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ओडिशा शासन

सत्यमेव जयते
NITI Aayog

Economic Plan for

Bhubaneswar-Cuttack -Puri-Paradeep Economic Region

FEBRUARY, 2026

Disclaimer

This document presents the Economic Plan for the Bhubaneswar-Cuttack-Puri-Paradeep Economic

Region (BCPPER), outlining key growth drivers and a strategic roadmap up to 2047. The analysis is based on publicly available data and inputs from the State Government, supported by stakeholder consultations and preliminary market and spatial assessments. Project costs, land requirements, and locations are indicative and provided for planning purposes only. This document including the project proposals contained therein are expected to evolve overtime as the situation and context changes, as well as based on the detailed feasibility study undertaken by the implementing authorities. Maps and spatial representations are prepared using secondary sources and are indicative, not to scale. All images are sourced from open-access platforms or provided by State Government and used for representational purposes only.

Economic Plan for

Bhubaneswar-Cuttack -Puri-Paradeep Economic Region

February, 2026

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Message

Honourable Chief Minister, Odisha

MOHAN CHARAN MAJHI
CHIEF MINISTER, ODISHA

LOKASEVA BHAVAN
BHUBANESWAR

MESSAGE

As India moves forward with the vision of Viksit Bharat @2047, every state has a crucial role in shaping this journey. Odisha is determined to be a key driver of this transformation. With its strategic strengths, cultural heritage, and talented people, the state has set a bold vision—to grow into a $1.5 trillion economy by 2047, nearly fifteen times its present size.

Our roadmap focuses on creating large-scale employment, diversifying into services and knowledge industries, enhancing global competitiveness, and building climate resilience.

At the heart of this vision lies the Bhubaneswar-Cuttack-Puri-Paradip Economic Region (BCPPER)—the economic and cultural powerhouse of Odisha. With its strategic coastal location, vibrant cities, and rich heritage, BCPPER is poised to become the principal growth engine, evolving into a $500 billion economy by 2047 and contributing nearly one-third of Odisha's GSDP.

This plan highlights focused interventions in port-led industrialization, IT/ITES, education and skilling, tourism, manufacturing, and green growth—while safeguarding our environment and cultural identity.

I extend my appreciation to NITI Aayog and all partners for their dedicated collaboration. The success of this vision rests on focused, time-bound, and coordinated action across sectors.

Together, we will build a prosperous, resilient, and globally competitive Odisha—making a proud contribution to the dream of Viksit Odisha, Viksit Bharat.

(MOHAN CHARAN MAJHI)

Phone : Office : 0674-2531100, 2531500, 2535100 (Fax)

Foreword

Honourable Housing & Urban Minister, Odisha

DR. KRUSHNA CHANDRA MAHAPATRA
MINISTER
Housing & Urban Development
Public Enterprises, Odisha

Date: 23.02.2026

The Economic Plan for the Bhubaneswar–Cuttack–Puri–Paradeep Economic Region marks a significant milestone in Odisha's journey towards planned, inclusive and sustainable urban growth. Developed in alignment with the NITI Aayog Growth Hub Initiative, the Plan reflects our collective resolve to position cities as engines of economic progress while ensuring improved quality of life for every citizen.

The Bhubaneswar–Cuttack–Puri–Paradeep corridor represents a unique convergence of governance, heritage, industry and coastal connectivity. By integrating urban infrastructure, housing, mobility and economic planning within a unified framework, this initiative lays a strong foundation for future-ready cities that are resilient, efficient and people-centric. It reinforces our commitment to balanced regional development and environmentally responsible urbanisation.

I appreciate the efforts of all departments, institutions and stakeholders who have contributed to shaping this comprehensive roadmap, with strategic guidance from NITI Aayog. The Government of Odisha remains steadfast in its commitment to effective implementation through coordination, innovation and continuous monitoring. This initiative will play a transformative role in advancing the vision of Viksit Odisha and strengthening Odisha's contribution to the national goal of Viksit Bharat @2047.

(Dr. Krushna Chandra Mahapatra)

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Foreword

Chief Secretary, Odisha

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Foreword

The economic transformation of Odisha requires a bold, forward-looking approach that integrates spatial, economic, and institutional planning. The Bhubaneswar-Cuttack-Puri-Paradeep Economic Region can serve as the State's economic core, and this Economic Plan offers a structured framework to fully realize its potential as a flagship growth corridor. The plan adopts a regional lens to unlock complementarities between Bhubaneswar's role as an administrative and knowledge hub, Cuttack's commercial legacy, Puri's cultural and tourism strengths, and Paradeep's industrial and port-led advantages.

It is indeed a matter of great satisfaction that, Odisha has already embarked on a structured regional planning framework to leverage the economic power of urban agglomerations, which is in alignment with the Union Budget 2026's thrust on mapping and strengthening City Economic Regions to harness the economic power of agglomerations through reform-linked, results-based financing.

By envisioning BCPPER as a functional economic region, we can better manage urbanization, attract investments, and create sustainable livelihoods. This vision is closely aligned with Odisha's State Vision 2036 & 2047 to grow into a $1.5 trillion economy.

I appreciate the collaborative efforts of NITI Aayog and our departments in preparing this forward-thinking plan. Its implementation will require coordinated action, institutional innovation, and collective ownership across all levels of government and society. I am confident that this vision will shape Odisha's journey to becoming a key contributor to the national vision.

(Anu Garg)

Preface

CEO, NITI Aayog

बी. वी. आर. सुब्रह्मण्यम
B.V.R. Subrahmanyam
मुख्य कार्यकारी अधिकारी
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PREFACE

India's journey towards *Viksit Bharat @2047* depends on unlocking the full potential of its cities, enabling them to serve as true engines of growth. The *Growth Hub (G-Hub) Initiative*, launched by NITI Aayog, seeks to bring about a paradigm shift in urban and regional planning by adopting a proactive, region-based, and institutionally integrated approach.

Based on the preparation of Economic Plans for the four city regions of Mumbai Metropolitan Region (MMR), Surat, Varanasi, and Visakhapatnam, NITI Aayog developed a process template for preparing such plans. I am pleased that the Government of Odisha has come forward to adopt this approach for the Bhubaneswar region.

The Bhubaneswar-Cuttack-Puri-Paradeep Economic Region (BCPPER) stands as a leading growth engine of Odisha, poised to play a pivotal role in realizing the State's Vision 2047 goals. This Plan, prepared in close collaboration with the State Government, demonstrates how economic visioning can guide spatial and sectoral development in a manner that is both inclusive and sustainable.

The Economic Plan for BCPPER outlines three growth scenarios, envisioning an aspirational target of USD 500 billion GDP by 2047, driven by strategic interventions in key sectors including tourism, ports, IT, education, and agriculture. The Plan further aims to catalyse port-led growth by integrating manufacturing, food processing, chemicals, and textiles within a unified port economy.

This document is the culmination of extensive research and stakeholder consultations involving state departments, district administrations, industry associations, and private sector partners. It provides a comprehensive roadmap for regional development, detailing key growth drivers, sectoral strategies, project pipelines, policy interventions, and an institutional framework for implementation. It also places strong emphasis on inclusivity, sustainability, and quality of life as central pillars of growth.

I congratulate the Government of Odisha for its leadership and partnership in this important endeavour, along with the team of NITI Aayog led by Ms. Anna Roy. This plan will serve as a model for other city regions across the country for their economic growth strategies.

21/10

Dated: 21st October, 2025

[B.V.R. Subrahmanyam]

Foreword

Additional Chief Secretary, Odisha

ଉଷା ପାଢୀ, ଭା. ପ୍ର. ସେ.
Usha Padhee, IAS

ଅତିରିକ୍ତ ମୁଖ୍ୟ ଶାସନ ସଚିବ
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Additional Chief Secretary
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Government of Odisha

From the desk of Additional Chief Secretary...

The Economic Plan for the Bhubaneswar-Cuttack-Puri-Paradip Economic Region (BCPPER) presents a clear and forward-looking roadmap for Odisha's urban and regional development. As a flagship initiative under Odisha's Vision 2036 and 2047, BCPPER reflects our commitment to building a strong, inclusive, and globally competitive economic region supported by modern infrastructure, sustainable growth, and coordinated urban development.

BCPPER brings together four important cities-Bhubaneswar, our administrative and knowledge capital; Cuttack, State's historic commercial centre; Puri, a globally renowned cultural and tourism destination, and Paradip, the country's major port and industrial gateway. Together, these cities form the economic, industrial and cultural heart of Odisha

This plan marks a shift from developing these cities in isolation to planning them as one integrated economic region. The focus sectors include manufacturing, logistics, tourism, food processing, and emerging knowledge industries. By improving connectivity between urban centres, industries, and the port, and by aligning infrastructure with economic priorities, we aim to unlock new opportunities for investments, job creation, and improved quality of life.

This economic plan is the result of close collaboration across government departments, informed by detailed analysis and consultations with stakeholders, and guided by national and regional priorities. The Housing & Urban Development Department will ensure coordinated implementation through strong governance, regular monitoring, and continuous improvement.

Through this initiative, we aspire to transform BCPPER into a model of sustainable urban growth and living, one that delivers prosperity, creates opportunities for our people, and contributes meaningfully to the vision of Viksit Odisha and Viksit Bharat. This plan also helps the department to prepare similar blueprint for other major urban agglomerations such as Bargarh-Jharsuguda-Sambalpur, Berhampur-Chhattrapur-Gopalpur, and Jeypore-Koraput-Sunabeda.

Date : 07/02/2026

(USHA PADHEE)

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Acknowledgement

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Acknowledgement

The preparation of the Economic Plan for the Bhubaneswar-Cuttack-Puri-Paradeep Economic Region (BCPPER) marks a significant step in advancing the Growth Hub initiative of NITI Aayog, which seeks to position city regions as key drivers of India's long-term growth. Inspired by the vision of Viksit Bharat @2047, this plan is closely aligned with Odisha's State Vision 2036 & 2047 of becoming a $1.5 trillion economy.

This effort has been made possible through the leadership and guidance of the CEO, NITI Aayog, who provided the strategic vision that shaped the Growth Hub initiative. I also wish to acknowledge the Government of Odisha, whose strong ownership and commitment have been central to this initiative. The Steering Committee, chaired by the Chief Secretary, and senior officials across key departments played a vital role in defining priorities, aligning sectoral strategies, and ensuring that the plan reflects the State's development ambitions.

The district administrations of Khordha, Cuttack, Puri, and Jagatsinghpur provided crucial ground-level perspectives and facilitated data collection and consultations, ensuring that the plan remains contextually grounded. A wide range of stakeholders, including industry bodies, private sector representatives, academic institutions, and civil society organisations shared insights and constructive suggestions that have strengthened the recommendations and enhanced the inclusiveness of the planning process.

I would also like to recognise the contributions of WRI as our knowledge partner, who supported detailed analysis of sustainability and climate related aspects of the plan.

Finally, the team of the Managing Urbanisation division of NITI Aayog made this possible through their meticulous and detailed examination of varied issues, undertaking extensive stakeholder consultations, evolving project proposals, policy prescriptions and preparation of the final Report.

The BCPPER Economic Plan is more than a planning document-it represents a shared commitment between national, state, and local institutions, along with citizens and industry, to transform this region into a $500 billion economy by 2047. It is a step towards realising the joint aspirations of Viksit Bharat and a prosperous Odisha, built on collaboration, innovation, and sustained implementation.

Dated: 29th January 2026

(Anna Roy)

Abbreviations

Abbreviation	Description
AI	Artificial Intelligence
AIIMS	All India Institute of Medical Sciences
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
APEDA	Agricultural and Processed Food Products Export Development Authority
AQI	Air Quality Index
ATC	Air Traffic Control
BCPPER	Bhubaneswar-Cuttack-Puri-Paradeep Economic Region
Bn	Billion
CAGR	Compound Annual Growth Rate
CBD	Central Business District
CCF	Customs Clearance Facility
C-DAC	Centre for Development of Advanced Computing
CETP	Common Effluent Treatment Plant
CEZ	Coastal Economic Zone
CFC	Common Facilities Centre
CIPET	Central Institute of Petrochemicals Engineering & Technology
COCPC	Committee on Cotton Production and Consumption
CRUT	Capital Region Urban Transport
CPCB	Central Pollution Control Board
CoDB	Cost of Doing Business
CoE	Centre of Excellence
DFC	Dedicated Freight Corridor
DGFT	Directorate General of Foreign Trade
DGCIS	Directorate General of Commercial Intelligence and Statistics
DMO	Destination Management Organisation
DPR	Detailed Project Report
EIA	Export Inspection Agency
ERDA	Economic Region Development Authority
EGoM	Empowered Group of Ministers
EIA	Environmental Impact Assessment
EP	Economic Plan
EoDB	Ease of Doing Business
ER&D	Engineering Research & Development

Abbreviation	Description
FAR	Floor Area Ratio
FICCI	Federation of Indian Chambers of Commerce & Industry
FPO	Farmer Producer Organisation
FSSAI	Food Safety and Standards Authority of India
GAIL	Gas Authority of India Limited
GCC	Global Capability Centre
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
GSVA	Gross State Value Added
GIS	Geographic Information System
GoI	Government of India
GoO	Government of Odisha
GVA	Gross Value Added
HEI	Higher Education Institutions
HPSC	High-Power Steering Committee
HACCP	Hazard Analysis and Critical Control Point
IA	Industrial Area
ICAR-CIFA	Indian Council of Agricultural Research - Central Institute of Freshwater Aquaculture
ICCC	Integrated Command and Control Centre
ICD	Inland Container Depot
IDCO	Industrial Development Corporation of Odisha
IE	Industrial Estate
IEC	Information, Education and Communication
IIIT	Indian Institute of Information Technology
IIT	Indian Institute of Technology
IMD	India Meteorological Department
INI	Institute of National Importance
IMS	Institute of Medical Sciences
IDCO	Odisha Industrial Infrastructure Development Corporation
IOCL	Indian Oil Corporation Limited
IoT	Internet of Things
IT	Information Technology

Abbreviation	Description
ITeS	Information Technology Enabled Services
ITI	Industrial Training Institute
IWT	Inland Water Transport
KIZ	Kala Innovation Zone
LMT	Lakh Metric Tonne
LNG	Liquefied Natural Gas
LVC	Land Value Capture
MCS	Monitoring, Control, and Surveillance
MMF	Man-Made Fibre
MMLP	Multimodal Logistics Park
MMT	Million Metric Tonne
MoHUA	Ministry of Housing and Urban Affairs
MPEDA	Marine Products Export Development Authority
Mn	Million
MSMEs	Micro, Small & Medium Enterprises
MoPSW	Ministry of Ports, Shipping and Waterways
MoRTH	Ministry of Road Transport and Highways
MoU	Memorandum of Understanding
MTPA	Million Tonne Per Annum
NABL	National Accreditation Board for Testing and Calibration Laboratories
NDMA	National Disaster Management Authority
NEP	National Education Policy
NGT	National Green Tribunal
NID	National Institute of Design
NIFT	National Institute of Fashion Technology
NIRYAT	National Import-Export Record for Yearly Analysis of Trade
NISER	National Institute of Science Education and Research
NSQF	National Skills Qualifications Framework
OMC	Odisha Mining Corporation
OSDA	Odisha Skill Development Authority
OSDMA	Odisha State Disaster Management Authority
OSRTC	Odisha State Road Transport Corporation
OUAT	Odisha University of Agriculture and Technology
OUTR	Odisha University of Technology and Research
PCPIR	Petroleum, Chemicals and Petrochemicals Investment Region

Abbreviation	Description
PIB	Press Information Bureau
PMMSY	Pradhan Mantri Matsya Sampada Yojana
PMU	Project Management Unit
PPP	Public Private Partnership
R&D	Research & Development
REACH	Registration, Evaluation, Authorisation, and Restriction of Chemicals
RFID	Radio Frequency Identification
RoI	Return on Investment
RPIDA	Regional Planning Industrial Development Authority
RRTS	Regional Rapid Transit System
SCB	Srirama Chandra Bhanja Medical College & Hospital
SEZ	Special Economic Zone
SHG	Self-Help Group
SLB	Service Level Benchmark
SOA	Siksha 'O' Anusandhan University
Sq. Km	Square Kilometer
STEM	Science, Technology, Engineering, and Mathematics
SWOT	Strengths, Weaknesses, Opportunities, and Threats
SPV	Special Purpose Vehicle
Tn	Trillion
TAG	Textile Advisory Group
TCS	Tata Consultancy Services
TOD	Transit Oriented Development
UCF	Urban Challenge Fund
ULB	Urban Local Body
UGC	University Grants Commission
VC	Venture Capital Finance
VGF	Viability Gap Funding
WPR	Worker Population Ratio
WRI	World Resources Institute
XIM	Xavier Institute of Management Bhubaneswar
ZLD	Zero Liquid Discharge

Executive Summary

The Economic Plan for the Bhubaneswar-Cuttack-Puri-Paradeep Economic Region (BCPPER) presents a structured and project-oriented strategy to accelerate regional economic growth by building on existing strengths while addressing persistent structural constraints. The Report is grounded in a detailed assessment of sectoral performance, spatial endowments, infrastructure capacity, as well as aspirations and translates these into growth drivers with a set of implementable projects and policy interventions.

For preparation of the Economic Plan of BCPPER, the influence zone consisted of four districts, Khordha, Cuttack, Puri, and Jagatsinghpur each with distinct but complementary economic roles. The region combines a strong agriculture and allied base, significant fisheries and aquaculture resources, manufacturing and mineral-linked industrial activity, a growing services economy anchored in the capital city, and major port and logistics infrastructure. Services particularly education, health, tourism, trade, logistics, and knowledge-based activities play a central role in regional employment and urban growth, especially in Bhubaneswar-Cuttack. The Report recognises that while these assets are substantial, their overall economic impact remains constrained by low value addition; fragmented value chains; infrastructure and logistics gaps; limited export orientation; and weak integration between production centres, service hubs, and markets.

Vision

For the long-term vision the Report has used the target set for BCPPER to be a USD 500 billion economic region by 2047 in the Odisha Vision document. However, going beyond the economic expansion alone; the Report has worked on BCPPER to emerge as a high-growth, globally connected economic region, while preserving and promoting the region's heritage, religious identity, natural assets, and cultural character. Leveraging its urban centres, productive hinterland, coastal and port infrastructure, and services base, the vision seeks to position BCPPER as a key growth engine for Odisha ensuring that accelerated development is in harmony with its cultural and ecological foundations.

Approach

To operationalise this vision, the Report adopts a sector-led, spatially anchored, and project-driven approach. Rather than treating sectors in isolation, the plan focuses on value-chain integration, clustering, and the alignment of production, processing, services, and logistics across the region.

The following approach has been adopted while preparing the Economic Plan:

1. **Port-led Industrial and Export Growth**

   BCPPER's transformation is anchored in leveraging Paradeep and emerging coastal infrastructure to drive port-led industrialisation and export competitiveness. Manufacturing expansion, downstream value addition, and logistics efficiency

are integrated with port connectivity to strengthen trade linkages and position the region as an outward-oriented production hub.

2. **A strong Knowledge and Skill-based Services Ecosystem**

   The region's services base particularly Tourism, Education, and Information Technology is positioned as a structured growth engine anchored in defined projects and corridors. Tourism is strengthened through temple and heritage circuits, cruise and coastal infrastructure, and experience-based destinations to enhance value capture. Education is advanced through an Edu-SEZ, Science City, and hub-and-spoke skilling centres linked to industry, while the IT sector covers the full digital value chain research, design, development, data infrastructure, and global capability centres positioning BCPPER to emerge as a self-sustaining knowledge and innovation hub.

3. **Cluster-based Value Chain Development**

   Production systems are organised through cluster-based models across sectors like Agriculture & Allied activities; Fisheries and Aquaculture; and Manufacturing (including textiles and related sectors). This approach enables scale, improves productivity, enhances value addition, and strengthens linkages between producers, processors, and markets through integrated value chains.

4. **Spatially anchored Development Zones**

   The strategy translates sector priorities into clearly defined development zones, industrial corridors, agri- and aqua-processing clusters, tourism circuits, knowledge corridors, and port-linked logistics nodes. By aligning sectoral growth with spatial planning, the Report ensures that investments are geographically concentrated, infrastructure-supported, and implementation-ready.

   Together, this approach translate vision into strategy and then into implementable investments, through clearly defined projects with identified locations, indicative land requirements, investment estimates, and institutional responsibilities.

Proposals

The report translates the strategic pillars into a comprehensive portfolio of more than 80 proposed projects, supported by more than 30 policy and regulatory interventions, structured across core economic sectors and enabling infrastructure.

The proposals span:

(i) Agriculture and Fisheries (8 projects) focused on crop-specific cluster development, integrated aquaculture parks, agri-export terminals, value-chain infrastructure, and modernised fishery systems to enhance productivity and export readiness.

(ii) Manufacturing and Chemicals (20+ projects) aimed at downstream value addition, sector-specific industrial estates, PCPIR strengthening, technical textiles, food processing, biotechnology, and plug-and-play industrial infrastructure linked to port-led growth.

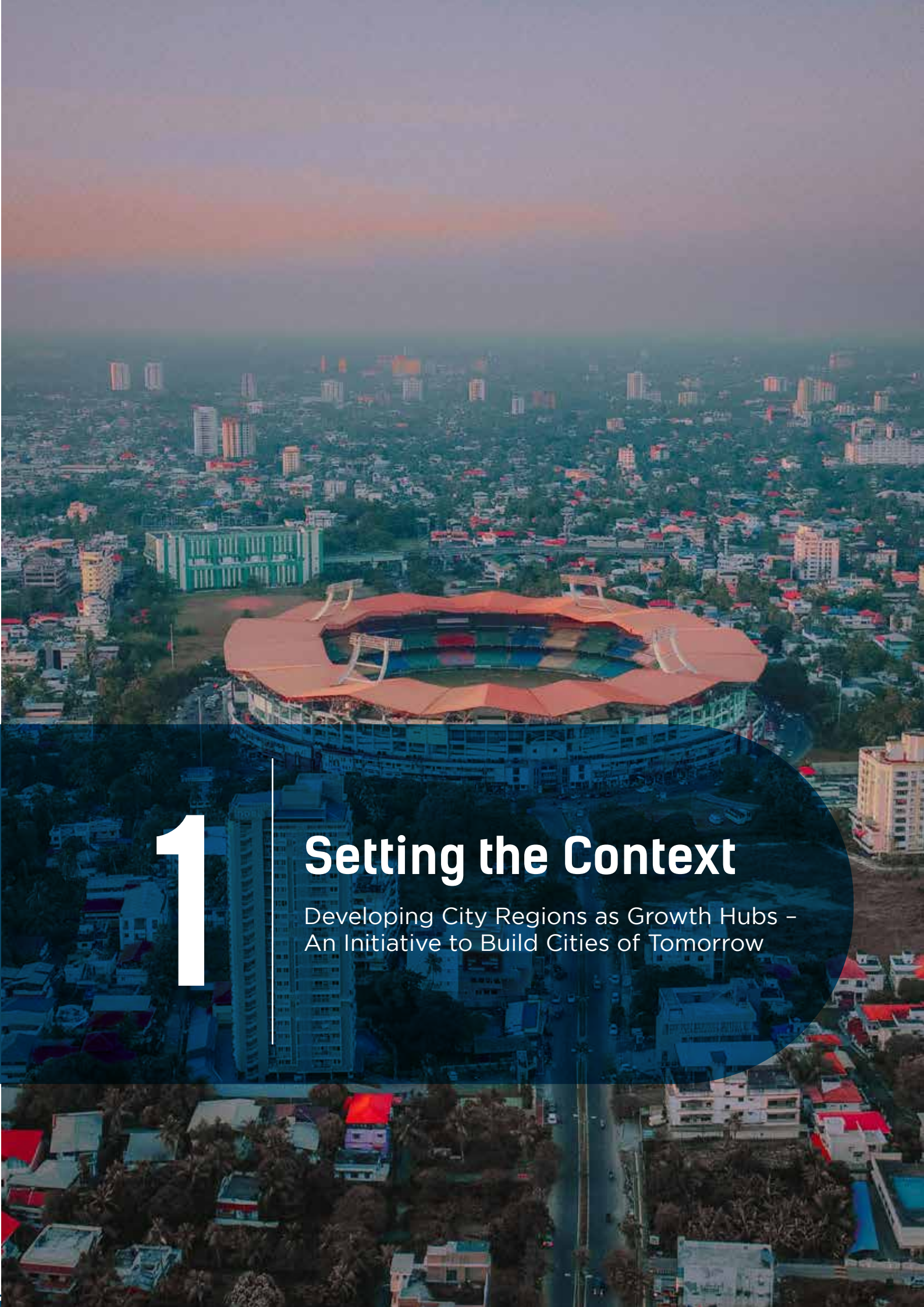
(i) Transport and Ports (25+ projects) including multimodal logistics parks, FTWZs, rail and road connectivity, RRTS integration, green hydrogen facilities, maritime workforce centres, and port-linked industrial ecosystems to strengthen export competitiveness.

