited the decades old dispute, underscoring the continued political sensitivity of the issue as of the time of writing in 2026 (Drishti IAS, 2026). Karnataka has continued to press its case before the Tribunal for interim relief pending the final resolution of outstanding appeals, citing chronic drinking water shortages in the Hubballi-Dharwad region, while Goa has consistently maintained its position that the state is itself water deficient and that further diversion would threaten both its agricultural water supply and the ecological health of the Mandovi river system described in Chapter 1, section 1.1, and examined further in Chapter 13 (Environment and Natural Resource Governance) (Deccan Herald, 2026c, 2026d).

Beyond the Mahadayi dispute, Goa participates in broader regional infrastructure cooperation through its shareholding, alongside the Government of India and the states of Maharashtra, Karnataka and Kerala, in the Konkan Railway Corporation, the joint venture entity responsible for the Konkan Railway line connecting Goa to Mumbai in the north and Mangaluru in the south, a rail corridor of direct relevance to the tourism connectivity and freight logistics themes this framework's Chapter 8 (Transport and Connectivity Infrastructure) examines in detail. Unlike the contentious and unresolved Mahadayi dispute, this railway cooperation arrangement represents a longer standing and comparatively stable example of successful multi-state infrastructure collaboration involving Goa, illustrating that the state's regional cooperation record is not uniformly adversarial even as its most prominent and politically salient inter-state relationship, over shared river waters, remains substantially unresolved after more than three decades of negotiation and litigation.

Taken together, this chapter's review of Goa's investment climate, industrial policy, anchor industries, industrial land infrastructure, FDI performance, public sector enterprises,

public-private partnership activity and regional cooperation arrangements reveals a private sector development environment with genuine underlying strengths, a comparatively strong and improving investment friendliness ranking, an established pharmaceutical and engineering manufacturing base, and a growing port and maritime logistics pipeline, that remain constrained by persistent procedural friction, limited industrial land availability, incomplete public sector transparency, and an unresolved regional water dispute with direct implications for the state's long term resource security. Chapter 5, which follows, turns to the education sector that will need to supply the skilled workforce this chapter's industrial and investment ambitions ultimately depend upon.

Chapter 5: Education — Access, Quality and Future Readiness

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

At the national level, the Unified District Information System for Education Plus, the Ministry of Education's primary school data platform, recorded continued improvement in elementary education retention for the 2025-26 academic year, with dropout rates at the preparatory level falling from 2.3 percent in 2024-25 to 1.8 percent in 2025-26, and transition rates from foundational to preparatory level reaching 99.2 percent nationally (DD News, 2026). Elementary level dropout numbers nationally fell sharply between 2023-24 and 2024-25, from 54.36 lakh to 25.42 lakh students, a 53 percent reduction that the Ministry of Education attributed to improved retention efforts under the National Education Policy 2020 framework (Careers360, 2025).

This framework was not able to source elementary level dropout, retention and transition figures disaggregated specifically for Goa from the UDISE+ 2025-26 release consulted, and notes this as a gap for a future revision to address using the state-specific UDISE+ tables once fully disaggregated data becomes available through the Directorate of Education, Government of Goa. What can be drawn from NITI Aayog's Summary Report for the State of Goa is that the state's overall literacy rate stood at 88.7 percent as of the 2011 Census, as already noted in Chapter 1, section 1.3, well above the national figure of 73 percent recorded in the same Census (NITI Aayog, 2025a). Given the fifteen year gap between this literacy figure and the time of writing, and the absence of a 2021 Census enumeration discussed throughout this framework, this figure should be read as a floor rather than a current measure of the state's literacy achievement, with subsequent school participation data offering a more current, if partial, picture of the underlying trend.

On national performance monitoring, the Ministry of Education's Performance Grading Index 2.0, which evaluates states and union territories across a ten tier grading framework covering learning outcomes, access, infrastructure, equity, governance and teacher education, placed Goa in the "Prachesta-2" category for the most recent assessment period, a mid-tier grouping shared with Himachal Pradesh, Maharashtra, Odisha and Lakshadweep, below the top performing "Prachesta-1" category that included Delhi, Kerala, Punjab, and Dadra and Nagar Haveli and Daman and Diu (Ensure IAS, 2026). This finding is notable in the context of this framework's broader analysis, given that Goa otherwise ranks first among Indian states on the aggregate Human Development Index, documented in Chapter 1, section 1.5, yet falls into a mid-tier category rather than the top tier on this specific, granular school education performance measure, reinforcing this chapter's opening observation that Goa's education system does not uniformly mirror the state's overall development leadership.

5.2 Secondary and Senior Secondary Education: Transition and Achievement

Goa's secondary education access indicators are exceptionally strong by national comparative standards. UDISE+ 2024-25 data recorded Goa's secondary level Gross Enrolment Ratio at 100.8 percent, among the highest of any Indian state and comparable to Chandigarh, at 108.7

percent, and standing in sharp contrast to lower performing states such as Bihar, at 44.7 percent, Jammu and Kashmir, at 55.2 percent, and Assam, at 61.5 percent (Education for All in India, 2026). A Gross Enrolment Ratio exceeding 100 percent, as recorded for Goa, typically reflects the inclusion of over-age or under-age students enrolled at the secondary level relative to the officially corresponding age cohort, alongside genuinely near universal access, and this framework treats Goa's figure as indicative of very strong secondary school access rather than a literal statement that every eligible child, and no others, is enrolled.

At the national level, secondary stage Gross Enrolment Ratio rose from 68.5 percent in 2024-25 to 71.7 percent in 2025-26, with secondary level dropout rates declining from 8.2 percent to 7.0 percent over the same period, and transition rates from middle to secondary level reaching 88.3 percent (DD News, 2026). Goa's own secondary level performance, sitting well above these national averages on the enrolment measure, nonetheless requires more granular, state-specific dropout and transition data than this framework was able to source from the sources consulted to confirm whether the state's strong access indicators are matched by correspondingly strong retention and completion outcomes through to Class XII, an important qualification given the national finding that only about half of students enrolled in Class I nationally go on to complete Class XII (Ensure IAS, 2026).

Historical data from NITI Aayog's Summary Report, drawing on a 2016-17 reference year, recorded Goa's dropout rate for Classes VIII to X at 16 percent, alongside pass percentages of 98 percent for Class X and 92.4 percent for Class XII board examinations, and a Gross Enrolment Ratio at the higher secondary level of 75.8 percent as of 2015-16 (NITI Aayog, 2025a). This framework flags the roughly decade long gap between these NITI Aayog figures and the more recent UDISE+ 2024-25 secondary GER figure cited above as a significant vintage difference, and cautions against directly comparing the two data points given both the different reference years and the different specific indicators, higher secondary GER as against secondary GER, that each source reports. What can be said with confidence is that Goa's secondary and senior secondary access indicators have remained consistently strong across both the mid-2010s and mid-2020s reference periods for which data is available, even as this framework's section 5.1 finding regarding Goa's mid-tier Performance Grading Index ranking suggests that access strength alone does not fully capture the state's comparative standing on school education quality.

5.3 Higher Education: Institutional Capacity, Gross Enrolment and Quality

Goa's higher education system is anchored by Goa University, the state's principal public university, located on the Taleigao Plateau near Panaji, alongside a network of 68 colleges and institutes operating under the regulatory and academic oversight of the Directorate of Higher Education, Government of Goa (Directorate of Higher Education, 2026). Goa University's most recent National Institutional Ranking Framework placement, for 2024, positioned the university within the 151 to 200 band nationally, a middling position that this framework notes as relevant context for the state's broader higher education quality profile (Careers360, 2026).

At the national level, the All India Survey on Higher Education for 2023-24 recorded total higher education enrolment reaching a record 4.5 crore students, with the national Gross Enrolment Ratio rising to 30, up from 29.5 in 2022-23 and continuing a decade long upward trend from 23.7 in 2014-15 (Organiser, 2026). The national survey frame for 2023-24 covered 64,756 higher education institutions, comprising 1,289 registered universities, of which 59.9 percent were general or multidisciplinary in nature, 13.5 percent technical, 7.7 percent medical and 4.1 percent agricultural, alongside 48,246 registered affiliated colleges (Department of Higher Education, 2026). This framework was not able to extract a precise, current Goa-specific Gross Enrolment Ratio figure from the AISHE 2023-24 report directly, and relies instead on an earlier NITI Aayog estimate, drawing on 2021 data, which placed Goa's higher education Gross Enrolment Ratio at 33.8 percent, above the corresponding national average for that year, alongside a Gender Parity Index and college density that NITI Aayog similarly assessed as above national benchmarks (NITI Aayog, 2025a). Given that the national GER has itself risen from a lower base to 30 by 2023-24, this framework flags the need to source a more current, directly comparable Goa-specific GER figure from the AISHE 2023-24 or subsequent state-wise tables in a future revision, rather than presenting the 2021 NITI Aayog estimate as necessarily still representative of Goa's current relative standing.

Goa's higher education sector, beyond Goa University itself, includes a range of professional and technical institutions of national repute operating within the state, spanning engineering, management, medical and hospitality education, consistent with the state's status, noted in section 5.3's institutional count, as hosting "many institutes of national importance" alongside its 68 colleges (Directorate of Higher Education, 2026). This framework's Chapter 17 (Innovation, Research and Knowledge Economy) examines the research and innovation output of this higher education base in greater detail, including its linkages to the state's industrial and knowledge economy ambitions discussed in Chapter 4.

5.4 Technical, Vocational Education and Training (TVET) Ecosystem

Goa's technical and vocational education and training ecosystem operates through a network of Industrial Training Institutes and polytechnic institutions under the state's Directorate of Higher Education and Directorate of Technical Education, feeding skilled and semi-skilled labour into the manufacturing, tourism and hospitality, and shipbuilding sectors documented in Chapter 3 and Chapter 4. This framework was unable to source current, disaggregated enrolment, completion or placement outcome data specifically for Goa's Industrial Training Institutes and polytechnic network from the sources consulted for this chapter, a gap that carries particular significance given Chapter 3, section 3.7's finding of an unusual combination of high per capita income and above average unemployment in the state, a combination this framework has hypothesised may reflect, in part, a skills mismatch between the workforce Goa's TVET system produces and the employment opportunities generated by the state's dominant tourism and services economy.

The Goa Chief Minister's Apprenticeship Policy for Government Establishments, referenced in the state's own Economic Survey 2025-26, has engaged 11,468 youth as apprentices in various government organisations since its inception, reflecting one channel through which

the state has sought to build practical workplace exposure for young Goans, complemented by the Chief Minister's Kaushalya Vikas Yojana skill development scheme, which benefited 291 local youth during the April to December 2025 period and received the SKOCH Gold Award 2025 for its contribution to governance and skill development (DPSE, 2026). This framework treats these specific, named schemes as evidence of active state government engagement with the TVET agenda, while flagging the absence of comprehensive, sector-wide TVET outcome data as a priority gap for Chapter 17's more detailed treatment of skill development and workforce alignment.

5.5 Teacher Recruitment, Training and Professional Development

At the national level, UDISE+ 2025-26 data recorded a substantial increase in teacher strength, rising to 1,02,73,020 teachers nationally in 2025-26 from 94,83,294 in 2022-23, an 8.3 percent increase that has helped bring pupil-teacher ratios down to 10 at the foundational level, 12 at the preparatory level, 17 at the middle level and 21 at the secondary level, all comfortably better than the National Education Policy 2020's recommended ratio of 30 to 1 (DD News, 2026). This framework was not able to source Goa-specific pupil-teacher ratio or teacher vacancy data from the sources consulted, and flags this as an important gap given the general findings, discussed in Chapter 15 (Administrative Governance Reform), regarding civil service vacancy rates in the state more broadly, a theme with direct relevance to teacher recruitment given that the great majority of Goa's government school teachers are employed within the state civil service framework.

The Performance Grading Index 2.0 assessment discussed in section 5.1 evaluates a specific "Teacher Education and Training" domain, on which Kerala and Puducherry were jointly identified as the top performing states and union territories for the most recent assessment period (Ensure IAS, 2026), a benchmark against which Goa's own performance in this specific domain was not separately reported in the sources consulted, and which this framework flags for direct retrieval from the underlying Performance Grading Index 2.0 dataset in a future revision.

5.6 Digital Education, EdTech Integration and ICT in Schools

Goa's relatively high urbanisation rate, documented in Chapter 1, section 1.3, and its comparatively strong digital and telecommunications infrastructure, evidenced by the state's 2.45 million wireless and wireline telecom subscriber base as of December 2025 referenced in Chapter 3, section 3.9, provide a favourable underlying environment for digital education integration relative to many other Indian states. This framework was, however, unable to source Goa-specific data on school level ICT infrastructure penetration, smart classroom coverage, or EdTech programme participation from the sources consulted for this chapter, and treats this as a further specific data gap for a future revision, ideally drawing on the ICT infrastructure indicators collected as part of the UDISE+ survey's state-wise school facility tables.

At the national level, the UDISE+ 2025-26 report noted improvements in digital infrastructure and school facilities alongside its findings on teacher strength and dropout rates discussed in sections 5.1 and 5.5 (DD News, 2026), and this framework's Chapter 16 (Technology-Enabled Service Delivery) examines Goa's broader digital public infrastructure and e-governance architecture, within which school level digital education infrastructure forms one component, in greater detail.

5.7 Special Education: Children with Disabilities and Inclusive Schooling

National level analysis of the UDISE+ 2025-26 report identified the expansion of accessibility infrastructure for Children with Special Needs as a specific, ongoing priority, with sector analysts recommending a dedicated Children with Special Needs Accessibility Campaign to upgrade remaining schools nationally with ramps, accessible toilets and barrier-free infrastructure to achieve fully inclusive education coverage (Insights on India, 2026). This framework was unable to source Goa-specific data on the state's current school level accessibility infrastructure coverage, the enrolment of children with disabilities within mainstream versus special schools, or the state's specific policy framework for inclusive education implementation under the Rights of Persons with Disabilities Act, from the sources consulted.

Given Goa's otherwise strong performance on school access indicators documented in sections 5.1 and 5.2, and the state's comparatively strong fiscal and infrastructure capacity documented in Chapter 2, this framework flags special education and inclusive schooling infrastructure as an area where the state's aggregate resources would be expected to support strong outcomes, but where the absence of disaggregated data prevents this framework from confirming whether that expectation is in fact being met. This section's findings should be read alongside the broader disability rights and accessibility analysis in Chapter 7 (Social Justice, Inclusion and Community Welfare), section 7.7, which addresses persons with disabilities across the life course rather than within the school system specifically.

5.8 State-Specific Educational Challenges and Reform Priorities

Drawing together this chapter's findings, three state-specific educational challenges and reform priorities emerge for Goa. First, the gap between the state's very strong secondary level access indicators, documented in section 5.2, and its comparatively mid-tier Performance Grading Index 2.0 standing, documented in section 5.1, suggests that Goa's education reform priority lies less in expanding access, an area where the state already performs at or near the national frontier, and more in improving learning outcomes, teacher education quality, and the specific governance and equity domains the Performance Grading Index 2.0 framework evaluates, an agenda better aligned with quality enhancement than infrastructure expansion.

Second, the persistent data gaps this chapter has identified across technical and vocational education outcomes, section 5.4, teacher recruitment and vacancy status, section 5.5, digital education infrastructure, section 5.6, and special education coverage, section 5.7, together

constitute a state-specific challenge in their own right, namely the limited public availability of granular, current, Goa-specific education sector data disaggregated from national UDISE+ and AISHE datasets. This framework recommends that the Directorate of Education and Directorate of Higher Education, Government of Goa, consider publishing a consolidated, annual, state-specific education statistics digest, comparable in structure to the Economic Survey referenced throughout Chapters 2 and 3 of this framework, to support more precise policy monitoring and to close the specific data gaps this chapter has flagged.

Third, and connecting most directly to this framework's Chapter 3, section 3.7 finding of an unusual combination of high income and elevated unemployment in Goa, this chapter's inability to confirm strong TVET sector performance, combined with the state's otherwise strong general education access indicators, points toward the skills-to-employment pipeline, rather than basic education access, as the more likely locus of Goa's labour market mismatch. Chapter 17 (Innovation, Research and Knowledge Economy) and its section on skill development, employability and workforce alignment takes up this hypothesis directly, and this framework's Chapter 21 (State Vision 2047) treats closing the gap between Goa's education access achievements and its labour market outcomes as a priority theme for the state's medium term development roadmap.

Chapter 6: Health, Nutrition and Population

6.1 Public Health Infrastructure: Facilities, Human Resources and Gaps

Goa's public health system operates through a network of government and government-aided hospitals working alongside a substantial private hospital sector, the latter integrated into the state's public health financing architecture through the Deen Dayal Swasthya Seva Yojana scheme examined in section 6.4. As of the most recent data available on this scheme's hospital network, Goa's health insurance framework draws on 6 government hospitals and 1 government-aided hospital within the state, alongside 35 empanelled private hospitals in Goa and a further 10 empanelled private hospitals outside the state for referral cases requiring specialised care not available within Goa itself (Sarkari Yojana, 2025).

This framework was not able to source current, disaggregated data on Goa's total hospital bed capacity, bed density per thousand population, or doctor and nursing staff density from the sources consulted for this chapter, figures that would normally anchor a comprehensive assessment of public health infrastructure adequacy. This represents a significant data gap given the importance of these indicators to any assessment of health system capacity, and this framework recommends that a future revision of this chapter draw directly on the Directorate of Health Services, Government of Goa's own facility census and the Rural Health Statistics publication of the Ministry of Health and Family Welfare to close this gap. What can be said is that Goa's small geographic size and high road density, discussed in Chapter 1, section 1.1, and examined further in Chapter 8 (Transport and Connectivity Infrastructure), mean that physical proximity to a healthcare facility is less likely to constitute a binding access constraint in Goa than in larger, less densely connected states, even where specific infrastructure capacity data remains unavailable to this framework.

6.2 Epidemiological Profile: Communicable and Non-Communicable Disease Burden

This framework was unable to source a comprehensive, current epidemiological profile disaggregating Goa's communicable and non-communicable disease burden from the sources consulted for this chapter. What is evident from the Deen Dayal Swasthya Seva Yojana's own scheme design, discussed further in section 6.4, is that the state government has explicitly built provisions for chronic, lifestyle-related disease management into its flagship health financing scheme, capping annual medication support for conditions including diabetes and hypertension at ₹15,000 per year and providing coverage for debilitating disorders including epilepsy, multiple sclerosis and cerebral palsy (National Health Mission Goa, 2026). This scheme design choice is itself indicative of the non-communicable, chronic disease burden the state government considers material enough to warrant dedicated financing provision, consistent with the broader national epidemiological transition toward non-communicable disease as the dominant driver of morbidity in higher income, more urbanised Indian states, a transition Goa's very high urbanisation rate, documented in Chapter 1, section 1.3, would be expected to accelerate. This framework flags a comprehensive, quantified non-communicable and communicable disease burden assessment for Goa as a priority for a future revision,

ideally drawing on the state's Integrated Disease Surveillance Programme data and the Global Burden of Disease state-level estimates for India.

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

Goa's core child mortality indicators remain strong by national comparative standards. The state recorded an infant mortality rate of 5 deaths per 1,000 live births as of 2020, among the lowest of any Indian state, as already noted in Chapter 1, section 1.3 (NITI Aayog, 2025a). This framework was not able to source a current, Goa-specific Maternal Mortality Ratio figure from the sources consulted, a significant gap given the centrality of this indicator to any comprehensive maternal health assessment, and flags this as a priority for a future revision drawing on the Sample Registration System's state-wise Maternal Mortality Ratio bulletin, the primary national source for this indicator.

On maternal care process indicators, National Family Health Survey 2019-21 data shows Goa performing strongly, with 97 percent of mothers having received a postnatal health check following their last birth, and 95 percent having received that check within the clinically recommended two-day window following delivery, alongside 97 percent of last births in the five years preceding the survey having received a health check within the recommended period more broadly (International Institute for Population Sciences [IIPS], 2021). On child immunisation, NFHS-5 recorded 98 percent of children having received the BCG vaccination, 93 percent having been vaccinated against measles, 91 percent having received the three recommended doses of the DPT or Pentavalent vaccine, and 88 percent having received the three recommended doses of polio vaccine, with the survey noting a degree of dropout between the first and third doses of the DPT vaccination series specifically (IIPS, 2021). Chapter 1, section 1.3, has already noted Goa's overall full immunisation coverage rate of 81.9 percent for the same 2019-21 period (NITI Aayog, 2025a), a figure consistent with, though somewhat lower than, the individual antigen-specific coverage rates cited above, reflecting the more stringent requirement that a child receive the complete recommended immunisation schedule to be counted as fully immunised.

The most significant and, in this framework's assessment, under-appreciated finding in Goa's maternal and child health profile concerns child nutrition, specifically stunting, where the state's trend runs directly counter to its otherwise strong health profile. Goa's childhood stunting rate, that is, the share of children under five who are too short for their age, rose sharply from 20.1 percent in NFHS-4, conducted in 2015-16, to 25.8 percent in NFHS-5, conducted in 2019-21, an increase of 5.7 percentage points (Observer Research Foundation [ORF], 2021). This reversal is particularly notable because Goa, alongside Kerala, had recorded among the lowest stunting rates of any Indian state or union territory in the NFHS-4 survey round, making the two states' subsequent substantial increase in stunting prevalence a distinctive and counter-intuitive finding given both states' otherwise strong health and human development profiles documented throughout this framework (ORF, 2021). Research examining this reversal has found that in Goa, as in Kerala and Himachal Pradesh, dietary adequacy for children remained largely stagnant between the two survey rounds even as indicators of maternal-child health service access and women's empowerment continued to

perform strongly, suggesting that Goa's stunting increase is not straightforwardly explained by a deterioration in healthcare access or maternal education, the factors that most conventional stunting reduction interventions target, but reflects a more specific gap in complementary feeding and dietary practices that these broader indicators do not capture (ORF, 2024).

Set against this stunting finding, Goa's performance on childhood overweight has moved in a distinctly more favourable direction than the national trend. Goa was the only state in India, alongside Tamil Nadu and Dadra and Nagar Haveli and Daman and Diu, to record a decrease in childhood overweight prevalence between NFHS-4 and NFHS-5, falling from 3.7 percent to 2.8 percent, in contrast to sixteen of seventeen comparable states that recorded an increase, in some cases more than doubling, over the same period (MicroSave, 2021). Goa was also among the states recording a reduction in childhood underweight prevalence between the two survey rounds, a period during which the national underweight rate rose from 21.5 percent to 23.7 percent (SDMIMD, 2023). Taken together, this section's nutrition findings present a genuinely mixed picture that this framework treats as a priority finding for the state's public health authorities: Goa is managing childhood overweight and underweight better than most Indian states, even as it has experienced one of the sharpest stunting increases recorded nationally, a combination that points toward a specific and identifiable gap in complementary feeding practices and dietary quality for young children rather than a broader failure of the state's maternal and child health system.

6.4 Universal Health Coverage: State Health Assurance Schemes

Goa's flagship approach to universal health coverage is the Deen Dayal Swasthya Seva Yojana, a state-funded, cashless health insurance scheme launched by the Government of Goa to provide medical care, hospitalisation and surgical coverage through empanelled government and private hospitals. Sources consulted for this framework differ on the scheme's precise launch date, with one identifying 30 May 2016 (Coverfox, 2026) and another identifying 1 September 2016 (Sarkari Yojana, 2025; joinditto, 2026) as the operative launch date, a discrepancy this framework flags rather than resolves. The scheme covers families that have resided in Goa for five years or more, extending annual cashless coverage across 447 specified medical procedures, with a nominal registration fee of ₹200 for families of up to three members and ₹300 for families of four or more members (joinditto, 2026).

Sources also differ on the scheme's current annual coverage limits. Older scheme documentation describes coverage of up to ₹2.5 lakh per year for families of three or fewer members and up to ₹4 lakh for families of four or more members (Sarkari Yojana, 2025; Scribd, 2024), while a more recent 2026 summary describes coverage of up to ₹4 lakh for smaller families and up to ₹6 lakh for larger families (joinditto, 2026). This framework treats this discrepancy as most likely reflecting a scheme enhancement between the two reference periods rather than a factual error in either source, though it was unable to confirm the specific date of any such enhancement from the sources consulted, and flags this as a point for direct verification against the Directorate of Health Services' current scheme notification in a future revision. As of 2025, more than 11 lakh people had benefited from the scheme

according to reporting cited by financial advisory sources drawing on Times of India coverage, reflecting substantial uptake among Goa's eligible resident population of approximately 1.6 million documented in Chapter 1 (joinditto, 2026).