(ii) Tourism (20 projects) centred on temple and heritage circuits, cruise tourism, eco-tourism, theme-based destinations, waterfront development, and hospitality infrastructure to position BCPPER as a high-value tourism region.

(iii) Education and Skilling (3 projects) including Edu-SEZ, Science City, and hub-and-spoke skilling centres integrated with industrial clusters to strengthen human capital and industry linkages.

(iv) IT & Digital Ecosystem (4 projects) focused on GCC clusters, AI and data centre infrastructure, ER&D centres, and digital backbone development to support knowledge-led services and industrial modernisation.

Collectively, the proposals represent a phased and sequenced roadmap designed to enhance value addition, deepen export integration, generate employment, and strengthen BCPPER's structural transformation in alignment with its $500 billion vision.



1 Setting the Context

Developing City Regions as Growth Hubs – An Initiative to Build Cities of Tomorrow

1.1 Leveraging City-Regions as Engines of Growth

Even though cities are widely acknowledged as the principal engines of economic growth, international experience demonstrates that a planned approach is the catalyst in transforming cities into major growth centres. In India, the process of urbanisation has become a critical determinant of the country's economic trajectory. India today constitutes the second-largest urban system globally, accounting for nearly 11% of the world's urban population. Share of urban population in India, currently estimated at 36%[1] is projected to approach 50%[2] by 2047. This demographic shift presents significant opportunities for enhanced productivity while simultaneously posing critical challenges related to urban liveability.

Although urban centres occupy only 3% of the national landmass, they contribute nearly 65% to the country's GDP[3]. However, Indian cities are yet to harness the transformative potential of urbanisation. Realising the vision of *Viksit Bharat @2047* necessitates a paradigm shift in the way urbanisation is conceived, planned and governed.

1.2 The Growth Hub Initiative: A Paradigm Shift in Urban Planning

In 2023, NITI Aayog launched the Growth Hub for City Regions (G-Hub) initiative, with the objective of adopting a holistic approach to economic and regional development of urban centers. As part of this initiative, the concept of Economic Plan was introduced, defined as the *"strategic roadmap for cities that translates economic vision into spatial and social priorities, aligning resources and interventions to achieve inclusive, competitive and sustainable growth."*

The initiative recommends the following four key mind shifts in prevailing urban planning and management practices in India with the Economic Plan providing the necessary guidance and direction:

(i) **Proactive rather than Reactive Approach**: Position economic planning as a precursor to land-use and spatial planning, with a focus on efficient delivery of urban services.

(ii) **Three-Pillar Framework**: Accord equal emphasis on all three aspects of growth, viz. economic growth with investment; quality of life with liveability; and inclusivity with long-term sustainability.

(iii) **Regional Lens**: Reorient planning to the scale of city-regions rather than restricting with in the administrative boundaries to capture functional inter-dependencies better, manage urban sprawl and leverage wider economic catchment areas.

(iv) **Institutional Reform**: Establish a transformative institutional mechanism that aligns with the needs of the growing city-region by dismantling sectoral silos, fostering coordination across departments and optimising resources.

1 Report of the Technical Group on Population Projections (2019) : Ministry of Health & Family Welfare
2 Sustainable Urbanisation in the Paris Agreement (2017) : UN-Habitat
3 Cities of the Future: Reimagining and Rejuvenating India's Top 50 Urban Ecosystems (2023) : BCG

1.3 Key Concepts

The G-Hub initiative envisages a structured and replicable framework for steering India's city-regions towards long-term economic transformation through the following five-step process:

Figure 1.1: Five-step framework for preparing an economic plan for city regions

(i) **Baseline**: Mapping the current demographic, spatial and economic profile to establish the reference conditions.

(ii) **Setting Aspirations**: Defining measurable economic and social targets, aligned with state and national visions.

(iii) **SWOT Analysis**: Systematically assessing the strengths, weaknesses, opportunities, and threats shaping the region's prospects.

(iv) **Growth Driver Identification**: Selecting sectors with the highest potential for GDP contribution and employment generation for the region.

(v) **Project Proposal and Implementation:** Translating aspirations into bankable projects, targeted policy interventions, and institutional mechanisms for delivery.

1.4 Identification of Economic Region

As a pioneering initiative, NITI Aayog initially identified four cities at different levels of growth, viz. Surat, Mumbai, Varanasi, and Visakhapatnam to develop and validate the process templates.

Subsequently, on the request of the Government of Odisha, Bhubaneswar was taken up as the fifth city region under the G-Hub initiative for preparing its Economic Plan.

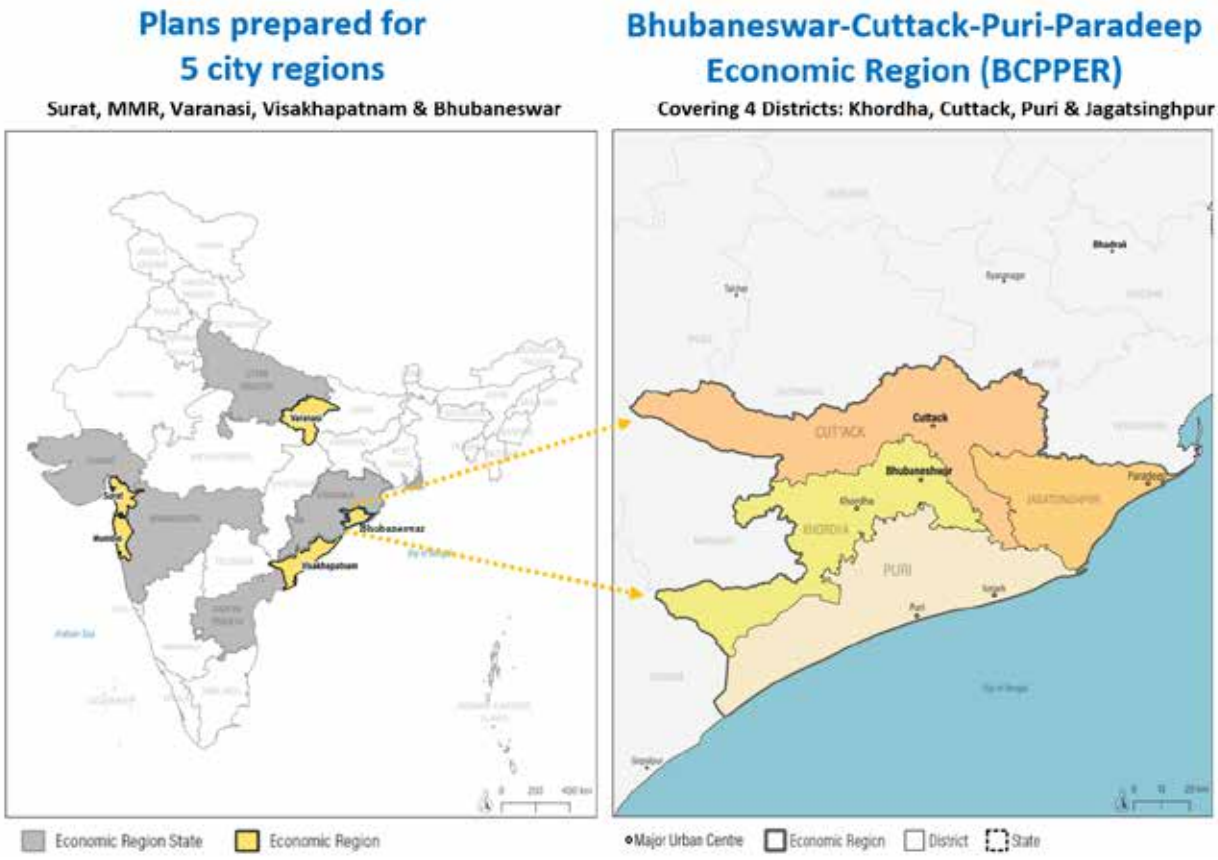
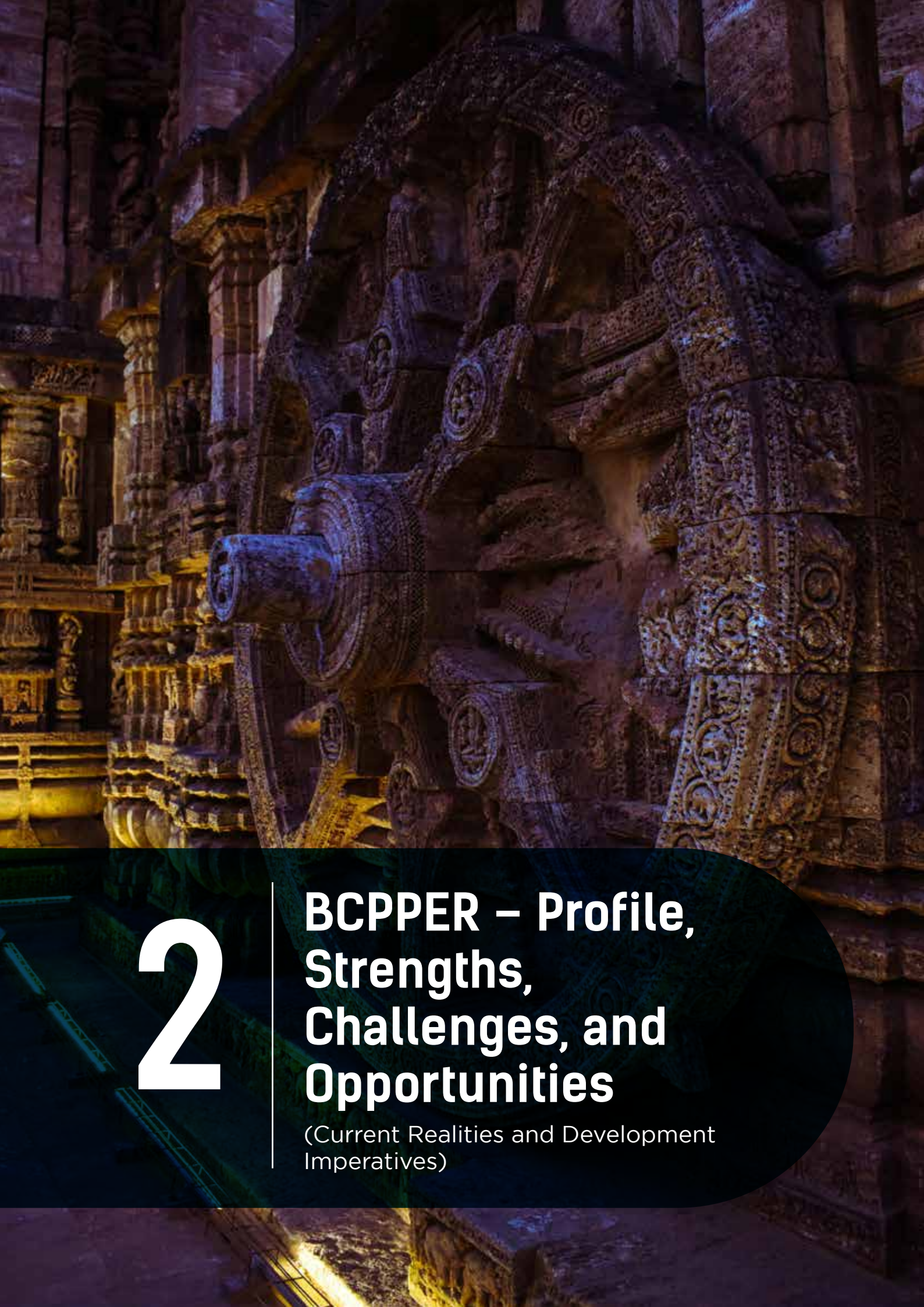


Figure 1.2: Bhubaneswar-Cuttack-Puri-Paradeep Economic Region (BCPPER)

To determine the economic region first a nucleus city is identified and the region is then selected based on several considerations, including contiguity and proximity; economic reliability; axes of growth; logistics and connectivity dependence; and complementarity.

The economic region was finalised in close consultation with the State Government, it includes four districts namely; Khordha, Cuttack, Puri, and Jagatsinghpur; and called the Bhubaneswar-Cuttack-Puri-Paradeep Economic Region (BCPPER). It constitutes Odisha's most dynamic economic and cultural corridor, and encompasses the state's key urban centres (Bhubaneswar - the administrative capital and education hub; Cuttack - the historic commercial centre; Puri - a global religious and tourism destination; and Paradip - Odisha's largest port and a petrochemical-industrial anchor.)

By integrating these four districts under a unified planning framework, the G-Hub initiative seeks to establish BCPPER as a functional economic region that leverages complementarities through linking port-led growth supported by industries and services; integrating heritage and culture with urban planning; and aligning skilling and education with local economic demand.



2

BCPPER – Profile, Strengths, Challenges, and Opportunities

(Current Realities and Development Imperatives)

2.1 Geographic and Demographic Profile of the Region

BCPPER spans across 11,892 sq. kms., accounting for 7.6% of Odisha's total land area, and is home to an estimated 9.24 Mn people in 2025, representing about 17% of the state's population. The region occupies a strategic position in Odisha's economic landscape, generating US$ 22.38 Bn in FY25, which is nearly 19% Odisha's economy. Despite its economic significance, BCPPER has a per capita GDP of US$ 2,419, which is slightly lower than the state's and national average, making productivity improvement a critical priority.

With a workforce of 4.13 Mn, the worker population ratio of BCPPER, at 43.4%, is below the state's and national average. This underscores the necessity for greater employment generation along with initiatives to enhance female and youth labour force participation.

Key Indicators	BCPPER	Odisha
Population 2025	9.24 Mn* (17%)	44.5 Mn (3.15%)
Area (Sq Km) (Census 2011)	11, 892 (7.6%)	1,55,707 (4.7%)
GDP (current prices, FY25)	USD 22.38 Bn* (18.85%)	USD 118.64 Bn (4.04%)
GDP per capita (current prices, FY25)	USD 2,419* (0.9X)	USD 2,666* (0.9X)
Workforce (FY25)	4.13 Mn* (17%)	24.07 Mn* (3.8%)
Worker Population Ratio (FY25)	43.4%*	46.8%* (PLFS – 47.9%)

Source: WB, Report of the Technical Group on Population Projections, MoSPI

Note: Figures in parentheses are in relation to Odisha (in BCPPER) and India (in Odisha); *Estimated figures

Figure 2.1: Demographic & economic profile of the region

2.2 Economic Significance of BCPPER within Odisha

The region has witnessed robust nominal GVA growth of nearly 10% per annum between FY14 and FY25, positioning it among the fastest-growing regions in Odisha. This growth is accompanied by a notable structural shift in sectoral contributions, reflecting rapid economic transformation with a steady increase in the share of the tertiary sector.

- **Tertiary Sector:** Driven by trade, tourism, transport, business services, and education.
- **Secondary Sector:** That underscores the rising importance of industrial estates, downstream metals, and petrochemicals; and
- **Primary Sector:** Comprising agriculture and fisheries, continue to provide livelihoods, albeit increasingly constrained by climate pressures and productivity concerns.

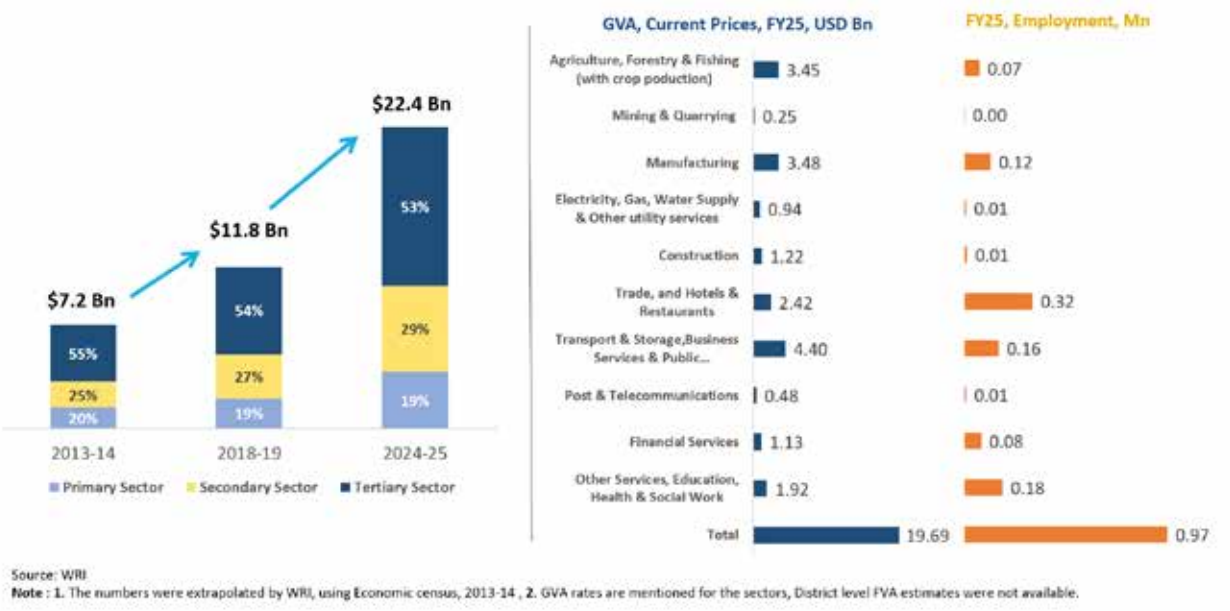


Figure 2.2: Sectoral GVA composition and employment in BCPPER (FY25)

Overall, BCPPER exhibits relatively better regional balance at the district level, Khordha (US $ 3.07 Bn) and Cuttack (US $ 2.91 Bn) account for the largest shares in the GVA of the state, serving as the region's principal administrative and service hubs. Puri (US $ 2.01 Bn) contributes significantly through tourism and services, while Jagatsinghpur (US $ 1.25 Bn) drives industrial activity around Paradip port and PCPIR region.

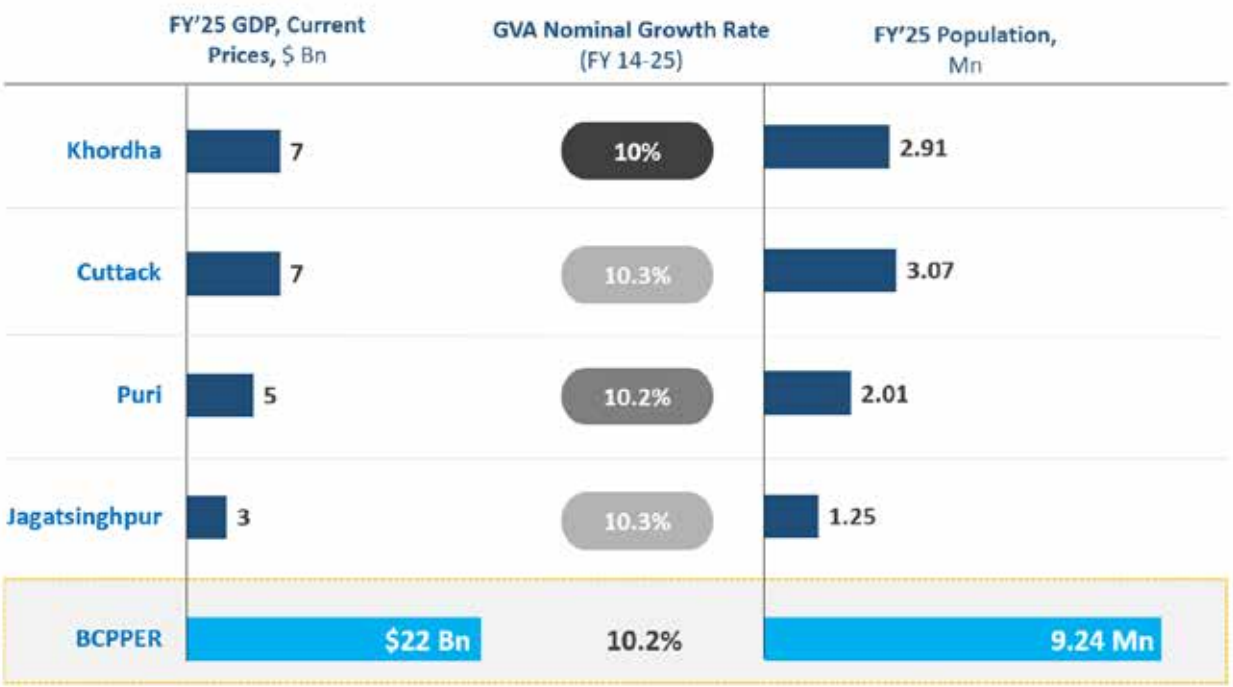


Figure 2.3: District-wise economic profile of BCPPER (FY-25)

2.3 Vision, Targets, and Growth Scenarios for 2047

The Economic Plan of the region is anchored on the Odisha Vision 2047, which sets out an aspiration of transforming the state into a US $ 1.5 Tn economy by 2047, nearly 15 times its current size. The vision emphasises large-scale employment generation, diversifying into services and knowledge-driven industries, strengthening global competitiveness and embedding climate resilience as core elements of the growth pathway[4].

Within this overarching framework, the vision designates the BCPPER as the state's flagship growth corridor, expected to contribute nearly one-third of Odisha's GDP and serve as a primary driver of the state's economic transformation.

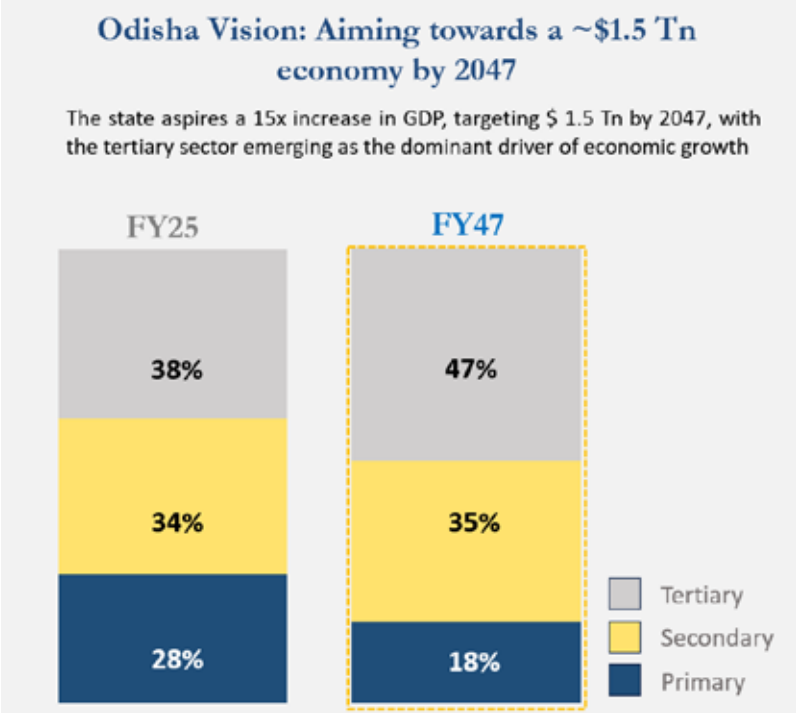


Figure 2.4 Odisha Vision 2047 - Growth Pathway

Guided by the Odisha Vision 2047, multiple growth scenarios for BCPPER were considered to assess the potential pathways for realising the region's economic[5] potential.

Aligning with the broader national vision and the Odisha Vision @2047, the Economic Plan envisages that BCPPER will become a US $ 500 Bn economy by 2047. The Plan provides targeted interventions as a guiding framework that depends on a port-led industrialisation; growth in knowledge economy, including IT/ITES, education and skilling; tourism growth; productivity increase across sectors and green growth; while safeguarding heritage and religious identity; conserving the environment and promoting local culture.

5 Analysis by NITI Aayog (2025)

2.4 Endowments and Emerging Trends

The BCPPER's rich and varied endowments collectively position it as the driving engine of Odisha's growth.