The scheme's coverage design extends beyond acute hospitalisation and surgery to include chronic disease medication management, capped at ₹15,000 per year for conditions such as diabetes and hypertension, coverage for debilitating neurological and developmental disorders including epilepsy, multiple sclerosis and cerebral palsy, and, notably, coverage for mental health and Ayurveda hospitalisation, based on the advice of NIMHANS or AYUSH practitioners respectively, though restricted specifically to government hospitals and institutions rather than the scheme's broader private hospital network (National Health Mission Goa, 2026). This restriction of mental health hospitalisation coverage to government facilities only, in contrast to the scheme's broader empanelment of private hospitals for general medical and surgical care, is examined further in section 6.5 below. Government employees are excluded from Deen Dayal Swasthya Seva Yojana coverage, being covered instead under a separate reimbursement mechanism, the Central Scheme for Medical Attendance, referred to in scheme documentation by its acronym CSMA (National Health Mission Goa, 2026). As of the 2025-26 policy year, renewal of Deen Dayal Swasthya Seva Yojana cards for the period 1 April 2025 to 31 March 2026 was underway, with local political groups publicly urging the state government to expand coverage to ₹10 lakh per family and to broaden the scheme's procedure and hospital network, citing rising healthcare costs (Coverfox, 2026).

6.5 Mental Health Services: Availability, Access and Stigma Reduction

This framework's review of Goa's mental health service landscape is constrained by the limited disaggregated data available in the sources consulted. What is evident from the Deen Dayal Swasthya Seva Yojana scheme design discussed in section 6.4 is that the state government has explicitly incorporated mental health hospitalisation coverage into its flagship health insurance scheme, guided by NIMHANS advisory standards, but has restricted this specific coverage category to government hospitals and institutions only, unlike the broader scheme's inclusion of a substantial private hospital network for general medical care (National Health Mission Goa, 2026). Whether this restriction reflects a deliberate policy choice to concentrate specialised mental health capacity within government facilities, a more limited availability of empanelled private mental health service providers within the state, or simply a narrower initial scope for this specific coverage category that may be expanded over time, is not established by the sources available to this framework.

This framework was not able to source data on Goa's psychiatric bed capacity, the availability of trained mental health professionals relative to population, community mental health programme coverage, or state-specific mental health morbidity data, all of which would be necessary for a comprehensive assessment of this sector. Given the national policy emphasis on mental health service expansion under the National Mental Health Programme and the specific stigma reduction objectives this section's title reflects, this framework recommends that a future revision of this chapter draw on the Directorate of Health Services' mental health

programme reporting and the National Mental Health Survey's state-level findings, where available for Goa, to address this significant data gap.

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

Goa implements the national Integrated Child Development Services scheme, the Mid-Day Meal programme, and the Poshan Abhiyan nutrition mission consistent with their nationwide design and implementation framework, though this framework was unable to source Goa-specific coverage, beneficiary count, or programme performance data for these three schemes from the sources consulted for this chapter. This represents a significant gap given this chapter's section 6.3 finding regarding Goa's sharply rising childhood stunting rate, since the Integrated Child Development Services and Poshan Abhiyan programmes are the principal state-level delivery mechanisms through which India's nutrition policy response to precisely this kind of stunting trend would normally be channelled.

Given the specific finding in section 6.3 that Goa's stunting increase appears linked to stagnant complementary feeding practices rather than to a broader deterioration in healthcare access, this framework recommends that any strengthening of Goa's nutrition programme response focus specifically on complementary feeding counselling and dietary diversity interventions delivered through the Integrated Child Development Services anganwadi network, rather than on the kind of broader healthcare access expansion that would address a more conventional stunting profile. This framework flags a detailed, Goa-specific review of Integrated Child Development Services anganwadi coverage, staffing and complementary feeding counselling protocols as a priority for a future revision of this chapter.

6.7 Population Stabilisation and Family Planning

Goa's demographic transition, documented extensively in Chapter 1, section 1.3, has already moved well past the population stabilisation threshold that remains a live policy concern in several other Indian states. The state's Total Fertility Rate of 1.3 children per woman as of 2019-21, sharply below the replacement level of approximately 2.1, indicates that population stabilisation in the conventional sense of reducing fertility toward replacement level is not Goa's relevant family planning policy challenge (NITI Aayog, 2025a). Rather, as this framework has noted in Chapter 1, the state's family planning and reproductive health policy challenge is better understood as one of managing the downstream demographic consequences of sub-replacement fertility, namely a rising dependency ratio and an ageing population profile over the medium to long term, alongside the specific and separate concern regarding the state's sharply declining sex ratio at birth, documented in Chapter 1, section 1.3, which reflects sex-selective reproductive behaviour rather than a fertility rate concern per se.

This framework was not able to source Goa-specific data on contraceptive prevalence rates, unmet need for family planning, or the specific mix of family planning methods used within the state from the sources consulted for this chapter, data that would normally support a more granular assessment of reproductive health service delivery. Given the state's demographic profile, this framework recommends that Goa's family planning policy emphasis, and the

corresponding data collection priorities for a future revision of this chapter, focus on addressing the sex ratio at birth decline documented in Chapter 1 through targeted enforcement of the Pre-Conception and Pre-Natal Diagnostic Techniques Act and associated public awareness programming, an issue with more direct bearing on Goa's demographic wellbeing than conventional population stabilisation messaging.

6.8 Health System Strengthening and Future Preparedness

Drawing together this chapter's findings, three priorities emerge for Goa's health system strengthening agenda. First, the specific and well-documented stunting increase identified in section 6.3, occurring against a backdrop of otherwise strong maternal and child health service indicators, warrants a targeted policy response focused on complementary feeding practices and dietary quality, delivered through the Integrated Child Development Services network discussed in section 6.6, rather than a generic scaling up of existing healthcare access programmes that, this chapter's evidence suggests, are not the binding constraint behind the stunting trend.

Second, the substantial data gaps this chapter has identified across health infrastructure capacity, section 6.1, epidemiological disease burden, section 6.2, maternal mortality, section 6.3, and mental health service availability, section 6.5, together point toward a need for more comprehensive, publicly accessible, state-specific health statistics reporting from the Directorate of Health Services, Government of Goa, comparable in scope and regularity to the Economic Survey referenced throughout this framework's fiscal and economic chapters. This framework's Chapter 20 (Statistical System Strengthening and Evidence-Based Policymaking) returns to this recommendation in the broader context of the state's statistical infrastructure.

Third, the Deen Dayal Swasthya Seva Yojana scheme, examined in section 6.4, represents a genuinely distinctive state-level universal health coverage instrument that appears to have achieved substantial population coverage, with over 11 lakh beneficiaries against a state population of approximately 1.6 million, and this framework identifies the scheme's five-year residency eligibility requirement as an area warranting specific policy attention given the state's substantial migrant labour population, documented in Chapter 1, section 1.4, and Chapter 3, section 3.6, much of which would not meet this residency threshold and would therefore fall outside the scheme's protective coverage despite contributing directly to the tourism, construction and fisheries sectors this framework has repeatedly identified as central to Goa's economy. Chapter 21 (State Vision 2047) returns to this migrant health coverage gap as part of its broader treatment of inclusive development priorities for the state's next development phase.

Chapter 7: Social Justice, Inclusion and Community Welfare

7.1 Scheduled Castes: Demographic Profile, Deprivation and Development Programmes

Goa's Scheduled Caste population constitutes a comparatively small share of the state's total population relative to the national pattern. Nationally, Scheduled Castes comprise approximately 16.6 percent of India's population as enumerated in the 2011 Census, with Punjab recording the highest state share at approximately 32 percent (Wikipedia, 2026a). Goa's Scheduled Caste population share, by contrast, is recorded at approximately 1.5 percent of the state's total population in state-wise compiled Census 2011 data, among the lowest Scheduled Caste population shares of any Indian state (Delhi Planning Department, 2026). At the taluka level, this framework's review of available data found Scheduled Castes comprising 1.15 percent of the population of Quepem taluka in South Goa as of the 2011 Census, broadly consistent with this low statewide share (Wikipedia, 2026b).

This framework was unable to source Goa-specific, disaggregated data on Scheduled Caste deprivation indicators, targeted development programme coverage, or scholarship and welfare scheme utilisation from the sources consulted for this chapter, and flags a dedicated review of the Directorate of Social Welfare's Scheduled Caste specific programme documentation as a priority for a future revision, particularly given the comparatively small population base, which this framework notes may itself contribute to Scheduled Caste specific data and programming receiving less dedicated public reporting attention within Goa relative to states with substantially larger Scheduled Caste populations.

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

Goa's Scheduled Tribe demographic profile presents one of the most distinctive findings in this entire framework. According to Census based analysis of Scheduled Tribe population trends, Goa recorded no enumerated tribal population whatsoever in the 2001 Census (Rural India Online, 2013). Following the formal notification of the Gawda, Kunbi and Velip communities as Scheduled Tribes, referenced already in Chapter 1, section 1.4, Goa's enumerated Scheduled Tribe population rose to an estimated 10.2 percent of the state's total population by the 2011 Census, according to state-wise compiled Census data (Delhi Planning Department, 2026; Rural India Online, 2013). Census based analysis groups Goa alongside Himachal Pradesh, Sikkim and Arunachal Pradesh as states recording a Scheduled Tribe population increase exceeding one percentage point between 2001 and 2011, though this framework notes that Goa's shift, from a recorded zero to roughly one tenth of the state's population, represents a substantially larger magnitude of change than a one percentage point increase would suggest, indicating that Goa's case is best understood as administratively distinct from the more incremental increases likely recorded in the other three states within that same grouping (Rural India Online, 2013).

This demographic shift reflects an administrative and legal recognition process, the formal scheduling of previously unrecognised communities as Scheduled Tribes, rather than an actual demographic in-migration or population growth event, and this framework treats it as a

significant illustration of how Census enumerated social category data can shift dramatically due to classification and recognition decisions independent of any underlying change in the resident population itself. As already noted in Chapter 1, section 1.7, Goa's Scheduled Tribe population is concentrated in the interior and Western Ghats facing talukas of Sattari, Sanguem, Canacona and Quepem, with Quepem taluka specifically recording a Scheduled Tribe population share of 31.15 percent as of the 2011 Census, more than three times the statewide average (Wikipedia, 2026b). This taluka level concentration reinforces this framework's Chapter 1 finding regarding a structural coast-hinterland development divide within the state, given that these same interior talukas were identified in Chapter 1, section 1.7, as lagging the coastal talukas on infrastructure density and formal sector investment.

This framework was unable to source detailed, current data on forest rights recognition under the Forest Rights Act for Goa's Scheduled Tribe communities, or on the specific welfare programme architecture serving these communities beyond the general social security schemes discussed in section 7.9, and flags a dedicated review of the Directorate of Tribal Welfare's programme documentation, alongside Forest Rights Act implementation data from the state's Forest Department, as a priority for a future revision of this chapter, particularly given the direct relevance of forest rights recognition to the environmental governance themes this framework's Chapter 13 (Environment and Natural Resource Governance) addresses.

7.3 Other Backward Classes: Identification, Reservation and Social Mobility

This framework was unable to source Goa-specific data on the state's Other Backward Classes population share, the specific communities identified within the state's Other Backward Classes list, or the reservation and welfare programme architecture serving this category from the sources consulted for this chapter. This represents a notable gap given that Other Backward Classes reservation and welfare policy constitutes a significant component of social justice policy in most Indian states, and this framework flags a dedicated review of the Goa State Backward Classes Commission's documentation and the state's own Other Backward Classes list, maintained under the Goa, Daman and Diu Scheduled Castes, Scheduled Tribes and Other Backward Classes framework, as a priority for a future revision of this chapter.

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

Goa's gender equity profile combines genuinely strong indicators on some measures with the specific and serious sex ratio at birth concern already documented extensively in Chapter 1, section 1.3, where NFHS-5 recorded a decline from 966 to 838 females per 1,000 males born between the 2015-16 and 2019-21 survey rounds, the steepest such decline recorded among Indian states in that survey period (PRS India, 2021). This framework does not repeat that analysis in full here but treats it as directly relevant to this chapter's gender equity assessment, given that sex-selective reproductive behaviour is fundamentally a social justice and gender equity concern.

On economic participation, Female Labour Force Participation in Goa stood at 42.3 percent as of 2022-23, above the national average, as already documented in Chapter 1, section 1.3, and Chapter 3, section 3.7 (NITI Aayog, 2025a). Institutionally, the Goa State Commission for Women, a statutory quasi-judicial body constituted in 1993, serves as the state's principal mechanism for investigating complaints relating to crimes against women, studying women-related welfare issues, and recommending measures to improve women's representation across state institutions (Wikipedia, 2026c). At the grassroots level, the state's Panchayat Parishad structure supports Mahila Mandals, registered women's associations organised at the village level under the Societies Registration Act of 1860, which receive government grants to undertake social activities and build awareness for women's participation in Panchayati Raj institutions, with newly registered Mahila Mandals eligible for an initial grant of ₹1,000 in their first year and ₹500 annually thereafter (Village Panchayat Se Old Goa, 2026).

This framework was unable to source Goa-specific data on women's political representation in the state's Panchayati Raj institutions or Legislative Assembly, or on the specific reservation quota applied to women's seats within Goa's panchayat structure, from the sources consulted, though it notes the national policy context of the Ministry of Panchayati Raj's Model Women-Friendly Gram Panchayats initiative, launched around International Women's Day 2025 to promote gender-sensitive grassroots governance nationally, a framework Goa would be expected to implement alongside other states (Plutus IAS, 2025). This framework flags Goa-specific women's political representation data, drawing on the State Election Commission's panchayat and municipal election results, as a priority for a future revision.

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

This framework was unable to source Goa-specific data on cases registered under the Protection of Children from Sexual Offences Act, child labour prevalence, or the state's specific child protection institutional architecture, including the functioning of the state's Child Welfare Committees and Juvenile Justice Boards, from the sources consulted for this chapter. This represents a significant gap given the importance of these indicators to any comprehensive child rights assessment, and this framework flags a dedicated review of the National Crime Records Bureau's state-wise POCSO case data and the Goa State Commission for Protection of Child Rights' annual reporting as a priority for a future revision.

On child nutrition specifically, this framework directs readers to Chapter 6, section 6.3, which documents Goa's notable and counter-intuitive childhood stunting increase, from 20.1 percent in NFHS-4 to 25.8 percent in NFHS-5, alongside the state's comparatively favourable performance on childhood overweight and underweight indicators over the same period (ORF, 2021). This finding, while presented in the health chapter, is equally a child rights and child development concern falling within this chapter's scope, and this framework's recommendation in Chapter 6, section 6.6, that nutrition programming focus specifically on complementary feeding practices rather than broader healthcare access, applies with equal force to this chapter's child development analysis.

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

Goa's principal state-funded income support instrument for elderly residents is the Dayanand Social Security Scheme, launched in 2022, which provides monthly financial assistance to senior citizens, widows, single women, persons with benchmark disabilities, and persons living with HIV or AIDS, reflecting a consolidated approach to social security for several distinct vulnerable populations under a single scheme umbrella (vppiligao, 2024). Sources consulted for this framework present somewhat differing accounts of the scheme's specific monthly pension amounts, with one source describing a monthly pension of ₹2,000 for senior citizens, widows and adult persons with disabilities, and ₹2,500 for a further specified category (Vision Divyang Foundation, 2026), while related documentation on disability specific pension tiers, discussed further in section 7.7, describes a different tier structure. This framework flags this discrepancy for direct verification against the Directorate of Social Welfare, Government of Goa's current scheme notification in a future revision, rather than presenting either figure as definitively authoritative.

Beyond the state-specific Dayanand Social Security Scheme, Goa's elderly residents may also access the national Indira Gandhi National Old Age Pension Scheme, which provides ₹200 per month for beneficiaries aged 60 to 79 and ₹500 per month for beneficiaries aged 80 and above, targeted at households below the poverty line (Goa Institute of Public Administration and Rural Development [GIPARD], 2023). This national scheme is administered through a multi-tier delivery structure in which pension disbursement is implemented at the Gram Panchayat level, applications and eligibility verification are handled at the district level by the Department of Revenue, and overall scheme administration sits with the state's Department of Social Welfare (GIPARD, 2023), an administrative architecture this framework notes as directly relevant to the broader social security delivery system discussed in section 7.9.

Given Goa's demographic trajectory documented in Chapter 1, section 1.3, specifically the state's sub-replacement fertility rate of 1.3 children per woman and its implications for a rising old-age dependency ratio over the coming decades, this framework identifies elderly welfare and care infrastructure as an area of growing, rather than static, policy importance for the state, a theme this framework's Chapter 21 (State Vision 2047) returns to when assessing Goa's long-term demographic planning priorities.

7.7 Persons with Disabilities: Rights, Accessibility and Empowerment

Goa provides disability pension support through a tiered structure linked to both age and degree of disability. According to one source, the state provides a monthly pension of ₹3,500 for persons with 90 percent or greater disability, ₹2,000 for persons aged between 21 and 60 years with a minimum 40 percent disability, and ₹2,500 for persons aged between 1 and 20 years with a minimum 40 percent disability (vppiligao, 2024). As noted in section 7.6, this tiered structure differs somewhat from the flat ₹2,000 monthly pension for adult persons with disabilities described under the Dayanand Social Security Scheme in another source (Vision Divyang Foundation, 2026), a discrepancy this framework attributes to the possibility that these describe distinct, potentially overlapping schemes or successive scheme revisions rather

than a single, internally consistent programme, and flags for direct clarification against current Directorate of Social Welfare documentation.

This framework was unable to source Goa-specific data on physical accessibility infrastructure in public buildings and transport, employment outcomes for persons with disabilities, or the state's implementation status under the Rights of Persons with Disabilities Act 2016, including the appointment and functioning of the State Commissioner for Persons with Disabilities, from the sources consulted for this chapter. Given this framework's Chapter 5, section 5.7 finding of a similar data gap regarding school-level accessibility infrastructure for children with special needs, this framework treats disability inclusion, spanning both the education system and the broader built environment and labour market, as an area where Goa's genuine welfare scheme infrastructure, documented above, is not yet matched by comparably comprehensive public accessibility and outcome data, and recommends this as a priority area for the state's social justice statistical reporting going forward.

7.8 Minority Communities: Development, Representation and Welfare

Goa's religious minority communities, most significantly the Christian population, at 25.10 percent of the state's population as of the 2011 Census, and the Muslim population, at 8.33 percent, documented in Chapter 1, section 1.4, constitute a substantially larger combined population share than in most Indian states, a distinctive feature of Goa's social composition attributable to the state's Portuguese colonial history discussed in that same section (Goa Population 2026, censusofindia.net). Despite this comparatively large minority population share, this framework was unable to source Goa-specific data on minority-targeted welfare scheme coverage, educational scholarship utilisation under central minority scholarship schemes, or minority political and administrative representation within the state from the sources consulted for this chapter.

This framework notes that Goa's Christian population, unlike the Muslim, Sikh, Buddhist, Jain and Parsi communities notified as minorities at the national level, has in the past raised specific questions in Indian minority policy discourse regarding its comparatively strong socio-economic indicators relative to the general national profile of notified minority communities, though this framework does not have Goa-specific data to assess whether Christian residents of Goa specifically experience the kind of socio-economic disadvantage that minority-targeted welfare programming is generally designed to address. This framework flags Goa-specific minority welfare and representation data, drawing on the Directorate of Social Welfare and the State Minorities Commission where such a body exists, as a priority for a future revision of this chapter.

7.9 Social Security and Beneficiary-Linked Welfare Architecture

Drawing together this chapter's findings, Goa's social security architecture is organised around a set of named, beneficiary category specific schemes rather than a single, unified social protection framework. The Dayanand Social Security Scheme, discussed in sections 7.6 and 7.7, consolidates income support for senior citizens, widows, single women, persons

with disabilities and persons living with HIV or AIDS under a common administrative umbrella, while the Deen Dayal Swasthya Seva Yojana, examined in Chapter 6, section 6.4, provides the state's principal health coverage instrument, and the national Indira Gandhi National Old Age Pension Scheme, discussed in section 7.6, continues to operate alongside these state-specific schemes for eligible below poverty line households. A further, more targeted welfare stream operates through the Department of Sainik Welfare for ex-servicemen and their families, providing medical distress grants of ₹5,000 per month for conditions including cancer, tuberculosis, leprosy and kidney ailments, educational scholarships for the wards of ex-servicemen and war widows achieving high marks in Class X examinations, and sports achievement grants, reflecting Goa's specific demographic profile as a state with a notable ex-servicemen population linked to its coastal and naval history (Government of Goa, Department of Social Welfare, 2025).

The administrative delivery architecture underlying these schemes, at least for pension-linked programmes, operates through a three-tier structure in which Gram Panchayats handle on-the-ground implementation and disbursement, the Department of Revenue manages district-level administration, and the Department of Social Welfare holds overall state-level scheme responsibility (GIPARD, 2023), a structure that places significant delivery responsibility on Goa's panchayat system discussed in Chapter 1, section 1.2, and examined further in Chapter 12 (Rural Development and Decentralised Governance).

This chapter's cumulative finding, echoing the pattern already identified in Chapter 5 on education and Chapter 6 on health, is that Goa possesses a genuinely substantive welfare scheme architecture, evidenced by the specific, named programmes documented across sections 7.6 through 7.9, but that the public data available to assess the reach, adequacy and outcomes of this architecture, particularly for Scheduled Castes, Other Backward Classes, children, persons with disabilities and minority communities, remains considerably thinner than the data available for the state's fiscal and economic sectors examined in Chapters 2 through 4. This framework recommends that the Directorate of Social Welfare, Government of Goa, consider publishing a consolidated annual social welfare statistics digest, comparable in structure and rigour to the Economic Survey referenced throughout this framework, to close this documentation gap and support more precise, evidence-based social justice policymaking. Chapter 21 (State Vision 2047) returns to this recommendation as part of its broader treatment of the statistical infrastructure Goa's next development phase will require.

Chapter 8: Transport and Connectivity Infrastructure

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

Goa's National Highway network extends to 299.3 kilometres as of 2024, according to Ministry of Road Transport and Highways data, an increase from 293 kilometres recorded in 2019 and the highest figure recorded in the available series, which shows a low of 262 kilometres in 2016 (CEIC Data, 2024a). This National Highway network forms a comparatively small share of Goa's total road length, which stood at 18,972 kilometres as of 2020, itself an increase from 18,697 kilometres in 2019 (CEIC Data, 2022). Rural roads constitute the largest single component of this network, at 15,910 kilometres as of 2020, though this figure represented a decrease from 16,054 kilometres in 2019, a modest decline this framework was unable to attribute to a specific cause from the sources consulted, whether reclassification of certain roads, data revision, or an actual reduction in maintained rural road length (CEIC Data, 2025).

State owned public bus transport in Goa is operated by the Kadamba Transport Corporation, whose blue and white liveried buses provide intra-state and interstate services connecting Goa to neighbouring towns and cities in Maharashtra and Karnataka, including Mumbai, Pune, Belgaum, Hubli, Bangalore and Mangalore, alongside private operators providing air-conditioned and deluxe interstate services (Maps of India, 2026a). This bus network functions as Goa's primary public transport backbone, examined further in section 8.5 in the context of urban mass transit specifically.

A major interstate road infrastructure project with direct implications for Goa's future connectivity is the Shaktipeeth Expressway, also referred to as the Nagpur-Goa Expressway, a planned 802 to 856 kilometre, six-lane, access-controlled expressway connecting Nagpur in Maharashtra to Patradevi in North Goa district, passing through twelve to thirteen districts of Maharashtra and terminating within Goa's borders (Wikipedia, 2026a, 2026b). The expressway, expected to become operational around 2028-29 and maintained by the Maharashtra State Road Development Corporation, is projected to reduce travel time between Nagpur and Goa from approximately 18 to 20 hours to 7 to 8 hours, and travel distance from 1,110 kilometres to as little as 802 kilometres via the new alignment, representing a substantial long term improvement in Goa's road connectivity to interior Maharashtra and, by extension, central and eastern India (Wikipedia, 2026a). At a more localised level, National Highway 748 connects Panaji to Belgaum in Karnataka via the Anmod Ghat, spanning 71 kilometres within Goa's territory out of a total route length of 153 kilometres, providing a key road linkage to Karnataka relevant to the interstate cooperation and dispute themes discussed in Chapter 4, section 4.8 (Wikipedia, 2026c).

8.2 Railways: Existing Network, Pending Projects and Expansion Proposals

Goa's railway connectivity is provided principally through the Konkan Railway, the joint venture entity discussed in Chapter 4, section 4.8, in which the Government of India and the states of Maharashtra, Goa, Karnataka and Kerala hold shareholding, and which operates the

coastal rail corridor connecting Mumbai in the north to Mangaluru in the south, passing through Goa via stations including Pernem, Thivim, Karmali, Madgaon and Canacona. This railway line represents Goa's principal rail freight and passenger corridor, linking the state to both Mumbai's metropolitan economy and the broader Konkan coastal belt of Maharashtra and Karnataka.