- The region boasts of rich natural endowments with a vast coastline, fertile riverine belts, and extensive aquaculture potential, which have traditionally supported livelihoods and continue to hold promise for the growth of the blue economy.
- The region's cultural endowments are globally renowned, particularly its religious tourism. The Jagannath Temple at Puri and the Konark Sun Temple, both sites of immense historical and spiritual value, draw lakhs of visitors annually. Cuttack's historic urban core and the ecological richness of Chilika Lake further enhance the region's diversity, giving BCPPER the potential to evolve into a premier international cultural and eco-tourism hub.
- The industrial base is anchored by Paradip Port and the PCPIR, which provides a strong foundation for petrochemicals, downstream industries, and port-proximate manufacturing. Industrial estates in Jagatsinghpur and Khordha add depth to the region's industrial landscape, making it a critical node in Odisha's industrialisation strategy.
- The region boasts of a robust network of 33 higher education institutions, including IIT Bhubaneswar, AIIMS Bhubaneswar and NISER. Together it positions BCPPER as Odisha's primary higher education and skilling hub.

Figure 2.5: Key endowments of BCPPER

By aligning with emerging global and national trends, BCPPER is well positioned to build a resilient future ready growth trajectory. The Bhubaneswar–Cuttack corridor is expanding rapidly as a metropolitan belt. Rising demand for IT/ITES and startups offers opportunities for the region to position itself as an innovation hub. Tourism trends increasingly favour eco-tourism and heritage experiences, aligning well with BCPPER's cultural and ecological assets. The export potential of aquaculture and textiles is expanding, driven by global markets. Finally, the green transition, encompassing renewable energy and sustainable industrial initiatives, provides a foundation for a resilient and future-ready economy, as shown in Figure 2.6.

Figure 2.6: Global & national trends

The Economic Plan charts a pathway to integrate natural, cultural, industrial, and institutional strengths into a unified strategy to position BCPPER as a competitive economic region by 2047.

2.5 SWOT Analysis

Building on this endowments and emerging trends, a detailed SWOT analysis was undertaken to examine the internal and external factors influencing BCPPER's growth, identify bottlenecks, and provide a structured assessment of the region's strategic positioning.

Figure 2.7: SWOT analysis

The analysis underscores the need for a balanced strategic roadmap that capitalises on inherent strengths and emerging opportunities while systematically addressing weaknesses and threats through targeted interventions.

2.6 Key Growth Drivers

Based on an assessment of BCPPER's natural endowments, demographic strengths, industrial base, tourism potential, growing service sector, and general trends, the following growth drivers have been prioritised:

- **Tertiary Sector:** The region presents distinct comparative advantages in services. Bhubaneswar–Cuttack functions as Odisha's knowledge and IT hub, anchored by institutions such as IIT, AIIMS, NISER, and a rising base of IT/ITES firms and GCCs. Puri and Konark provide a unique platform for heritage and coastal tourism, while real estate and urban services are expanding rapidly along the metropolitan corridor.
- **Secondary Sector:** BCPPER hosts large-scale industrial assets, the Paradip Port and PCPIR in Jagatsinghpur, industrial estates in Khordha and downstream clusters. The strategic focus is on transitioning from low-value manufacturing into advanced sectors like chemicals, petrochemicals, apparel, food processing, electric vehicles, and green industries with a focus on progressively greening the sector.
- **Primary Sector:** Agriculture and fisheries remain central to livelihoods, particularly across Jagatsinghpur, Puri and parts of Cuttack. The region's high-yield aquaculture belts, marine resources and fertile coastal plains offer an opportunity to position BCPPER as India's seafood and agri-export hub through strategic interventions.
- **Enablers:** Cutting across various sectors are the horizontal enablers that help

unlock the full potential of the above sectors by strengthening utility services (power, water, housing), sustainability and liveability. Equally important are institutional enablers such as the proposed Economic Region Development Authority, which will be critical for governance and implementation.

Figure 2.8 Sectoral growth drivers and enablers for BCPPER

The growth drivers given in Figure 2.8 are mutually reinforcing with port-led growth being the central theme, where sectors such as manufacturing, food processing, chemicals and textiles feed into the port economy. This port-led industrialisation, in turn, generates demand for logistics and urban infrastructure, while a robust education and skilling ecosystem ensures a steady supply of talent for the secondary and tertiary sectors. Targeted interventions in tourism, fisheries, handicrafts and other sectors are proposed to lead to inclusive growth with strategic branding, improved connectivity and integration with global markets. Together, the list of projects, economic zones and policy measures for each of the growth driver creates a coherent roadmap for BCPPER's transformation, as elaborated in the next chapter.

3 Economic Plan – Projects & Policies

(Interventions and Enabling Policies)

3.1 Overview

The Economic Plan sets out a comprehensive framework of strategic interventions designed to transform BCPPER into a leading centre of economic growth by 2047. It integrates sector-specific projects, development zones with enabling reforms, policy measures, and institutional frameworks. Ensuring effective convergence across these initiatives is essential to create a cohesive and coordinated implementation strategy, address all critical parameters, and prevent fragmented or duplicate efforts.

3.2 Project Portfolio at a Glance

A total of 85 projects have been identified across the BCPPER's key growth drivers, spanning the entire spectrum, from modernising agriculture and aquaculture to building IT innovation hubs, downstream industrial estates, tourism circuits, and integrated transport systems, among others. The list of proposed project portfolio is given in Figure 3.1.

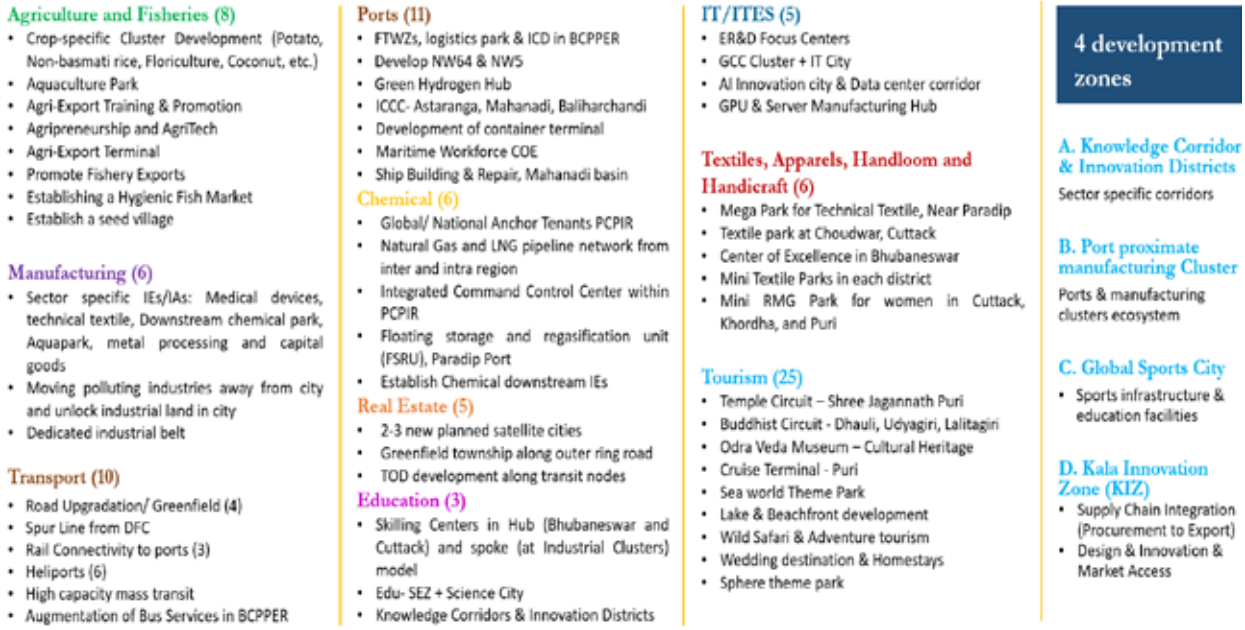


Figure 3.1: List of projects

For nearly 40 of these projects, the specific location across the four districts of Khordha, Cuttack, Puri, and Jagatsinghpur has been identified (Figure 3.2). Together, these projects balance sectoral depth with regional spread, enabling both scale and inclusivity.

Proposed locations for 38 projects

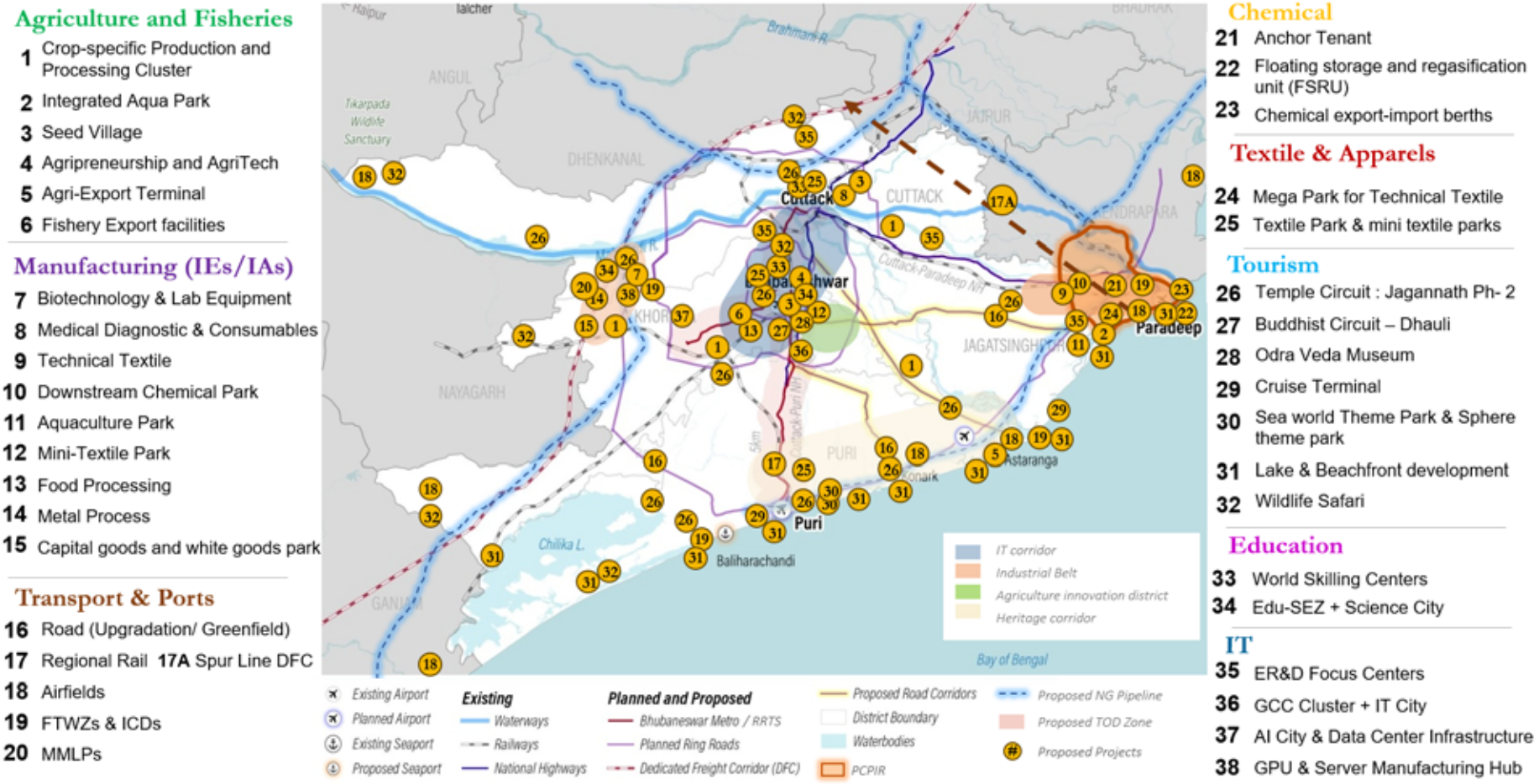


Figure 3.2: Indicative locations of projects

3.3 Dedicated Development Zones

To spatially integrate some of the proposed interventions and avoid fragmented growth, the Economic Plan also proposes four dedicated development zones:

(i) **Knowledge corridors and innovation districts** anchoring education, skilling, and R&D, aligned with the respective growth drivers to ensure the whole ecosystem of the industry grows;

(ii) **Port-proximate manufacturing clusters** leveraging Paradip Port, PCPIR and allied coastal nodes for downstream industries and logistics;

(iii) **Global sports city** combining training infrastructure and sports tourism; and

(iv) **Kala Innovation Zone** showcase Odisha's cultural and creative economy through design, craft and market access.

These zones ensure convergence of sectoral projects within defined geographies, fostering complementary ecosystems that enable the size and scale of the economic sector.

3.4 Cross-Sectoral Policy Reforms

In addition to the project portfolio, the Economic Plan also identifies 32 enabling policies and reforms that establish the institutional and regulatory foundation for long-term growth. These encompass both sector-specific measures across multiple domains and cross-cutting reforms addressing systemic challenges. Presented in Figure 3.3, these interventions create a supportive policy environment that complements proposed projects, fostering investment, innovation and sustainable implementation.

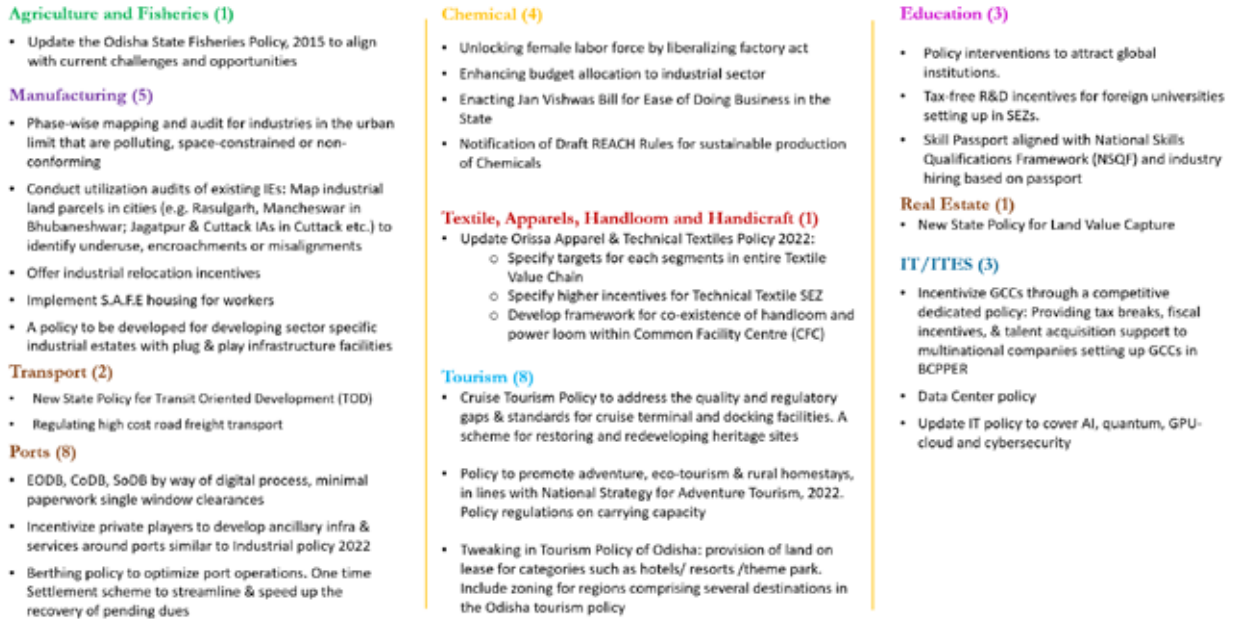
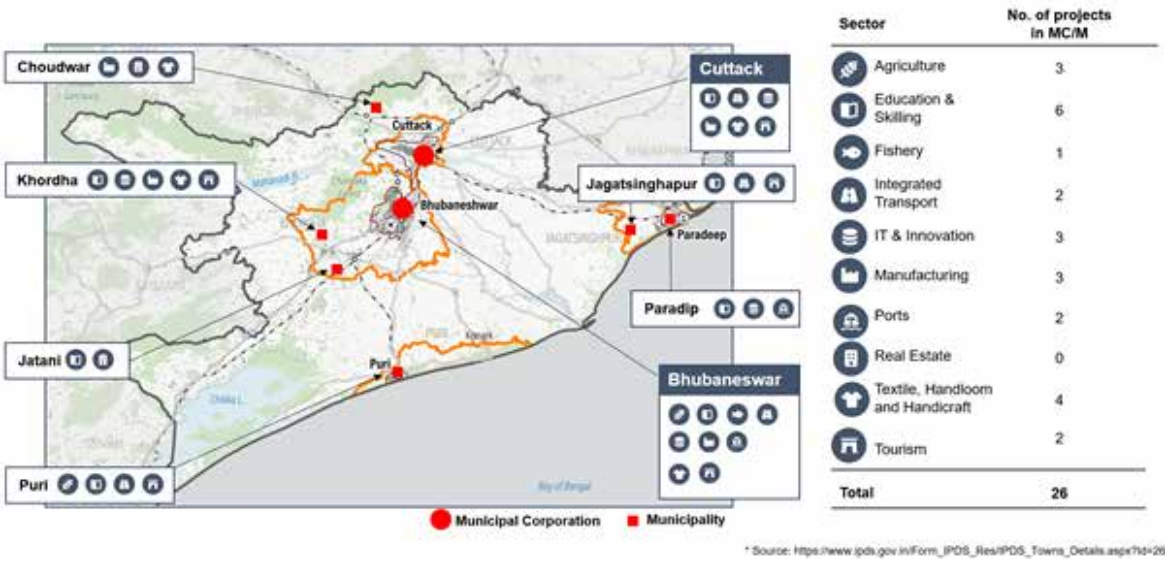


Figure 3.3: List of proposed policies

Realising this vision, however, will require robust governance structures and dynamic institutional mechanisms capable of unlocking the region's true potential and driving sustained, inclusive growth. The next chapter covers the institutional imperatives.

3.5 Projects in Urban Centres

A spatial review of urban centres in BCPPER shows a clear distribution of sectoral projects across Municipal Corporations and Municipalities, as mapped in the Figure 3.4. Bhubaneswar and Cuttack together anchor the largest share of initiatives across education, IT & innovation, transport and textile-handloom, while Puri, Jagatsinghpur, and Khordha record a higher concentration of tourism, port-led, fisheries and agriculture-related projects.



Sector	No. of projects in MC/M
Agriculture	3
Education & Skilling	6
Fishery	1
Integrated Transport	2
IT & Innovation	3
Manufacturing	3
Ports	2
Real Estate	0
Textile, Handloom and Handicraft	4
Tourism	2
Total	26

* Source: https://www.ipds.gov.in/Form_IPDS_Res/IPDS_Towns_Details.aspx?id=26

Figure 3.4 Projects in major cities of BCPPER

In total, 41 projects fall within Municipal Corporations and 14 projects within Municipalities, reflecting emerging sectoral specialisations across cities. A detailed city-wise and sector-wise project list, including NACs, is provided in the Annexures.

3.6 Implementation of the Projects

The list of projects included in the Economic Plan needs to be prioritised based on urgency, expected economic and social impact, alignment with national and sectoral priorities, and feasibility. Based on the above analysis, the projects need to be categorised phase-wise and priority-wise. Projects in the tertiary sector like education hub, health and tourism need to be prioritised.

4 Building Enabling Institutions and Governance Mechanisms

(Institutions, Policies, and Partnerships)

4.1 Governance Imperatives

The scale and ambition of the Economic Plan for the BCPPER necessitate a dedicated governance framework capable of operating seamlessly across four districts, multiple sectors and diverse implementing agencies, seamlessly connecting the departments of the state government with local administration. Without such coordination, projects risk delays, duplication, and siloed execution. A dedicated institutional architecture is, therefore, essential to translate the plan into action.

4.2 Three-Tiered Governance Structure

The Economic Plan envisages a three-tier governance structure to steer implementation. At the apex level is the Empowered Group of Ministers, providing political oversight and policy direction. A High-Power Steering Committee translates this vision into state-level strategies and ensures inter-departmental coordination.

At the regional level, the proposed Economic Region Development Authority serves as the operational anchor, bringing together district administrations and line departments to drive projects on the ground.

This layered system ensures that strategic decisions flow from the top while day-to-day implementation is coordinated regionally, creating accountability and avoiding duplication.

4.3 Specialised Units under ERDA

To operationalise its mandate, the Economic Region Development Authority will be supported by dedicated units that bring professional capacity and sectoral expertise into implementation. A Project Management Unit will be the repository of knowledge on project structuring, financing and monitoring progress. A Destination Management Organisation will focus on promoting and coordinating tourism assets across the region. Integrated Command and Control Centres will evolve on a regular basis to leverage emerging technology to oversee compliance, environmental management, service delivery and any other functions identified subsequently.

Figure 4.1: Three-tiered Governance Structure

For large-scale infrastructure projects, Special Purpose Vehicles and PPP frameworks will be adopted to mobilise private investment and share risk. Together, these specialised mechanisms will ensure that Economic Region Development

Authority is not just a coordinating body, but also a delivery-focused institution capable of driving outcomes on the ground.