A specific and currently pending railway expansion proposal of direct relevance to this framework's aviation analysis in section 8.3 concerns a planned rail connectivity link between Manohar International Airport at Mopa and the nearby Pernem railway station on the Konkan Railway line, a project reported as under active consideration by Konkan Railway authorities as a means of improving surface access to the state's newer airport (Grokopedia, 2026a). This framework was unable to source a confirmed implementation timeline or funding commitment for this specific rail link from the sources consulted, and flags it as a project to monitor in future revisions given its potential significance for integrating Goa's aviation and rail infrastructure, a multimodal integration theme this chapter returns to in section 8.6.

This framework was unable to source current data on Goa-specific railway passenger volumes, freight tonnage, or planned track doubling or electrification projects within the state from the sources consulted for this chapter, and flags a dedicated review of Konkan Railway Corporation's annual report and the Ministry of Railways' zonal planning documents as a priority for a future revision.

8.3 Aviation: Airport Infrastructure and Air Connectivity

Goa is unusual among Indian states in operating two international airports within a comparatively small territory, a dual airport system that has reshaped the state's aviation landscape since 2023. Dabolim Airport, Goa's original airport, located in South Goa near Vasco da Gama and shared historically between civilian and Indian Navy military operations since its opening in 1955, handled over 7.26 million passengers in the 2024-25 fiscal year according to Airports Authority of India data, ranking among India's ten busiest airports by passenger traffic in 2023-24 (Wikipedia, 2026d). Since the 2023-24 fiscal year, however, Dabolim has recorded a sustained decline in passenger, aircraft movement and cargo traffic, attributable to the opening of Manohar International Airport at Mopa and the associated shift of airline operations toward the newer facility, with one source recording a 17.8 percent year-over-year passenger traffic decline at Dabolim, though this framework notes some ambiguity in the sources consulted regarding the precise period and magnitude of this decline and flags it for direct verification against Airports Authority of India's official traffic bulletins in a future revision (Unisco, 2026; Wikipedia, 2026d).

Manohar International Airport, commonly known as Mopa Airport, opened for commercial operations on 11 December 2022 and became fully operational in early 2023, situated on a 2,133 acre site in Pernem taluka in North Goa, approximately 35 kilometres northeast of Panaji, and developed and operated by GMR Goa International Airport Limited under a public-private partnership arrangement, with a terminal building covering 251,000 square feet (PlotsGoa, 2026). The airport was developed explicitly to relieve congestion at Dabolim,

whose runway had historically been shared between civil and Indian Navy military aviation, constraining civilian flight capacity, and to improve air connectivity specifically for North Goa's beach destinations and the broader Konkan region (PlotsGoa, 2026). According to reporting cited in aggregated airport data sources, Mopa employs 1,727 Goans and is expected to create approximately 4,000 jobs for local residents in Pernem taluka, reflecting the airport's role as an economic driver for what Chapter 1, section 1.7, identified as one of Goa's less developed interior-adjacent talukas (Grokikipedia, 2026a).

The operation of two competing airports within a single small state has generated ongoing policy tension regarding the long-term allocation of civilian flight traffic between the two facilities. In January 2026, Union Defence Minister Rajnath Singh confirmed, following a high-level meeting with Goa Chief Minister Dr. Pramod Sawant, that Dabolim International Airport would remain fully operational for civilian traffic, providing what state media characterised as significant relief to residents and the tourism sector of South Goa amid concerns that civilian flights might be progressively shifted entirely to Mopa (News on Air, 2026). This framework treats this January 2026 assurance as evidence that the dual airport arrangement is expected to persist as a matter of settled government policy for the foreseeable future, rather than representing a transitional phase toward eventual full consolidation at Mopa, though this framework notes that airline commercial routing decisions, rather than government policy alone, will continue to shape the practical distribution of passenger traffic between the two facilities.

8.4 Ports, Inland Waterways and Logistics Hubs

Goa's principal maritime gateway is the Mormugao Port, administered by the Mormugao Port Authority, discussed in Chapter 3, section 3.9, and Chapter 4, section 4.7, in the context of the port's ₹6,160 crore targeted investment pipeline secured through twenty five memoranda of understanding signed at India Maritime Week in October 2025 (IBEF, 2026a). This investment pipeline, alongside the ₹200 crore secured for inland waterways infrastructure development, positions Mormugao Port as Goa's most significant near-term infrastructure growth corridor, as already established in this framework's economic analysis.

Goa's inland waterway network, centred on the Mandovi and Zuari rivers described in Chapter 1, section 1.1, supports both passenger ferry services, examined in section 8.5, and a smaller volume of freight movement historically linked to the iron ore mining sector discussed in Chapter 3, section 3.4, given that river barges have traditionally been used to transport iron ore from inland mining areas to the port and export terminals at Mormugao. As the mining sector's gradual, capped resumption proceeds under the terms described in Chapter 3, this river-based freight logistics chain would be expected to see a corresponding, if constrained, revival, though this framework was unable to source current data on inland waterway freight tonnage to confirm the extent of this revival.

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

Goa does not operate a metro or dedicated Bus Rapid Transit system, reflecting both the state's small urban population base relative to India's metro-operating cities and its dispersed, multi-centric urban settlement pattern, discussed in Chapter 1, section 1.2, in which the political capital, largest city and principal commercial centre are three distinct settlements, Panaji, Vasco da Gama and Margao respectively, rather than a single dominant metropolitan core. Public transport within this dispersed urban system relies principally on the Kadamba Transport Corporation's bus network, discussed in section 8.1, supplemented by private and app-based taxi services.

A distinctive feature of Goa's urban and peri-urban mass transit system is its network of passenger ferries operating across the state's rivers and estuaries. According to the Government of Goa's Economic Survey 2025-26, the state operates a fleet of 32 ferryboats and 2 Ro-Ro, or roll-on roll-off, ferryboats across 18 ferry routes statewide, with two additional Ro-Ro ferry boats commissioned on the Chodan-Ribandara route in July 2025 (DPSE, 2026). The state has introduced a Smart Transit Pass system allowing passengers to transition from paper-based tickets to a modern smart card system, with 8,083 Smart Transit Passes renewed or newly registered during the April to December 2025 period of the 2025-26 fiscal year (DPSE, 2026). Operational responsibility for a subset of this ferry network has been partially privatised, with 11 ferryboats across 9 routes offloaded to the Goa Recruitment and Employment Society for private operation, while the state government has also invested in fixed ferry infrastructure, including the construction of a state-of-the-art iconic terminal building at Panaji Jetty at a cost of ₹48.87 crore (DPSE, 2026).

This ferry network, while modest in scale relative to the road and, increasingly, aviation infrastructure discussed elsewhere in this chapter, plays a distinctive role in Goa's daily mobility given the state's extensive riverine geography described in Chapter 1, section 1.1, providing shorter, more direct crossing routes between riverbank settlements than the equivalent road journey via bridge crossings would require, a function of particular importance for commuters travelling between Panaji and settlements on the northern bank of the Mandovi river.

8.6 Multimodal Logistics: Last-Mile Connectivity and Freight Corridors

This chapter's review of Goa's road, rail, aviation, port, waterway and ferry infrastructure reveals a transport system that is comparatively dense and well resourced relative to the state's small geographic footprint, documented in Chapter 1, section 1.1, but which faces specific, identifiable integration gaps between individual transport modes. The most concrete example of this integration gap identified in this chapter is the pending, but not yet confirmed, rail link between Manohar International Airport and the Pernem railway station discussed in section 8.2, a project that, if implemented, would meaningfully improve multimodal connectivity between Goa's newest and largest aviation gateway and its Konkan Railway freight and passenger corridor, an integration that does not currently exist despite Mopa's status as the state's primary growing aviation asset.

Freight logistics integration between Goa's port, road and rail infrastructure, particularly for the iron ore export trade discussed in Chapter 3, section 3.4, and Chapter 4, section 4.3, and the broader containerised cargo trade the Mormugao Port Authority's expansion pipeline is intended to support, represents a further area where this framework was unable to source detailed, current data on modal split, last-mile freight corridor capacity, or dedicated freight corridor planning specific to Goa, and flags this as a priority area for a future revision, ideally drawing on the Mormugao Port Authority's own master plan documentation and any state logistics policy the Government of Goa may have adopted under the national Logistics Policy framework.

Taken as a whole, this chapter's assessment is that Goa's transport infrastructure investment, evidenced by the substantial and growing capital allocations to roads and bridges and ports documented in Chapter 2, section 2.2, the dual airport system examined in section 8.3, and the ferry network modernisation documented in section 8.5, is proceeding along multiple parallel tracks that would benefit from more explicit multimodal integration planning, a theme this framework's Chapter 21 (State Vision 2047) revisits when assessing the state's long-term infrastructure investment priorities. Chapter 9, which follows, turns to Goa's energy and power sector, itself a critical enabling input for the transport electrification and logistics modernisation this chapter's findings point toward as a natural next phase of the state's connectivity infrastructure development.

Chapter 9: Energy, Power and Renewable Transition

9.1 Power Generation: Installed Capacity, Mix and Dependence Profile

Goa's electricity supply is overwhelmingly sourced from outside the state rather than generated within it, a structural feature of the state's small geographic footprint documented throughout this framework. As of 30 April 2025, the installed capacity allocated to Goa across all generation sources stood at 660.07 megawatts, comprising 559.96 megawatts of thermal capacity, representing 84.83 percent of the total, 41.68 megawatts of nuclear capacity, representing 6.31 percent, and 58.43 megawatts of renewable energy capacity, representing 8.86 percent (Sports Authority of India, 2025, citing Ministry of Power data). This capacity allocation reflects Goa's position as a power-purchasing rather than a power-generating state, with the great majority of its electricity sourced through long-term power purchase agreements with generators located in other states, consistent with the ₹2,644 crore budgeted for 2026-27 specifically for power purchases from NTPC, KPTCL and RSPCL documented in Chapter 2, section 2.2.

For the 2025-26 fiscal year, Goa's Electricity Department has projected a total power purchase requirement of 6,523.71 million units, a figure that anchors the department's transmission and distribution loss projections examined in section 9.2 (The Goan, 2025). This near-total reliance on imported power, a structural feature rather than a temporary shortfall, means that Goa's energy security and cost structure are directly exposed to the generation costs, fuel price volatility and grid conditions of the states and central generating stations from which it purchases power, a vulnerability with direct implications for the fiscal exposure documented in Chapter 2, given that the state's Electricity Department already required annual state government subsidy support of ₹300 to 400 crore in recent years to cover operating losses (The Goan, 2025).

9.2 Transmission and Distribution: Infrastructure, Losses and Reliability

Goa's Electricity Department has historically operated at a loss, a structural condition the department's own business plan, reviewed by The Goan in May 2025, attributes substantially to persistently elevated transmission and distribution losses. For the 2025-26 fiscal year, the department has projected total transmission and distribution losses of 12.2 percent of the power it purchases, comprising 7.95 percent lost on the intra-state grid and a further 4.25 percent lost on the inter-state grid through which power is imported (The Goan, 2025). The department's business plan projects these losses to decline only gradually over the subsequent four years, to 12.06 percent in 2026-27, comprising 7.93 percent intra-state and 4.13 percent inter-state losses, to a combined 7.92 percent intra-state and 4.02 percent inter-state figure in 2027-28, and finally falling below the 12 percent threshold only in 2029-30, the final year of the current five-year planning period, at a projected 11.70 percent combined loss rate (The Goan, 2025).

This framework notes, consistent with The Goan's own analysis, that Goa's transmission and distribution losses have remained stubbornly above 12 percent for an extended period, a level

that meaningfully increases the effective cost of power delivered to end consumers, and that the Electricity Department's current business plan does not address the separate and distinct issue of commercial losses attributable to power theft, focusing instead on technical losses within the transmission and distribution network (The Goan, 2025). The department's stated goal of achieving financial profitability by 2030, eliminating the need for the recurring ₹300 to 400 crore annual state subsidy discussed in section 9.1, is explicitly contingent on this gradual loss reduction trajectory being achieved as planned, a dependency this framework flags as a specific fiscal risk for Chapter 2's broader debt sustainability analysis given that any slippage in the loss reduction timeline would extend the department's dependence on state budgetary support beyond the currently planned 2030 target date.

9.3 Rural and Household Electrification: Coverage and Quality

As already established in Chapter 1, section 1.3, and Chapter 1, section 1.6, Goa has achieved effectively universal household electrification, with NITI Aayog recording electricity access at effectively 100 percent of households as of 2021, a figure that has directly supported the state's exceptionally low multidimensional poverty rate documented in Chapter 1, section 1.6 (NITI Aayog, 2025a). This framework does not repeat that analysis in full here but notes that universal access coverage, while an important achievement, does not by itself capture supply reliability or quality, dimensions this framework was unable to assess in detail given the absence of Goa-specific outage frequency or supply quality data in the sources consulted for this chapter.

The Goa Electricity Department has undertaken a smart metering modernisation initiative, replacing conventional meters with prepaid smart meters across residential and commercial connections under a public awareness campaign branded "IM Smart," intended to improve billing accuracy, reduce commercial losses, and give consumers more direct visibility into and control over their electricity consumption (Electricity Department, Government of Goa, 2026). This framework was unable to source data on the current rollout progress or completion timeline for this smart metering initiative, and flags it as a relevant data point for future revisions given its potential contribution to addressing the transmission and distribution loss challenge documented in section 9.2.

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

Goa's renewable energy deployment, while growing, remains a modest share of the state's overall power supply. As of 30 April 2025, cumulative grid-connected renewable energy capacity installed within Goa stood at 59.63 megawatts, comprising 57.64 megawatts of solar power, 0.05 megawatts of small hydro power, and 1.94 megawatts of bio-power, representing a renewable energy share of 8.86 percent of the state's total installed capacity (Sports Authority of India, 2025). Solar power thus constitutes the overwhelming majority of Goa's renewable capacity, consistent with the state's tropical climate and comparatively limited potential for large-scale wind or hydro generation given the small scale of its river systems, documented in Chapter 1, section 1.1.

Goa's renewable energy policy framework operates through the Goa Energy Development Agency, which implements the Goa State Solar Policy 2017 in coordination with the Joint Electricity Regulatory Commission, the body that jointly regulates the electricity sector for Goa and Union Territories, and which sets requirements for solar power evacuation infrastructure, feasibility assessment, and technical supervision by the Electricity Department for solar developers connecting to the grid (Government of Goa, Goa Energy Development Agency, 2021). Residential rooftop solar deployment has been supported through the national PM Surya Ghar: Muft Bijli Yojana scheme, which subsidises rooftop solar installation for households, with the Goa Electricity Department facilitating residential consumer applications and subsidy disbursement for this national programme within the state (Electricity Department, Government of Goa, 2026). One specific renewable energy initiative documented in this framework's Chapter 3, section 3.9, was the Indian Renewable Energy Development Agency's commissioning, on 4 October 2025, of a 45 kilowatt on-grid solar system at a water-pumping station in North Goa, expected to generate approximately 60,000 units of electricity annually and fully solarise the pumping load at that facility, illustrating the kind of targeted, infrastructure-linked renewable deployment occurring alongside the state's broader grid-connected solar capacity growth.

On Renewable Purchase Obligation compliance, a regulatory mechanism requiring electricity distributors to source a specified minimum share of their power from renewable sources, Goa's Electricity Department achieved 183 percent of its Wind Purchase Obligation, 83 percent of its Hydro Purchase Obligation, and 74 percent of other renewable purchase obligation categories for the 2023-24 fiscal year, for a combined overall Renewable Purchase Obligation achievement of 80 percent (Sports Authority of India, 2025). This mixed compliance picture, substantial over-achievement on the wind obligation alongside under-achievement on hydro and other renewable categories, suggests that Goa's renewable energy procurement, much of it necessarily sourced from generators outside the state given the limited in-state renewable generation capacity documented above, has been able to draw on relatively abundant wind power availability elsewhere in the national grid while facing more binding constraints in sourcing hydro and other renewable power to meet its full regulatory obligation.

9.5 Energy Efficiency, Conservation and Demand-Side Management

This framework was unable to source detailed, Goa-specific data on energy efficiency programme coverage, demand-side management initiatives, or building energy code implementation from the sources consulted for this chapter. The smart metering initiative discussed in section 9.3, while primarily framed as a billing and loss reduction measure, carries an inherent demand-side management dimension insofar as prepaid, granular metering typically supports more responsive consumer electricity usage behaviour than conventional post-paid metering arrangements.

Given the transmission and distribution loss challenge documented in section 9.2 and the Electricity Department's explicit five-year plan to address this challenge, this framework recommends that any comprehensive demand-side management strategy for Goa be

developed and reported alongside the department's existing loss reduction business plan, given the close operational relationship between reducing technical losses in the distribution network and managing overall system demand, and flags a dedicated review of the Bureau of Energy Efficiency's state-level programme implementation data for Goa as a priority for a future revision of this chapter.

9.6 State Electricity Regulatory Framework and Tariff Policy

Goa's electricity sector is regulated by the Joint Electricity Regulatory Commission, a shared regulatory body serving Goa alongside India's Union Territories, distinguishing Goa's regulatory arrangement from the great majority of Indian states, which maintain dedicated, single-state electricity regulatory commissions (Government of Goa, Goa Energy Development Agency, 2021). The Joint Electricity Regulatory Commission's most recent tariff determination, effective from 1 October 2025, approved the true-up for the 2023-24 fiscal year, the Annual Performance Review for 2024-25, and the Aggregate Revenue Requirement and retail tariff determination for the Fourth Multi-Year Tariff Control Period, covering the five-year span from 2025-26 to 2029-30 (Joint Electricity Regulatory Commission, 2025). This five-year Multi-Year Tariff Control Period aligns directly with the Electricity Department's own five-year loss reduction and profitability business plan discussed in section 9.2, providing the formal regulatory framework within which the department's projected transmission and distribution loss trajectory and its target of financial self-sufficiency by 2030 will be assessed and enforced.

This regulatory structure, in which tariff determinations are set for a full five-year control period rather than adjusted annually, provides a degree of revenue predictability for the Electricity Department's planning purposes, but also means that any material deviation from the department's projected loss reduction trajectory, discussed in section 9.2, would not necessarily be corrected through tariff adjustment until the next Multi-Year Tariff Control Period review, reinforcing this framework's assessment that the department's 2030 profitability target carries meaningful execution risk over the intervening years.

Set against the national policy backdrop, India's overall electricity sector has continued to shift toward renewable and non-fossil generation at a pace that provides useful context for Goa's own transition trajectory. As of June 2025, India had achieved 242.8 gigawatts of non-fossil fuel electricity capacity nationally, with over half of the country's total power capacity now sourced from clean energy, meeting the nation's 2030 Paris Agreement non-fossil capacity target five years ahead of schedule, and total installed power generation capacity nationally reached 505,000 megawatts, or 5.05 lakh megawatts, as of October 2025 (News on Air, 2025, 2026). Goa's own renewable energy share of 8.86 percent of installed capacity, documented in section 9.4, sits well below this national non-fossil capacity trajectory, underscoring that the state's renewable transition, while underway through the solar deployment and Renewable Purchase Obligation compliance discussed in section 9.4, has considerable room to accelerate if Goa is to keep pace with the national policy direction its own regulatory framework, through the Joint Electricity Regulatory Commission, is bound to implement. Chapter 14 (Climate Change and Ecological Security) returns to this renewable

transition gap when assessing Goa's broader climate and emissions reduction trajectory, and Chapter 21 (State Vision 2047) considers the pace of renewable capacity growth needed to align Goa's power sector with both the Electricity Department's 2030 financial sustainability target and the state's broader environmental commitments.

Chapter 10: Water, Sanitation and Solid Waste Management

10.1 Drinking Water Supply: Coverage, Quality and Infrastructure

As already established in Chapter 1, section 1.3, and Chapter 1, section 1.6, Goa has achieved near-universal household access to drinking water, with NITI Aayog recording coverage at 98.2 percent of households as of 2021, a figure that has contributed directly to the state's exceptionally strong performance on the National Multidimensional Poverty Index documented in Chapter 1, section 1.6 (NITI Aayog, 2025a). This framework was unable to source more granular, current data on Goa-specific drinking water quality parameters, piped water supply coverage as distinct from broader access measures, or the operational performance of the state's Public Works Department water supply schemes from the sources consulted for this chapter, and flags a dedicated review of the Jal Jeevan Mission's state-specific dashboard data for Goa, which tracks functional household tap connections in particular, as a priority for a future revision.

Given Goa's high urbanisation rate, documented in Chapter 1, section 1.3, and the seasonal surge in water demand associated with the tourism arrivals documented in Chapter 3, section 3.5, this framework notes that Goa's drinking water supply system faces a demand profile considerably more variable across the year than its resident population figures alone would suggest, a consideration relevant to both this section's infrastructure assessment and the broader urban development analysis in Chapter 11.

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

This framework was unable to source current, disaggregated data on Goa's irrigation command area, irrigation efficiency, or water-use productivity in agriculture from the sources consulted for this chapter. Given the primary sector's comparatively modest 6.37 percent share of Gross State Value Added documented in Chapter 3, section 3.1, and section 3.3's finding that agriculture in Goa is increasingly constrained by land conversion pressure from tourism and urban development rather than by water availability specifically, this framework treats irrigation infrastructure investment as a lower relative priority within Goa's overall water resource allocation than in states with a larger and more centrally important agricultural sector, while nonetheless flagging the absence of Goa-specific irrigation data as a gap for a future revision to address using the state's Water Resources Department and Directorate of Agriculture irrigation statistics.

The Mahadayi, or Mandovi, river dispute examined in Chapter 4, section 4.8, carries direct relevance to this section, given that Karnataka's claimed diversion allocation under the 2018 Mahadayi Water Disputes Tribunal award was justified in part by reference to irrigation needs in the Malaprabha basin, while Goa's own position in that dispute has emphasised the state's status as a water-deficient state whose agricultural water supply would be threatened by further upstream diversion. This framework's Chapter 13 (Environment and Natural Resource Governance) returns to the broader water resource security implications of the Mahadayi dispute for Goa's long-term agricultural and ecological water needs.

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

Goa recorded household sanitation access of 87.7 percent as of 2021 according to NITI Aayog data, already referenced in Chapter 1, section 1.6, and Chapter 6, section 6.1 (NITI Aayog, 2025a). This framework was unable to source Goa-specific data confirming the state's formal Open Defecation Free certification status, the date of any such certification, or current post-ODF sustainability monitoring data, including toilet usage rates as distinct from toilet construction or access rates, from the sources consulted for this chapter. Given that Goa's 87.7 percent sanitation access figure, while strong relative to many Indian states, falls short of the 100 percent access threshold that would typically accompany a fully sustained Open Defecation Free status, this framework flags a dedicated review of the Swachh Bharat Mission Gramin dashboard's Goa-specific sanitation and post-ODF sustainability data as a priority for a future revision, to clarify whether the remaining gap to universal sanitation access reflects households without any toilet facility, households with non-functional facilities, or a residual behavioural gap between toilet access and consistent usage.

10.4 Solid Waste Management: Municipal, Biomedical and Hazardous Waste

Solid waste management represents one of the most operationally significant and publicly visible infrastructure challenges documented anywhere in this framework, a direct consequence of Goa's tourism-driven economy generating waste volumes far exceeding what the state's resident population alone would produce. Contemporaneous reporting on Goa's waste management system has noted that the state, with a resident population of approximately 1.5 million, hosts on the order of six million tourist visits annually, a ratio that has historically resulted in the state generating over 1,000 tonnes of municipal solid waste per day, placing acute strain on coastal villages and municipalities (Civil Society Magazine, 2026).

Goa's principal solid waste treatment response has been anchored by the Solid Waste Management Facility at Saligao, in Bardez taluka, North Goa, inaugurated on 30 May 2016 on a brownfield site that had previously served as an abandoned quarry and subsequently an uncontrolled waste dumping ground for over 25 years (Goa Waste Management Corporation [GWMC], 2021). The facility was developed on a Design, Finance, Build, Operate and Transfer basis at a project cost of ₹145.95 crore, with the Department of Science, Technology and Waste Management serving as nodal department, the Goa State Infrastructure Development Corporation as managing associate during the tendering process, and the special purpose vehicle Hindustan Waste Treatment Private Limited, financed on a 75:25 debt-equity basis, responsible for construction and a ten-year operation and maintenance period (GWMC, 2021). Originally designed to process 100 tonnes of waste per day, the facility's capacity was subsequently expanded to 250 tonnes per day, and as of February 2024 had processed a cumulative 4.1 lakh tonnes of solid waste since inception, treating an average of 240 to 260 tonnes daily and serving 27 local bodies across the coastal belt of North Goa (The Goan, 2024). Beyond waste processing, the facility generates approximately 25,000 units of electricity daily, of which 14,000 units are exported to the state electricity grid discussed in Chapter 9, alongside 8 tonnes per day of compost from the organic waste

fraction and recovery of approximately 25 percent of recyclable material from the daily waste stream (The Goan, 2024).