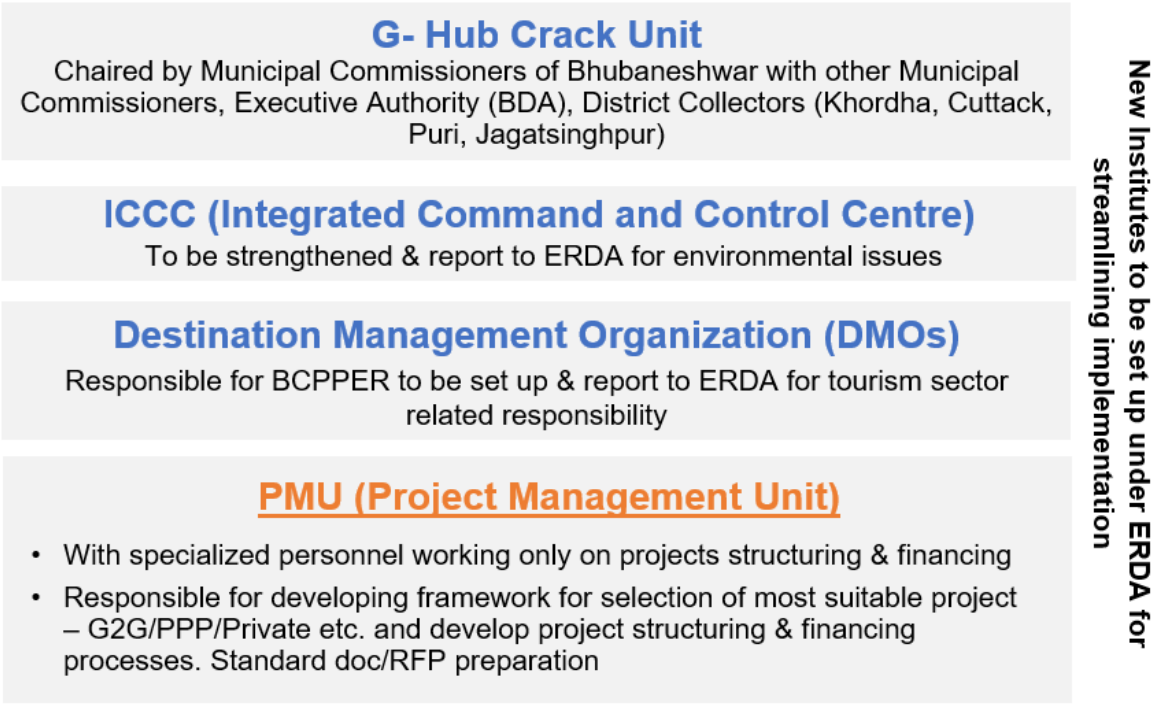


Figure 4.2: Tentative institutions to be set up for effective governance

4.4 Partnerships and Collaboration

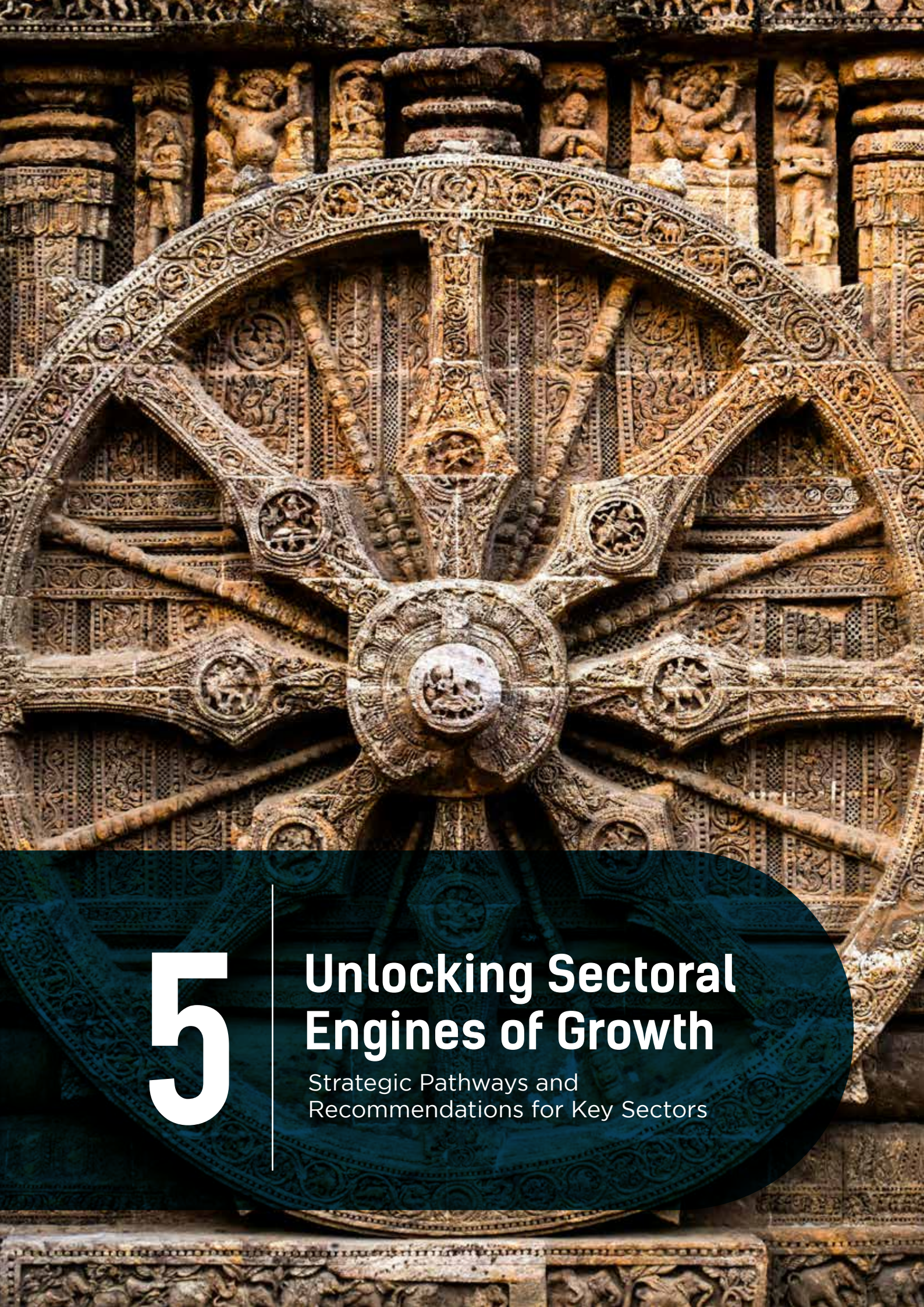
The governance framework emphasises partnerships beyond government by engaging industry associations, universities, skill centres, and civil society organisations to bring in expertise, co-investment, and innovation into implementation. This collaborative approach ensures that Economic Region Development Authority is not only a regulatory body but also a facilitator of multi-stakeholder participation.

The Economic Plan sets out a forward-looking roadmap to transform the region into a globally competitive growth hub by 2047. Through a balanced portfolio of projects, enabling policies, economic development zones, and robust governance mechanisms, it provides a coherent strategy to unlock economic potential while ensuring inclusivity, sustainability, and resilience. Its success will ultimately rest on the convergence of state leadership, institutional capacity, private sector participation, and community engagement.

To maintain relevance over the long term, the plan will evolve in response to changing circumstances, supported by a structured review at regular intervals and a follow-up action plan instituted by the state government. This approach will ensure the robustness and adaptability required for a long-term visionary plan of this nature, positioning BCPPER as a model for regional economic planning in India and accelerating the journey towards Viksit Odisha and Viksit Bharat @ 2047.

4.5 Strengthening Project Financing

To strengthen project financing and governance, it is proposed to establish a dedicated PPP Authority under the Department of Finance. The Authority shall be responsible for formulating standard frameworks for blended financing and PPP models across sectors, and for mobilising at least 40% of the total capital expenditure (capex) envisaged under the Economic Plan. This will help ensure fiscal discipline, crowd-in private investment, and provide a single institutional mechanism for end-to-end PPP facilitation.



5 Unlocking Sectoral Engines of Growth

Strategic Pathways and Recommendations for Key Sectors

5.1 Strategic Approach to Service Sector Growth

Under the Odisha Vision 2047, the tertiary sector has been identified as the principal growth driver for economic transformation, underpinning the state's aspiration to achieve a US$ 1.5 Tn GSDP by 2047. The vision envisages the sector growing at a CAGR of ~10%, with its contribution to the state economy projected to increase from the current **36% to 49% by 2047**.

Within this broader framework, the BCPPER region assumes a pivotal role, as the services sector already accounts for nearly **55% of its economy**, making it the foremost driver of regional transformation. The Economic Plan places strong emphasis on tourism, IT, education, and urban expansion as the state's frontline service engines for the coming decades.

The approach adopted is to **consolidate the sector's current dominance while repositioning it for higher value growth**. Thus, shifting tourism from isolated attractions to integrated circuits; expanding education and skilling into a globally competitive knowledge economy; steering IT and allied services towards research, digital innovation and exports; and guiding urban growth into planned, sustainable real estate corridors.

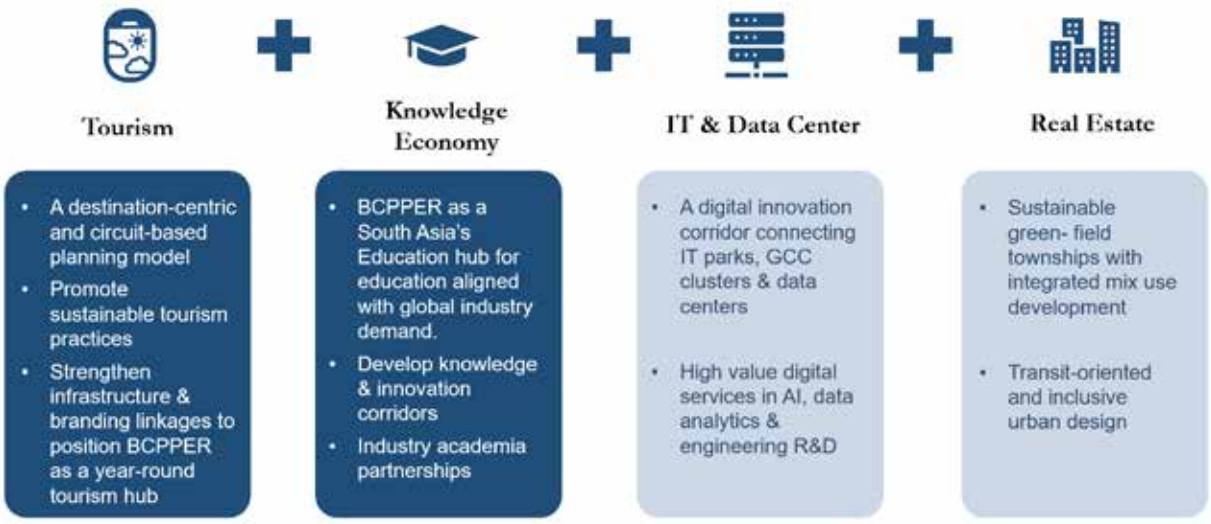


Figure 5.1 Approach for BCPPER's services sector

The proposed shifts together define the future trajectory of growth of the tertiary sector in BCPPER, enabling a transition from local and domestic concentration to regional and global competitiveness.

5.2 Strategic Approach: Port-led Growth

Odisha's Vision 2047 envisions port-led development as a key driver of industrial growth, leveraging the state's strategic coastline to establish port-based economic zones, enhance logistics connectivity, and catalyse large-scale industrialisation across coastal and hinterland regions.

Aligned with the above vision, the Economic Plan positions BCPPER to drive industrial growth through port-led development, diversified clusters and seamless

logistics integration thus guiding a transition towards globally competitive value chains. This inter alia includes modernising ports into gateways for international trade; embedding logistics as an enabler that links hinterland production to global markets; deepening industrial ecosystems from raw and bulk processing into high-value, export-oriented manufacturing; building resilience by encouraging sustainable and clean industrial practices; and aligning with the green transition shaping global supply chains.

These three interdependent levers of ports, logistics and manufacturing define the pathway for BCPPER to transform from a resource-based industrial region into Eastern India's industrial and trade hub by 2047.

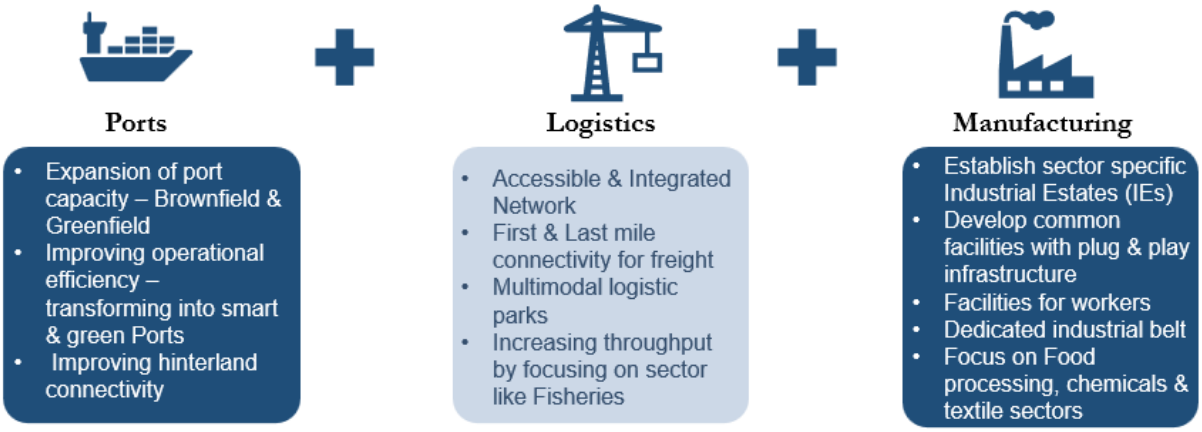


Figure 5.2 : Approach to develop the manufacturing sector

5.3 Strategic Approach to Primary Sector Growth

The primary sector plays a defining role in Odisha, supporting livelihoods at scale and anchoring rural prosperity. While its relative share in GVA is declining with structural change, Odisha Vision 2047 positions agriculture and fisheries as sectors that must shift from subsistence and volume-based growth towards productivity, diversification, and export orientation. The situation is similar in BCPPER where strategic interventions can help this sector to support the growth of port-led growth of the region.

As illustrated in the framework below, the approach rests on two complementary priorities. For agriculture, the emphasis is on enhancing productivity, introducing high-value crop diversification, and strengthening value chains so that farm output can transition from local consumption to regional and global markets. For fisheries, the focus is on scaling Odisha's inherent strengths, leveraging its 575 kms coastline and extensive aquaculture base, into an integrated, export-led 'blue economy' supported by modern infrastructure and market linkages.

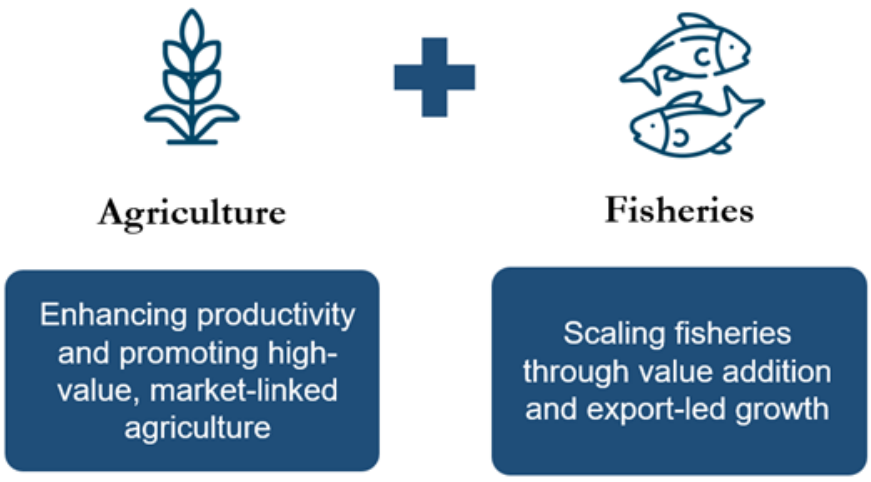


Figure 5.3: Approach to develop the Primary sector

This approach ensures that the primary sector moves from a traditional livelihood base to a modern, competitive engine of growth, contributing to inclusive development while aligning with BCPPER's broader economic transformation.

6 Tourism Sector

A Transformational Plan: Where Culture, Coast, & Heritage Converge

6.1 Sectoral Snapshot

Globally, the tourism sector remains one of the largest and fastest-growing industries accounting for 9.1% of global GDP (~ US$ 9.9 Tn) in 2023[6]. International arrivals are projected to reach 1.8 Bn annually[7] by 2030, driven by expanding middle classes in Asia, new aviation hubs, and rapid growth in coastal tourism. The sector's demand mix is shifting towards spiritual, cultural, wellness, medical, and experiential tourism and younger travellers favouring less crowded destinations. Increasing climate awareness is also influencing investments, with a strong focus on low-carbon infrastructure, resilient coasts, and nature-based solutions[8].

India's tourism sector contributed ~US $ 232 Bn to the GDP in 2023, a 10% increase over 2019, while generating about 43 Mn jobs[9] and emerging as a key growth driver. India Tourism Statistics 2024 report 18.9 Mn international tourist arrivals, surpassing pre-pandemic levels but representing only 1.3% of global arrivals, far below France (89.4 Mn) and Spain (83.7 Mn). Even as international arrivals rebounded post - pandemic, domestic tourism continues to dominate India's travel landscape. India's ranking in the WEF Travel and Tourism Development Index improved from 52nd in 2015 to 39th position in 2024 (9th in Asia-pacific region)[10], reflecting the impact of strong policy focus and infrastructure development. The top countries for foreign tourist arrivals in India during 2022[11] were the USA (21.8%), Bangladesh (19.85%), UK (10%), Australia (5.85%) & Canada (4.5%). India has set an ambitious target of US $ 3 Tn tourism economy[12] by 2047, focusing on[13].

- Pilgrimage Circuits (Char Dham, Ramayana, Buddhist, etc.)
- Wellness and Ayurveda Tourism
- Cruise and Coastal Tourism under Sagarmala
- Event-Based Tourism (Cultural events, Weddings, Sports, Spiritual Festivals)

Tourism contributes around 13% to Odisha's GSDP[14], reflecting its growing economic significance. The state allocated INR 818 crore in the 2024-25 Budget to strengthen infrastructure and tourism initiatives. Annual domestic and foreign tourist arrivals increased sharply from 3.74 Mn in 2021 to 9.8 Mn in 2023, with major source states including West Bengal, Maharashtra, Andhra Pradesh, and Madhya Pradesh[15] & foreign tourists primarily from the USA, Japan, Germany, and other countries.

Tourism and hospitality have been designated as a 'Focus Sector', under the State's latest tourism policy. The state is positioning itself as a world-class destination for sports infrastructure & boasts substantial tourist attractions and assets, including:

6 Travel & Tourism set to Break All Records in 2024 – World Travel & Tourism Council
7 Tourism Towards 2030 - UN Tourism
8 Allied Market Research. (2024). Cultural Tourism Market by Type and Age Group
9 Tourism Expansion in India (2024) PIB
10 WEF Travel & Tourism Development Index 2024
11 India Tourism Statistics 2023
12 World Tourism Day 2024 Tourism and Peace - PIB
13 Ministry of Tourism Annual Report 2023-24
14 Odisha tourism annual report 2023-24
15 Data from Statistical Bulletin 2023, Department of Tourism, Govt of Odisha

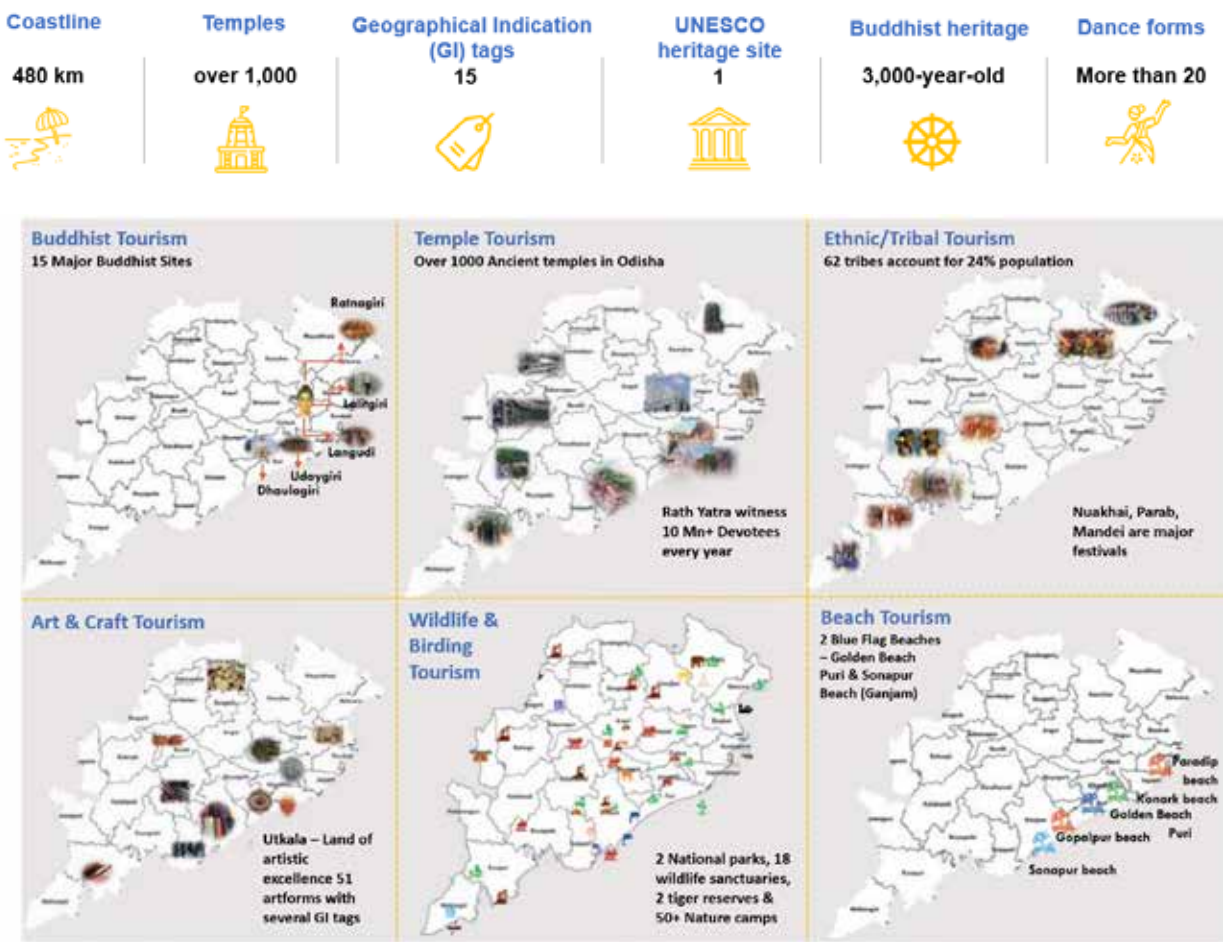


Figure 6.1: Odisha boasts diverse tourism assets - Major Tourism Clusters of Odisha[16]

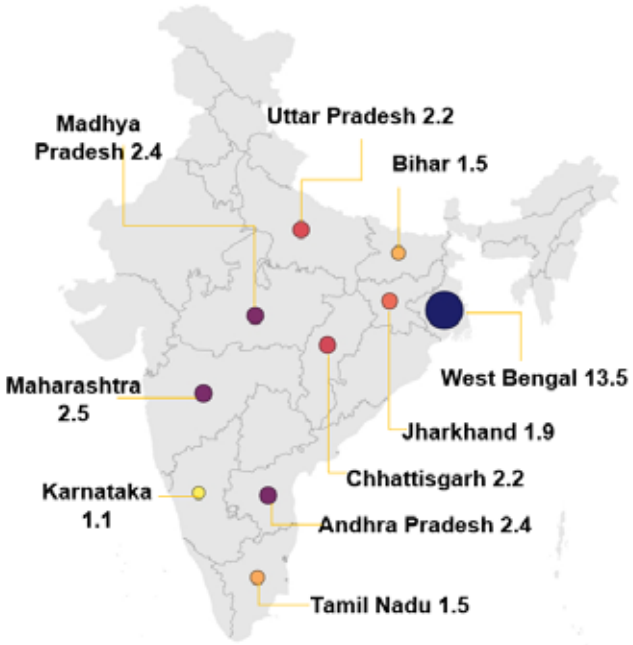


Figure 6.2: Domestic tourists' arrival[15] *to Odisha in 2023 (Top 10 States in lacs)*

16 Odisha Economic Survey 2025

However, Odisha ranks 21st nationally in both domestic and foreign arrivals, indicating significant untapped potential. The lack of good connectivity, safety concerns inadequate infrastructure including shortage of hotels of international standard, and pollution remain some of the major challenges facing the tourism sector.