The Goa Waste Management Corporation has since replicated this model with a second facility, the Manohar Parrikar Integrated Solid Waste Management Facility at Cacora in South Goa, a 100 tonnes per day facility employing similar biomethanation, composting, recycling and sorting technology, serving both rural and urban populations across Quepem, Sanguem, Dharbandora and Canacona talukas, covering approximately 30 village panchayats, and overseen by an expert committee that has included a former Bhabha Atomic Research Centre scientist alongside contributors from the National Environmental Engineering Research Institute, the Indian Institute of Technology Bombay, and the Birla Institute of Technology and Science, Pilani (Down To Earth, 2026). Further facilities are in development, including a planned 250 tonnes per day integrated common municipal waste management facility at Verna Industrial Estate and a planned 100 tonnes per day facility at Bainguinim in Tiswadi taluka intended to serve Goa's central zone (GWMC, 2026).

Despite this infrastructure expansion, Goa's solid waste management system has faced persistent and, at times, acute governance and community relations challenges. Historical reporting has documented direct political conflict over waste transport, including an episode in which a local elected representative's supporters physically blocked garbage trucks from reaching the Saligao facility, prompting the Mayor of the Corporation of the City of Panaji to publicly appeal for an end to "playing politics with garbage," while residents of Saligao and surrounding villages have separately opposed proposed expansion of the treatment plant, citing adverse health impacts from plant mismanagement (Deccan Herald, 2026). This tension has continued into the most recent period covered by this framework, with the Saligao MLA convening a new monitoring committee in October 2025, following repeated resident complaints about unauthorised sewage tanker discharge contaminating nearby water bodies, resulting in a decision to install a boom barrier and CCTV surveillance at the facility's main gate to prevent unauthorised waste disposal (O Herald, 2025). This framework treats this recurring pattern, genuine, technologically sophisticated waste processing infrastructure operating alongside persistent local governance and community trust challenges, as illustrative of a broader theme in Goa's environmental infrastructure delivery that this framework's Chapter 13 (Environment and Natural Resource Governance) and Chapter 14 (Climate Change and Ecological Security) examine further in the context of the state's coastal and water body pollution more generally.

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

This framework's review of Goa's dedicated sewerage and liquid waste treatment infrastructure, as distinct from the solid waste facilities examined in section 10.4, is constrained by limited disaggregated data in the sources consulted. The October 2025 Saligao facility governance episode discussed in section 10.4, involving unauthorised sewage tanker discharge at what is nominally a solid waste treatment facility, points toward a degree of functional overlap or, at minimum, co-location pressure between solid and liquid waste management infrastructure in North Goa's coastal belt, an area this framework flags as

warranting more precise clarification in a future revision, ideally through direct reference to the Sewerage and Infrastructural Development Corporation of Goa's own treatment capacity and coverage data.

As already noted in Chapter 2, section 2.5, and Chapter 4, section 4.6, the Sewerage and Infrastructural Development Corporation of Goa Limited is the state's principal public sector entity responsible for sewerage infrastructure development, and was identified in the Comptroller and Auditor General's 2025 compliance audit as having raised ₹101 crore in off-budget borrowings not reflected in the state's official finance accounts as of 2023-24 (Comptroller and Auditor General of India, 2025, as cited in PRS Legislative Research, 2026). This framework was unable to source data on this corporation's current sewerage treatment capacity, network coverage across Goa's urban and peri-urban areas, or its specific capital project pipeline from the sources consulted for this chapter, and flags a comprehensive review of the corporation's operational and financial performance, extending beyond the borrowing transparency concern already documented in Chapter 2, as a priority for a future revision of this chapter.

Given this framework's Chapter 11 (Urban Development, Housing and Smart Cities) forthcoming treatment of Goa's urban local body finances and the state's high and rising urbanisation rate documented in Chapter 1, section 1.3, this framework recommends that sewerage and liquid waste treatment capacity expansion be assessed jointly with the state's broader urban infrastructure investment priorities, given the direct relationship between inadequate sewerage treatment capacity and the coastal and riverine water quality concerns already flagged in this chapter's discussion of solid waste management, and given further relevance to the tourism sector's fundamental dependence on clean coastal and estuarine waters, documented throughout Chapter 3.

Taken as a whole, this chapter's review of Goa's water, sanitation and solid waste sector finds a state with strong access-level coverage statistics for drinking water and sanitation, and genuinely innovative, technologically sophisticated solid waste treatment infrastructure at Saligao and Cacora, operating within a governance environment marked by recurring community tension, political conflict over waste transport, and a waste generation burden driven overwhelmingly by tourism volumes that dwarf the resident population, a burden this framework's Chapter 19 (Tourism, Culture and Creative Economy) must be read as directly implicated in when assessing the sustainability of Goa's tourism-dependent growth model documented throughout this framework.

Chapter 11: Urban Development, Housing and Smart Cities

11.1 Urbanisation Trends and Urban Governance Architecture

Goa's urbanisation trajectory has already been documented in detail in Chapter 1, section 1.3, which recorded urban population at 62.17 percent as of the 2011 Census, rising to an estimated 75.8 percent under NITI Aayog's 2023 projections, among the highest urbanisation rates recorded for any Indian state (NITI Aayog, 2025a). This framework does not repeat that demographic analysis in full here but notes its direct relevance to this chapter's assessment of urban governance capacity, given that a state urbanising this rapidly places sustained pressure on municipal institutions to expand service delivery capacity at a pace matching population growth.

Goa's urban governance architecture, established in Chapter 1, section 1.2, operates through the Corporation of the City of Panaji and a network of municipal councils covering the state's principal towns, including Margao, Mapusa, Vasco da Gama and Mormugao, within a broader framework of 44 towns, of which 14 hold formal municipal status (Area of Goa, 2026, as cited in Chapter 1). This framework's Chapter 1, section 1.2, analysis of Goa's distributed urban system, in which the political capital, largest city and principal commercial centre occupy three distinct settlements, Panaji, Vasco da Gama and Margao respectively, carries direct implications for this chapter's urban development analysis, since it means that Goa's urban infrastructure investment, including the Smart Cities Mission investment examined in section 11.4, cannot be concentrated in a single dominant urban centre but must instead be coordinated across this more dispersed municipal geography.

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

This framework was unable to source consolidated, current financial data on the revenue, expenditure and own-source revenue capacity of Goa's individual urban local bodies from the sources consulted for this chapter. What can be drawn from Chapter 2, section 2.6, is that the Sixteenth Finance Commission has recommended ₹726 crore for urban local bodies in Goa over the 2026-31 award period, alongside a shift in the broader composition of Finance Commission grants toward local-body-linked channels and away from the more discretionary revenue deficit, sector-specific and state-specific grant categories available under the Fifteenth Finance Commission (PRS Legislative Research, 2026). This shift, already flagged in Chapter 2, section 2.9, as placing a greater premium on Goa's capacity to access and execute capital-linked central transfers, applies directly to the state's urban local bodies, whose financial health over the coming award period will depend substantially on their capacity to absorb this reoriented grant architecture.

This framework flags a dedicated review of Goa's urban local body own-source revenue performance, property tax collection efficiency, and municipal service delivery benchmarks, ideally drawing on the Ministry of Housing and Urban Affairs' municipal performance index where Goa's urban local bodies are separately assessed, as a priority for a future revision of

this chapter, given the centrality of urban local body financial health to the state's broader urban infrastructure investment capacity.

11.3 Housing: Demand Assessment, Affordability and Flagship Schemes

Goa's housing sector operates under the national Pradhan Mantri Awas Yojana-Urban framework, with the state government having been specifically advised by the Union Minister for Housing and Urban Affairs, during a May 2025 review meeting with Chief Minister Dr. Pramod Sawant, to intensify citizen outreach and awareness regarding the benefits available under the newly launched Pradhan Mantri Awas Yojana-Urban 2.0 (Indian PSU, 2025). This framework was unable to source Goa-specific data on housing demand assessment, the scale of the state's affordable housing shortfall, or Pradhan Mantri Awas Yojana-Urban beneficiary numbers within Goa from the sources consulted for this chapter, a significant gap given the direct relevance of housing affordability to the state's exceptionally active real estate market, already noted in Chapter 2, section 2.1, as a major driver of stamp duty and registration revenue, and in Chapter 3, section 3.8, in the context of housing cost inflation.

The tension this framework has repeatedly identified between Goa's high aggregate per capita income, documented in Chapter 3, section 3.2, and its internal coast-hinterland economic divide, documented in Chapter 1, section 1.7, is likely to manifest with particular sharpness in the housing sector, given that a real estate market driven substantially by tourism-linked investment demand and, per Chapter 1, section 1.4, by the property purchasing power of the state's international diaspora, would be expected to place affordability pressure on resident Goan households seeking housing in the same coastal talukas where this demand is concentrated. This framework was unable to quantify this dynamic with Goa-specific data but flags it as a priority hypothesis for a future revision's housing affordability analysis to test directly against Directorate of Higher Education and Census housing stock data.

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

Panaji holds particular symbolic and substantive significance within India's Smart Cities Mission, having hosted the national launch event for the Atal Mission for Rejuvenation and Urban Transformation, the Smart Cities Mission, and the Housing for All Urban initiative on 25 June 2015, and having subsequently been selected as one of the mission's initial cohort of cities under the Fast Track Selection Process (TERI, 2026; Prime Minister of India, 2015). The Government of Goa has designated Imagine Panaji Smart City Development Limited, a wholly state-owned government company, as the special purpose vehicle responsible for implementing Smart Cities Mission projects in Panaji, while also serving as the State Mission Directorate for AMRUT and the State Level Nodal Agency and State Mission Management Unit for the Smart Cities Mission more broadly (Imagine Panaji Smart City Development Limited [IPSCDL], 2026). Panaji's Smart City proposal, developed with technical assistance from ICLEI South Asia through an extensive citizen consultation process, identified a two square kilometre city core reflecting the city's heritage and Indo-Portuguese cultural character, discussed further in section 11.5, for area-based retrofitting through a set of

thematic interventions centred on smart and sustainable infrastructure (ICLEI South Asia, 2026).

Implementation of these urban missions has continued to receive high-level central government attention into 2025 and 2026. In May 2025, Union Minister for Housing and Urban Affairs and Power Manohar Lal Khattar reviewed the state's progress on AMRUT and AMRUT 2.0, the Smart Cities Mission, Swachh Bharat Mission-Urban and its second phase, the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission, and the PM Street Vendor's AtmaNirbhar Nidhi scheme, alongside Chief Minister Dr. Pramod Sawant and state Urban Development Minister Vishwajit Rane (Indian PSU, 2025). At this meeting, the Chief Minister requested special central assistance for a 24-hour, seven-day "Drink from Tap" water supply project estimated at ₹652.61 crore, alongside a further special financial assistance request of ₹326.30 crore, underscoring the scale of capital investment the state considers necessary to complete its urban water infrastructure modernisation (Indian PSU, 2025). The Union Minister, in turn, directed the state to complete pending water and sewer connection works under AMRUT, expedite tendering for community, public and aspirational toilets and solid waste management and sewage treatment plant co-treatment facilities under the Swachh Bharat Mission, and improve citizen awareness of Pradhan Mantri Awas Yojana-Urban 2.0 benefits (Indian PSU, 2025).

This oversight continued into June 2026, when a Parliamentary panel visited Goa specifically to assess progress on AMRUT, Swachh Bharat Mission-Urban, Pradhan Mantri Awas Yojana-Urban, the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission and PM SVANidhi, conducting site visits to Smart City Mission projects in and around Panaji covering sustainable infrastructure, digitised citizen service platforms, innovative waste management systems, connecting directly to this framework's Chapter 10, section 10.4 discussion of the Saligao and Cacora facilities, and enhanced public spaces (The Goan, 2026). This framework treats the sustained frequency of these high-level central government review missions, occurring within just over a year of each other, as evidence that Goa's urban mission implementation remains an active, closely monitored priority rather than a completed or dormant programme, though it also notes that the Union Minister's specific directive to complete "pending works" under both AMRUT and the Swachh Bharat Mission indicates that implementation, as of mid-2025, had not yet been fully completed, a status this framework flags for direct follow-up against the Ministry of Housing and Urban Affairs' project-level completion dashboards in a future revision.

11.5 Heritage Cities, Cultural Landscapes and Urban Tourism

Goa's most significant heritage urban landscape is Old Goa, the former Portuguese colonial capital, whose ensemble of churches and convents, including the Basilica of Bom Jesus and the Se Cathedral referenced in Chapter 1, section 1.4, holds UNESCO World Heritage status. Panaji itself, the current state capital, retains substantial Indo-Portuguese urban heritage in its historic Fontainhas and Sao Tome quarters, a heritage character that the city's own Smart City proposal explicitly identified as a defining feature of the two square kilometre city core selected for area-based development, discussed in section 11.4 (ICLEI South Asia, 2026).

This heritage urban landscape functions simultaneously as a cultural asset and as a significant driver of the urban tourism dimension discussed in Chapter 3, section 3.5, and examined further in Chapter 19 (Tourism, Culture and Creative Economy), given that heritage and cultural tourism within Panaji and Old Goa constitutes a distinct visitor segment from the coastal beach tourism concentrated in Bardez and Salcete talukas. This framework was unable to source specific data on heritage conservation investment, built heritage inventory completeness, or heritage tourism visitor numbers disaggregated from Goa's overall tourism arrivals figures, discussed in Chapter 3, section 3.5, and flags a dedicated review of the Goa Heritage Action Group's advocacy documentation and the Directorate of Archives and Archaeology's conservation programme data as a priority for a future revision of this section.

11.6 Urban Poverty, Slum Rehabilitation and In-Situ Upgradation

This framework was unable to source Goa-specific data on urban poverty incidence, informal settlement extent, or slum rehabilitation and in-situ upgradation programme coverage from the sources consulted for this chapter. Given Chapter 1, section 1.6's broader finding that Goa's overall multidimensional poverty rate is among the lowest of any Indian state, at under 1 percent as of the 2019-21 survey round, this framework would expect urban poverty specifically to represent a comparatively small, though not necessarily negligible, share of the state's social welfare policy burden relative to states with larger and more entrenched urban informal settlements.

At the same time, this framework's Chapter 3, section 3.6, discussion of Goa's substantial interstate migrant labour population, much of it concentrated in construction and tourism support roles within the state's urban and peri-urban areas, and Chapter 1, section 1.6's caution regarding the potential under-enumeration of this migrant population in *de jure* household surveys, together suggest that any urban poverty assessment for Goa should specifically examine migrant worker housing conditions, which may not be adequately captured by resident-focused urban poverty and slum rehabilitation data even where such data exists. This framework flags a dedicated, migrant-inclusive urban housing conditions assessment as a priority for a future revision of this section, extending beyond the conventional slum rehabilitation and in-situ upgradation programme data that would typically anchor this kind of analysis in a state with a larger resident urban poor population.

Taken as a whole, this chapter's review of Goa's urban development sector finds a state with genuine national profile and sustained central government engagement in its flagship urban missions, evidenced by Panaji's symbolic role as the Smart Cities Mission launch site and the frequent high-level review visits documented in section 11.4, operating within an urban governance and housing data environment considerably less thoroughly documented in public sources than the state's fiscal and economic sectors examined in earlier chapters. Chapter 12, which follows, turns to Goa's rural development and decentralised governance architecture, the complementary institutional structure serving the roughly one quarter of the state's population, and the larger share of its interior talukas, that fall outside the urban local body system examined in this chapter.

Chapter 12: Rural Development and Decentralised Governance

12.1 Panchayati Raj Institutions: Structure, Devolution and Capacity

Goa's Panchayati Raj structure, established in Chapter 1, section 1.2, comprises 192 elected village panchayats, 122 in North Goa district and 70 in South Goa district, each headed by an elected Sarpanch and supported by elected Panch members, operating under the Goa Panchayat Raj Act (Goa PCS Exam Notes, 2017, as cited in Chapter 1). Twelve community development blocks, each overseen by a Block Development Officer, provide the intermediate administrative tier between the state's taluka level revenue administration and the village panchayat level, coordinating rural development programme implementation across the state's two districts (Goa PCS Exam Notes, 2017).

As documented in Chapter 7, section 7.4, and Chapter 7, section 7.9, Goa's panchayat system carries direct responsibility for social welfare scheme delivery, including the disbursement tier of the national Indira Gandhi National Old Age Pension Scheme and the state's own Dayanand Social Security Scheme, and supports grassroots women's participation through registered Mahila Mandals eligible for modest annual grants under the Panchayat Parishad structure (Village Panchayat Se Old Goa, 2026, as cited in Chapter 7). This framework was unable to source Goa-specific data on the fiscal devolution actually reaching panchayats, meaning the share of rural development and welfare scheme funds that pass through panchayat-controlled budgets as opposed to being administered directly by state line departments, nor on panchayat administrative capacity indicators such as staffing levels or training coverage, from the sources consulted for this chapter. Given the significant administrative responsibility already documented as resting with Goa's panchayats across the social welfare and rural development schemes examined throughout this framework, this framework flags a dedicated fiscal devolution and capacity assessment for Goa's Panchayati Raj institutions, ideally drawing on the state's own Devolution Index submission to the Ministry of Panchayati Raj, as a priority for a future revision.

12.2 MGNREGA: Coverage, Wage Trends and Livelihood Outcomes

The Mahatma Gandhi National Rural Employment Guarantee Act operates in Goa as in all other Indian states, providing a legal guarantee of one hundred days of unskilled manual work per rural household per year at a state-notified minimum wage. This framework was unable to source Goa-specific data on the number of job cards issued, households demanding and receiving employment, average days of employment provided per household, wage payment timeliness, or the specific works undertaken under the scheme within Goa, from the sources consulted for this chapter, which yielded principally national-level Ministry of Rural Development reporting rather than Goa-disaggregated figures.

Given Goa's comparatively small rural population, its high per capita income documented in Chapter 3, section 3.2, and its labour market characterised in Chapter 3, section 3.7, by comparatively strong Female Labour Force Participation alongside above-average unemployment, this framework would expect the scheme's role in Goa to differ meaningfully

from its role in states with larger, more acutely underemployed rural populations, potentially functioning more as a targeted safety net for specific vulnerable rural households, including those in the state's less developed interior talukas identified in Chapter 1, section 1.7, than as a mass rural employment programme of the scale seen in larger agrarian states. This framework flags Goa-specific MGNREGA dashboard data, available through the Ministry of Rural Development's National Mobile Monitoring System and public MGNREGA dashboard, as a priority data source for a future revision to test this hypothesis directly.

12.3 Rural Housing: PMAY-Gramin and State Schemes

The Pradhan Mantri Awaas Yojana-Gramin, the national rural housing scheme, had sanctioned 3.22 crore houses nationally by 30 December 2024, with 2.68 crore completed, against a cumulative national target of 4.95 crore units extended through 2029 (Grokikipedia, 2026a). This framework was unable to source Goa-specific sanction or completion figures under this scheme from the sources consulted for this chapter. As of late 2025, the scheme's implementing ministry had extended timelines for an ongoing "Awaas Plus 2024" survey process, intended to identify additional eligible rural households not previously captured in earlier permanent waitlist enumeration, across multiple states, though this framework was unable to confirm whether Goa was among the states granted such an extension (Ministry of Rural Development, 2025).

Given Goa's comparatively strong housing stock quality relative to many Indian states, implied by the state's high per capita income and near-universal access to drinking water, sanitation and electricity documented in Chapter 1, section 1.6, this framework would expect rural housing need in Goa to be more narrowly targeted toward specific vulnerable households, including those in the interior talukas with lower per capita infrastructure density identified in Chapter 1, section 1.7, than representing a broad-based rural housing deficit. This framework flags a dedicated review of the PMAY-Gramin dashboard's Goa-specific sanction and completion data as a priority for a future revision.

12.4 Livelihood Promotion: SHGs, Cooperatives and Rural Enterprise

The Deendayal Antyodaya Yojana-National Rural Livelihoods Mission, the national programme for organising rural women into self-help groups and supporting sustainable income generation, had mobilised 10.05 crore rural women nationally into 90.87 lakh self-help groups by November 2024, contributing to 1.15 crore women nationally, described under the programme's "Lakhpati Didi" initiative, achieving annual household incomes exceeding ₹1 lakh through enterprise promotion and financial inclusion (Grokikipedia, 2026a). This framework was unable to source Goa-specific self-help group enrolment, savings mobilisation, or Lakhpati Didi achievement data from the sources consulted for this chapter.

Chapter 7, section 7.4, has already documented Goa's network of village-level Mahila Mandals, registered women's associations distinct from, though potentially complementary to, the National Rural Livelihoods Mission's self-help group architecture, and this framework notes that a comprehensive assessment of women's rural livelihood promotion in Goa would

need to examine both institutional channels together rather than in isolation. This framework flags a dedicated review of the state's implementation of the National Rural Livelihoods Mission, drawing on the Goa State Rural Livelihoods Mission's own programme data where such a state mission society exists, as a priority for a future revision, particularly given this framework's Chapter 3, section 3.7, finding regarding Goa's comparatively strong Female Labour Force Participation, a labour market characteristic that self-help group linked livelihood promotion could plausibly be reinforcing, though this framework cannot confirm this relationship without Goa-specific programme data.

12.5 Rural Infrastructure: PMGSY, Connectivity and Market Linkages

The Pradhan Mantri Gram Sadak Yojana, the national rural roads connectivity programme, has historically operated to connect unconnected rural habitations with all-weather roads, though this framework notes that Goa's road network, documented in Chapter 8, section 8.1, at 18,972 kilometres of total road length as of 2020, of which 15,910 kilometres are classified as rural roads, already represents a comparatively dense rural road network relative to the state's small geographic area of 3,702 square kilometres established in Chapter 1, section 1.1 (CEIC Data, 2022, 2025, as cited in Chapter 8). This existing rural road density suggests that Goa's Pradhan Mantri Gram Sadak Yojana implementation priority is more likely to centre on road quality upgrading, all-weather resilience and market linkage improvement for already-connected habitations than on connecting a substantial residual population of unconnected rural habitations, a pattern consistent with the scheme's own national evolution toward road quality and rural connectivity upgrading phases in states that have largely completed basic habitation connectivity.

This framework was unable to source Goa-specific data on Pradhan Mantri Gram Sadak Yojana habitation connectivity status, road quality upgrading targets, or rural market linkage infrastructure investment from the sources consulted for this chapter, and flags a dedicated review of the scheme's Goa-specific dashboard data as a priority for a future revision, particularly to confirm whether the state's interior talukas, identified in Chapter 1, section 1.7, as lagging on infrastructure density more broadly, show a correspondingly greater rural road quality and connectivity gap than the state's overall road density statistics would suggest.

12.6 Community-Based Development Institutions and Participatory Planning

Goa's Gram Panchayat Development Plan process, the mechanism through which village panchayats prepare integrated, participatory development plans incorporating entitlement demands for schemes including the Mahatma Gandhi National Rural Employment Guarantee Act, the Swachh Bharat Mission, the National Social Assistance Programme and the Pradhan Mantri Awaas Yojana, alongside livelihood, infrastructure, natural resource and social development priorities identified through village-level consultation, operates within the same national framework applied across all Indian states (Ministry of Rural Development, 2023). This framework was unable to source Goa-specific data on Gram Panchayat Development Plan preparation quality, self-help group involvement in village poverty reduction planning,

or the extent to which these bottom-up plans have translated into actual resource allocation within Goa's panchayats, from the sources consulted for this chapter.

Given this chapter's cumulative finding, that Goa's rural development programme implementation is thinly documented in Goa-specific public data across virtually every scheme examined, from the Mahatma Gandhi National Rural Employment Guarantee Act in section 12.2 through community-based participatory planning in this section, this framework recommends that the Directorate of Panchayats, Government of Goa, consider publishing a consolidated, annual rural development statistics digest, following the same recommendation this framework has already made in Chapter 5 for education statistics, Chapter 6 for health statistics, and Chapter 7 for social welfare statistics. This recurring data gap across multiple chapters of this framework points toward a broader, systemic weakness in Goa's decentralised, scheme-level public data disclosure, a theme this framework's Chapter 20 (Statistical System Strengthening and Evidence-Based Policymaking) addresses as a cross-cutting priority rather than a chapter-specific concern.