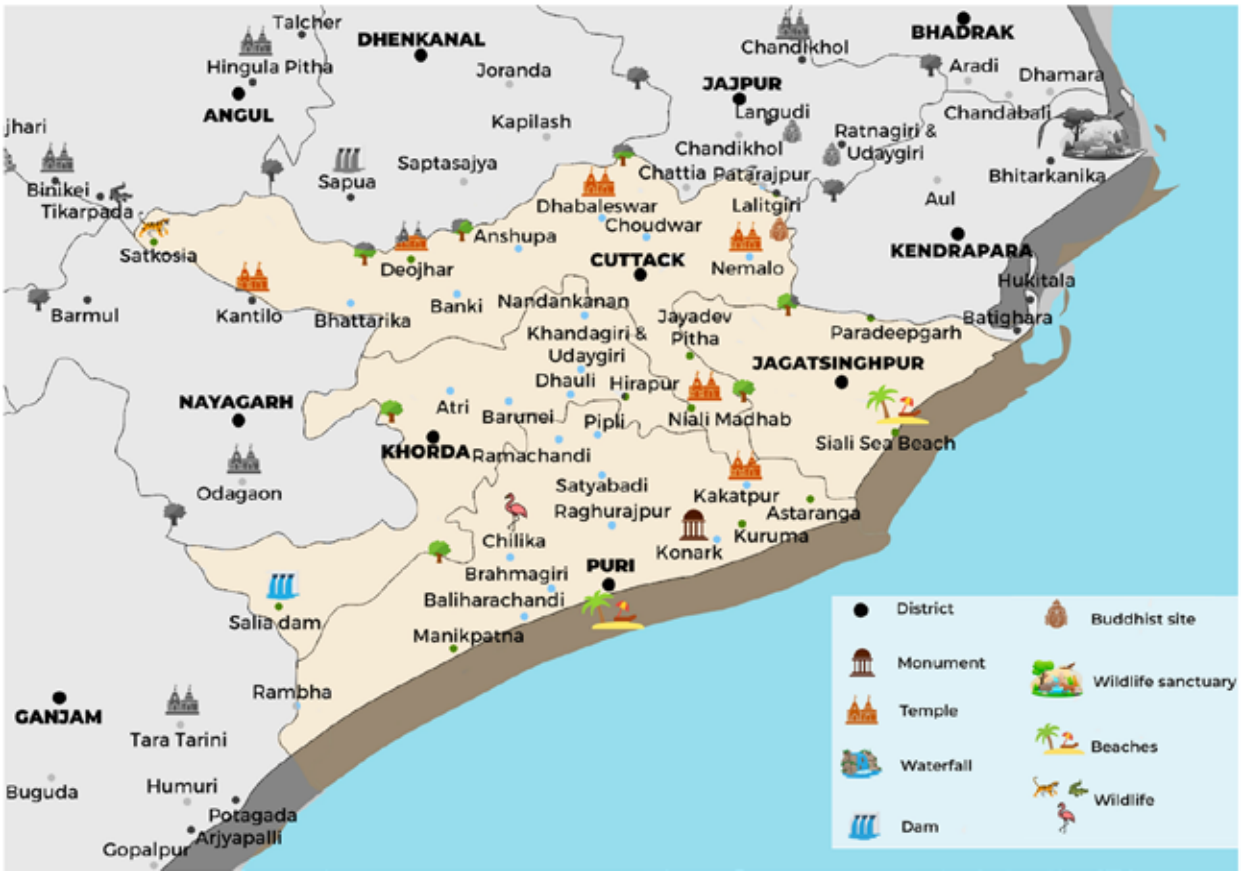


Figure 6.3: Key Tourist Attractions of BCPPER[17]

BCPPER, with its major tourism endowment, forms the nucleus of Odisha tourism landscape. Its key assets, spread across 4 districts, are:

Table 6.1: Tourism sites across BCPPER

Districts	Religious and Built Heritage	Eco and Wildlife	Cultural and Others
Khordha	Lingaraj Temple, Rajarani Temple, Mukteshwar Temple, Dhauli Shanti Stupa, Khandagiri & Udayagiri Caves, Khurda Fort	Chandaka Wildlife Sanctuary, Mandangiri, Nandankanan Park, Chilika Lake (Barkul), Berbera nature camp, Barunei Hills	Odisha State Tribal Museum, Kalinga Mahotsav (Dhauli), Khandagiri Mela, Pathani Samanta Planetarium, Nicco Park, Odisha State Museum

17 Odisha Tourism Website

Districts	Religious and Built Heritage	Eco and Wildlife	Cultural and Others
Puri	Shree Jagannath Temple, Gundicha Temple, Konark Sun Temple, Lokanath Temple, Atharnala Bridge	Chilika Lake (Satapada), Blue Flag Golden Beach, Chandrabhaga, Beleswa, Balighai & Astaranga Beaches, Balukhand-Konark Sanctuary, Nuanai nature camp	Raghurajpur (Pattachitra), Pipili (Applique), Jagannath Rathyatra, Konark Dance Festival, Magha Saptami (Chandrabhaga Mela), Sudarshan Crafts Museum
Cuttack	Maa Chandi Temple, Dhabaleswar Temple, Satakosia temple, Lalitagiri, Barabati Fort, Netaji Birthplace Museum, Swaraj Ashram	Satkosia Tiger Reserve, Ansupa Lake, Olasuni nature camp	Silver Filigree Work (Tarakasi), Balijatra, Maritime Museum, Chaudwar industrial area, Barabati Stadium
Jagatsing-hpur	Sarala Temple, Gorakhnath Temple, Paradeep Lighthouse.	Marine Aquarium, Paradeep & Siali Beaches	Paradip Port as a maritime gateway and historic coastal trade links with Southeast Asia

Based on visitor footfall[18], the **top 13 tourist sites in Odisha** are located within BCPPER. The Figure 6.4, showcase the major tourism sites across the region.

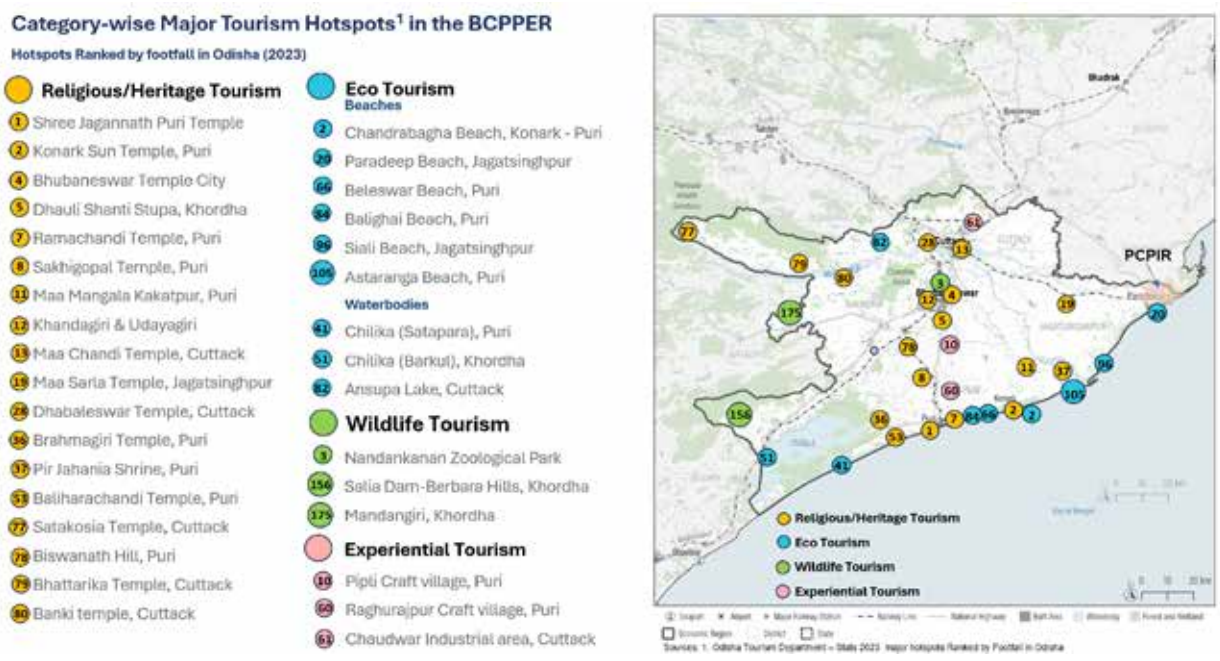


Figure 6.4: Category-wise Major Tourism Hotspots in the BCPPER (2023) – Ranked by Footfall[14] in Odisha (2023)

18 Odisha Tourism Department – Stats 2023 Major hotspots Ranked by Footfall in Odisha

Despite these opportunities, there are several persistent challenges that prevent the region from realising its full potential. Table 6.2 presents the key opportunities and challenges faced by the tourism sector in BCPPER.

Table 6.2: Opportunities vs Challenges for BCPPER Tourism

Opportunities	Challenges
• **Cultural & Religious Heritage:** UNESCO sites like Konark Sun Temple and Shree Jagannath Temple, with 30+ protected temples; Festivals like the Rath Yatra and Konark Dance Festival enhance global visibility. • **Natural & Ecological Assets:** 199 km coastline, 8+ beaches including Blue Flag Golden Beach, the Ramsar listed Chilika Lake, Ansupa Lake and wildlife sanctuaries that promote eco, coastal, and adventure tourism. • **Buddhist Gateway to Southeast Asia:** The Buddhist Diamond Triangle (Ratnagiri, Udayagiri, and Lalitgiri) has transnational potential through cruise and air linkages to Southeast Asia, strengthening Odisha's place in global heritage circuits. • **Cultural & Craft Hubs:** Raghurajpur, Pipili, and Cuttack's silver filigree cluster offer experiential and creative economy tourism. • **Rising Footfall:** Tourist arrivals doubled between 2021–2023, highlighting strong domestic demand. • **Policy & Investment Support:** Odisha Tourism Policy 2022, increased budgetary allocations, and central assistance create a favorable investment climate. • **Market Diversification:** Growth lies in adventure, wellness, medical, wedding, & sports tourism.	• **Underdeveloped Infrastructure & Accommodation:** Limited tourism-related facilities, including inadequate hygiene, health services, and trained workforce; and a shortage of high-end hotels, especially in Cuttack, Jagatsinghpur & Puri (refer Figure 6.5). • **Low tourist Spending & Market Reach:** Stagnant per-tourist expenditure, short stays, and concentration of visitors from neighboring or low-income states limit revenue and penetration into high-value domestic and international markets. • **Weak Institutional & Transport Structure:** Absence of Destination Management Organizations (DMOs), fragmented operations, poor last-mile connectivity, and lack of integrated multimodal transport reduce operational efficiency and accessibility. • **Environmental & Capacity Risks:** Cyclones, coastal erosion, inadequate waste management, and overcrowding during major festivals that threaten sustainability. • **Branding & Visibility:** Weak global branding and low foreign arrivals limit BCPPER's recognition in international markets.

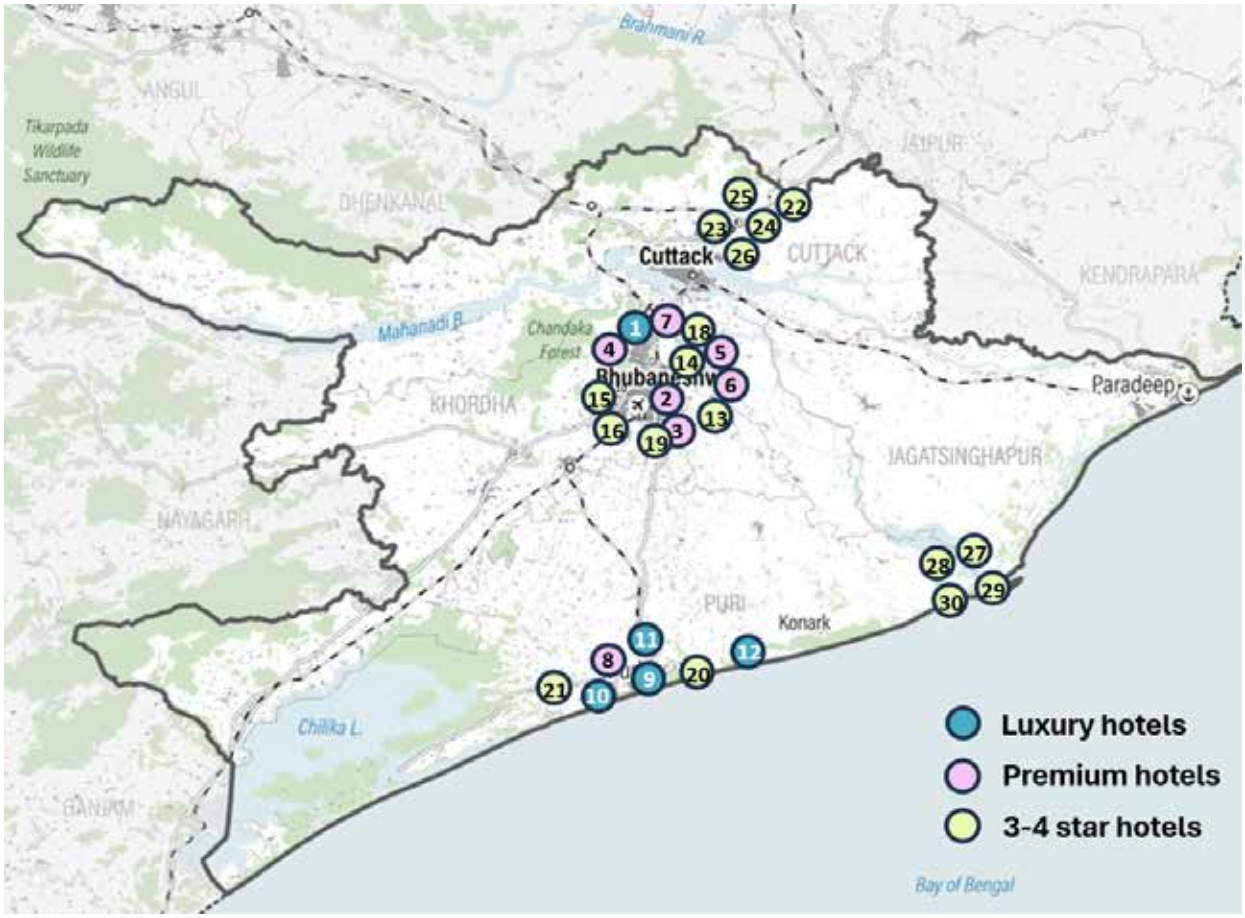


Figure 6.5: Hotels & Resorts in BCPPER

6.2 Proposed Approach

The Hon'ble Prime Minister urged the States to work towards presenting a unique vision[19] of *"One State: One Global Destination"*. This national call positions tourism as a key driver for growth, requiring each state to develop globally competitive tourist destinations that enhance local employment, attract infrastructure investment, and strengthen sustainable urban–rural linkages.

Building on this, Odisha's Vision 2047 aspires to position the State as a global tourism hub by leveraging its rich cultural heritage, vast coastline, and ecological diversity. The Vision emphasises diversification across heritage, eco-tourism, coastal, and experiential themes while ensuring sustainability, community participation, and quality infrastructure.

In BCPPER despite substantial potential, the tourism assets are currently dispersed and developed in siloes, resulting in fragmented visitor experiences and lower economic multipliers. Addressing this gap requires a co-ordinated framework that connects these destinations through shared infrastructure, unified branding, and experience design.

19 Hon'ble PM statement during 10th Governing Council Meeting – NITI Aayog, May 2025

To address this, the Economic Plan proposes adopting a Circuit-based planning **approach**, integrating dispersed destinations into cohesive thematic circuits anchored around key nuclei (or hooks) i.e. a major existing tourist hub with strong connectivity and commercial significance, such as Shree Jagannath Puri, Chilika Lake, and Raghurajpur.

Under this approach, circuits are defined by grading assets, structuring them by seasonality/duration, and categorising them by activity type. The strategy focuses on taking each circuit as a unit of planning, aiming to ensure end-to-end connectivity and seamless interlinkages with complementarity (for example, linking heritage sites with experiential tourism). This circuit-based planning approach will help boost tourist arrivals, increase per-capita spending, and promote climate-resilient development.

The Plan proposes following **3 major tourism circuits**:

- **Religious & Built Heritage**
- **Eco & Wildlife**
- **Experiential**

Each circuit is **anchored around a nucleus or *"hook"* -** a **flagship destination** that serves as the focal point for planning, investment, and branding, with complementary sites integrated to form cohesive & enriched visitor experiences.

Table 6.3: Major Tourism Circuits in BCPPER

Proposed Tourism Circuits	Nucleus	Type
Religious	Shree Jagannath Puri Temple	Hindu
	Dhauli Shanti Stupa	Buddhist
Built Heritage	Konark Sun Temple	Heritage Structure
Eco & Wildlife	Chilika Lake	Waterbody
Experiential including Handicrafts	Raghurajpur Artisan Village	Art & Crafts

Core pillars of the approach

To translate the circuit-based approach into action, a focused strategy is required to strengthen infrastructure, governance, and visitor experience across the identified circuits through following key levers:

(i) **Destination Development and Experience Design -** Upgrade key sites within each circuit through high-quality infrastructure, visitor amenities, and interpretation facilities. Each nucleus will anchor bespoke attractions reflecting Odisha's cultural and natural endowments such as heritage redevelopment, museums, and art installations creating distinctive and immersive experiences for domestic and international tourists.

(ii) **Diversified Tourism Offerings -** Expand beyond religious tourism to develop coastal, eco, wellness, and experiential sites. Implement a structured

strategy catering to diverse tourist demographics. Develop a year-round calendar of events covering Rath Yatra, Konark Dance Festival, Bali Jatra, Bird Festivals & others to sustain visitor interest. Additionally, cultural and creative economy initiatives like the proposed Kala Innovation Zones and the Odra Veda Museum to anchor the Region's experiential tourism landscape.

(iii) **Connectivity and Infrastructure Integration -** Ensure seamless connectivity across all circuits through multimodal access - highways, last-mile roads, and air and cruise linkages covering Bhubaneswar, Puri, Baliharchandi, Siali beach, & Paradeep. Development of premium hotels, eco-lodges, and event venues along key spots is essential, supported by complementary urban amenities through PPPs.

(iv) **Governance, Digitalisation, and Skills -** Establish DMOs as circuit-level custodians to manage planning, operations, branding, marketing and revenue management of tourism assets. Integrate digital tools such as tourism observatories, e-passes, and real-time monitoring systems to enable data-driven decision-making. Targeted skilling programmes in hospitality, language training, guiding, digital services, and crafts to empower local communities, generate employment and enhance service quality.

(v) **Sustainability and Resilience -** Embed environmental safeguards and climate resilience across all interventions. Integrate carrying capacity determinants in the planning for key sites. Promote cyclone-safe coastal zones, mangrove buffers, and scientific waste management systems, while scaling up community-led homestays and eco-tourism models to ensure inclusivity and year-round livelihood generation.

(vi) **Policy and Scheme Integration -** Leverage convergence with ongoing initiatives, including ABADHA for heritage development, PRASHAD and Swadesh Darshan for circuit-based tourism, Sagarmala for coastal and cruise connectivity, and Bharat Gaurav Trains for heritage mobility. Coordinated policy alignment will ensure funding efficiency and unified branding across circuits.

(vii) **Phase - wise rollout -** Adopt a tiered horizon for quick wins (0–5 years), medium-term consolidation (5–15 years), and long-term transformation (15–25 years, till 2047).

The circuit-based framework, supported by these pillars, charts a coordinated roadmap for transforming BCPPER into a cohesive and high-value tourism region. It shifts the focus from standalone site development to an integrated, investment-ready model laying the groundwork for the proposed projects and interventions that follow.

6.3 Interventions

The interventions proposed for BCPPER include projects under following 3 tourism circuits:

A. List of Projects

I: Religious & Built Heritage Circuit

1. Temple Circuit with Shree Jagannath Puri Temple as the Epicentre
Location: Across the Region
Connecting the temple trail within BCPPER (Shree Jagannath, Lingaraj, Mukteshwar, Astashambhu, Chausath Yogini, Gundicha, Dhabaleswar, Maa Chandi, Sarala temples etc.) and linking (Refer Figure 6.6) it with prominent temples outside the region (Tara Tarini, Biraja temples, etc.).
2. Shree Jagannath Heritage Corridor (Phase-2)
Location: Puri
Develop an Integrated Cultural Plaza with performances, rituals, storytelling zone, & a high end marketplace showcasing Odisha's handicrafts and ODOP products along with Pilgrim amenities, an organised queue system & an Interactive museum integration.

Figure 6.6: Proposed Temple Circuit with Shree Jagannath Puri Temple as the epicentre

3. BCPPER as the Gateway for the Transnational Buddhist Circuit
Location: Connecting Buddhist tourist attractions (Dhauli, Udyagiri, Lalitgiri etc) across BCPPER with the rest of India
Developing the infrastructure of the region's Buddhist Trail with a meditation hub, Peace Dome enhancements, and a promenade at Dhauli, integrated with the PRASHAD Scheme. This will feature guided heritage tours, a state-of-the-art museum, wellness centres, recreation and retail hubs, and targeted destination branding along the trail, offering a rich, cultural, and immersive experience. Additionally, the Balijatra internal cruise circuit will be developed to revive the historic Kalinga-Bali maritime route.

4. Barabati Fort & Bali Jatra Ground Redevelopment
Location: Cuttack
Barabati Fort - Storytelling tours of Odisha's maritime trade with Southeast Asia & Barabati Fort's history. Life-size replicas of Boitas (boats used for trade) in the Maritime Museum. **Balijatra Ground -** Utilise the area for hosting year-round activities subject to weather conditions including fairs, exhibitions, and cultural events, supported by prefabricated temporary infrastructure (structures and stalls). The remaining reclaimed land can be converted into eco-parks, biodiversity zones, and a tent city to provide premium accommodation.
5. Creative Redevelopment of Swaraj Ashram and Netaji Subhas Chandra Bose Museum Corridor
Location: Cuttack
Development of the *Veergati Corridor*, encompassing the redevelopment of Ganga Mandir Pond, redesign of Netaji Subhas Chandra Bose Setu, creation of a pedestrian promenade, and placemaking initiatives that narrate the legacy of India's freedom fighters through storytelling and cultural installations.
6.Adaptive Reuse of Heritage Buildings
Location: In all the dilapidated heritage buildings across BCPPER
Restore and redevelop heritage sites into hotels and restaurants, artisan museums & studios, library & cultural centres, event venues and experiential spaces, etc. that balances conservation with commercialisation and promotion.

II: Eco & Wildlife Circuit

1. Waterfront Tourism & Recreation Development
Location: Chilika Lake, Satapada (Puri); Chilika Lake, Barkul (Khordha); Ansupa Lake (Cuttack) & Salia Dam
Premium eco-resorts and floating lodges with day and night safaris, stargazing decks, wellness spas and yoga centres, an annual bird hatching theme festival, nature trails, guided treks, boating, kayaking, jet skiing, camping, bonfires, and fishing experiences, supported by visitor centres and essential infrastructure.
2. Wildlife Sanctuary Safari
Location: Satkosia (Cuttack), Chandaka (Khordha) & Balukhand (Puri)
Develop wildlife safari circuit and linking it with other prominent sites outside the region. Develop premium eco-resorts, organised day and night safaris, rental facilities for vehicles and cycling, wellness Ayurvedic spa and yoga centre, and visitors centre. Premium adventure sports such as hot air balloon rides.

3. Mangrove Walkway
Location: Coastal Puri & Mahanadi Delta region (Paradeep)
Elevated eco-boardwalk, mangrove restoration, guided trails. Development of coastal nature park at Puri.
4. Adventure Tourism
Location: Khordha, Cuttack, Jagatsinghpur, and Puri
Upgrade existing trails with essential facilities and develop premium eco-campsites to attract high-spending tourists. The government can support partner agencies in designing 2–3 day itineraries to promote organised camping and trail-based tourism.
5. Development of Cruise Circuit & Cruise Terminals
Location: Mangala River Estuary at Puri
Connecting BCPPER with national & international route (Refer Figure 6.7), offering a unique experience at each embarkation point. Key facilities such as berthing facilities, passenger terminals, immigration zone, waiting areas, F&B outlets, information centre etc., to ensure smooth operations, and pleasant experience for passengers revive Kalinga-Bali maritime route via cruise.

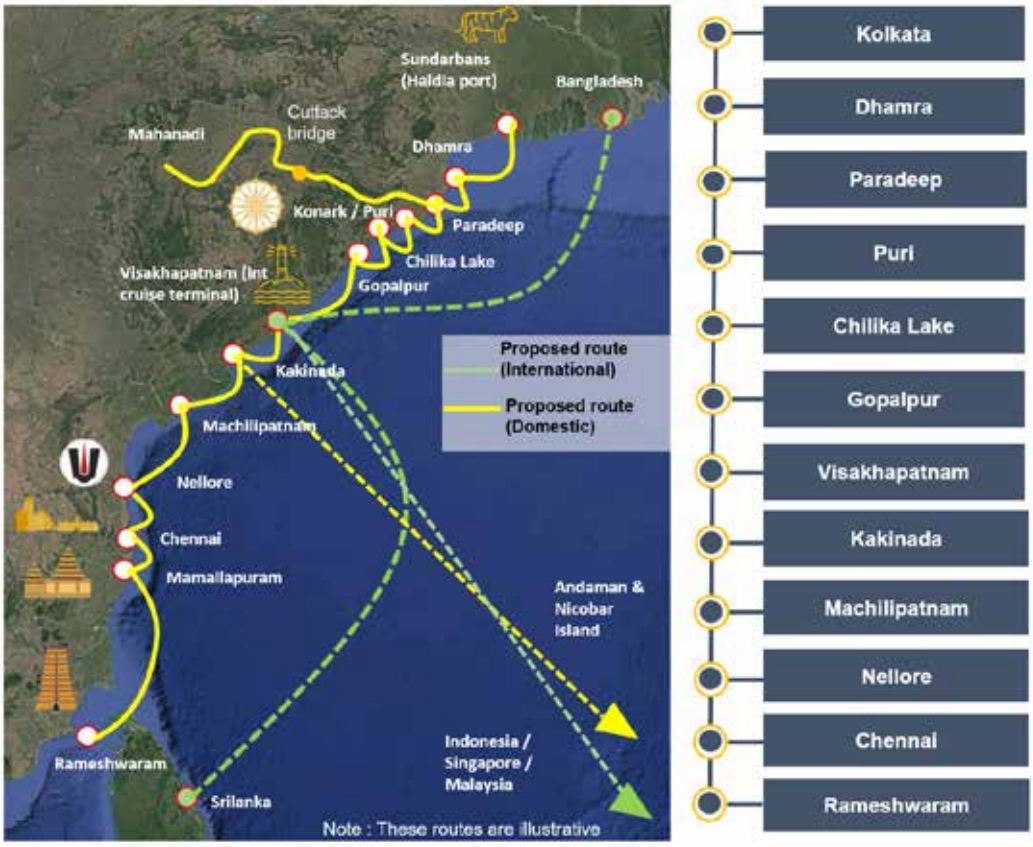


Figure 6.7: Cruise circuit Tourism – To target National & International routes

6. Development of Resilient Coastal Buffer Tourism Belt
Location: Baliharchandi to Paradeep stretch
Resilient tourism planning within "Safe Coastal Zones": Implement colour coded zones for safe planning & modular eco-tourism infrastructure. Leverage opportunities in the blue economy through initiatives such as Eco-tourism, floating cottages, safe shelters, boating, artisanal fishing hubs and festivals or cultural events organised during low risk , climate adjusted months.
7. Beach Hotels
Location: Beaches of Puri & Jagatsinghpur
To meet needs of premium tourists, develop wide range of facilities and amenities, accommodation and dining options, recreation facilities, kids & entertainment zone, etc.
8. Beach Front Development
Location: **Puri Beaches:** Beleswar beach, Balighai beach, Astaranga beach, Baliharachandi beach, Golden beach*, Chandrabhaga beach* & Ramchandi beach* (*- Already developed by the State). **Jagatsinghpur Beaches:** Siali beach & Paradeep beach
Beachfront development, including infrastructure enhancements, nature-based tourism activities, and engaging experiences.

III: Experiential Circuit (Crafts/Culture/Events/Wellness) & Others

1. Odra Veda Museum
Location: Near Bhubaneswar
The Museum will be developed over 10 acres as a modern, experiential cultural complex featuring 5 themed galleries (Refer Figure 6.8), interactive installations, and multilingual audio guides. It will include an outdoor eco-trail, sculpture garden, event and workshop spaces, a souvenir/ODOP (One District One Product) shop, and a food court—offering visitors an immersive journey through Odisha's rich civilizational heritage.
2. Global Sports City
Location: Khordha & Cuttack
The proposed Global Sports City (Area : 600 Acres approx.) will build on existing infrastructure to create a world-class sports ecosystem, featuring an Olympic standard stadium complex, indoor multi-sports arena, sports village with athlete housing, motorsports track, golf course, and centres of excellence for major and indigenous sports (Refer Figure 6.11). It will also host a women's sports academy, para-sports centre, sports startup incubator, and AR/VR simulation labs. Beach and water sports facilities at Puri & Paradeep.

Figure 6.8: Global Sports City at Bhubaneswar

3. Sea World Theme Park

Location: Puri/Paradeep

GoI can invite major players (for ex-SeaWorld Parks / Dubai Atlantis Marine Group) to develop a marine-themed mega park. State to earmark 400–600 acres of CRZ-compliant coastal land, lease it under a concessional model, & fast-track clearance (Refer Figure 6.10).

To include oceanarium tunnels, dolphin & sea-lion shows, water coasters, coral reef exhibits, surfing lagoons, underwater dining zones, marine education centres, promenades, food & retail streets, amphitheatres, spas and family stay pods.

4. Sphere Theme Park

Location: Puri

GoI can invite major players (For ex -Populous Team – 'Las Vegas Sphere') to develop this, state to demarcate the land and provide on lease, facilitate clearances. 300-acre area with theme based recreational activities, musical fountains, landscaped areas, facility for live entertainment & stage shows, event spaces, food outlets, retail outlets & basic amenities (Refer Figure 6.10).

5. Rural & Cultural Experience Tourism
Location: Khordha, Puri, & Cuttack
• Develop rural homestays with good amenities and availability of local rides for visit to the villages and nearby attractions. • Promote traditional activities such as local art and handicraft activities (local handicrafts, Pattachitra paintings, etc.), ethnic cuisines (including their preparation) along with provision of continental and fusion cuisines, and other cultural activities and local festivals. • Raghurajpur Village expansion - Homestay upgrades, digital galleries, artist residencies. • Demonstration workshops around Rath Yatra chariot-making. • Cuttack Silver Filigree Cluster - Dedicated production + retail hub with certification cell. • Pipili Applique Tourism Plaza - Marketplace + demonstration zones, night craft lane. • Kala Innovation Zone - Skill, co-working, e-commerce, packaging hubs.
6. Premier Wedding & Wellness Zone
Location: Puri
Wedding Zone: Develop Puri as a premium wedding destination to capture the growing market of grand Indian weddings. (Refer Figure 6.10). **Wellness Zone:** Establish a premier wellness tourism hub that blends Odisha's spiritual heritage with holistic health experiences, including spiritual retreats, Ayurveda and traditional healing, eco-wellness, culinary therapy, and water-based therapies.
7. Festivals & Events
Location: Across the region
• Scale up and promote existing festivals (Rath Yatra, Konark Dance Festival, Bali Jatra, Khandagiri Mela, Boita Bandana, etc.) at national and international levels. • Plan and organise new events and festivals, including art and craft exhibitions, cultural festivals, food festivals, textile heritage fashion fiestas, and gems & jewelry fairs. • Publish and promote a BCPPER Festival Calendar along with festival packages.
8. Arts & Culture
Location: Across the region
• Create a cultural heritage village showcasing timeless traditions, art and culture. • Promote local art and paintings at national and global scale by commercialisation and tourism integration. • Cultural programmes and performances of local dance and music forms. • Museum - a centre for artisans, wellness, education, and ecological tourism, leveraging the resources.

9. International Convention Centre for Branding & Promotional Activities
Location: Bhubaneswar/Puri
Develop an International Convention Centre in Bhubaneswar to host global expos, cultural and fashion shows, and an integrated Experience Centre for state branding and promotional activities.
10. Tourism Data Observatory
Location: Bhubaneswar/Puri
Launch a *Tourism Data Observatory* (tourist flows, spending, on-the-ground crowding, hotel occupancy) to enable dynamic pricing, capacity control during festivals, and evidence-based marketing.
11. Hotels & Resorts
Location: Near docking points, beaches, lakes, airports, religious, and heritage structures, and other tourist attractions in BCPPER
20-25 hotels and resorts (including premium and budget, total 1,000-2,000 keys) catering to all segments of visitors with accommodation options, restaurants and dining areas, recreational facilities, etc.

Figure 6.9: Proposed Beach Front Development at Puri

Figure 6.10: Proposed Odra Veda Museum

Figure 6.11: Plan connectivity projects to ensure seamless travel between nodes

Figure 6.12: Location of key projects across BCPPER

B. Policy Recommendations

To further supplement the robust policies & schemes of the State Government (Odisha Tourism Policy 2022, ABADHA Scheme etc.), the following policy modifications are proposed:

1. Carrying Capacity & Reslilient Tourism Planning
A. Introduce site-specific carrying-capacity assessments modelled on the famous (For ex- Lakshadweep) models—for ecologically and culturally sensitive destinations to regulate visitor flows and ensure long-term sustainability and use it for managing tourist movement at major sites.
B. Promote resilient tourism planning through colour-coded zoning for safe and sustainable development, targeting off-season tourism, and balanced regional distribution. Implement climate-resilient building norms and promote renewable energy to enable year-round, low-carbon tourism.

2. Enabling Private Participation in Tourism via Land-Lease Provisions
Land-lease provisions for hotels, resorts, and theme parks will encourage private investment, expedite project implementation, and expand the supply of quality accommodation and infrastructure.
3. Urban Design Competition Framework for Tourism Projects
Introduce Urban Design Competitions for major tourism projects to ensure design excellence, innovation, and context-sensitive development.
4. Integrated Framework for Adventure, Eco, & Rural Tourism
Align adventure, eco, & rural homestay tourism interventions in the Odisha tourism policy with the National Strategy for Adventure Tourism (2022), National Strategy for Eco-Tourism (2022), and National Strategy for Promotion of Rural Homestays (2022). The focus will be on regulating safety and sustainability norms, expanding eco-lodges & community-led homestays, & integrating local livelihoods within the tourism value chain.
5. Cruise Terminal Infrastructure & Operations Standardisation
On the lines of the Indian Ministry of Tourism's 'Draft Strategy for Cruise Tourism', update the existing Odisha Tourism Policy to integrate safety and regulatory standards for cruise terminals and docking operations, ensuring improved passenger experience, faster turnaround, and enhanced connectivity along Odisha's coast.
6. Heritage Conservation & Adaptive Reuse
Under the State's ABADHA Scheme, include measures for managing visitor flows through carrying-capacity norms while enhancing visitor offerings (such as museums, events, etc.), generating sustainable revenue, creating employment opportunities, and ensuring long-term operation and maintenance (O&M) financing.
7. Skill, Craft & Experience Development
Introduce certification for tourism services and GI crafts. Partner with leading hospitality institutes for capacity building, technology firms for immersive tourism experiences, & private developers to strengthen circuits & heritage assets. These initiatives will enhance service quality, build visitor trust, & increase local employment & incomes.
8. Smart Destination Management
Deploy Digital Twin technologies for key circuits to simulate infrastructure, manage visitor flows, develop unified event calendar, and enable predictive maintenance through real-time data analytics.

7 Education Sector

7.1 Sectoral Snapshot

The global knowledge economy is witnessing rapid growth, with the education sector registering a 4.4 % CAGR[20] in FY25 and Ed-Tech accelerating at 15% CAGR in FY21-22[21]. In India, the education sector contributes approximately 7.4% of GVA as of FY23–24[22]. However, India continues to face structural challenges, as reflected by the absence of Indian institutions in the global top 100 list and the country accounting for the second-highest outflow of students pursuing higher education[23] abroad, underscoring persistent demand-supply gaps and quality concerns.

At the state level, Odisha performs moderately well compared to its peers. With 27 HEIs per lakh population (close to the national average of 30)[24] and 3 Institutes of National Importance, (INIs) while the state has established a foundation but still lags behind states like Karnataka, Tamil Nadu and Maharashtra, which record much higher institutional densities (Figure 7.1) and globally visible education ecosystems.

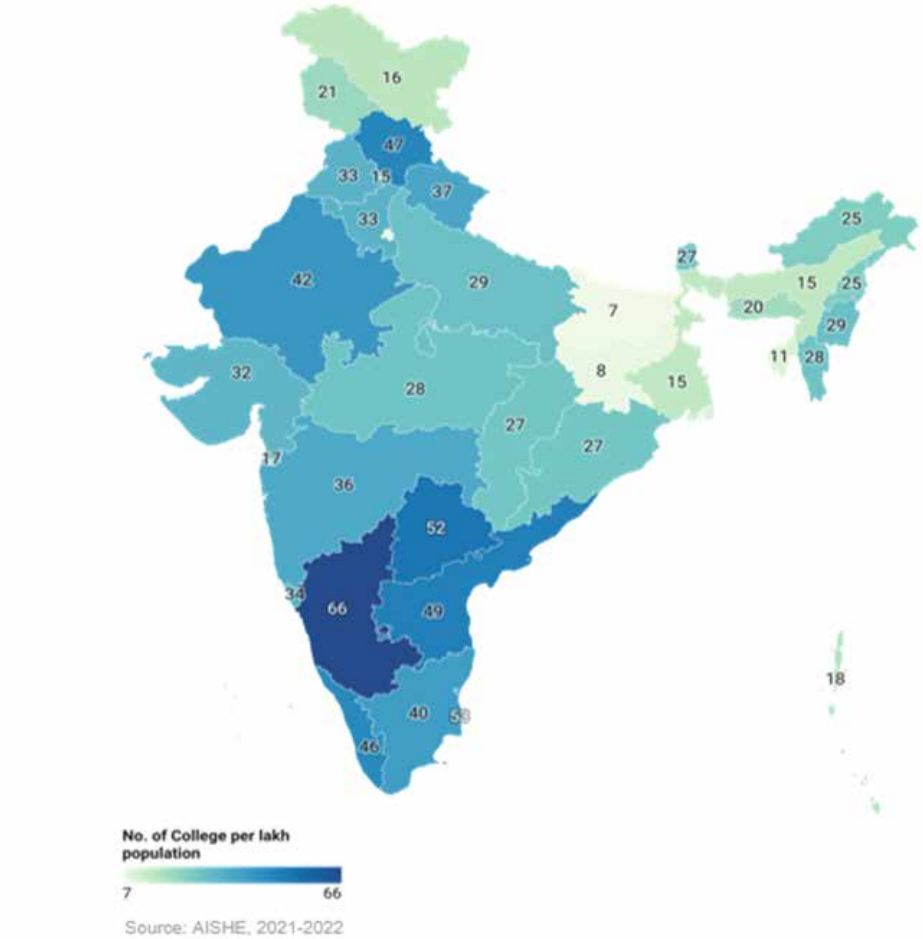


Figure 7.1: State-wise number of HEIs per lakh population (2021)

20 HolonIQ (2025): Market Survey Global Education Sector
21 HolonIQ (2022): Market Survey Global Education Sector
22 Economic Survey (2023–24): Ministry of Finance.
23 Higher Education Global Data report (2022): UNESCO
24 All India Survey on Higher Education 2021-22: Ministry of Education

The Economic Plan focuses on developing the higher education sector in BCPPER, building upon its robust and expanding K-12 education ecosystem. The region currently has the highest density of colleges in the state with 33[25] HEIs (Figure 7.2). It has reputed institutes in diverse domains of science and technology (IIT, IIIT, NISER, OUTR), medical sciences (AIIMS, SCB Medical College), management (XIM, Sri Sri University), law (NLUO, Madhusudan Law University), agriculture (OUAT), and heritage studies (Shri Jagannath Sanskrit University, Odia University). This diverse ecosystem ensures coverage across STEM disciplines, as well as governance, business, culture and rural development.

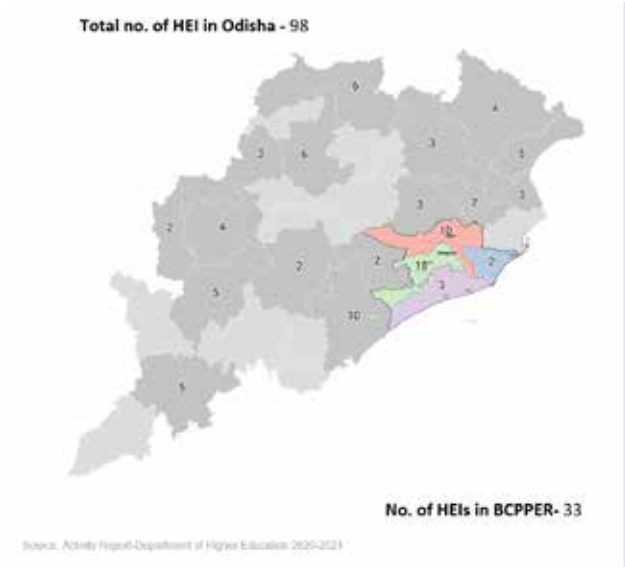


Figure 7.2: District-wise no. of HEIs in Odisha (21-22)

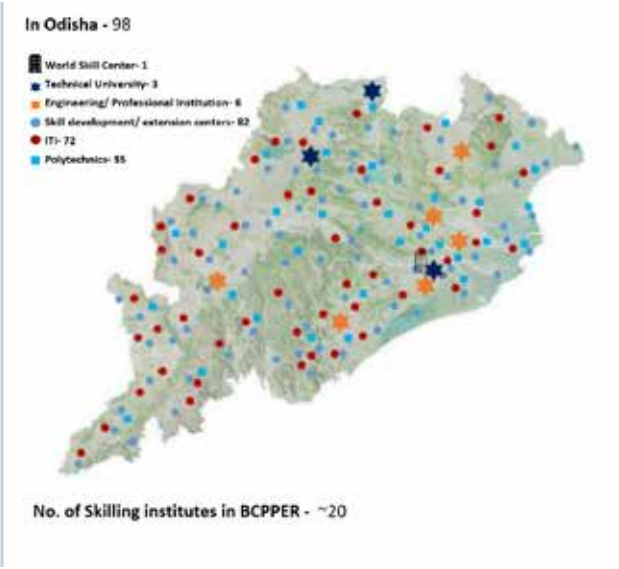


Figure 7.3 District-wise no. of skill & technical institutions (2024-25)

There is evidently both the inherent strengths of the higher education ecosystem in BCPPER and the systemic gaps that constrain its global competitiveness. These have been summarised in Table 7.1 as key opportunities that can be leveraged and the challenges that must be addressed, to reposition BCPPER as a world-class education hub.

Table 7.1 Opportunities and Challenges in the Education Sector

Opportunities	Challenges
• Rapidly growing global education market (4.5% CAGR) and EdTech (15% CAGR)[26].	• No BCPPER institution currently features in global top 100 rankings[27]; weak international visibility.

25 Annual Report 2021-22 (2022): Odisha Higher Education Department
26 HolonIQ (2022): Market Survey Global Education Sector
27 QS World University Rankings 2025

Opportunities	Challenges
• Capture India's outbound student base by offering affordable, world-class higher education locally.	• High outbound student migration reflecting unmet demand for quality education.
• Attract global universities through greater autonomy and integration with international standards.	• Low research output and poor academia-industry linkages stifle innovation culture.
• Maximise BCPPER's potential by aligning education and skilling with regional growth drivers.	• Heavy reliance on state funding; limited financial autonomy to innovate and expand globally.
• Potential to position BCPPER as South Asia's Education Hub by offering affordable, world-class alternatives to attract international students from the neighbouring South and LMICs.	• Limited focus on modern skills, employability, and entrepreneurship leaves graduates misaligned with industry.

Addressing these challenges while leveraging its strengths will be critical for positioning the region as a globally competitive knowledge and talent destination.

7.2 Approach to Establish BCPPER as the Education Hub of South Asia

To understand the structure/framework/design of a robust Education Hub various benchmarks were examined while the approach towards transforming BCPPER into an education hub was evolved based on global best practices; national policy directives; regional imperatives; and integrating them into a coherent framework tailored to BCPPER's socio-economic and spatial context.

The National Education Policy (NEP) 2020 articulates the vision of transforming India into a 'Knowledge Hub,' but does not detail the contours of a regional education hubs. Globally, one of the most accepted definitions comes from Jane Knight (2011), who describes 'education hubs' as organised efforts to create a critical mass of local and international actors - universities, research institutes, firms, and governments working together to deliver education, training, research, and innovation. For such hubs to succeed, Knight identifies four essential components, as illustrated in Figure 7.4.

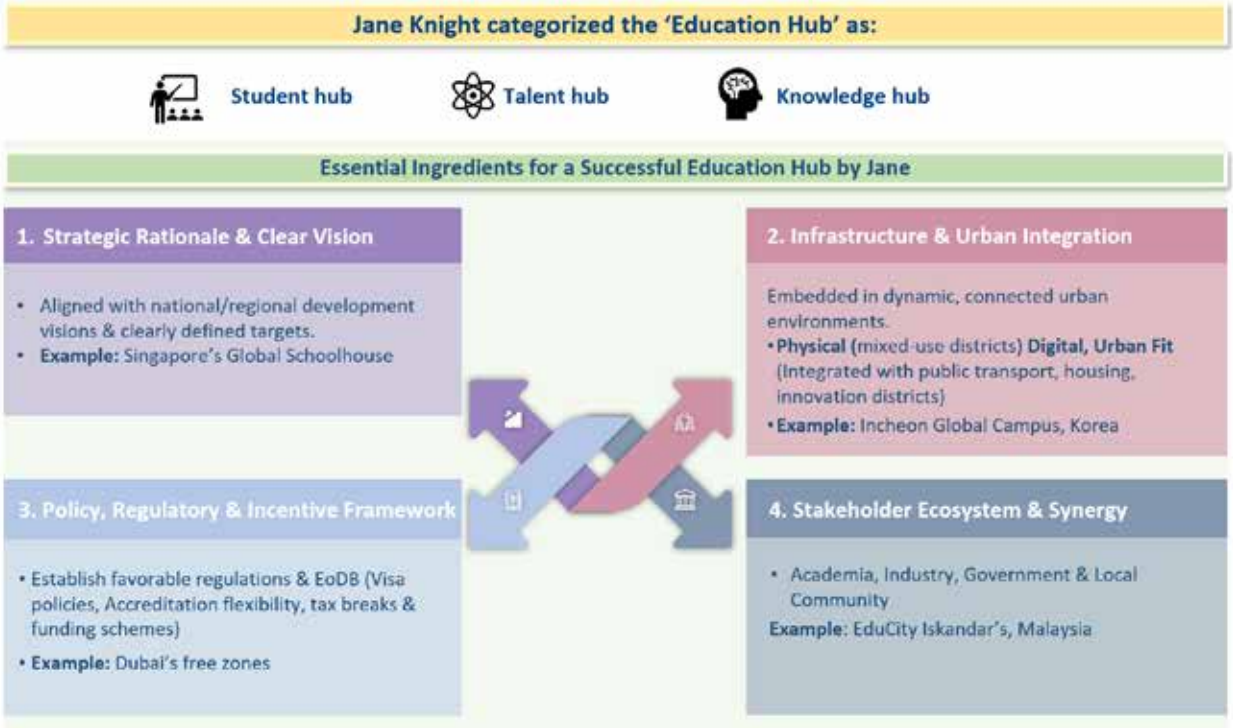


Figure 7.4 Jane Knight's Education Hub Framework

As the next step a comparative assessment of leading global education hubs was undertaken. Across regions, these hubs have emerged through planned strategies that combine higher education with industry collaboration, research, innovation, and urban development. Figure 7.5 lists the leading educational hubs studied in this context.

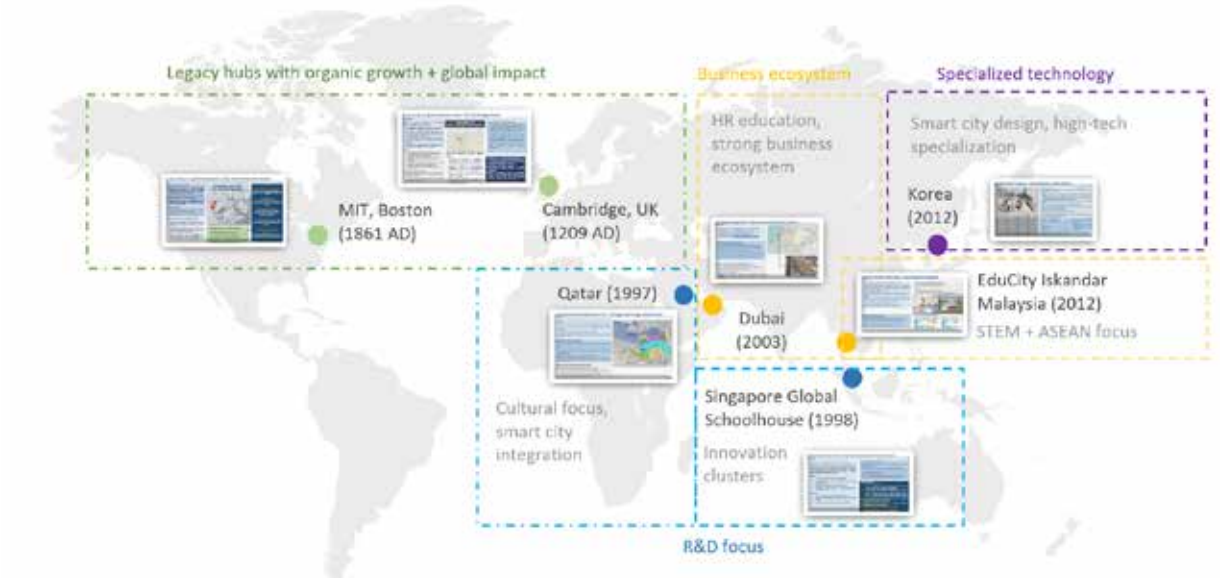


Figure 7.5: Global education hubs

A review of international experience reveals that education hubs succeed when they operate as integrated ecosystems, not as standalone institutions. Presently, BCPPER hosts a number of strong but largely standalone institutes with limited scale, weak linkages and low international visibility, underscoring the need for

a more integrated model. The global case studies yield the following six critical learnings, which collectively inform the pathway for developing the education hub in BCPPER:

(a) Urban Form and Spatial Strategy (Singapore and Korea)

- Compact or smart-city models where universities co-exist with business districts and innovation zones.
- Walkable, transit-connected hubs to integrate living, learning, and working.
- Strategic positioning near airports and metro corridors to maximise global mobility.

(b) Institutional Structure and Innovation Ecosystem (Dubai and Malaysia)

- Hosting global universities to raise international visibility.
- R&D intensive institutions and collaborative science parks linking research with industry.
- Multi-tiered models ensure the coexistence of public, private, and foreign institutions.