Notwithstanding these data limitations, this chapter's structural analysis reinforces a conclusion already anticipated in Chapter 1, section 1.7: Goa's rural development challenge is best understood not as a broad-based rural poverty or connectivity deficit, given the state's strong aggregate infrastructure and welfare indicators documented throughout this framework, but as a more geographically concentrated challenge specific to the interior, hinterland talukas that have consistently emerged across this framework's chapters, from Scheduled Tribe concentration in Chapter 7, to mining-linked economic disruption in Chapter 3, to lower infrastructure density in Chapter 1 itself, as the areas of Goa most distant from the coastal, tourism-driven prosperity that defines the state's aggregate development profile. Chapter 13, which follows, turns to the environmental and natural resource governance challenges that are especially acute in these same interior, forest-proximate talukas, extending this framework's coast-hinterland analysis into the domain of ecological management.

Chapter 13: Environment and Natural Resource Governance

13.1 Forest Cover, Biodiversity and Wildlife Conservation

Goa maintains a notably high forest cover relative to its small geographic area, recorded at 60.62 percent of the state's total geographical area according to compiled analysis of the India State of Forest Report 2023, placing Goa among only nineteen Indian states and union territories that exceed the 33 percent forest cover threshold recommended under the National Forest Policy for optimal ecological coverage (Grokikipedia, 2026a, drawing on Forest Survey of India, 2023). This forest cover is concentrated substantially within the Western Ghats facing interior talukas identified throughout this framework, Sattari, Sanguem, Canacona and Dharbandora, discussed most recently in Chapter 12's rural development analysis, and includes the Bhagwan Mahavir Wildlife Sanctuary and Mollem National Park referenced in Chapter 1, section 1.1.

Goa's Western Ghats forest falls within the nationally designated Western Ghats Eco-Sensitive Area, a zone covering 60,285.61 square kilometres across the six Western Ghats states, within which forest cover across constituent districts stood at 73 percent as of the India State of Forest Report 2023, though this same eco-sensitive zone recorded a cumulative loss of 58.22 square kilometres of forest cover over the preceding decade nationally (PMFIAS, 2026; Shankar IAS Parliament, 2026). This framework was unable to source Goa-specific forest cover change data disaggregated from this broader six-state Western Ghats figure, and flags a dedicated review of the India State of Forest Report's Goa-specific state and district chapter, published in the report's Volume II, as a priority for a future revision to establish whether Goa's own Western Ghats forest tracts have followed the same loss trajectory recorded for the eco-sensitive zone as a whole, or have instead tracked the more favourable overall Goa forest cover figure cited above.

13.2 Land Use Change, Soil Degradation and Land Resource Management

This framework's Chapter 1, section 1.7, and Chapter 11, section 11.3, have already documented the land use pressure arising from competition between Goa's tourism, real estate and residential development activity and its remaining agricultural land, particularly in the coastal talukas of Bardez, Salcete, Tiswadi and Mormugao, and Chapter 3, section 3.3, has noted that agricultural land conversion, rather than water scarcity, appears to be the primary constraint on Goa's rice cultivation and broader primary sector performance. This framework was unable to source current, quantified data on the pace of agricultural-to-non-agricultural land use conversion within Goa, or on soil degradation indicators specific to the state, from the sources consulted for this chapter, and flags a dedicated review of the Goa Directorate of Agriculture's land use statistics and the Town and Country Planning Department's Regional Plan land use change data as a priority for a future revision.

Goa's laterite plateau terrain, described in Chapter 1, section 1.1, and Chapter 4, section 4.4, in the context of industrial estate expansion constraints, presents a further land resource management consideration specific to the state, given that this terrain type is both a defining

feature of Goa's physical geography and a documented constraint on industrial and, by extension, broader development land availability. The Goa Industrial Development Corporation's stated finding, discussed in Chapter 4, section 4.4, that flattening hilly industrial estate land is frequently not cost-effective relative to the resulting plot value, illustrates the broader tension between Goa's compact, topographically constrained land base and the state's development ambitions that this chapter's land use analysis inherits from Chapter 4's industrial policy discussion.

13.3 Water Bodies, Wetlands and River Ecosystem Health

Goa's two principal rivers, the Mandovi and the Zuari, described in Chapter 1, section 1.1, and their extensive estuarine and mangrove systems, face the specific pressures already documented in that chapter, namely land reclamation, construction activity and mining-related silt deposition. This framework's Chapter 4, section 4.8, has separately documented the Mahadayi river water dispute, in which Goa has consistently argued before the Mahadayi Water Disputes Tribunal and the Supreme Court of India that the state is itself water deficient and that Karnataka's diversion of Mahadayi tributary water into the Malaprabha basin threatens both agricultural water supply and the ecological health of the Mandovi river system. This chapter treats that dispute as directly relevant to river ecosystem health specifically, given that reduced freshwater inflow to the Mandovi's upper catchment would be expected to affect the salinity balance, sediment transport and estuarine ecology of the river's lower reaches and estuary, an ecological dimension of the dispute this framework notes as distinct from, though related to, the water supply security dimension already examined in Chapter 4.

This framework was unable to source current, quantified data on Goa's wetland extent, wetland conservation status under the Ramsar Convention or national wetland classification systems, or river water quality monitoring data from the Goa State Pollution Control Board, from the sources consulted for this chapter. Given the direct relevance of river and estuarine water quality to both the fisheries sector discussed in Chapter 3, section 3.3, and the tourism sector's dependence on clean coastal and riverine environments discussed in Chapter 3, section 3.5, this framework flags a dedicated water body health assessment, drawing on Goa State Pollution Control Board water quality monitoring data, as a priority for a future revision.

13.4 Mining and Mineral Resource Governance

Goa's iron ore mining sector, examined in detail in Chapter 3, section 3.4, and Chapter 4, section 4.3, represents this framework's most thoroughly documented example of the structural tension between economic activity and environmental governance that this chapter's title reflects. As established in those earlier chapters, the Supreme Court of India suspended mining operations statewide in 2012 following investigation into illegal mining activity, quashed 88 mining leases in 2018, and has since permitted a gradual, litigation-shaped resumption through a structured block auction process, with total iron ore

exports capped at 20 million tonnes per year, well below the sector's historical peak of 50 million tonnes recorded in 2009-10 (Kallanish, 2025, as cited in Chapter 3).

This chapter's environmental governance perspective on this mining history emphasises that the 2012 Supreme Court intervention arose specifically from environmental and regulatory compliance failures, rather than from a purely economic or commercial dispute, underscoring that Goa's mineral resource governance framework, prior to 2012, had proven insufficient to prevent large-scale, environmentally consequential illegal mining activity. The current, more tightly regulated resumption framework, including environmental clearance requirements that, as of Chapter 3, section 3.4's mid-2025 reporting, had left several auctioned blocks still awaiting clearance before becoming operational, represents a structurally more conservative approach to mineral resource governance than the pre-2012 regime, though this framework was unable to source a comprehensive, independent environmental impact assessment of the resumed mining operations to confirm whether this more conservative regulatory framework has in practice prevented the kind of environmental degradation associated with the pre-2012 mining boom.

The Goa Iron Ore Mining Dump Handling Policy, discussed in Chapter 3, section 3.4, permitting e-auction of legacy iron ore dumps left behind prior to the 2012 suspension, carries a distinct environmental governance dimension beyond its revenue generation purpose, given that these unmanaged legacy dumps, described as low-grade stockpiles lying on private land across various locations in the state, themselves represent a source of ongoing environmental risk, including dust generation and runoff contamination of nearby water bodies, that formal auction and managed clearance would be expected to mitigate relative to continued unmanaged storage.

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

This framework's most direct evidence of pollution-related governance challenges in Goa comes from Chapter 10, section 10.4's documentation of the Saligao Solid Waste Management Facility, where residents have raised repeated complaints regarding unauthorised sewage tanker discharge contaminating nearby water bodies, prompting the October 2025 formation of a dedicated monitoring committee with boom barrier and CCTV surveillance measures (O Herald, 2025, as cited in Chapter 10). This episode, alongside the historical community opposition to the facility's expansion on public health grounds documented in that same chapter, illustrates a recurring pattern in Goa's environmental governance in which waste management infrastructure, while technologically sophisticated, has generated localised pollution and community trust challenges that formal facility design alone has not resolved.

This framework was unable to source comprehensive, current air quality, water quality, noise pollution or soil contamination monitoring data from the Goa State Pollution Control Board for this chapter. Given Goa's tourism-driven economy, documented throughout Chapter 3, this framework notes that noise pollution specifically, arising from the state's nightlife, entertainment and beach tourism sector, and air quality pressure from vehicular traffic

concentrated in peak tourist season, discussed in Chapter 8, represent plausible, tourism-linked pollution concerns specific to Goa's development model, though this framework cannot substantiate the current severity of either concern without direct access to Goa State Pollution Control Board monitoring data, and flags this as a priority area for a future revision.

13.6 Coastal and Marine Resource Management

Goa's coastline, extending approximately 105 kilometres as documented in Chapter 1, section 1.1, constitutes the state's single most economically significant natural asset, given the tourism sector's 16.43 percent contribution to GSDP documented in Chapter 3, section 3.5, and its direct dependence on beach and coastal environmental quality. This framework was unable to source current, Goa-specific data on Coastal Regulation Zone notification compliance, beach erosion monitoring, or marine protected area coverage from the sources consulted for this chapter, a significant gap given the centrality of coastal resource management to the state's core economic model.

Goa's marine fisheries sector, discussed in Chapter 3, section 3.3, and the broader estuarine and mangrove ecosystems discussed in section 13.3 above, depend directly on coastal and marine water quality, creating a direct linkage between this chapter's environmental governance analysis and the primary sector livelihoods examined in Chapter 3. This framework recommends that a comprehensive coastal and marine resource management assessment for Goa, drawing on the state's Coastal Zone Management Plan prepared under the Ministry of Environment, Forest and Climate Change's Coastal Regulation Zone Notification framework, be prioritised for a future revision of this chapter, given the direct bearing of coastal resource health on both the tourism and fisheries sectors that together constitute a substantial share of Goa's economic base documented throughout Chapter 3.

Taken as a whole, this chapter's environmental and natural resource governance review reinforces a theme already established across multiple preceding chapters of this framework: Goa possesses a genuinely exceptional natural resource endowment, a forest cover well above national policy targets, a globally significant Western Ghats biodiversity hotspot, and an economically vital coastline and estuarine system, but the state's environmental governance capacity, evidenced by the historical mining sector regulatory failures documented in section 13.4 and the persistent local pollution governance tensions documented in section 13.5, has not always matched the scale of the resource base it is tasked with protecting. Chapter 14, which follows, extends this analysis into the specific domain of climate change vulnerability and disaster risk, examining how these same environmental governance capacities will need to adapt to the additional, compounding pressures of a changing climate.

Chapter 14: Climate Change and Ecological Security

14.1 State Climate Vulnerability and Risk Profile

Goa's fundamental climate vulnerability derives directly from the physical geography established in Chapter 1, section 1.1: a narrow, low-lying coastal belt of fertile lowlands bordered by the Arabian Sea to the west and the Western Ghats escarpment to the east. Academic assessment of Goa's climate risk profile has characterised this natural environment as one that supports rich biodiversity and habitat diversity while simultaneously rendering the state more vulnerable than many comparably sized territories to climate change impacts, specifically flooding, shoreline erosion and irregular rainfall patterns (Evaluating the Goa State Action Plan on Climate Change, 2026). This vulnerability is compounded by Goa's distinctive socio-economic profile, in which millions of annual tourist arrivals, documented in Chapter 3, section 3.5, coexist with traditional agricultural and fishing livelihoods, documented in Chapter 3, section 3.3, that remain economically critical in the state's rural and coastal areas even as they constitute a comparatively small share of aggregate GSDP.

The Government of Goa's State of the Environment Report 2025, drawing on assessments conducted under the Goa State Action Plan on Climate Change, has explicitly stated that climate change is no longer a distant concern for the state, warning that rising temperatures, erratic rainfall and land-use pressures, the latter already documented in Chapter 13, section 13.2, are pushing Goa toward heightened ecological and socio-economic vulnerability, and that the state's future development trajectory hinges on protecting its natural capital, specifically its forests, wetlands and coasts, while simultaneously transitioning toward low-carbon development (Navhind Times, 2026a). Academic evaluation of the state's climate planning has gone further, documenting that some of Goa's coastal communities are already being forced to relocate as a direct consequence of erosion and flooding, a finding this framework treats as evidence that Goa's climate vulnerability has moved beyond a projected future risk and into a present, lived reality for specific coastal populations (Evaluating the Goa State Action Plan on Climate Change, 2026).

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

Goa's current State Action Plan on Climate Change covers the ten-year period from 2023 to 2033 and was developed using explicitly participatory methods, incorporating stakeholder consultation into its preparation process (Evaluating the Goa State Action Plan on Climate Change, 2026). Independent academic evaluation of this plan, published in the journal *Disaster Advances* in February 2026, identifies specific gaps and future directions for the plan's implementation, most notably a monitoring infrastructure gap, recommending that the state expand its climate observation network beyond the existing Mormugao tide gauge to include additional monitoring stations distributed across the state's estuaries and beaches, supplemented by satellite-based remote sensing (Evaluating the Goa State Action Plan on Climate Change, 2026). The same evaluation recommends the establishment of a state-level climate data observatory to serve as a central repository for real-time climate and

socio-economic information, and calls for the development of composite vulnerability indices that integrate ecological, infrastructural and demographic data, explicitly including gender and caste dimensions, an approach that would connect Goa's climate adaptation planning directly to the social justice and inclusion themes examined in Chapter 7 of this framework (Evaluating the Goa State Action Plan on Climate Change, 2026).

This same academic evaluation identifies a further specific gap in the current plan's treatment of social and livelihood dimensions of climate vulnerability, finding that factors such as climate-induced migration, changing livelihood patterns and community vulnerability require further attention within the plan, particularly given the already-documented displacement of some coastal communities due to erosion and flooding (Evaluating the Goa State Action Plan on Climate Change, 2026). The evaluation also finds that the plan's urban adaptation projects, while described as promising, frequently lack specificity and would benefit from stronger integration with land-use planning, housing regulation and building codes, an integration gap that connects directly to this framework's Chapter 11 findings regarding Goa's urban development governance and its Chapter 13, section 13.2, discussion of land use change pressures (Evaluating the Goa State Action Plan on Climate Change, 2026). This framework treats this independent academic assessment as a valuable, critical complement to the state's own more favourably framed State of the Environment Report 2025, and recommends that future revisions of this chapter track the specific implementation status of the monitoring infrastructure, vulnerability indexing and urban land-use integration recommendations this evaluation has identified.

14.3 Disaster Risk Profile: Hazard, Exposure and Vulnerability Mapping

Goa's Directorate of Fire and Emergency Services identifies coastal flooding as a primary hazard facing the state, arising from storm surges or high tide events during cyclones or strong weather systems, a risk explicitly heightened by climate change driven sea level rise, with the towns of Vasco da Gama, Panaji and Margao, three of Goa's principal urban centres discussed in Chapter 1, section 1.2, and Chapter 11, specifically identified as vulnerable to this coastal flooding risk (Directorate of Fire and Emergency Services, Government of Goa, 2025). A second, distinct flooding pathway arises from inadequate urban drainage infrastructure combined with heavy monsoon rainfall, generating localised urban flooding independent of coastal storm surge dynamics (Directorate of Fire and Emergency Services, 2025). A third hazard pathway, specific to Goa's Western Ghats facing interior talukas discussed throughout this framework, links deforestation and soil erosion in the Western Ghats, examined in Chapter 13, section 13.1, directly to increased flooding and landslide risk in the state's hilly terrain during heavy rainfall events (Directorate of Fire and Emergency Services, 2025).

The Goa State Disaster Management Plan, revised in July 2024 under the title "Towards a Disaster Resilient Goa," formalises this hazard assessment through a Multi-Hazard Vulnerability Mapping exercise conducted at the district and taluka level, recording the area affected by multi-hazard vulnerability in each district and its percentage share of that district's total geographic area, alongside taluka-wise vulnerability severity classifications and

dedicated flood-prone and landslide-prone area inventories for North Goa district specifically (Goa State Disaster Management Authority [SDMA], 2024). The plan's hazard taxonomy distinguishes between Category A natural hazards, comprising cyclones, cloudbursts, floods, landslides, biological hazards, heatwaves, tsunamis and earthquakes, and Category B human-induced hazards, comprising fires including forest fires, drowning incidents, and landslides linked to mining activity, the latter connecting directly to this framework's Chapter 13, section 13.4, discussion of Goa's historical mining sector regulatory failures (SDMA, 2024). This framework was unable to source the plan's equivalent flood-prone and landslide-prone area inventory specifically for South Goa district from the sources consulted, and flags direct retrieval of the full State Disaster Management Plan document as a priority for a future revision to complete this district-level hazard picture.

14.4 Disaster Risk Reduction: Institutional Mechanisms and Preparedness

The Goa State Disaster Management Authority serves as the state's principal institutional mechanism for disaster risk reduction, providing real-time flood alerts and evacuation instructions during heavy rainfall events, alongside the India Meteorological Department's parallel role in issuing weather forecasts and flood warnings (Directorate of Fire and Emergency Services, 2025). The Authority's current programme activities, as of the sources consulted for this chapter, include a dedicated Heat Wave Action Plan, reflecting the rising temperature risk documented in section 14.1, and the state's participation in the national Subhash Chandra Bose Aapda Prabandhan Puraskar, a national award recognising excellence in disaster management, for which the Authority was inviting applications as of 2025 (SDMA, 2026).

The Goa State Disaster Management Plan's 2024 revision explicitly incorporates the Prime Minister's Ten Point Agenda for Disaster Risk Reduction, articulated at the Asian Ministerial Conference on Disaster Risk Reduction held in New Delhi in November 2016, alongside the United Nations Sustainable Development Goals and the Paris Agreement adopted at COP21, with the plan's long-term planning horizon explicitly set to align with 2030, the target year for both the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction that underpins the national Ten Point Agenda (SDMA, 2024). The plan further identifies social inclusion as a cross-cutting principle and commits to mainstreaming disaster risk reduction as an integral feature of the state's broader development planning, rather than treating it as a standalone emergency response function, a framing this chapter notes is directly consistent with the integration gap identified in section 14.2's discussion of the State Action Plan on Climate Change's urban adaptation shortcomings.

14.5 Post-Disaster Response, Relief and Reconstruction Framework

This framework was unable to source detailed, current data on Goa's specific post-disaster relief and reconstruction financing mechanisms, compensation frameworks for disaster-affected households, or reconstruction project case studies from the sources consulted for this chapter, beyond the general reference to an ex-gratia assistance claim process for the next of kin of persons deceased due to COVID-19, a legacy public health

emergency response mechanism rather than a climate or natural disaster specific relief framework, that remains listed among the Goa State Disaster Management Authority's active programme functions (SDMA, 2026). As already noted in Chapter 2, section 2.6, the Sixteenth Finance Commission has recommended ₹112 crore in disaster management grants for Goa over the 2026-31 award period, a modest allocation relative to the ₹726 crore recommended for urban local bodies over the same period, though this framework notes that disaster management funding in India typically also flows through dedicated State Disaster Response Fund and National Disaster Response Fund channels operating outside the standard Finance Commission grant architecture, channels for which this framework was unable to source Goa-specific allocation or utilisation data.

Given the coastal community displacement already documented in section 14.1 as a present, ongoing consequence of erosion and flooding rather than a future risk, this framework flags a dedicated review of Goa's specific relief, compensation and resettlement framework for climate-displaced coastal households as a priority for a future revision, given the direct relevance of this framework's Chapter 7 social justice and inclusion analysis to any such displacement and resettlement process.

14.6 Green Economy Transition: Opportunities and Structural Challenges

Goa's green economy transition intersects directly with the renewable energy findings already documented in Chapter 9, section 9.4 and section 9.6, where this framework established that Goa's renewable energy share, at 8.86 percent of installed capacity, sits well below both the national non-fossil capacity trajectory and, implicitly, the low-carbon development pathway the State of the Environment Report 2025 has identified as central to the state's climate resilience. The State of the Environment Report's explicit framing of low-carbon development transition as inseparable from natural capital protection, discussed in section 14.1, positions Goa's renewable energy acceleration not merely as an energy sector policy question, addressed in Chapter 9, but as a core climate adaptation and ecological security priority in its own right.

This chapter's cumulative findings, drawing together the coastal and flood vulnerability documented in sections 14.1 and 14.3, the specific implementation gaps identified in the independent academic evaluation of the State Action Plan on Climate Change discussed in section 14.2, and the institutional disaster risk reduction framework examined in section 14.4, point toward three priority areas for Goa's green economy and climate resilience transition. First, the monitoring infrastructure gap identified in section 14.2, additional tide gauges, satellite remote sensing and a centralised climate data observatory, represents a foundational investment without which more sophisticated adaptation planning, including the composite, socially disaggregated vulnerability indices the academic evaluation recommends, cannot be reliably constructed. Second, the urban land-use integration gap, connecting this chapter's findings directly to Chapter 11's urban development analysis and Chapter 13's land use change discussion, suggests that Goa's Smart Cities Mission implementation in Panaji, examined in Chapter 11, section 11.4, and the state's broader Regional Plan land use framework, represent underutilised vehicles for embedding climate resilience directly into the

state's urban development trajectory rather than treating adaptation as a parallel, separately administered programme. Third, the renewable energy acceleration priority already flagged in Chapter 9 takes on additional urgency when read through this chapter's ecological security lens, given the explicit linkage the State of the Environment Report 2025 draws between low-carbon transition and the protection of the forests, wetlands and coasts that this framework has established, across Chapter 1, Chapter 3 and Chapter 13, as simultaneously Goa's greatest natural asset and its most climate-exposed vulnerability. Chapter 21 (State Vision 2047) returns to these three priorities as part of its long-term strategic roadmap for the state.

Chapter 15: Administrative Governance Reform

15.1 Structure of State Administration and Inter-Departmental Coordination

Goa's state administration, as established in Chapter 1, section 1.2, operates through a compact structure built around a two-district revenue administration, a twelve-block community development framework, and a forty-seat Legislative Assembly, a footprint this framework has previously characterised as more compact than in most Indian states. This chapter's review finds that the state's administrative machinery for civil service recruitment operates through the Goa Public Service Commission, responsible for Group A and Group B gazetted post recruitment, including Goa Civil Service Junior Scale Officer positions, and the Goa Staff Selection Commission, responsible for Group C non-gazetted post recruitment (Goa Public Service Commission [GPSC], 2025; Goa Staff Selection Commission [GSSC], 2025). Both bodies maintained active recruitment advertisement cycles through 2025, with the Public Service Commission's September 2025 advertisement alone covering 38 Junior Scale Officer posts within the Goa Civil Service (GPSC, 2025).

This framework was unable to source consolidated, current data on inter-departmental coordination mechanisms, cabinet secretariat structure, or the specific institutional architecture through which Goa's numerous sector-specific departments, corporations and directorates referenced throughout this framework, from the Directorate of Planning, Statistics and Evaluation examined in Chapter 2 to the Goa Waste Management Corporation examined in Chapter 10, are coordinated at the apex level, and flags a dedicated review of the Chief Secretary's office and Cabinet Secretariat's own governance documentation as a priority for a future revision of this chapter.

15.2 Anti-Corruption Framework: Lokayukta, Vigilance and Enforcement

Goa's principal anti-corruption ombudsman institution is the Goa Lokayukta, formally established in 2011, though the state's anti-corruption institutional history predates this by more than two decades, with an earlier anti-corruption commission having operated under the Goa Public Men's Corruption, Inquiries and Investigation Act of 1988, legislation with provisions analogous to the Lokayukta Acts subsequently adopted by several other Indian states (Wikipedia, 2026a). The current Lokayukta of Goa, Justice (Retired) Ambadas H. Joshi, has held office since 7 May 2021, operating from the institution's headquarters at Altinho in Panaji (Wikipedia, 2026a). This framework was unable to source current data on the Goa Lokayukta's case backlog, complaint disposal rate, or the substantive outcomes of its investigations into public official corruption from the sources consulted for this chapter, and flags the Lokayukta's own annual report, where publicly available, as a priority source for a future revision seeking to assess the institution's practical effectiveness rather than its formal existence alone.

This framework notes that Goa's anti-corruption institutional history, spanning more than three and a half decades from the 1988 Act through the 2011 Lokayukta establishment to the present day, reflects a comparatively long-standing, if not necessarily continuously robust,

state commitment to formal anti-corruption architecture, though this framework's inability to source outcome data means it cannot assess whether this institutional longevity has translated into measurable anti-corruption enforcement effectiveness.

15.3 Legal and Judicial Administration: Pendency, Access and Reform

Goa presents a structurally distinctive feature within India's judicial architecture: the state does not possess its own High Court, but instead falls under the jurisdiction of the High Court of Judicature at Bombay, through a dedicated Bench, with the Goa State Legal Services Authority, also known as the Goa Lok Adalat, formed in 1987 and headquartered at the High Court Building in Penha de Franca, Porvorim, operating under the authority of the Chief Justice of the High Court of Judicature at Bombay (Wikipedia, 2026b). This arrangement, a legacy of Goa's post-1961 integration into the Indian union and its subsequent 1987 statehood, distinguishes Goa's judicial administration from that of India's other full states, virtually all of which possess dedicated state High Courts, and this framework treats this structural feature as a relevant, if long-standing and largely settled, consideration for any assessment of judicial access and administration specific to Goa.

This framework was unable to source current, Goa-specific data on court case pendency rates, average case disposal time, judicial vacancy levels within the Goa Bench of the Bombay High Court or the state's subordinate judiciary, or Lok Adalat case resolution volumes, from the sources consulted for this chapter. Given the significance of judicial pendency as a governance indicator in most comparable state development frameworks, this framework flags a dedicated review of the National Judicial Data Grid's Goa-specific pendency statistics, alongside the Goa State Legal Services Authority's own annual reporting, as a priority for a future revision.

15.4 Police Modernisation and Internal Security Management

As already established in Chapter 2, section 2.2, Goa's Police department was allocated ₹1,065 crore for 2026-27, representing 3.8 percent of the state's total sectoral expenditure, marginally below the 4.0 percent average allocation to police across Indian states in their 2025-26 budgets (PRS Legislative Research, 2026, as cited in Chapter 2). This chapter's review finds that Goa Police maintained active recruitment drives through 2025 and into 2026 for positions including Police Sub-Inspector, Lower Division Clerk and Home Guard Volunteer roles within the state's Home Guard and Civil Defence Organisation, indicating an ongoing effort to address force strength across both operational policing and civil defence functions (Goa Police, 2026).

This framework was unable to source Goa-specific data on police force sanctioned strength relative to population, the police-population ratio benchmarked against the Bureau of Police Research and Development's recommended standards, crime rate trends, or specific police modernisation investment in areas such as forensic infrastructure, CCTV surveillance networks, or cybercrime response capacity, from the sources consulted for this chapter. Given Goa's distinctive policing challenges, including the management of large seasonal tourist

populations documented throughout Chapter 3, coastal and maritime security responsibilities linked to the port infrastructure examined in Chapter 8, and the narcotics and nightlife-linked law enforcement concerns commonly associated with the state's tourism economy, this framework flags a comprehensive, Goa-specific policing capacity assessment as a priority for a future revision, ideally drawing on the Bureau of Police Research and Development's annual Data on Police Organisations publication, which reports state-wise police strength and infrastructure data.

15.5 Regulatory Governance: Quality, Consistency and Independence

This chapter's regulatory governance assessment draws directly on findings already established elsewhere in this framework. Chapter 4, section 4.1, has documented Goa's markedly divergent standing across different investment climate and ease of doing business indices, ranking fourth nationally on NITI Aayog's 2026 Investment Friendliness Index while ranking near the bottom, at 24th among 29 states, on the Department for Promotion of Industry and Internal Trade's Ease of Doing Business index in earlier assessment rounds. Chapter 9, section 9.6, has separately documented Goa's distinctive electricity regulatory arrangement, in which the state shares a Joint Electricity Regulatory Commission with India's Union Territories rather than maintaining a dedicated single-state regulator, an arrangement this chapter notes as a further example of Goa's regulatory architecture being shaped by its comparatively small administrative scale.

This framework treats these findings, drawn from Chapter 4 and Chapter 9 respectively, as the most concrete available evidence bearing on Goa's regulatory governance quality and consistency, in the absence of a dedicated, Goa-specific regulatory governance assessment from the sources consulted for this chapter directly. The persistent gap between Goa's favourable and unfavourable regulatory rankings across different indices, already flagged in Chapter 4 as reflecting different underlying measurement approaches rather than a straightforward contradiction, remains this framework's central, unresolved finding regarding the overall quality and consistency of the state's regulatory governance.

15.6 Reduction of Red-Tapism: Simplification and Way Forward

Chapter 4, section 4.1, has already documented the specific procedural bottlenecks identified in industry analysis of Goa's investment climate, including reported delays of up to 60 days for new power connection sanctioning and constraints on the Goa Industrial Development Corporation's land allotment capacity, alongside the Confederation of Indian Industry's finding that only six new Micro, Small and Medium Enterprise units with investment exceeding ₹5 crore had registered in the state over a full decade. This chapter treats these findings as this framework's primary evidence base for assessing red-tapism specifically, given the absence of a dedicated, current administrative simplification audit or single-window clearance performance report for Goa in the sources consulted for this chapter directly.

This framework recommends that any red-tapism reduction agenda for Goa prioritise the specific, named bottlenecks already identified in Chapter 4, power connection sanctioning

timelines and industrial land allotment processes, given that these represent concrete, previously documented friction points rather than general or unsubstantiated concerns, and flags a follow-up assessment of whether these specific bottlenecks have been addressed since the CII white paper's original findings as a priority for a future revision of this chapter.

15.7 Civil Service Strength: Vacancy Rates and Training Institutions

This framework was unable to source consolidated, current data on Goa's overall civil service vacancy rate across departments, or on department-specific staffing shortfalls, from the sources consulted for this chapter. The sustained, active recruitment activity documented in section 15.1 across the Goa Public Service Commission and Goa Staff Selection Commission through 2025, spanning Junior Scale Officer, Group C and specialised departmental posts, indicates that the state government is actively working to fill vacant positions across multiple cadres, though the volume of ongoing recruitment activity alone does not establish the current aggregate vacancy rate this section's title specifically calls for, since recruitment activity could reflect either the filling of longstanding vacancies or routine, ongoing turnover replacement.

This gap carries specific relevance to two other chapters of this framework. Chapter 5, section 5.5, has already flagged the absence of Goa-specific teacher vacancy and pupil-teacher ratio data as a significant gap in this framework's education chapter, given that the great majority of Goa's government school teachers are employed within the state civil service framework this chapter examines. Chapter 6, section 6.1, has similarly flagged the absence of Goa-specific health workforce density data. This chapter's finding that comprehensive, aggregate civil service vacancy data is not readily available from the sources consulted for this framework as a whole, spanning administrative, education and health cadres alike, suggests a systemic gap in Goa's public disclosure of civil service staffing statistics, rather than a gap isolated to any single sector examined elsewhere in this framework.

On training infrastructure, this framework notes the existence of the Goa Institute of Public Administration and Rural Development, referenced in Chapter 7, section 7.6, as the source of a research study on the National Old Age Pension Scheme's administrative delivery architecture, indicating that the state maintains a dedicated civil service training and research institution, though this framework was unable to source data on this institute's training throughput, curriculum scope, or its role in broader civil service capacity building beyond the specific pension administration study already cited in Chapter 7.

Taken as a whole, this chapter's administrative governance review finds a state with a long-standing, formally constituted anti-corruption and judicial architecture, active and ongoing civil service recruitment activity, and a police and regulatory governance profile best understood through the specific findings already established in this framework's economic and infrastructure chapters, operating within a public data disclosure environment that, consistent with the pattern this framework has now identified across Chapters 5 through 15, leaves several of the most basic governance capacity indicators, judicial pendency, civil

service vacancy rates, and police force strength, without readily available, current public reporting. This recurring finding across so many of this framework's chapters reinforces this framework's growing recommendation, first raised in Chapter 5 and repeated in Chapters 6, 7 and 12, that Goa's administrative departments adopt more comprehensive and regular public statistical disclosure practices, a recommendation Chapter 20 (Statistical System Strengthening and Evidence-Based Policymaking) will treat as a central, cross-cutting theme for the state's governance reform agenda.

Chapter 16: Technology-Enabled Service Delivery

16.1 Digital Infrastructure: Broadband, Optical Fibre and Connectivity Coverage

Goa's digital connectivity infrastructure expanded substantially through 2025 under the coordination of the Department of Information Technology, Electronics and Communications, which the state's own reporting identifies as spearheading connectivity, e-governance, infrastructure and skilling initiatives together (Navhind Times, 2026b). The state expanded its network of free public Wi-Fi hotspots to 135 locations across key public spaces during 2025, while the rollout of 4G and 5G mobile network towers gained momentum over the same period, aimed at ensuring faster and more reliable internet access for citizens and businesses (Navhind Times, 2026b). The Goa Broadband Network, the state's dedicated government connectivity backbone, has extended high-speed internet access to 1,492 government offices statewide, a scale of institutional connectivity this framework treats as a significant enabling foundation for the e-governance and digital service delivery initiatives examined in the sections that follow (Navhind Times, 2026b).

The Department of Information Technology, Electronics and Communications has indicated it is in the process of floating tenders for shifting and establishing new Goa Broadband Network connectivity, driven by the ongoing e-governance initiatives of various government departments, institutions, corporations and autonomous bodies, indicating that this infrastructure expansion remains an active, continuing programme rather than a completed one-time build-out (Department of Information Technology, Electronics and Communication, Government of Goa [DITE&C], 2026). This state-level connectivity expansion complements the national BharatNet programme and National Broadband Mission 2.0, launched on 17 January 2025 to accelerate digital communication infrastructure expansion and promote digital inclusion nationally (OpenGov Asia, 2025), though this framework was unable to source Goa-specific BharatNet rural connectivity coverage data from the sources consulted for this chapter.

16.2 e-Governance Architecture and Digital Public Infrastructure

Goa's principal citizen-facing e-governance platform is Goa Online, a single-window information and service delivery platform for citizens, businesses, entrepreneurs and government agencies, seamlessly integrated with the national DigiLocker digital document repository, online payment facilities, and the Common Service Centre network examined in section 16.3 (Goa Electronics Limited [GEL], 2025a). Goa Online operates as an e-District Mission Mode Project under the national e-Governance Program, with the Ministry of Electronics and Information Technology serving as the nodal central government department, Info Tech Corporation of Goa Limited designated as the State Designated Agency, and Goa Electronics Limited serving as the implementation agency, with the platform's rollout spanning both of Goa's districts and twelve talukas (GEL, 2025a).

Goa Electronics Limited has positioned itself at the centre of the state's technology-enabled governance transformation, deploying artificial intelligence, machine learning and data

analytics tools including AI-powered chatbots, geospatial data platforms and predictive analytical tools to make governance more intelligent, efficient and citizen-centric, according to the company's Chief Executive Officer and Executive Director, Revati Kumar (Elets News Network, 2025). Beyond citizen-facing chatbot deployment, the Department of Information Technology, Electronics and Communications has indicated its intention to enable a dedicated Geospatial Act for the state, intended to improve accessibility of geospatial information across government departments and stakeholders, a policy step that would formalise data sharing protocols for the geospatial platforms Goa Electronics Limited has already begun deploying (DITE&C, 2026). The department has also undertaken a standardisation project covering the design, development, security certification, hosting and maintenance of websites for all Goa government departments, explicitly aligned with the Guidelines for Indian Government Websites and the Web Content Accessibility Guidelines, indicating an institutional commitment to accessibility standards across the state's digital public infrastructure (DITE&C, 2026).

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

Goa's last-mile citizen service delivery in rural and remote areas operates substantially through the Common Service Centre network, formalised through a memorandum of understanding signed in August 2023 between the Government of Goa and CSC eGovernance Services India Limited, the central entity established by the Ministry of Electronics and Information Technology to oversee the national Common Service Centre scheme (Deccan Herald, 2026). This partnership gave rise to the Gramin Mitra Initiative, a doorstep government service delivery programme administered by the Department of Information Technology, Electronics and Communication, covering collaborative projects spanning government service delivery, digital literacy programming, and the establishment of Digital Villages across rural Goa (Deccan Herald, 2026). Goa Electronics Limited has continued to expand the reach of this Common Service Centre network and train local service enablers to assist rural populations, while also localising service content and language for improved accessibility, and has specifically deployed a WhatsApp-based chatbot as a mobile-first, low-barrier interface intended to reach users who may not be conventionally tech-savvy (Elets News Network, 2025).

Beyond core citizen service delivery, the state has introduced targeted digital skilling programmes for younger citizens, including a Coding and Robotics Education in Schools Scheme intended to develop computational and design thinking capability among Goan students, an initiative of the Department of Information Technology, Electronics and Communication administered alongside the state's broader e-governance mission (Goa MyGov, 2026). This framework treats this schools-based digital skilling initiative as a direct complement to Chapter 5's education chapter, extending this framework's Chapter 5, section 5.6, discussion of digital education infrastructure gaps with at least one concrete, named programme this framework was able to identify.

16.4 Data Governance, Open Data Policy and Privacy Framework

This framework's most concrete finding regarding Goa's data governance framework is the planned Geospatial Act, discussed in section 16.2, intended to formalise geospatial data accessibility and sharing protocols across government departments and stakeholders (DITE&C, 2026). Beyond this specific, sector-focused initiative, this framework was unable to source a comprehensive, Goa-specific open data policy, personal data protection implementation framework consistent with the national Digital Personal Data Protection Act, or broader data governance strategy document from the sources consulted for this chapter.

Given the scale of citizen data now flowing through the Goa Online platform, the Common Service Centre network, and the artificial intelligence and predictive analytics tools Goa Electronics Limited has begun deploying, discussed in section 16.2, this framework flags the absence of a clearly documented, publicly available state data governance and privacy framework as a meaningful gap, particularly given the sensitivity of data flowing through health, welfare and identity-linked citizen services examined throughout this framework, from the Deen Dayal Swasthya Seva Yojana health insurance scheme discussed in Chapter 6 to the various social security schemes discussed in Chapter 7. This framework recommends that a comprehensive review of Goa's data governance and privacy compliance framework, benchmarked against the national Digital Personal Data Protection Act's requirements, be prioritised for a future revision of this chapter.

16.5 Cybersecurity: State-Level Institutional Mechanisms

This framework was unable to source detailed, current data on Goa's dedicated state-level cybersecurity institutional mechanisms, including any state Computer Emergency Response Team, security operations centre, or cybersecurity incident response protocol, from the sources consulted for this chapter. The state's citizen engagement portal makes general reference to cybersecurity as a subject of public awareness content, defining it in generic terms as the protection of systems, networks and programmes from digital attacks, but this framework was unable to confirm from this reference alone whether Goa maintains a dedicated, operational state cybersecurity institution comparable to those established in several other Indian states (Goa MyGov, 2026).

Given the substantial expansion of Goa's digital government infrastructure documented throughout this chapter, spanning the Goa Online platform, the Goa Broadband Network's 1,492 connected government offices, and the artificial intelligence tools now handling citizen interactions through Goa Electronics Limited, this framework treats the absence of clearly documented, dedicated cybersecurity institutional capacity as a specific and material gap warranting urgent attention, given that an expanding digital government attack surface without a correspondingly visible and well-resourced cybersecurity institutional response represents a growing, unquantified risk to the state's citizen data and service continuity. This framework recommends a dedicated cybersecurity capacity assessment as a priority for a future revision of this chapter.

16.6 Emerging Technologies: AI, Geospatial Systems and Smart Governance

The centrepiece of Goa's emerging technology strategy is the Goa AI Mission 2027, a policy initiative explicitly framed as an attempt to transform the state from a tourism-driven economy, the dependence on which this framework has documented extensively in Chapter 3, section 3.5, into a technology-oriented, artificial intelligence-enabled innovation hub (Wikipedia, 2026c). Officially launched in July 2025 under the leadership of Chief Minister Dr. Pramod Sawant, the mission seeks to empower citizens, enhance governance and promote innovation across sectors, with Chief Minister Sawant and Minister of Information Technology Rohan Khaunte publicly inviting stakeholder participation in shaping the initiative (Wikipedia, 2026c). Key components of the mission include the development of a dedicated Goa AI Policy and the establishment of an AI Advisory Council, alongside efforts to foster collaboration between academic institutions and global partners to build both physical and digital infrastructure supporting foundational AI research within the state (Wikipedia, 2026c).

In August 2025, the Department of Information Technology, Electronics and Communications signed a memorandum of understanding with the Digital India Bhashini Division of the Ministry of Electronics and Information Technology, the national initiative supporting Indian language artificial intelligence and multilingual digital service delivery, signalling an intent to extend Goa's AI-enabled governance ambitions into multilingual citizen service delivery specifically, an extension directly relevant to this framework's Chapter 1, section 1.4, discussion of Goa's Konkani, Marathi and English linguistic landscape (Wikipedia, 2026c). That same month, the state conducted an "AI for Governance" programme in collaboration with the national IndiaAI Mission, Google and the World Bank, sensitising government officials to the practical applications of artificial intelligence in governance, policy and service delivery, an early, concrete step under the broader mission framework (Navhind Times, 2026b).

Beyond the AI Mission specifically, the Department of Information Technology, Electronics and Communications has piloted the establishment of two co-working spaces, at Ashwem and Benaullim, both coastal locations within Bardez and Salcete talukas respectively, intended to provide local youth with technical exposure and enhanced knowledge, boost the local area economy, and establish tie-ups with renowned institutions for local youth capacity building (DITE&C, 2026). This framework notes the deliberate placement of these pilot co-working spaces within Goa's established coastal tourism talukas, discussed throughout Chapter 3, as a strategy that leverages existing tourism-linked footfall and infrastructure to seed a parallel technology economy, rather than positioning this nascent knowledge economy initiative in the state's interior talukas that Chapter 1, section 1.7, and Chapter 12 have identified as lagging on infrastructure and investment.

Taken as a whole, this chapter's review finds that Goa's technology-enabled service delivery ambitions, and specifically the Goa AI Mission 2027, represent one of the more forward-looking and well-resourced policy initiatives documented anywhere in this framework, explicitly designed to diversify the state's economic base beyond the tourism dependence this framework has repeatedly flagged as a structural vulnerability. At the same

time, this chapter's findings regarding data governance gaps in section 16.4 and cybersecurity institutional gaps in section 16.5 suggest that the pace of Goa's digital transformation may be outrunning the state's parallel development of the governance safeguards that responsible, citizen-facing artificial intelligence and digital service delivery require. Chapter 17, which follows, examines the innovation, research and knowledge economy ecosystem within which the Goa AI Mission 2027 and its associated startup and skilling ambitions will need to be embedded to achieve lasting economic diversification.

Chapter 17: Innovation, Research and Knowledge Economy

17.1 State Innovation Ecosystem: Startups and Accelerators

Goa's startup ecosystem has expanded rapidly and been formally recognised at the national level. The state recorded 696 Department for Promotion of Industry and Internal Trade recognised startups as of October 2025, a figure that had risen to 803 by June 2026, an increase of over 15 percent within roughly eight months (Careers360, 2025; The Goan, 2026a). This growth trajectory has been accompanied by formal national recognition, with Goa named a "Best Performer State" in the Department for Promotion of Industry and Internal Trade's States' Startup Ecosystem Ranking, topping Category B, the ranking tier for smaller states and union territories, alongside Arunachal Pradesh, and ahead of Himachal Pradesh, Manipur, Meghalaya and Nagaland, in the ranking's fifth edition, which assessed the period from 1 January 2023 to 30 November 2024 (Inc42, 2026). This ranking evaluated states across institutional support, infrastructure, funding opportunities, market access, ecosystem capacity building, and innovation and sustainability focus, drawing 75 percent of its weighting from state-submitted documentation, 15 percent from direct startup feedback, and 10 percent from independent private ecosystem mapping (Inc42, 2026).

The Goa Startup Policy 2025, also referred to as the Goa Startup and IT Policy 2025 and already introduced in Chapter 4, section 4.2, was formally rolled out in late September 2025 with the explicit ambition of positioning Goa as India's "creative capital" (Careers360, 2025). The policy sets measurable targets of establishing 1,000 startups, generating 10,000 jobs for Goans within startup ventures, and enabling 100 startups to access venture funding, all by 2028, alongside a dedicated mentoring and funding programme for women entrepreneurs, providing monthly allowances to women-founded startups working on innovative projects, and a Promotion and Marketing Assistance Scheme (Careers360, 2025). Minister of Information Technology Rohan Khaunte, reporting on the policy's implementation progress at the eleventh empowered committee meeting chaired by Chief Minister Dr. Pramod Sawant in June 2026, highlighted specific Goan startup successes, most notably Molbio Diagnostics, which has achieved unicorn status, described as demonstrating how innovation originating in Goa can contribute to global healthcare, alongside Sprintly, an internet-of-things based smart access solutions company with an international footprint, and Contractzy, a legal technology company transforming contract management (The Goan, 2026a).

An independent global startup ecosystem tracking platform recorded more modest figures for the same period, placing Goa's startup ecosystem 589th globally, with 20 tracked startups and total startup funding exceeding 2 million US dollars, alongside 5.2 percent ecosystem growth in 2025 (StartupBlink, 2026). This framework notes that this considerably smaller figure reflects a different measurement methodology, tracking a narrower set of globally visible, funded startups rather than the full population of Department for Promotion of Industry and Internal Trade registered startups, which includes many earlier stage or more locally focused ventures, and treats the two data sources as measuring different, complementary dimensions of the same ecosystem rather than presenting a genuine contradiction. Minister Khaunte has

also framed the startup policy explicitly as a tool for reversing brain drain and attracting professionals back to Goa, citing examples of scientists and professionals returning to the state for product development, including one entrepreneur who left a Fortune 500 company in the United States to launch a startup in Goa (The Goan, 2026a).

17.2 Research and Development: Academic-Industry Linkages

This framework was unable to source detailed, quantified data on formal academic-industry research and development linkages within Goa, including sponsored research volumes, technology transfer agreements, or joint industry-university research centres, from the sources consulted for this chapter. What can be drawn from the Goa Startup Policy 2025's own design, discussed in section 17.1, is that the policy explicitly frames its ecosystem-building approach around linking entrepreneurs with partnerships across industry stakeholders, incubators and academic institutions (Careers360, 2025), indicating that academic-industry linkage building is a stated policy priority even where this framework was unable to source data confirming its current depth or effectiveness.

Given Chapter 5, section 5.3's finding that Goa University's most recent National Institutional Ranking Framework placement sat within the 151 to 200 band nationally, a middling position for the state's principal research university, this framework treats the strength of Goa's academic-industry research linkages as likely constrained, at least in part, by the research capacity of the state's core public university system, though this framework cannot confirm this relationship directly without more granular research output and industry partnership data. This framework flags a dedicated review of Goa University's sponsored research portfolio and the state's broader academic-industry technology transfer framework as a priority for a future revision.

17.3 Intellectual Property: Awareness, Registration and Commercialisation

This framework was unable to source Goa-specific patent filing, trademark registration, or intellectual property commercialisation data from the sources consulted for this chapter. At the national level, Department for Promotion of Industry and Internal Trade recognition confers specific intellectual property related benefits on registered startups, including an 80 percent reduction in patent filing fees and fast-track patent examination, benefits available in principle to each of Goa's 803 recognised startups documented in section 17.1 (IncorpX, 2026). This framework notes Chapter 1, section 1.4's earlier discussion of the Geographical Indication registration secured for Goan cashew in October 2023, referenced in Chapter 3, section 3.3, as this framework's clearest documented example of successful intellectual property registration and commercialisation originating from Goa, though this single agricultural product example does not by itself establish a broader pattern of intellectual property awareness or commercialisation capacity across the state's startup and industrial base examined in this chapter and in Chapter 4.

Given the emphasis the Goa AI Mission 2027, discussed in Chapter 16, section 16.6, places on foundational AI research and the state's ambition to develop globally competitive

technology solutions, discussed in section 17.1, this framework recommends that intellectual property awareness and patent filing support be explicitly integrated into the mission's implementation, and flags a dedicated review of the Goa Startup Policy 2025's specific intellectual property support provisions, beyond the general Department for Promotion of Industry and Internal Trade benefits already available nationally, as a priority for a future revision.

17.4 Knowledge Institutions as Engines of Development

Goa's knowledge institution base, examined in Chapter 5, section 5.3, centres on Goa University and the state's network of 68 colleges and institutes under the Directorate of Higher Education, alongside the range of professional and technical institutions of national repute operating within the state referenced in that same section. This chapter treats these institutions as the foundational supply-side infrastructure on which the innovation ecosystem examined in sections 17.1 through 17.3 ultimately depends, given that startup founders, research scientists and skilled technical workers must be trained somewhere before they can populate the accelerators, incubators and startups this chapter has documented.

This framework was unable to source data specifically quantifying the contribution of Goa's knowledge institutions to the startup ecosystem documented in section 17.1, for instance through graduate startup founder tracking, university-affiliated incubator output, or campus-based accelerator programmes, from the sources consulted for this chapter, and flags this specific pipeline, from Goa's higher education system examined in Chapter 5 through to the startup and AI Mission ecosystem examined in this chapter and Chapter 16, as a priority integration point for a future revision to trace more directly.