(c) Industry Linkages and Economic Drivers (Singapore and MIT–Cambridge)

- Strong ties to AI, biotech, healthcare, fintech, & other sunrise and high-growth sectors.
- Startups, corporate partnerships, and innovation clusters act as natural anchors.
- SEZ frameworks and incentives that attract global R&D and corporate investments.

(d) Global Talent Attraction (Dubai and Korea)

- Tailored visa regimes, scholarships, and career pathways (e.g., post-study work permits).
- Alumni networks and international rankings to boost brand prestige.
- Dual degrees, joint research, & exchange programmes enhancing student mobility.

(e) Governance and Policy Enablers (Dubai's free-zone and Singapore's policy models)

- Alignment with national innovation or knowledge economy visions.
- Free-zone or special governance models providing institutional autonomy.
- Coherence across education, urban, economic, and labour policies.

(f) Infrastructure and Shared Services (Cambridge's integrated ecosystem)

- Shared housing, libraries, labs, and recreation facilities across institutions.
- Education-culture-lifestyle convergence fostering retention and international appeal.

Internationally, the new age hubs such as Singapore, Dubai, Malaysia, and Korea were found to offer a better fit, as their approach to creating ecosystems mirrors the opportunity currently before BCPPER, instead of the organic growth in the other established knowledge hubs. These strategies provide a replicable pathway that can be adapted to Odisha's strengths to position the region as South Asia's premier education hub. The above six takeaways were translated into a four-step approach for BCPPER given in Figure 7.6.

Proposed steps to set up an Edu hub	1. Aligned with national/regional development visions	2. Synergised stakeholder ecosystem	3. Infrastructure & Urban Integration;	4. Policy, Regulatory & Incentive Framework;
BCPPER's interventions for a holistic development	Our projects in alignment with NEP 2020 & state's vision 2047	Platforms to integrate industry-academia partnerships	Developing 3 pillars, along with its enablers	Policy proposals

Figure 7.6 Steps to set up an Education Hub

7.3 Proposed interventions

Building on the above findings and BCPPER's regional strengths, the following three pillars have been proposed as the core strategy for transforming the region into a major education hub (Figure 7.7).

- **Pillar 1 (Brown-field Development): "Knowledge Corridors & Innovation Districts"**

Integrating existing **universities, tech parks, and industries** into **knowledge corridors**, inspired by **Cambridge, MIT, Singapore & Dubai**, driving **deep-tech, agriculture, manufacturing, medical & heritage research replicating the Qatar education city model**

- **Pillar 2 (Green-field Development): "Global Edu-SEZ: Universities Without Borders"**

Establishing **autonomous Education SEZ**, modelled on **Dubai Knowledge Park and Malaysia's EduCity Iskandar**, attracting **global universities, research hubs, & top talent** with **policy interventions, incentives** along with shared resources in the SEZ.

- **Pillar 3: "Future-Ready Workforce: Skilling for the Global Economy"**

Creating **India's largest hi-tech skilling with a hub & spoke model**, aligning workforce training with **other growth drivers** and **global job markets.**.

Figure 7.7: Three pillars to make BCPPER an education hub

A. List of Projects

1. Knowledge Corridors & Innovation Districts (Brownfield)
Location: Bhubaneswar-Cuttack IT Corridor, Paradeep Maritime & Manufacturing Corridor, Puri Heritage Zone, Agriculture Corridor, Medical District

The region has a concentration of HEIs and research infrastructure. The strategy is to integrate these into five thematic knowledge corridors that link universities, research centres, and industries into decentralised corridors & districts (Figure 7.8) These corridors can be anchored by universities and industries working in the agri, manufacturing, medical, IT, and tourism domains. The detailed mapping of corridors with their tentative institutional anchors is provided in Annexure I- Table 20.1.

Expected Outcome:

- Integrated live-learn-work ecosystems.
- Stronger industry-academia linkages.
- Global visibility through diversified thematic zones.

2.1 A Global Edu-SEZ: Universities Without Borders (Greenfield)

Location: Bhubaneswar (500 acres, near IT corridor)

Establish "BCPPER International University City" inspired by Singapore & Iskandar. Integration of global institutions through satellite campuses. A self-contained academic and research city hosting international universities, R&D parks, innovation labs, and shared facilities. High-density, mixed-use shared campus with student housing & business districts.

Expected Outcome:

- Anchor Odisha as South Asia's Education Hub.
- Attract international students, faculty & research investment.
- Enable globally benchmarked education and research ecosystems.

2.2 Science City (Layout in Figure 7.9)

Location: Bhubaneswar, integrated within the Edu-SEZ

Details:

Future-ready science city with immersive zones on AI, robotics, biotech, sustainability, and space - planetarium, digital library, kids' zone, green engagement spaces.
Science City will act as a platform for companies to anchor and operate immersive zones. Various firms can showcase technologies and run experiential labs within the facility. The model combines public learning spaces with live industry demonstration hubs.

Expected Outcome:

- Public engagement with STEM.
- Promote an innovation culture.
- Position Odisha as a knowledge-driven society.

3. Enabling Infrastructure for Education Hub

Location: Across BCPPER corridors & Edu-SEZ

Details:

Mixed-use academic-urban zones with transit integration. Residential & lifestyle facilities- student/faculty housing, international student villages. Culture & recreation zones - entertainment districts, wellness & sports complexes. Mixed-use academic-urban zones with transit integration. Residential & lifestyle facilities: student/faculty housing, international student villages.

Expected Outcome:

- Enhance liveability and attractiveness for global students & faculty.
- Foster 24x7 learning & lifestyle ecosystem.
- Support retention & long-term community engagement.

Box 1: Future-Ready Skilling Projects for BCPPER

- Expand World Skill Centre in Bhubaneswar and develop a new skill centre in Cuttack as a hub.
- Create sectoral skilling spokes across Paradeep, Puri, Khordha, and Cuttack (for manufacturing, agri-tech, IT, health, tourism).
- Implement a tripartite governance model (Government–Industry–Community) to ensure sustainability.
- Introduce a 'Skill Passport' system, conceptualised in line with MSDE's Skill India Digital framework to enable nationally recognised, portable certification and a unified digital record of workforce competencies.
- Adopt a phased approach by Upgrading existing ITIs in phase 1; setting up new centres and World Skill Centre in Cuttack in Phase 2.

Expected Impact: Position BCPPER as India's largest hi-tech skilling hub, building an industry-ready workforce for global markets and ensuring inclusive opportunities across the region.

Figure 7.8: Map of proposed projects

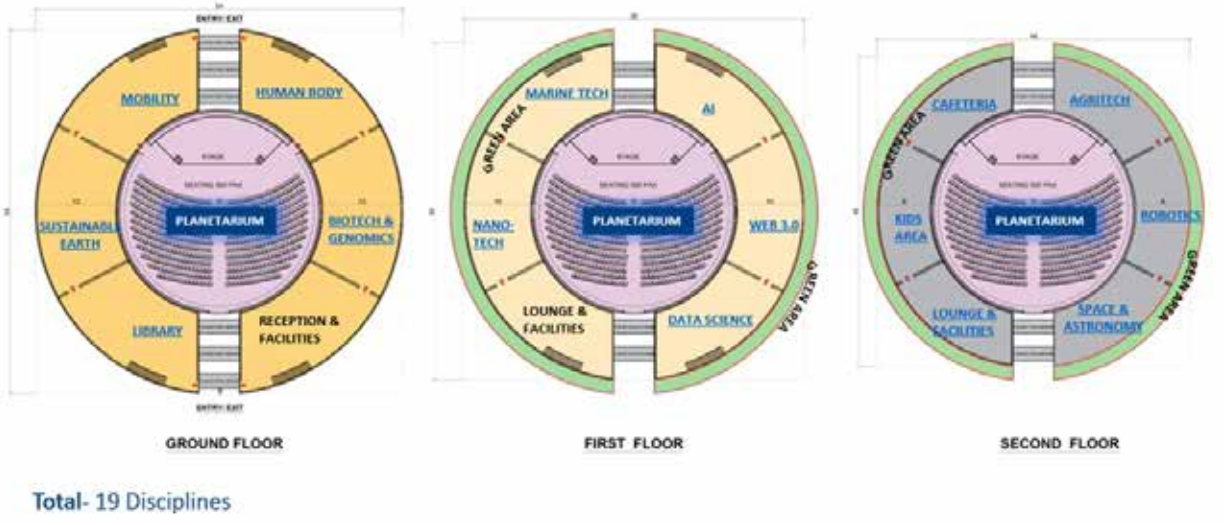


Figure 7.9: Model of Science City

B. Policy Recommendations

1. Global University Integration Policy (Reference: NEP 2020, UGC Draft Foreign Universities Regulations)
Focus Areas: Globalisation of higher education
• Allow foreign universities to set up campuses in Edu-SEZ with academic and administrative autonomy; establish single-window clearances for global partnerships. • Provide tax-free R&D incentives and subsidies for global universities, EdTech firms, and research institutes setting up in the Edu-SEZ. • Offer scholarships, dual-degree pathways, and post-study work permits to attract international students and faculty.
2. Skill Passport & Certification Reform (Reference: NSQF, National Skill Development Policy 2015)
Focus Areas: Workforce skilling & mobility
As highlighted in Box 1: Future-Ready Skilling Projects for BCPPER, it is proposed to establish a Skill Passport framework in collaboration with the Ministry of Skill Development and Entrepreneurship (MSDE). The initiative will enable nationally recognised and portable certification aligned with the *National Skills Qualifications Framework (NSQF)*[28], creating a unified digital record of worker competencies. The Skill Passport will support inter-sectoral and inter-regional workforce mobility, integrate industry-endorsed certification standards, and link with employer databases to facilitate transparent hiring and recognition of prior learning. Institutionalise a three-way governance structure where industry co-designs curriculum, government certifies, and community mobilises learners.

28 NSQF, National Skill Development Policy 2015

3. Urban Infrastructure Incentives for Education Hubs (Reference: TOD Policy)
Focus Areas: Campus & urban integration
Provide incentives for mixed-use zoning, student & faculty housing through a service apartment, rentals, dormitories and transit-oriented development around universities and corridors.

Figure 7.10: Tentative render of Edu SEZ city

8 Technology Sector as a Growth Driver for BCPPER

8.1 Sectoral Snapshot

The global IT sector is on a strong growth path, projected to expand from US$ 9 Tn in 2024 to over US$ 13 Tn by 2030[29], powered by emerging technologies like AI, cloud computing, and cybersecurity. Global Capability Centres (GCCs) have become a defining feature of the globalisation effect of this ecosystem, with more than 2,900 units across 70+ countries, valued at US$ 90 Bn in 2024 and expected to reach US$ 130 Bn by 2027[30].

India anchors this transformation by contributing 58%[31] of global sourcing and nearly 45% of services exports. Domestically, the sector plays a significant role as it accounts for 7.3% of GDP, employs 5.8 Mn professionals and continues to expand its role as a global innovation hub[32]. A notable trend is the rise of Tier-2 cities, which already house 15% of the tech workforce and offer up to 30% cost advantage, diversifying geographic spread of India's IT sector from metro cities.

Odisha aligned itself with this momentum through a progressive IT Policy 2022, which expanded Infocity and Infovalley, targeted 100,000 jobs, and committed to training 10,000 professionals annually in emerging technologies. The state also has a startup ecosystem comprising of over 2,200 firms and 35 incubators, with a strong emphasis on women-led ventures and innovation in AI, blockchain and cybersecurity.

BCPPER has established itself as a credible Tier-2 technology hub with a technology landscape that combines a sizeable workforce, functional IT parks, and a growing base of firms and incubators, alongside land earmarked for expansion (Figure 8.1). Together, these elements provide BCPPER a solid foundation to transform itself into a competitive Tier-2 city technology hub.

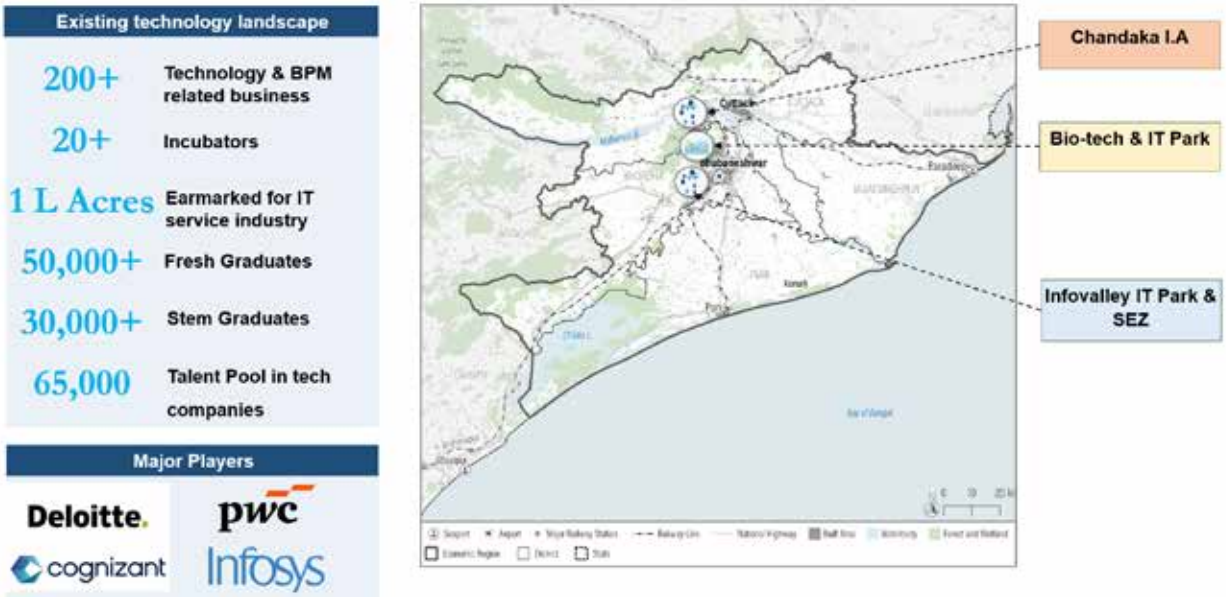


Figure 8.1: Endowments of the IT sector in BCPPER

29 IDC, McKinsey Global IT Outlook (2023-24): McKinsey Global Institute
30 India GCC Trends report (2023): NASSCOM & Deloitte
31 Technology sector in India Strategic Review (2023): NASSCOM
32 Technology Industry Report (2023): NASSCOM

Bhubaneswar performs competitively among Tier-2 cities such as Jaipur and Lucknow in terms of number of STEM graduates and affordability, reflecting in its talent base and social infrastructure (Figure 8.2).

However, while these cities have successfully attracted global GCC investments, Bhubaneswar, despite having the necessary infrastructure, is yet to secure the anchor institutions and visibility that would set it apart from its peers.

The snapshot given in Table 8.1 highlights both significant opportunities to leverage and structural challenges to address.

Table 8.1: Opportunities and Challenges in the IT Sector

Opportunities	Challenges
• Rapidly growing global IT market is predicted to increase from US $ 9 Tn in 2024 to US $ 13 Tn by 2030, with AI, Cloud, and Cybersecurity driving demand.	• No GCCs in Odisha, despite India hosting 1,750+ (45% of global share).[33]
• Rising role of tier-2 cities (15% of India's IT workforce, 30% cost advantage) positions Bhubaneswar to attract the next-wave of investments.	• Shortage of grade-A office infrastructure and weak international connectivity are hindering investments global firms.
• Expanding STEM talent base (30,000+ graduates annually; IIT, IIIT, NISER, KIIT) provides a pipeline for ER&D, AI, and MedTech.	• Low R&D intensity (<1% of GDP) and limited academia–industry collaboration constrain innovation.
• Growing startup ecosystem (2,200+ ventures, 35 incubators, 42% women-led)[34] offers a strong base for accelerators and deep-tech.	• Access to venture funding and scale accelerators remains thin compared to other hubs.
• Opportunity to build AI-grade data centres and GPU/server manufacturing hubs aligned with India's AI Mission and semiconductor policy.	• Limited global visibility and branding compared to peer Tier-2 hubs (Lucknow, Indore, Kochi, Visakhapatnam).

While BCPPER's endowments are substantial, they remain insufficient to establish global competitiveness on their own. The next step is to convert these strengths into strategic advantages through targeted interventions. The following section outlines the approach to reposition BCPPER as East India's premier innovation hub.

8.2 Approach

BCPPER's IT ecosystem is characterised by a strong talent pool, infrastructure, IT parks and a budding startup ecosystem. However, the higher-value layers of

33 Annual Report 2023: Ministry of Electronics Information and Technology
34 Start up Dashboard (2023): Startup Odisha

the chain remain underdeveloped. Moving from a services-driven base to an innovation-led hub will require targeted interventions that add the missing pieces and integrate them with existing strengths.

These gaps are evident in the ecosystem, where foundational endowments must be complemented by GCCs, AI-ready data centres, startup accelerators, and innovation-driven sub-sectors (Figure 8.2). These interventions will enable the region to climb the value chain and reposition itself as a leading technology hub.

Figure 8.2 Ecosystem of IT-led Innovation Hub

8.2.1 Strategic Pillars for Transformation

(i) GCCs

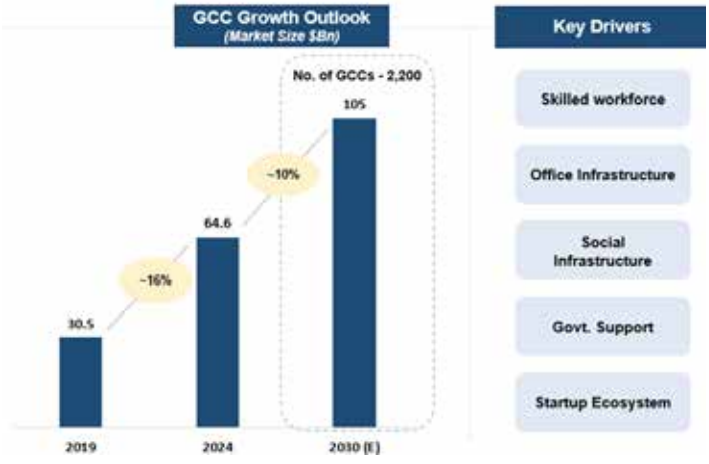


Figure 8.3 GCC growth trajectory and the key enablers

GCCs have become the backbone of global innovation and India remains at the centre of this ecosystem, hosting 1,750+ centres - over 45% of the world's total. They are no longer cost-arbitrage units but strategic hubs for R&D, AI, and cybersecurity. For BCPPER, the absence of GCCs highlights a gap in capturing high-value IT functions. Closing this gap is critical, especially as the GCC landscape is projected to expand rapidly, driven by skilled talent, infrastructure, policy support, and startup ecosystems (Figure 8.4). Building this pillar will be central to position the region within global digital value chains.

(ii) Data Centres & Digital Infrastructure

India despite producing nearly 20% of global data, houses only 3% of global data centres. With AI driving exponential demand, robust data infrastructure has become the foundation of digital competitiveness. BCPPER possesses favourable conditions like land availability, power reliability and geographic location to emerge as a data infrastructure node for East India, provided this capacity is systematically developed and supported by an enabling policy framework. Several leading states including Maharashtra, Gujarat, Tamil Nadu, and Karnataka have established dedicated Data Centre Policies with explicit capacity targets and comprehensive incentive frameworks. These proactive measures have enabled the creation of large installed capacities, ranging from 100 MW to over 700 MW, supported by robust policy and infrastructure ecosystems.

Odisha, too, has notified a Data Centre Policy (2022); however, it remains limited in scope, lacking defined capacity targets and detailed fiscal incentives. To leverage BCPPER's strong locational advantages reliable power supply, land availability, and coastal connectivity it is imperative to update and operationalise Odisha's Data Centre Policy with measurable targets, competitive incentives, and a dedicated institutional mechanism to position the region as a data infrastructure hub for East India. (Figure 8.4).

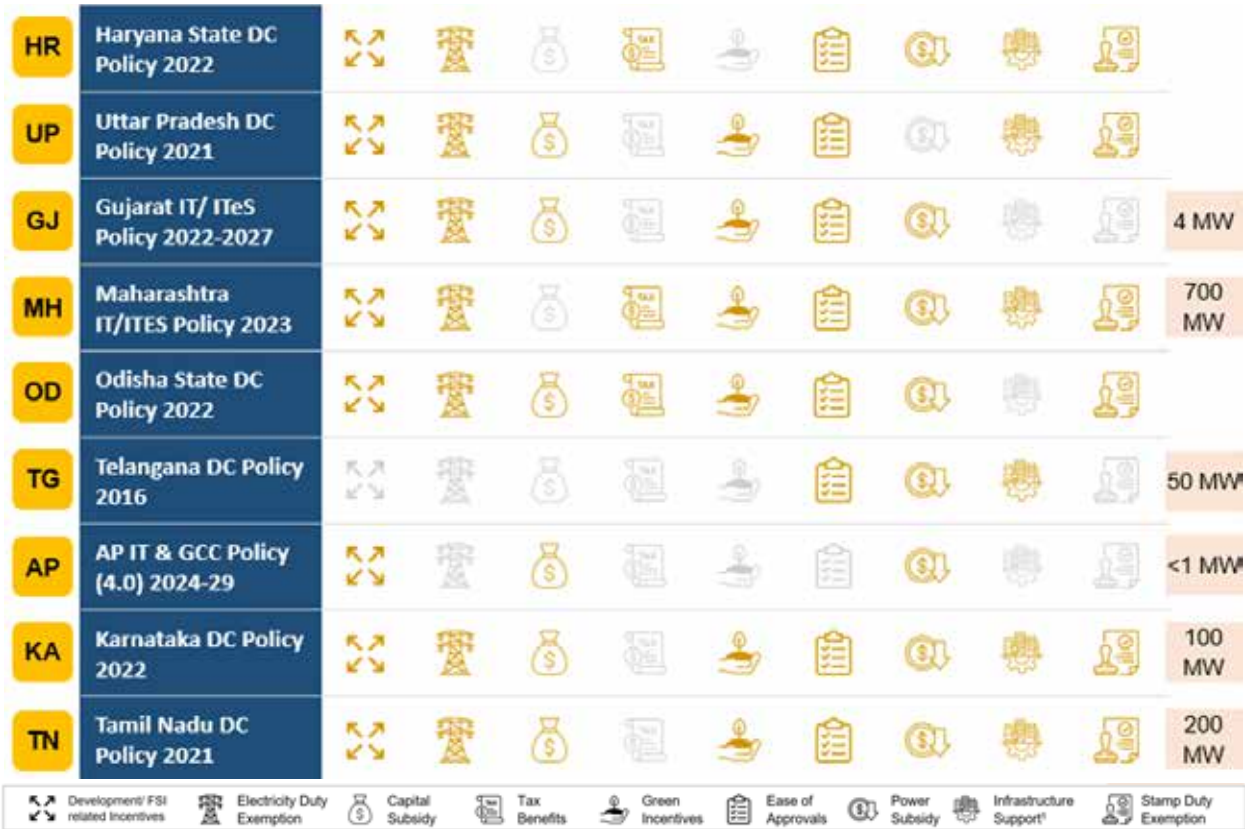


Figure 8.4 : Comparative analysis of state-wise incentives to attract investments in data centres (Deloitte Analysis)

(iii) GPU & Server Manufacturing

The surge in demand for high-performance computing has created global shortages, with GPUs priced between US$30,000-50,000 per unit[35]. Hardware capabilities from GPUs to servers are becoming critical to sustaining AI adoption and cloud growth. BCPPER has the potential to enter this value chain by aligning with India's semiconductor and computing missions, positioning itself in advanced digital manufacturing.

(iv) Innovation City and Startup Ecosystem

An integrated ecosystem that combines grade-A campuses, compute infrastructure, Centres of Excellence, and startup accelerators can serve as the nucleus of BCPPER's technology journey. Odisha already hosts more than 2,200 start-ups and 35 incubators[36], but scaling them into deep-tech ventures requires stronger infrastructure and access to global capital. Innovation City proposed as a key initiative in this plan represents the concept of bringing these elements together in one flagship anchor, linked to distributed nodes across the region.

8.2.2 Integration with Regional Growth Drivers

BCPPER should work on developing a network of specialised anchors across its districts, each aligned to local strengths and industries:

(i) Khordha (Innovation City, Data Centres, GPU hub): Hub for GCCs, AI-grade data infra, and advanced GPU manufacturing.

(ii) Cuttack (HealthTech & MedTech): Leveraging AIIMS and SCB Medical College for AI diagnostics, biomedical R&D, and MedTech startups.