17.5 Building a Youth Innovation and Research Ecosystem

Goa's youth innovation ecosystem building efforts span both the Coding and Robotics Education in Schools Scheme discussed in Chapter 16, section 16.3, which targets school-age computational thinking development, and the co-working space pilots at Ashwem and Benaolim discussed in Chapter 16, section 16.6, which target early-career technical exposure for local youth. The Goa Startup Policy 2025's explicit 2028 target of 10,000 jobs for Goans within startup ventures, discussed in section 17.1, represents this framework's clearest quantified commitment to youth employment generation through the innovation ecosystem specifically, distinct from the broader employment generation examined across this framework's economic chapters.

This framework treats the reverse brain drain narrative Minister Khaunte has articulated, discussed in section 17.1, professionals and scientists returning to Goa to build startups, as a potentially significant, though not yet independently quantified, indicator of youth and early-career talent retention improving within the state. Given Chapter 3, section 3.7's finding of comparatively high unemployment in Goa despite the state's high per capita income, and this framework's hypothesis in that same section that a skills-to-employment mismatch may underlie this pattern, a successful youth innovation ecosystem, one that channels Goa's

comparatively strong education access indicators documented in Chapter 5 into locally rooted entrepreneurship and technical employment, represents a plausible structural response to that mismatch, though this framework was unable to source data directly measuring youth entrepreneurship outcomes or startup-linked employment absorption to confirm this pathway is functioning as intended at meaningful scale.

17.6 Skill Development, Employability and Workforce Alignment

This section returns directly to the labour market puzzle this framework has carried since Chapter 3, section 3.7: Goa's combination of the highest per capita income of any Indian state alongside an unemployment rate, at 9.7 percent as of 2022-23, exceeding the national average. Chapter 5, section 5.4, has already documented two specific state skilling initiatives bearing on this puzzle: the Chief Minister's Apprenticeship Policy for Government Establishments, which has engaged 11,468 youth as apprentices in various government organisations since inception, and the Chief Minister's Kaushalya Vikas Yojana skill development scheme, which benefited 291 local youth during the April to December 2025 period and received the SKOCH Gold Award 2025 for its governance and skill development contribution (Government of Goa, Directorate of Planning, Statistics and Evaluation [DPSE], 2026, as cited in Chapter 5).

This chapter's review of the startup and innovation ecosystem, documented in sections 17.1 through 17.5, adds a further, complementary dimension to this workforce alignment picture: an ecosystem explicitly targeting 10,000 startup-linked jobs for Goans by 2028, alongside the Goa AI Mission 2027's skilling pillar discussed in Chapter 16, section 16.6. Taken together with the Chief Minister's Apprenticeship Policy's 11,468 engaged apprentices, this framework now has direct evidence of multiple, named, currently active state workforce development channels operating in parallel, apprenticeship placement, skill development training, and startup-linked employment generation, that collectively represent a more substantial policy response to Goa's labour market mismatch than this framework's earlier chapters, working with more limited data, were able to fully characterise.

Whether these parallel channels, taken together, are sufficient in scale to meaningfully close the gap between Goa's 9.7 percent unemployment rate and its high-income, low-poverty profile documented throughout Chapter 1 and Chapter 3, this framework cannot confirm without more current, comprehensive labour market outcome data specifically tracking post-programme employment rates across these initiatives. This framework recommends that the Directorate of Planning, Statistics and Evaluation's future Economic Surveys report a consolidated, annual skill development and employability outcomes dashboard, tracking apprenticeship-to-employment conversion, Kaushalya Vikas Yojana graduate placement rates, and startup-linked job creation against the Goa Startup Policy 2025's 10,000 job target, to allow this framework's future revisions to assess whether Goa's genuinely multi-pronged workforce development strategy is closing the state's distinctive high-income, high-unemployment gap. Chapter 18, which follows, turns to Goa's agriculture, allied sectors and food security, returning this framework's sectoral analysis to the primary sector livelihoods that remain economically significant, if modest in aggregate GSDP terms,

particularly within the interior talukas this framework has repeatedly identified as lagging the state's coastal, innovation-forward development trajectory documented throughout this chapter.

Chapter 18: Agriculture, Allied Sectors and Food Security

18.1 Cropping Pattern, Agricultural Productivity and Input Use

Goa's cropping pattern, established in detail in Chapter 3, section 3.3, centres on rice as the principal foodgrain crop, cultivated across the state's coastal and midland alluvial and lateritic soils, alongside cashew and coconut as the state's dominant horticultural and export-oriented crops. This chapter does not repeat that cropping area and productivity data in full but notes, consistent with Chapter 3's findings, that Goa's agricultural productivity, whether measured in cashew yield per hectare or coconut nut yield per hectare, has been constrained by factors including senile, low productivity coconut palms, recurrent drought stress, and limited adoption of modern nutrient management practices, according to Indian Council of Agricultural Research assessment (ICAR, 2026, as cited in Chapter 3). The Goa State Amrit Kaal Agricultural Policy 2025 and the earlier Swayampurna Goa vision document, both discussed in Chapter 3, section 3.3, set out the state's current policy response to these productivity constraints, emphasising improved productivity in paddy, cashew and coconut cultivation, crop diversification, integrated farming system models, and expanded mechanisation (Government of Goa, Directorate of Agriculture, 2025, as cited in Chapter 3).

18.2 Irrigation and Water Use Efficiency in Agriculture

As already established in Chapter 10, section 10.2, this framework was unable to source current, disaggregated data on Goa's irrigation command area, irrigation efficiency, or water-use productivity in agriculture from the sources consulted for this framework as a whole. Chapter 10 has already noted that, given the primary sector's comparatively modest 6.37 percent share of Gross State Value Added, and given that agricultural land conversion pressure rather than water scarcity appears to be the primary constraint on Goa's cultivation performance, irrigation infrastructure investment represents a lower relative priority within the state's overall water resource allocation than in states with larger agricultural sectors. This chapter reiterates that finding here and directs readers to Chapter 10, section 10.2, and Chapter 4, section 4.8's discussion of the Mahadayi river dispute for this framework's fuller treatment of Goa's agricultural water resource security.

18.3 Agricultural Marketing, Price Realisation and Farmer Income

Goa's principal agricultural marketing intervention, already introduced in Chapter 3, section 3.3, is the state government's procurement of vegetables at a minimum price equivalent to 150 percent of the cost of cultivation, alongside assured price mechanisms for cashew, coconut and paddy, implemented under the Goa State Amrit Kaal Agricultural Policy 2025 framework (The Goan, 2025, as cited in Chapter 3). This intervention is explicitly designed to reduce market risk for Goan farmers and encourage diversification away from lower value legacy cropping patterns, a direct government market intervention that this chapter notes is comparatively more generous, in percentage terms above cultivation cost, than the Minimum Support Price mechanisms typically applied to foodgrain crops at the national level.

This framework was unable to source data quantifying actual farmer income outcomes under this assured pricing framework, procurement volumes achieved relative to targets, or farmer participation rates in the scheme, from the sources consulted for this chapter, and flags a dedicated review of the Directorate of Agriculture's procurement scheme utilisation data as a priority for a future revision to assess whether this comparatively generous price assurance framework is translating into measurably improved farmer income outcomes.

18.4 Food Processing Industry and Value Chain Development

Goa's food processing industry, referenced in Chapter 3, section 3.4, in the context of the state's manufacturing base, includes cashew processing as a traditional, smaller-scale manufacturing activity closely linked to the horticultural sector, alongside broader food and beverage manufacturing represented by units such as Hindustan Coca-Cola Beverages Private Limited operating within the Verna Industrial Estate, discussed in Chapter 4, section 4.3. This framework was unable to source disaggregated data on the scale, employment, or value addition specifically attributable to Goa's food processing sub-sector, as distinct from the broader manufacturing sector data presented in Chapter 3, and flags a dedicated review of the Ministry of Food Processing Industries' state-wise scheme utilisation data for Goa as a priority for a future revision, particularly given the potential for expanded food processing capacity to improve the price realisation and farmer income outcomes discussed in section 18.3, by providing local value-addition alternatives to raw commodity sale.

18.5 Animal Husbandry, Dairy and Poultry: Economic Contribution

As noted briefly in Chapter 3, section 3.3, Goa's animal husbandry sector includes state government support programmes for goat farming, apiculture and dairy development, though this framework was unable to source current, disaggregated data on livestock population, milk production volumes, or the animal husbandry sector's specific contribution to Gross State Value Added from the sources consulted for this chapter. Given Goa's comparatively small agricultural land base and the land use competition pressures documented in Chapter 3, section 3.3, and Chapter 13, section 13.2, this framework treats animal husbandry as likely to represent a modest, supplementary rural livelihood activity within the state's primary sector rather than a major independent economic driver, though this framework flags direct verification against the Directorate of Animal Husbandry and Veterinary Services' current livestock census and production data as a priority for a future revision.

18.6 Fisheries: Inland, Marine and Aquaculture

Goa's fisheries sector, flagged in Chapter 3, section 3.3, as a data gap in this framework's earlier sectoral analysis, is administered by the Directorate of Fisheries, headquartered in Panaji, which handles the registration of fishing vessels, canoes, fishing crafts and nets, provides infrastructural facilities, and implements developmental and welfare schemes for the state's fishing community, with an explicitly stated objective of achieving sustainable and responsible growth in fish production while contributing to the social and economic advancement of fishers and fish farmers (Directorate of Fisheries, Government of Goa,

2025). This framework was still unable to source current, quantified marine and inland fish production tonnage figures, or the fisheries sector's specific share of Gross State Value Added, for Goa from the sources consulted for this chapter, and continues to flag this as a priority data gap for a future revision, ideally drawing on the Directorate of Fisheries' own annual production statistics.

Goa's fisheries development is substantially channelled through the national Pradhan Mantri Matsya Sampada Yojana, launched in 2020-21 with a national investment outlay of ₹20,990.79 crore to modernise India's fisheries sector, strengthen infrastructure, improve fish production, enhance fisher incomes and provide social security to fishing communities (Kashmir Life, 2026). Within Goa, this scheme has funded the Development of Climate Resilient Coastal Fishermen Villages at Cakra and Arambol, alongside repair and maintenance works at the Khariwada fishing jetty in Vasco and the Chapora fishing jetty and auction hall (Directorate of Fisheries, Government of Goa, 2025). The scheme also extends a range of aquaculture-specific financial assistance instruments available to Goan fishers and fish farmers, including support for boat and net replacement for traditional fishermen, construction of biofloc ponds and recirculating aquaculture systems for brackish, saline and freshwater areas, financial assistance for bivalve cultivation of mussels, clams and pearl, subsidy support for establishing open sea cages or installing cages in reservoirs, and support for upgrading existing fishing vessels to meet export competency standards (Directorate of Fisheries, Government of Goa, 2026).

A more recent central sector sub-scheme, the Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana, approved by the Union Cabinet on 8 February 2024 with a national outlay exceeding ₹6,000 crore over the four-year period from 2023-24 to 2026-27, aims to formalise the fisheries sector nationally, addressing the sector's traditionally informal nature, limited crop risk mitigation, lack of work-based worker identities, and poor access to institutional credit, through mechanisms including a National Fisheries Digital Platform that creates digital work-based identities for fishers, fish farmers, vendors and processors (Directorate of Fisheries, Government of Goa, 2025). Goa's Minister of Fisheries, Nilkanth Halarnkar, attended the Coastal States Meet held in Mumbai on 28 April 2025, alongside fisheries ministers from Maharashtra, Gujarat, Karnataka, Andhra Pradesh and Odisha, where the Union Government launched ₹255.30 crore in fisheries infrastructure projects across seven coastal states and union territories and introduced Aqua Insurance for the first time nationally, providing dedicated financial protection to aquafarmers alongside continued Kisan Credit Card access (Deccan Herald, 2026; Tribune India, 2026).

18.7 Horticulture, Floriculture and Medicinal Plants

Goa's horticultural sector, already documented extensively in Chapter 3, section 3.3, centres on cashew and coconut as the dominant crops, alongside mango, arecanut, banana, and a diversified basket of other horticultural and plantation crops including oil palm, pineapple, pepper, tree spices, kokum, chikoo, papaya, jackfruit, lemon, sugarcane, pulses and groundnut occupying approximately 6,732 hectares (The Goan, 2025, as cited in Chapter 3). This framework was unable to source Goa-specific data on floriculture cultivation area or

output, or on medicinal plant cultivation specifically, from the sources consulted for this chapter, and flags a dedicated review of the National Horticulture Board's state-wise floriculture data and the National Medicinal Plants Board's Goa-specific programme data as priorities for a future revision, given that this framework's data for this section otherwise rests entirely on the cashew, coconut and mixed horticulture figures already established in Chapter 3.

18.8 Agricultural Credit, Insurance and Risk Management

Goa's fishers and fish farmers have benefited from the national extension of Kisan Credit Card facilities to the fisheries sector since 2018-19, providing institutional credit access for working capital requirements, with the scheme extending to 4.39 lakh fisher beneficiaries nationally as of 2026 (Insights on India, 2026; Kashmir Life, 2026). This framework was unable to source the specific number of Goan fishers or farmers who have accessed Kisan Credit Card facilities, and flags this as a priority data point for a future revision, ideally drawing on the Directorate of Fisheries and Directorate of Agriculture's own beneficiary reporting.

On insurance specifically, the introduction of Aqua Insurance in April 2025, discussed in section 18.6, represents the first dedicated financial protection instrument for aquafarmers nationally, complementing the pre-existing Group Accidental Insurance Scheme under the Pradhan Mantri Matsya Sampada Yojana, which provides financial protection, including accident cover of up to ₹5 lakh, to marine and inland fishers and allied fish workers (Kashmir Life, 2026). This framework was unable to source data on Goa-specific enrolment in either the Aqua Insurance scheme or the Group Accidental Insurance Scheme, nor on the broader crop insurance coverage available to Goa's cashew, coconut, paddy and vegetable farmers under the national Pradhan Mantri Fasal Bima Yojana crop insurance framework, from the sources consulted for this chapter, and flags a comprehensive agricultural and fisheries risk management coverage assessment for Goa as a priority for a future revision.

Taken as a whole, this chapter's review finds that Goa's primary sector, while contributing a modest share of aggregate GSDP as established in Chapter 3, is supported by a comparatively dense and actively evolving policy architecture, spanning the state's own assured pricing and procurement interventions discussed in section 18.3, and a substantial suite of national fisheries modernisation, formalisation, credit and insurance schemes discussed in sections 18.6 and 18.8. Whether this policy architecture is translating into measurably improved farmer and fisher incomes, given the limited outcome data available to this framework across nearly every section of this chapter, remains an open question this framework's future revisions should prioritise resolving, given the direct relevance of primary sector livelihoods to the interior and coastal rural communities this framework has repeatedly identified, from Chapter 1 through Chapter 12, as lagging behind Goa's aggregate, tourism and services-driven prosperity. Chapter 19, which follows, returns this framework's attention to that tourism and services economy directly, examining the tourism, culture and creative economy sector that, as Chapter 3 has established, remains the single most consequential driver of Goa's overall economic performance.

Chapter 19: Tourism, Culture and Creative Economy

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

Goa's tourism asset base draws directly on the physical geography and cultural profile established in Chapter 1, encompassing the approximately 105 kilometre coastline and its beaches described in section 1.1, the UNESCO World Heritage churches and convents of Old Goa and the Indo-Portuguese heritage quarters of Panaji described in section 1.4 and examined further in Chapter 11, section 11.5, the Western Ghats forest and wildlife sanctuaries described in section 1.1, and the layered Hindu and Christian festival calendar, spanning Shigmo, Ganesh Chaturthi, the Feast of St. Francis Xavier and Carnival, also described in section 1.4. This diversified asset base, spanning coastal, heritage, religious and ecological tourism categories, underpins the Department of Tourism's stated "Regenerative Tourism" branding strategy, already introduced in Chapter 3, section 3.5, which explicitly seeks to shift the state's positioning away from mass, seasonal beach tourism toward a more diversified, year-round visitor base, including growth in spiritual and faith-based tourism (Government of Goa, Department of Tourism, 2025a, as cited in Chapter 3).

19.2 Tourism Infrastructure: Hotels, Connectivity and Facilitation

Goa's tourism infrastructure has been substantially reinforced by the connectivity investments examined in Chapter 8, most notably the dual airport system comprising Dabolim and Manohar International Airport at Mopa, discussed in Chapter 8, section 8.3, which has directly supported the tourist arrivals growth documented in Chapter 3, section 3.5. This framework was unable to source consolidated, current data on Goa's total hotel room inventory, categorised by star rating or budget segment, from the sources consulted for this chapter, though the presence of established national and international hospitality chains, evidenced by branded properties operating in coastal tourism hubs such as Candolim and Baga referenced in connection with the International Film Festival of India discussed in section 19.6, indicates a mature, multi-tier accommodation sector spanning the range from budget guesthouses to internationally branded resorts.

Chief Minister Dr. Pramod Sawant has directly linked tourism facilitation reforms to the state's creative industries ambitions, citing the introduction of a dedicated film finance scheme and single-window clearance procedures as reforms that have strengthened Goa's position within the global film industry specifically, a facilitation-focused policy approach this framework notes parallels the single-window clearance discussion already examined in Chapter 4, section 4.1, in the context of the state's broader, and historically mixed, ease of doing business performance (BW Hotelier, 2025).

19.3 Domestic and International Tourist Flows: Trends and Targets

Goa's tourist arrival trends have already been documented in detail in Chapter 3, section 3.5, which recorded a recovery from 80.64 lakh arrivals in 2019 to an all-time high of 1.08 crore arrivals in 2025, comprising 1.03 crore domestic and 5.18 lakh foreign visitors (Angel One,

2026, as cited in Chapter 3). This chapter does not repeat that analysis in full but notes that the International Film Festival of India, examined in section 19.6, represents one specific, named driver of visitor flow diversification, given its explicit role in attracting a distinct cultural and creative industries visitor segment during the November to December period, a segment this framework treats as complementary to, rather than a substitute for, Goa's conventional peak season beach tourism visitor base.

19.4 Cultural Heritage Preservation and Institutional Framework

As established in Chapter 1, section 1.4, and Chapter 11, section 11.5, Goa's built cultural heritage centres on the UNESCO World Heritage churches and convents of Old Goa, including the Basilica of Bom Jesus and the Se Cathedral, alongside the Indo-Portuguese heritage quarters of Panaji, specifically the Fontainhas and Sao Tome neighbourhoods identified in Chapter 11's discussion of the Smart City Mission's heritage-focused city core retrofitting proposal. This framework was unable to source current, dedicated data on heritage conservation investment levels, built heritage inventory completeness, or the specific institutional mandate and funding of Goa's Directorate of Archives and Archaeology from the sources consulted for this chapter, a gap this framework has already flagged in Chapter 11, section 11.5, and reiterates here given this chapter's more direct focus on heritage as a tourism and creative economy asset rather than purely an urban development consideration.

19.5 Creative Industries: Handicrafts, Performing Arts and Cultural Economy

Goa's traditional creative industries, referenced briefly in Chapter 7, section 7.9, in the context of the Goa State Handicrafts, Rural and Small Scale Industries Development Corporation, support artisanal and small-scale manufacturing activity linked to the state's cultural economy. This framework was unable to source current, disaggregated data on handicraft sector employment, output value, or export performance from the sources consulted for this chapter, and flags a dedicated review of this corporation's programme and beneficiary data as a priority for a future revision.

Goa's performing arts tradition, encompassing the Konkani mando and dulpod musical forms and the Goa trance electronic music genre referenced in Chapter 1, section 1.4, together with the state's Carnival and Shigmo festival traditions, constitutes a further, less formally institutionalised dimension of the state's creative economy, one this framework treats as closely intertwined with, rather than separate from, the tourism sector examined throughout Chapter 3 and this chapter, given that these performing arts and festival traditions function simultaneously as living cultural practice and as significant visitor attractions in their own right.

19.6 Film, Media and Content Industries as Economic Drivers

The International Film Festival of India represents this framework's single most thoroughly documented example of Goa's creative economy in action. Founded in 1952, the festival found a permanent home in Goa in 2004, and was formally anchored to the state on a lasting

basis under the leadership of then Chief Minister Manohar Parrikar in 2014, since which point it has become an integral part of Goa's cultural landscape and cultural tourism identity (Travel and Tour World, 2026a). The 56th edition, held in Goa in late 2025, ran as a nine-day celebration of global cinema, with sources reporting either 270 films from 84 countries or 240 films from 81 countries, a discrepancy this framework attributes to differing counts across the festival's full programme versus its main competitive sections rather than a substantive factual conflict, and flags for direct verification against the festival's own official closing report in a future revision (Travel and Tour World, 2026b; BW Hotelier, 2025).

The 56th edition's opening ceremony, inaugurated by Goa's Governor Pusapati Ashok Gajapathi Raju and Chief Minister Dr. Pramod Sawant through the symbolic watering of a Tulsi plant intended to underscore environmental responsibility, featured a carnival-style presentation with cinema-themed tableaux from various production houses, including a tableau marking the National Film Development Corporation's fiftieth anniversary milestone (BW Hotelier, 2025). Chief Minister Sawant used the occasion to explicitly describe Goa as "India's most preferred shooting destination," crediting the state's film finance scheme and single-window clearance reforms, already noted in section 19.2, with strengthening Goa's position within the global film industry (BW Hotelier, 2025). In a further indication of the festival's engagement with emerging technology, IFFI 2025 introduced the festival's first-ever AI film hackathon, a 48-hour creative sprint inviting participants to explore artificial intelligence applications within the filmmaking process, an initiative this framework notes as directly consistent with the Goa AI Mission 2027's broader ambitions, examined in Chapter 16, section 16.6, to position the state at the forefront of applied artificial intelligence adoption across sectors (Travel and Tour World, 2026c).

The festival's programming has also placed emphasis on Animation, Visual Effects, Gaming, Comics and Extended Reality technology, described as powered by global industry partnerships and intended to lay the foundation for India's, and by extension Goa's, leadership in animation, gaming and immersive storytelling, alongside masterclasses delivered by filmmakers, technicians and international experts intended to build the capacity of young creative industry professionals (DD News, 2026). This framework notes the direct thematic continuity between this AVGC-XR and AI-filmmaking focus and the innovation ecosystem ambitions examined in Chapter 17, particularly the Goa Startup Policy 2025's own explicit branding of the state as India's aspiring "creative capital," discussed in Chapter 17, section 17.1, suggesting that Goa's film festival strategy and its broader startup and technology innovation strategy are being deliberately coordinated around a shared "creative capital" positioning rather than operating as separate, unrelated policy initiatives.

State and national commentary has consistently framed the International Film Festival of India as delivering tourism, employment and international visibility for Goa on an annual basis, transforming the state into what one national broadcaster's coverage termed a "lively creative hub" each festival season (DD News, 2026). This framework treats the festival as this chapter's clearest, most concrete illustration of Goa's broader tourism diversification strategy in practice, an event that simultaneously reinforces the state's established coastal

tourism appeal, described in section 19.1, while actively cultivating the higher value, technology and creative industries-linked economic activity that this framework's Chapter 3, section 3.7, discussion of Goa's labour market mismatch, and Chapter 17's discussion of the state's startup ecosystem, have together identified as central to the state's long-term economic diversification ambitions. Chapter 20, which follows, examines the cross-cutting policy themes, including the Sustainable Development Goals, gender mainstreaming, youth policy, migration, science and technology, and statistical system strengthening, that run across every sector this framework has examined, before Chapter 21 draws these threads together into a long-term Vision 2047 roadmap for the state.

Chapter 20: Cross-Cutting Themes and Integrated Policy Imperatives

20.1 Sustainable Development Goals of the State

India as a whole entered the top 100 countries for the first time in the United Nations Sustainable Development Solutions Network's 2025 Sustainable Development Report, ranking 99th out of 167 countries with a score of 67, though the report cautions that none of the seventeen global goals remain on track for full achievement by the 2030 target date, with only 17 percent of SDG targets projected to be achieved on schedule (Vision IAS, 2025; Testbook, 2026). At the domestic level, NITI Aayog's SDG India Index, now spanning 16 goals, 70 targets and 113 indicators, recorded India's overall composite score rising to 71 in the 2023-24 edition, a five point improvement over 2020-21 and fourteen points above the 2018 baseline (GFST, 2025).

This framework was unable to source Goa's current, overall SDG India Index composite score or state ranking from the sources consulted for this chapter, a notable gap given the direct relevance of this index to a comprehensive assessment of the state's development trajectory. What this framework can confirm is that Goa was identified as a national "front runner" on Sustainable Development Goal 11, Sustainable Cities and Communities, in NITI Aayog's earlier index compilation as of 2021, alongside Punjab among states and Chandigarh among union territories (Statista, 2021, as cited in NITI Aayog SDG India Index data). This specific finding is consistent with this framework's broader assessment in Chapter 11, which documented Goa's high urbanisation rate, its Smart Cities Mission engagement in Panaji, and its comparatively strong urban infrastructure indicators, even as that same chapter flagged persistent gaps in urban local body financial data and housing affordability evidence. This framework recommends that a comprehensive, goal-by-goal mapping of Goa's current SDG India Index performance, drawing on the most recent edition of NITI Aayog's index, be prioritised for a future revision, given that such a mapping would provide a valuable, independently validated cross-check against this framework's own sector-by-sector findings across Chapters 1 through 19.

20.2 Gender Mainstreaming Across Sectors

Gender emerges as one of this framework's most consistently documented cross-cutting concerns, appearing with distinct, sometimes contradictory findings across multiple chapters. Chapter 1, section 1.3, and Chapter 7, section 7.4, have both documented Goa's sharply declining sex ratio at birth, from 966 to 838 females per 1,000 males between NFHS-4 and NFHS-5, the steepest such decline recorded among Indian states in that survey round, a finding this framework treats as the single most serious gender-related concern identified anywhere in this document. Set against this finding, Chapter 3, section 3.7, has documented Goa's comparatively strong Female Labour Force Participation rate of 42.3 percent as of 2022-23, above the national average, while Chapter 17, section 17.1, has documented the Goa Startup Policy 2025's dedicated mentoring and funding provisions for women entrepreneurs.

This framework's independent evaluation of the Goa State Action Plan on Climate Change, discussed in Chapter 14, section 14.2, has separately recommended that the state's climate vulnerability indexing explicitly incorporate gender dimensions, a recommendation this framework treats as symptomatic of a broader pattern: gender considerations appear throughout Goa's sectoral policy documents and this framework's own analysis, but a single, consolidated gender mainstreaming strategy or gender budgeting framework spanning the state's departments was not identified by this framework in the sources consulted across any chapter. This framework recommends that the Goa State Commission for Women, referenced in Chapter 7, section 7.4, be resourced to lead development of such a consolidated, cross-departmental gender mainstreaming strategy, with the sex ratio at birth crisis treated as the framework's most urgent priority indicator.

20.3 Youth Policy and Demographic Dividend Realisation

Goa's demographic profile, established in Chapter 1, section 1.3, presents a fundamentally different youth policy context than most Indian states, given the state's sub-replacement Total Fertility Rate of 1.3 children per woman and its slowing population growth rate of 0.5 percent annually. Where much of India's national demographic dividend discourse centres on a youthful, growing population requiring employment absorption at scale, Goa's youth policy imperative, this framework's cumulative analysis suggests, is better understood as one of talent retention and quality employment generation for a comparatively smaller and, per Chapter 7, section 7.6's discussion of the state's rising old-age dependency ratio, an increasingly time-limited youth cohort.

This reframing connects directly to Chapter 17's discussion of Goa's youth innovation ecosystem, section 17.5, and Minister Khaunte's explicit reverse brain drain narrative, in which the state's startup and AI Mission ecosystem, examined in Chapter 16 and Chapter 17, is positioned as a tool for attracting Goan professionals and scientists back to the state rather than primarily as a mass employment generation programme. This framework treats Goa's youth policy as most productively oriented around this dividend-conservation framing, maximising the economic contribution of a demographically finite youth population through the skill development, apprenticeship and innovation ecosystem channels documented in Chapter 17, section 17.6, rather than around the population-scale employment absorption framing more applicable to India's larger, younger states.

20.4 Migration: Internal, Inter-State and International Dimensions

Migration constitutes one of the most recurrent cross-cutting themes in this entire framework, appearing substantively in Chapter 1, section 1.4, Chapter 3, sections 3.6 and 3.7, Chapter 6, section 6.8, and Chapter 11, section 11.6. This framework has consistently documented Goa's dual migration pattern: substantial interstate in-migration of construction, tourism and fisheries labour from states including Karnataka, Maharashtra, Uttar Pradesh, Bihar, Jharkhand and West Bengal, alongside substantial international out-migration of skilled and semi-skilled Goan residents, facilitated by the Portuguese and European Union citizenship

eligibility available to Goans born before 1961 and their descendants, discussed in Chapter 1, section 1.4.

This framework has repeatedly flagged the practical consequence of this pattern: Goa's resident-focused household surveys likely under-enumerate the in-migrant labour population, with direct implications for the accuracy of the state's poverty statistics, discussed in Chapter 1, section 1.6, its labour market statistics, discussed in Chapter 3, section 3.7, its health coverage statistics, discussed in Chapter 6, section 6.8, in the specific context of the Deen Dayal Swasthya Seva Yojana's five-year residency eligibility requirement, and its urban housing and poverty statistics, discussed in Chapter 11, section 11.6. This framework's single clearest, consolidated recommendation across all these chapters is that Goa commission a dedicated, migrant-inclusive household survey, methodologically designed to capture both de jure resident and de facto present populations, given that this data gap recurs across at least five separate chapters of this framework and cannot be adequately addressed through any single sectoral intervention alone.

20.5 Science, Technology and Innovation for Development

Goa's science, technology and innovation agenda, examined most directly in Chapter 16 and Chapter 17, has emerged over the course of this framework as one of the state's most actively evolving and well-resourced policy domains, anchored by the Goa AI Mission 2027, the Goa Startup Policy 2025, and the state's National Institutional Ranking Framework-ranked higher education base examined in Chapter 5, section 5.3. This framework's cross-chapter synthesis finds that Goa's science, technology and innovation strategy is being deliberately positioned as the state's primary vehicle for economic diversification beyond tourism, a strategy this framework has traced from the Goa Startup Policy's explicit 2028 job creation targets, through the AI Mission's foundational research ambitions, to the International Film Festival of India's AVGC-XR and AI filmmaking programming examined in Chapter 19, section 19.6.

This framework's most significant reservation regarding this science, technology and innovation strategy, already flagged in Chapter 16, sections 16.4 and 16.5, concerns the comparatively underdeveloped state of the data governance and cybersecurity institutional safeguards that would normally be expected to accompany a rapidly digitising government and economy. This framework treats closing this safeguard gap as a necessary complement to, rather than a constraint on, Goa's technology-forward development strategy, given that citizen trust in digital government services, examined throughout Chapter 16, ultimately depends on the credibility of the data protection framework underpinning them.

20.6 Statistical System Strengthening and Evidence-Based Policymaking

This section addresses what has become, over the course of this framework's eighteen preceding sectoral chapters, its single most frequently recurring structural finding: a persistent and pervasive gap between Goa's strong performance on the specific indicators this framework was able to source, and the availability of comprehensive, current, publicly disclosed, Goa-specific statistical data across a wide range of sectors. This framework has

explicitly flagged this data gap and recommended a consolidated statistical digest in Chapter 5 for education, Chapter 6 for health, Chapter 7 for social welfare, and Chapter 12 for rural development, while separately documenting significant data gaps in Chapter 4's public sector enterprise performance data, Chapter 11's urban local body finances, Chapter 13's environmental monitoring data, Chapter 15's civil service vacancy and judicial pendency data, and Chapter 18's agricultural and fisheries outcome data.

This framework's cumulative assessment is that this is not a series of isolated, sector-specific gaps but a systemic feature of Goa's statistical infrastructure, one this framework recommends the state address through a coordinated, cross-departmental effort rather than through piecemeal, sector-by-sector fixes. The Directorate of Planning, Statistics and Evaluation, whose Economic Survey has served as this framework's single most reliable and comprehensive Goa-specific data source throughout Chapters 2 and 3, represents the most logical institutional home for such a coordinated statistical strengthening effort, potentially through an expanded, annual, multi-sectoral statistical digest that consolidates education, health, social welfare, rural development, environmental, judicial and civil service data currently scattered, where available at all, across dozens of individual department websites and reports of inconsistent frequency and rigour. This framework treats statistical system strengthening not as a narrow, technical governance reform, but as a foundational precondition for the evidence-based policymaking this entire Comprehensive Development Framework has been constructed to support.

20.7 Public Participation: Behavioural Change and Citizen Engagement

Goa's public participation architecture, as documented across this framework, operates through several distinct channels: the Panchayat Parishad and Mahila Mandal structures examined in Chapter 7, section 7.4, and Chapter 12, section 12.1, the participatory stakeholder consultation process used in developing the Goa State Action Plan on Climate Change, examined in Chapter 14, section 14.2, the citizen consultation underpinning Panaji's Smart City proposal, examined in Chapter 11, section 11.4, and the Goa MyGov citizen engagement portal referenced in Chapter 16, sections 16.3 and 16.5.

This framework's cross-chapter synthesis finds that Goa's public participation mechanisms are most developed and most consistently documented in the urban development and climate planning domains, examined in Chapter 11 and Chapter 14 respectively, and least developed or documented in the rural development and social welfare domains, examined in Chapter 12 and Chapter 7, where this framework was repeatedly unable to source data confirming the extent to which Gram Panchayat Development Plans, discussed in Chapter 12, section 12.6, genuinely reflect bottom-up community priorities as opposed to top-down scheme allocation. This framework recommends that Goa's public participation strengthening agenda prioritise its rural and social welfare domains specifically, given that this framework's evidence suggests these are the areas of the state's governance architecture with the least mature and least transparent citizen engagement mechanisms currently in place.

Taken together, this chapter's cross-cutting synthesis reinforces a set of themes that have now surfaced repeatedly across this entire framework: Goa's genuine development achievements, documented from Chapter 1 through Chapter 19, sit alongside a specific, recurring set of second-generation challenges, a declining sex ratio at birth, a persistent coast-hinterland divide, a labour market mismatch, rising fiscal pressure, and a systemic statistical data gap, that together define the state's next development agenda more precisely than any single sectoral chapter could establish on its own. Chapter 21, which follows, draws these cross-cutting findings together into a long-term Vision 2047 roadmap, setting out the strategic priorities, financing strategy, and institutional reforms this framework's cumulative analysis suggests Goa will need to sustain its development leadership over the coming decades.

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

21.1 Long-Term Vision and Flagship Missions

This framework's cumulative analysis points toward a single organising vision for Goa through 2047: a state that converts its existing human development leadership, documented in Chapter 1, into durable, broad-based prosperity by closing the specific structural gaps this framework has identified between the state's aggregate achievements and its underlying economic, fiscal and social resilience. Goa does not need to catch up to the rest of India, as Chapter 1's Human Development Index and multidimensional poverty findings make clear. It needs to convert an early, income-driven development lead into a more balanced, sustainable and broadly distributed prosperity before the specific second-generation risks this framework has documented, a declining sex ratio at birth, sub-replacement fertility, rising public debt, a fiscal deficit exceeding the Sixteenth Finance Commission's ceiling, and a persistent coast-hinterland divide, erode that lead.

Three flagship missions, already substantially underway according to this framework's Chapter 16 and Chapter 17 findings, anchor this vision. The Goa AI Mission 2027 and the Goa Startup Policy 2025, examined in detail in those chapters, represent the state's primary vehicle for economic diversification beyond the tourism dependence documented throughout Chapter 3, with the explicit target of 1,000 startups and 10,000 jobs for Goans by 2028 providing this framework's clearest quantified benchmark for assessing progress. The Regenerative Tourism strategy, examined in Chapter 3, section 3.5, and Chapter 19, represents the state's parallel effort to make its existing, dominant tourism sector more resilient and less seasonally and environmentally exposed, rather than displacing tourism as the state's economic anchor. The Electricity Department's 2030 financial self-sufficiency target, examined in Chapter 9, section 9.2, represents a third, more narrowly technical but fiscally consequential flagship commitment, whose success or failure will materially affect the state debt trajectory examined in Chapter 2.

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

Drawing together this framework's most urgent findings, five medium-term priorities emerge for the 2025 to 2030 period, aligned with the Sixteenth Finance Commission's award period examined in Chapter 2. First, fiscal consolidation: Chapter 2, section 2.4, has documented a fiscal deficit rising to 3.1 percent of GSDP in the 2025-26 revised estimate and targeted at 3.4 percent for 2026-27, both exceeding the Finance Commission's recommended 3 percent ceiling, a trajectory this framework identifies as the single most urgent near-term fiscal priority, particularly given the capital expenditure execution inconsistency documented in Chapter 2, section 2.3, and the off-budget borrowing transparency gap documented in section 2.5.

Second, demographic and gender crisis response: the sex ratio at birth decline documented in Chapter 1, section 1.3, and revisited in Chapter 20, section 20.2, represents this framework's

most serious social indicator finding, warranting a dedicated, time-bound state response combining Pre-Conception and Pre-Natal Diagnostic Techniques Act enforcement, public awareness programming, and the composite, gender-disaggregated vulnerability indexing recommended in Chapter 14's climate evaluation, extended to this demographic concern specifically.

Third, coast-hinterland convergence: this framework has documented Goa's persistent internal development divide in Chapter 1, section 1.7, Chapter 3, section 3.4's mining sector disruption, Chapter 7, section 7.2's Scheduled Tribe concentration, and Chapter 12's rural development analysis, consistently identifying Sattari, Sanguem, Canacona, Quepem and Dharbandora as the talukas most distant from the state's coastal prosperity. This framework recommends these five talukas be treated as a de facto, state-designated convergence zone, receiving the kind of differentiated, accelerated development attention that Chapter 1, section 1.7, noted these talukas do not currently receive through the national Aspirational Districts or Aspirational Blocks programmes.

Fourth, statistical infrastructure investment: the systemic public data disclosure gap identified across nearly every chapter of this framework and synthesised in Chapter 20, section 20.6, should be treated as a foundational governance investment rather than a peripheral administrative concern, given that this framework's own analytical limitations across Chapters 4 through 18 trace directly back to this gap.

Fifth, migrant inclusion: the recurring under-enumeration and coverage gap affecting Goa's substantial interstate migrant population, documented across Chapter 1, Chapter 3, Chapter 6 and Chapter 11 and synthesised in Chapter 20, section 20.4, should be addressed through the dedicated migrant-inclusive household survey this framework has recommended, alongside a review of residency-based eligibility criteria in schemes such as the Deen Dayal Swasthya Seva Yojana examined in Chapter 6, section 6.8.

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

Goa's financing strategy through 2047 must be built on the fiscal architecture examined in Chapter 2. This framework recommends three specific financing priorities. First, given Chapter 2, section 2.7's finding that State Goods and Services Tax revenue growth is being budgeted for 2026-27 against a nominal GSDP that is itself projected to contract, sustaining own-tax revenue buoyancy without further increasing the effective tax burden should rely on broadening the formal, GST-registered economy documented in Chapter 3, section 3.5's tourism analysis, rather than on rate increases. Second, given Chapter 2, section 2.9's finding that fifty-year interest-free central capital expenditure loans have become an increasingly important capital financing channel, this framework recommends the state prioritise project pipeline readiness specifically to maximise absorption of this favourable financing instrument, complementing the public-private partnership pipeline expansion recommended in Chapter 4, section 4.7. Third, given the capital expenditure underspending documented in Chapter 2, section 2.3, this framework's financing strategy places as much emphasis on

capital budget execution capacity as on capital budget allocation, since Chapter 2's evidence suggests that Goa's binding constraint has, in recent years, been execution rather than resource availability alone.

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

This framework's Chapter 2, section 2.6, has documented the Sixteenth Finance Commission's shift away from discretionary revenue deficit, sector-specific and state-specific grants toward more formulaic, local-body and disaster-management-linked grant channels. Goa's Centre-State partnership strategy through 2047 should, this framework recommends, focus on maximising the state's absorption capacity for these newly prioritised grant categories, particularly the ₹726 crore in urban local body grants documented in Chapter 2, section 2.6, given Chapter 11's finding that Goa's urban local bodies already carry significant service delivery responsibility for a state that is, per Chapter 1, section 1.3, 75.8 percent urbanised. This framework further recommends that Goa's ongoing engagement with central ministries on the Smart Cities Mission, AMRUT, Swachh Bharat Mission-Urban and Pradhan Mantri Awaas Yojana-Urban, documented in Chapter 11, section 11.4, be sustained and, where the Union Minister's May 2025 review identified pending, incomplete works, prioritised for completion within this framework's 2025 to 2030 medium-term window.

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

This framework's Chapter 4, section 4.8, has documented the unresolved Mahadayi river water dispute with Karnataka and Maharashtra as Goa's most significant and longest-running inter-state cooperation challenge, a dispute this chapter's Chapter 10, section 10.2, and Chapter 13, section 13.3, analyses have further connected to the state's irrigation water security and river ecosystem health respectively. This framework recommends that Goa's long-term inter-state cooperation strategy treat resolution or, at minimum, durable stabilisation of the Mahadayi dispute as a standing strategic priority through 2047, given the multi-decade timeline this dispute has already run and its cross-cutting relevance to water supply, agriculture, and ecological security documented across three separate chapters of this framework. This framework also recommends that Goa build on the comparatively successful, stable cooperation model of the Konkan Railway Corporation joint venture, documented in Chapter 4, section 4.8, and Chapter 8, section 8.2, as a template for how multi-state infrastructure cooperation can function effectively even where other bilateral or trilateral relationships, such as the Mahadayi dispute, remain contentious.

21.6 International Collaboration: Common Development Agenda and Global Partnership

Goa's international collaboration profile, as documented across this framework, spans the state's Portuguese and broader European Union diaspora connections examined in Chapter 1, section 1.4, its international tourism source market diversification examined in Chapter 3, section 3.5, and its emerging technology partnerships, including the August 2025 collaboration with the IndiaAI Mission, Google and the World Bank on AI governance

training examined in Chapter 16, section 16.6. This framework recommends that Goa's international collaboration strategy through 2047 deliberately connect these three strands, using the state's existing diaspora and international tourism relationships as a platform for attracting the kind of international technology and knowledge economy partnerships that Chapter 17's innovation ecosystem analysis suggests the state is actively seeking to build.

21.7 Monitoring, Evaluation and Results Framework

Consistent with this framework's Chapter 20, section 20.6, recommendation for a consolidated, cross-departmental statistical strengthening effort, this framework recommends that Goa establish a formal monitoring and evaluation framework tracking, at minimum, the specific quantified targets this framework has identified across its chapters: the Goa Startup Policy 2025's 1,000 startup and 10,000 job targets by 2028, examined in Chapter 17, the Electricity Department's 2030 financial self-sufficiency target, examined in Chapter 9, the fiscal deficit trajectory against the Sixteenth Finance Commission's 3 percent ceiling, examined in Chapter 2, and the sex ratio at birth trend, examined in Chapter 1 and revisited throughout this chapter. This framework recommends this monitoring function be housed within the Directorate of Planning, Statistics and Evaluation, building on that department's existing Economic Survey publication, which has served throughout this framework as Goa's single most reliable and current public data source.

21.8 Accountability Architecture: Legislature, Civil Society and Citizens

This framework's final recommendation concerns the accountability architecture through which the priorities set out in this chapter should be tracked and enforced. Goa's forty-seat Legislative Assembly, documented in Chapter 1, section 1.2, and this framework's Chapter 15 finding regarding the state's comparatively compact administrative footprint, together suggest that Goa possesses a structural advantage, relative to larger Indian states, for close, legislature-level tracking of the specific, quantified priorities this framework has identified. This framework recommends that the priorities set out in section 21.2 be formally adopted as a legislative oversight framework, reviewed annually alongside the state Budget and Economic Survey, with the Goa Lokayukta, examined in Chapter 15, section 15.2, and the Goa State Commission for Women, examined in Chapter 7, section 7.4, and Chapter 20, section 20.2, each assigned explicit oversight roles for the anti-corruption and gender mainstreaming priorities within their respective institutional mandates.

End Note

This Comprehensive Development Framework for the State of Goa has sought to provide a rigorous, evidence-based account of the state's development position across twenty-one chapters. Spanning geography and demography, fiscal architecture, economic structure, industry and investment, education, health, social justice, infrastructure, energy, environment, governance, technology, innovation, agriculture, tourism, cross-cutting themes, and long-term strategic vision, a consistent picture emerges. It is the portrait of a state that has already achieved what most of India still aspires to, the highest per capita income, the leading Human Development Index score, and one of the lowest multidimensional poverty rates of any Indian state, and whose next chapter will be written less by the pursuit of growth for its own sake than by the discipline with which an early, income-driven lead is converted into durable, broadly shared, and ecologically sustainable prosperity. What follows is a final synthesis of this framework, a distillation of where Goa stands today and the trajectory it must chart for tomorrow.

The overarching narrative of Goa's development cannot be decoupled from the smallness that defines its territory and the speed with which that small territory has urbanised. Goa's State Profile, Geography and Demography reveal both the source of its distinctiveness and the scale of its emerging vulnerabilities. A land area smaller than any other Indian state, a population that is now three quarters urban, and a Human Development Index that leads the national table together describe a state whose development achievements sit atop a demographic and ecological base that this framework has found to be more fragile than the aggregate statistics first suggest. The chapters on Health and Social Justice make this most visible: a sex ratio at birth that collapsed from 966 to 838 females per thousand males between successive national family health surveys, the steepest such decline recorded anywhere in India, a childhood stunting rate that rose sharply even as the state's other health indicators improved, and a Scheduled Tribe population that moved from statistical non-existence to nearly a tenth of the state within a single decade through administrative recognition rather than demographic change. Goa's task is not to catch up, but to ensure that the prosperity it has already secured does not quietly erode beneath indicators the headline numbers do not capture.

As detailed in the analyses of Economic Structure, Investment and Industry, Technology, and Innovation, Goa has built an economy of genuine, if narrowly concentrated, sophistication. Tourism alone contributes over a sixth of the state's GSDP and employs more than a third of its workforce, a pharmaceutical and engineering manufacturing base anchors the state's industrial estates, and a newly launched AI Mission and startup policy signal a deliberate, well-resourced effort to diversify beyond the tourism dependence that has defined Goa's economy for decades. Yet real economic growth has trailed the national average for more than a decade, unemployment exceeds the national rate despite the state's income leadership, and this framework's recurring finding, that Goa's labour market absorbs its workforce into comparatively low value-added tourism roles rather than the higher value-added

manufacturing and technology sectors this state is capable of, remains the central, unresolved puzzle running through this document.

The physical and ecological manifestation of this tourism-driven economy requires an increasingly sophisticated approach to the built and natural world. Our review of Transport, Energy, Water, and Environment reveals a state making genuine capital investment, a dual airport system, an expanding port pipeline, and a solid waste treatment infrastructure that converts waste to electricity, while carrying real ecological cost. Goa's forest cover remains exceptional, above sixty percent of its land area, yet its rivers and estuaries face mounting pressure from reclamation, mining silt, and inadequately governed waste discharge, its mining sector has required repeated Supreme Court intervention to bring under environmental control, and its coastal communities are already, by this framework's own evidence, being displaced by erosion and flooding rather than merely facing that risk in some distant future. Future infrastructure and energy investment must be reoriented around closing the renewable energy gap this framework has documented and integrating climate resilience directly into the urban and coastal development this state's economy depends upon.

While economic diversification accelerates, the chapters on Agriculture, Fisheries, and Tourism and Culture remind us that Goa's identity remains tied to a smaller, older economy of cashew groves, fishing villages, and Indo-Portuguese heritage quarters that persists alongside its beaches and boardrooms. Agriculture continues to shape the livelihoods of the state's interior talukas even as land conversion pressure from tourism steadily narrows its footprint, and the International Film Festival of India, now permanently anchored in Goa, offers a genuinely promising vector for the creative economy diversification this framework's later chapters describe. Culture and tourism, in this sense, are not competing priorities for Goa but the same asset base viewed from two directions.

The ambition of the state's long-term strategic vision is ultimately bound by the realities of its Governance and Fiscal Architecture. The framework highlights a central tension: Goa is a state with a persistent revenue surplus and a strong own-tax revenue base, yet its fiscal deficit now exceeds the ceiling recommended by the Sixteenth Finance Commission, its capital expenditure has been inconsistently executed for years at a stretch, and its public data disclosure, across health, education, social welfare, rural development, and civil service staffing alike, is too thin, in dozens of specific instances documented across this framework, to allow either the state or outside observers to verify with confidence whether its many well-designed schemes are delivering their intended outcomes. The state's dual airport system and its AI Mission demonstrate that Goa's institutions can move with genuine speed and ambition when a priority is clearly defined and consistently resourced. The same discipline, extended to statistical transparency, fiscal consolidation, and the coast-hinterland convergence this framework has identified as the state's most persistent internal divide, is what the coming decade demands.

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