(iii) Jagatsinghpur-Khordha Corridor (Manufacturing Tech & Industry 4.0): Advanced manufacturing clusters integrating automation, robotics, semiconductors, and server/hardware design.

(iv) Odisha's Agricultural Belt (Agri-Tech & Food Systems): Precision farming, AI-driven crop analytics, agri-robotics, and sustainable food systems linked to regional research institutions.

(v) Paradeep (Maritime & Climate-Tech): Smart port logistics, maritime security, and climate-resilient technologies.

(vi) Puri (Digital Tourism & Creative Tech): Immersive tourism, AR/VR, and cultural technology experiences.

This distributed ecosystem ensures that IT does not operate in isolation, but becomes the digital backbone across the different growth drivers of the region like manufacturing, logistics, agriculture, healthcare, tourism, and creative industries.

35 IDC, 2023; Reuters, 2023
36 Startup Odisha Annual Report, 2023

By embedding these pillars within a distributed innovation ecosystem, BCPPER can position itself as an innovation hub by 2047.

8.3 Proposed Interventions

A. List of Projects

1. Establish GCC Cluster and IT City
Location: Khordha (Innovation City, near Bhubaneswar airport & metro corridor)
Infrastructure Development: Build grade-A office campuses, plug-and-play IT towers, and integrated housing/social infra. **Incentives:** Dedicated incentive framework to attract Fortune 500 firms. **Innovation Hub**: Co-locate GCCs, ER&D labs, and training centres for AI, Cloud, and Cybersecurity. **Institutional Support**: Form an SPV to drive land allocation, clearances, and PPP partnerships with developers. **Value Addition:** • Attract 10+ GCCs in 5 years. • Create high-value jobs and position Odisha on the global GCC map. • Strengthen industry-academia linkages with IIT/IIIT/NISER.
2. Develop ER&D Focus Centres across BCPPER
Location: Paradeep (Maritime & Climate-Tech); Cuttack (MedTech); Khordha (Cybersecurity & AI); Jagatsinghpur-Khordha Corridor (Manufacturing Tech & Industry 4.0); Agricultural Belt (AgriTech & Food Systems).
Applied R&D Hubs: Establish sector-specific CoEs aligned with district strengths **Partnerships**: Collaborate with IIT Bhubaneswar, IIIT, AIIMS, SCB Medical College, agricultural universities, and industry leaders. **Facilities**: Build simulation labs, testing facilities, and R&D clusters in MedTech (diagnostics, biomedical devices), Manufacturing Tech (automation, robotics, server/hardware design), Agri-Tech (precision farming), and Maritime-Tech (smart port logistics). **Value Addition:** • Diversify IT beyond services into deep-tech and product innovation. • Position BCPPER as a leader in medtech, agri-Tech, manufacturing tech, and maritime-tech. • Generate high-value IP, patents, and spillovers into healthcare, industry, logistics, and agriculture.

3. Establish AI Innovation City & Data Centre Corridor
Location: Khordha
Data Centres: Build AI-grade, green data centres with dual-grid power and renewable integration. **AI Infrastructure**: Create GPU-as-a-Service platforms for startups, GCCs, and academia. **Urban Integration**: Innovation City designed as a smart campus with research parks, co-working spaces, and incubators. **Value Addition:** • Position BCPPER as East India's AI and digital infra hub. • Attract US$ 1-2 Bn investments by 2030. • Enable local firms and startups to access advanced compute capacity.
4. Establish GPU & Server Manufacturing Hub
Location: Khordha
Hardware Manufacturing: Set up units for GPUs, servers, and high-performance computing components. **R&D Partnership**: Collaborate with CDAC and IIT Bhubaneswar for indigenous hardware design. **Value Addition:** • Reduce import reliance for AI hardware. • Create an advanced manufacturing niche for Odisha. • Generate high-skill jobs in digital hardware and design.
5. Strengthen Startup Acceleration & Innovation Ecosystem
Location: Bhubaneswar (Innovation City), linked with 35 incubators across BCPPER
Acceleration Programs: Create sectoral accelerators in agri-tech, med-tech, manufacturing tech, cybersecurity, and maritime-tech. **Funding Mechanisms**: Launch a state-backed co-investment fund with global VC partnerships. **Global Exposure**: Host annual East India Tech Summit to attract investors, mentors, and corporates. **Value Addition:** • Scale Odisha's 2,200+ startups into globally competitive ventures. • Integrate startups into the GCC and ER&D ecosystem. • Position BCPPER as a regional startup hub with global linkages.

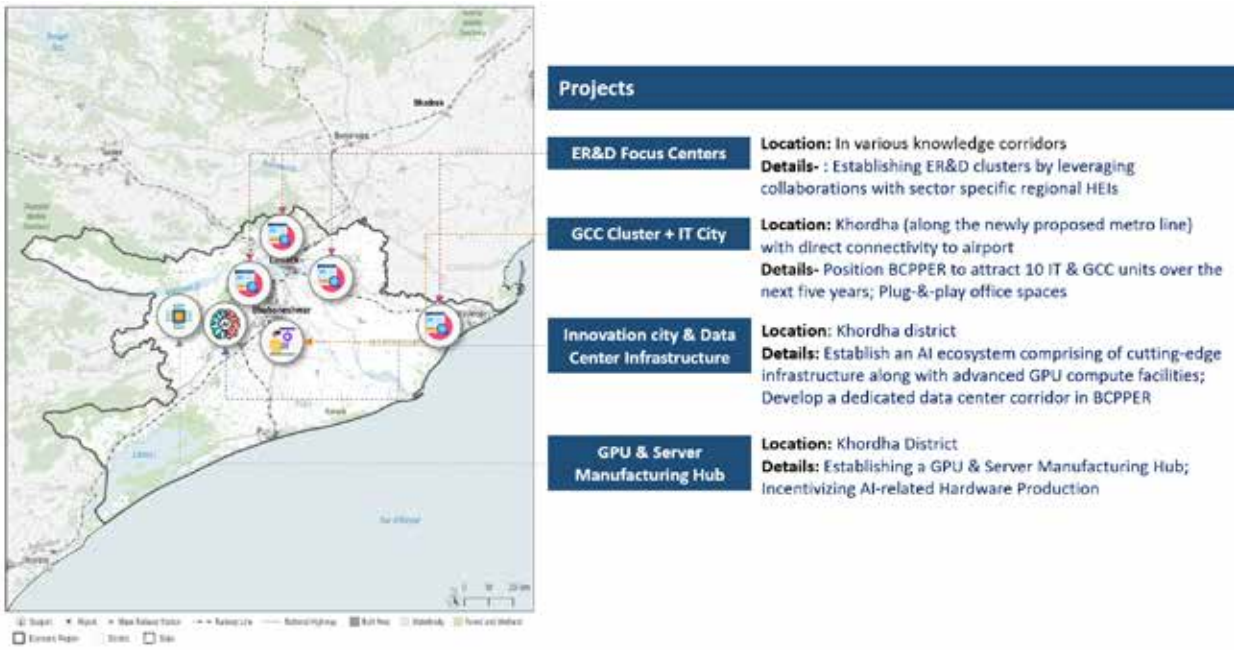


Figure 8.5: Locations of projects

B. Policy Recommendations

1. Dedicated GCC Policy
Focus Areas: High-value IT & GCCs
Provide incentives for GCCs across digital domains such as AI, cybersecurity, ER&D, data analytics, and fintech, aligned with the broader IT Policy 2.0 framework. Offer rental subsidies, payroll support, and fast-track approvals. Benchmark policy framework on successful models from Karnataka, UP, and Gujarat. Offer rental subsidies, payroll support, and fast-track approvals benchmark policy framework on successful models from Karnataka, UP, and Gujarat.
2. Data Centre Policy
Focus Areas: Digital infrastructure & AI-readiness
• Extend capital and operation expenditure subsidies for AI-grade data centres. • Ensure renewable integration, dual-grid reliability, and incentives for green cooling. • Position BCPPER as East India's primary hub for hyperscale data centres.
3. IT Policy 2.0 (Next-Gen Focus)
Focus Areas: Emerging technologies & R&D
• Expand Odisha's IT framework to cover AI, quantum, GPU-cloud, and cybersecurity. • Introduce patent reimbursements, R&D-linked incentives, and deep-tech skilling initiatives. • Align with India-AI Mission and national semiconductor roadmap to future-proof the ecosystem.

9 Real Estate Sector

9.1 Sectoral Snapshot

The Indian real estate sector is poised at an inflection point and is projected to reach US$ 5.8 trillion by 2047[37]. Powered by structured investments, regulatory reforms, urbanisation and rising income levels, it is expected to transcend the social, economic, and environmental realms. Supported by an enabling policy framework, the last decade witnessed the unlocking of real estate investment opportunities.

Rapid urbanisation is leading to a surge in property demand, offering lucrative real estate investment opportunities even in Tier I and II cities, which are shaping up as major engines of real estate growth.

In Odisha, real estate is projected to play a pivotal role in driving economic growth in the coming years, with its share in the service sector expected to rise significantly. In FY 2023-24, real estate and professional services together accounted for 16% of Odisha's Services GSVA[38]. The sector is poised to become a major driver of the service sector by 2047, with Bhubaneswar, in particular, witnessing robust residential and infrastructure expansion, fueled by its growing IT and industrial base.

Over the past five years, Bhubaneswar has seen a noticeable increase in real-estate projects registered under the Odisha RERA, in particular from 2021 onwards. These projects span residential, mixed-use and plotted development types, especially in expanding peripheral and newly developing localities like Patrapada, Jharpada, Sundarpada, Khordha outskirts as well as under development authority jurisdictions. The setting up of RERA has been a catalyst that improved transparency for buyers with project details (promoter, timeline, approvals) being more accessible, thereby reducing risk compared to earlier unregulated launches. The city's new supply is dominated by 3BHK and 4BHK units, underscoring strong demand in the mid-range and luxury housing segment. The development of major mega infrastructure projects is giving a further boost to this trend.

Going beyond Bhubaneswar, the BCPPER as a whole offers significant advantages, including a strong base of key industries such as IT/ITES, tourism, textiles, the presence of world-class institutions, a skilled talent pool, favourable conditions for economic development, and proactive growth-oriented policies driven by multiple economic drivers.

37 India Real estate industry analysis (2025): Indian Brand Equity Foundation
38 Odisha Economic Survey 2023-24 (2024): Government of Odisha

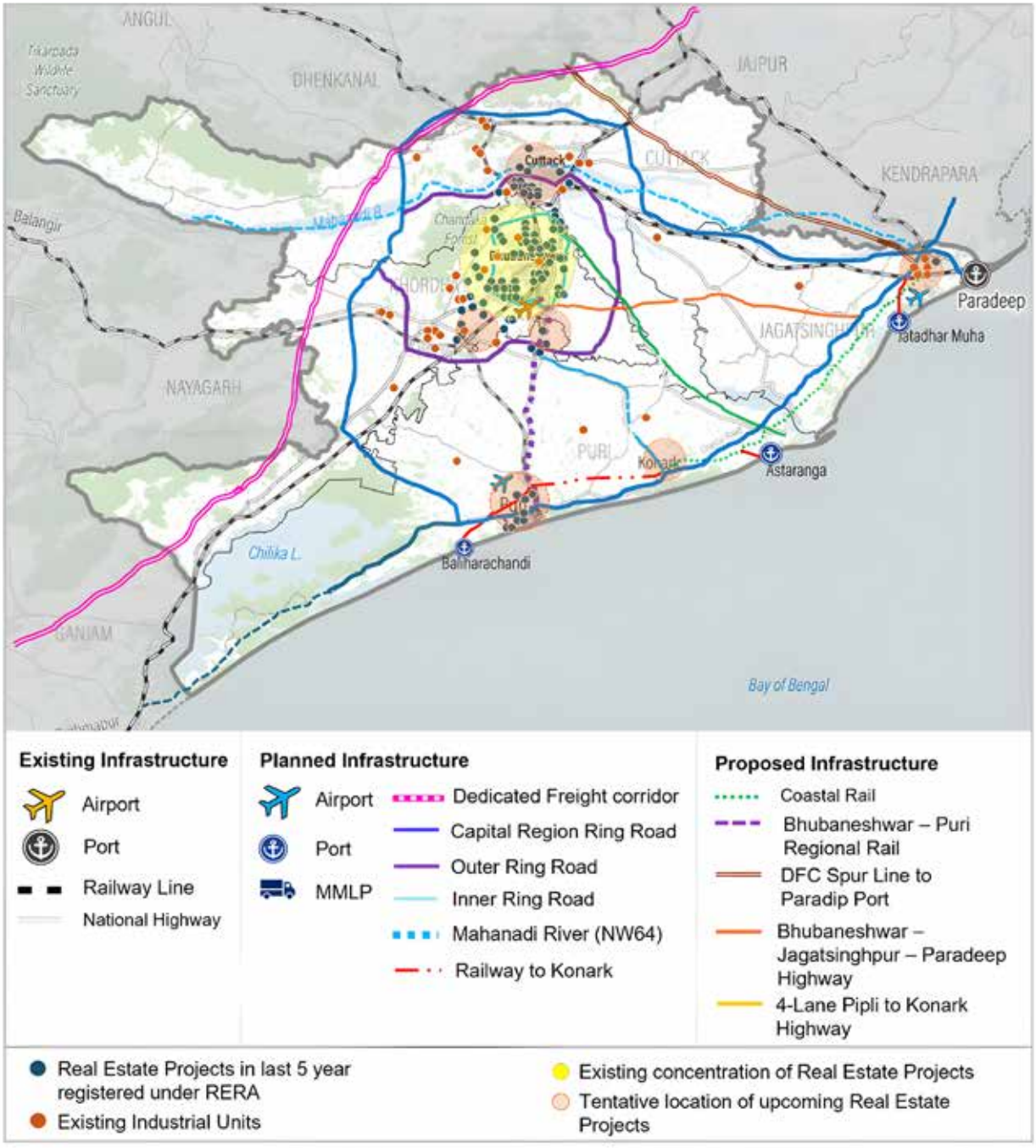


Figure 9.1 : Tentative location of upcoming real estate projects in BCPPER

As an education hub, the region generates demand for student housing, faculty residences and institutional infrastructure. Its role as a manufacturing hub, supported by industrial corridors, creates opportunities for industrial parks, logistics facilities, and affordable worker housing. The expansion of IT/ITES is spurring demand for modern office spaces, co-working hubs, and integrated residential townships for professionals.

Tourism further strengthens real estate prospects, with rising requirements for hotels, resorts, serviced apartments, and leisure infrastructure. Growth in textiles, chemicals, and ports-led development is fueling demand for specialised industrial clusters, warehousing, and residential clusters linked to trade activities.

Beyond responding to sectoral needs, real estate acts as a catalyst, enabling competitiveness, talent retention, and quality of life. In BCPPER, it will not only benefit from but also accelerate growth across education, industry, services, tourism, and other sectors.

In this context, the real estate sector in BCPPER holds a strategic position, leveraging its inherent strengths and unique advantages, while also navigating sector-specific challenges as mentioned in Table 9.1.

Table 9.1 : Opportunities and Challenges in the Real Estate Sector

Opportunities	Challenges
• **New planned or expanding urban/ suburban growth zones:** Outside the core city, but connected by good roads or upcoming transit infrastructure. • **Strong demand for Affordable Housing & Rental Housing:** Rising demand among migrant workers, students, and young professionals for affordable rentals or budget-friendly apartments. • **Emphasis on New Smart/Green Infrastructure:** Projects that integrate eco-friendly features (solar, water management, open spaces) may command premiums. • **Commercial & Mixed-Use development:** Demand for retail, co-working, office spaces as BCPPER expands as an education, IT/ITES, health-care hub. Mixed-use projects (residential + retail/office) can capture multiple income streams. • **Planning Policy & Regulatory Reforms:** Single-window clearances and incentive policies lower delays and cost risk.	• **Infrastructure Gaps in Peripheral Areas:** Lag in provision of basic services: drainage, sewage, solid waste, reliable water supply, and public transport. • **Rental Market Weaknesses:** Low investor confidence in rental yields limits the sector's maturity. • **Dependence on a Few Growth Drivers:** Real estate demand is heavily linked to government jobs, education hubs, and IT/ITES growth. • **Land Acquisition & Title Issues:** Problem relating to land titles, encroachments, or pending litigation. • **Natural Disaster Vulnerability:** Odisha's exposure to cyclones and floods poses risks to coastal and peri-urban real estate. • **Over-Supply in Certain Segments:** Could lead to unsold inventories and stressed projects, if demand does not keep up with approvals.

9.2 The Approach: Connectivity Infrastructure-led Sustainable Real Estate Growth in BCPPER

Potential demand for real estate in BCPPER is expected from improved connectivity, demand from neighbouring regions, growth in manufacturing and

tertiary sectors, high-quality and aspirational Liveability goals, and the need for developing satellite cities to decongest Bhubaneswar and Cuttack.

The proposed approach seeks to foster sustainable real estate growth by leveraging connectivity infrastructure as a catalyst for urban development, with the following focus areas:

(i) **Creation of Sustainable Greenfield Townships with Integrated Mixed-Use Development:** Planning and developing new townships that combine residential, commercial, institutional and recreational spaces in a cohesive and well-organised manner. By prioritising infrastructure development, these townships emerge in peripheral and surrounding areas, reducing pressure on congested city cores. Such integrated hubs promote self-sufficient, livable communities while enabling structured urban expansion that balances growth with environmental, Liveability and social sustainability.

(ii) **Decongestion of the Urban Areas:** Redirecting development toward strategically connected peripheral zones helps alleviate overcrowding in the Central Business District and other congested urban areas. By synchronising infrastructure investments with planned urban growth, this strategy ensures improved mobility, efficient land use, and enhanced urban livability. It also supports long-term economic vitality while maintaining environmental balance, creating a more resilient and sustainable urban framework. The Urban Challenge Fund (UCF) being implemented by Ministry of Housing & Urban Affairs (MoHUA), can be leveraged for funding creative redevelopment of Central Business Districts and historic cores of the cities.

9.3 Key Strategic Recommendations

BCPPER is projected to witness a significant surge in real estate demand, driven by its emergence as a multi-sector growth hub. Over the next decade, the region is expected to have:

(i) **Demand for new housing units:** Catering to the diverse housing needs of professionals, industrial workers, students, and migrants, with a strong demand for affordable options such as rental housing, workers' housing or dormitories, working women's hostels, and student hostels.

(ii) **2-3 new planned satellite cities for Bhubaneswar:** To ease pressure on Bhubaneswar's core and design as self-sufficient hubs with residential, commercial, and institutional infrastructure.

(iii) **New greenfield townships along outer ring road:** Well-planned communities with integrated amenities, ensuring sustainable urban expansion.

(iv) **New premium hotel rooms:** Rise of tourism, business travel, and cultural events is expected to create demand.

(v) **50+ TOD developments with integrated land:** Integrating residential, commercial, and recreational spaces around metro and high-capacity transit nodes.

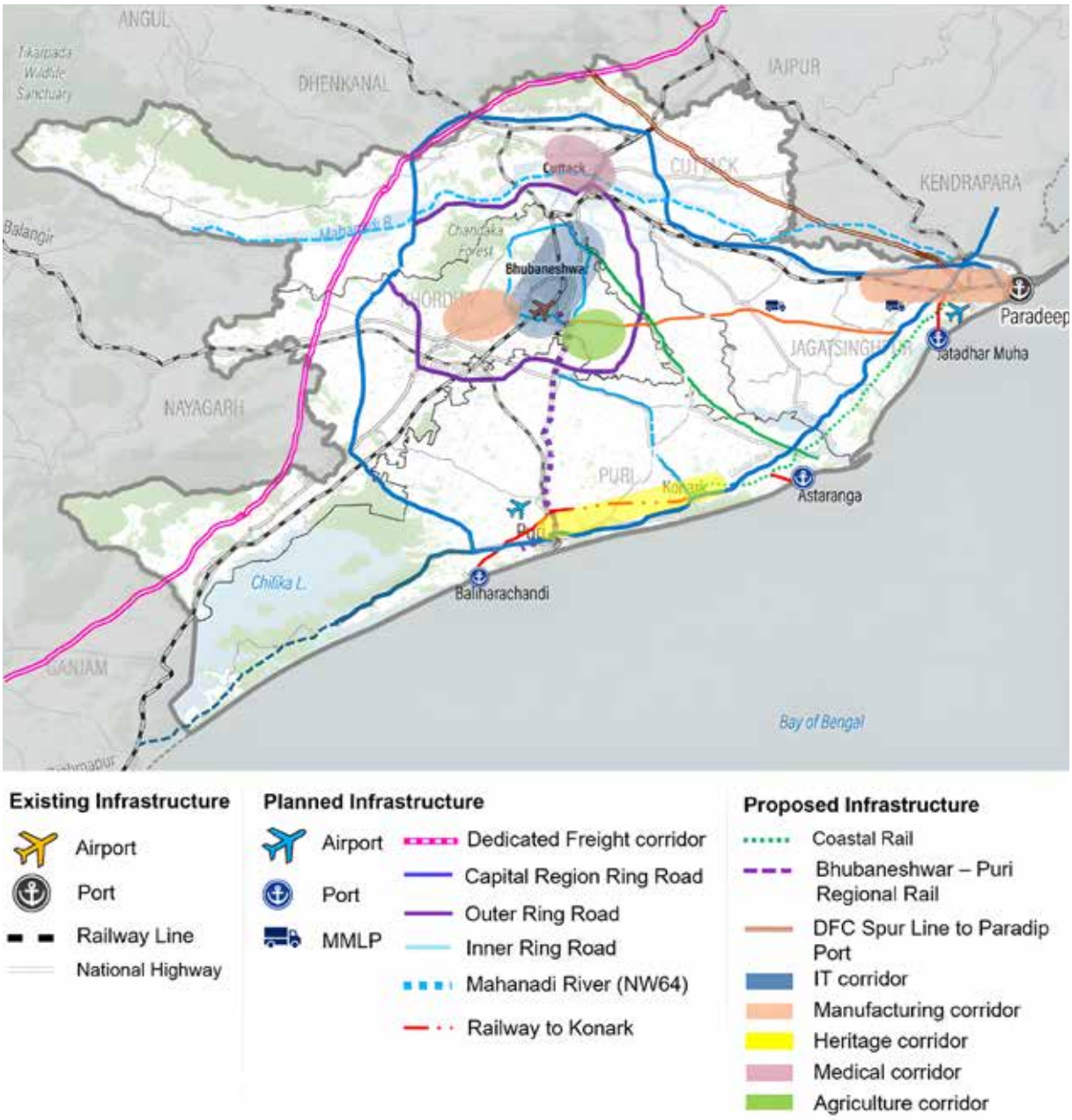


Figure 9.2 : Indicative location of proposed infrastructure generating real estate demand

9.4 Proposed Policy Interventions

To meet the expected demand and realise the potential growth of real estate as the key growth driver in BCPPER, the Government of Odisha needs to enable following critical policy interventions:

(i) Adoption of a Transit-Oriented Development (TOD) Policy

The state should formulate and notify a TOD policy, drawing guidance from the National Transit Oriented Development Policy issued by the MoHUA in 2017. The policy may be further customised to align with the specific needs and requirements articulated in the economic vision for the region.

TOD policy will promote compact, mixed-use and pedestrian-friendly development around major transit corridors. This approach supports higher-density development rail, and bus rapid transit stations, thereby enhancing accessibility, reducing congestion, and lowering carbon emissions. Within the influence zone of the area around transit stations (e.g., 500-800 m), allowable FAR can be raised to 1.5 - 2 times of the existing permissible FAR, allowing mixed-use development.

To cater to the demand for affordable housing in the region, it is also recommended that cities should earmark areas near TOD precincts exclusively for affordable housing. Within the earmarked areas, the allowable FAR may be increased beyond the existing permissible FAR as per requirements.

TOD will not only optimise land use but also facilitate a more efficient distribution of growth in the region, especially around Bhubaneswar and the planned satellite cities.

(ii) Adoption of a New Land Value Capture (LVC) Policy

It is recommended that the State adopt and notify a Land Value Capture policy, drawing on the Value Capture Finance Policy, 2017[39] framework of MoHUA, to create dedicated revenue streams for urban development.

The policy would enable the State to capture a share of the incremental land and property values arising from public investments in infrastructure projects such as roads, transit corridors, and industrial hubs.

While promoting commercial real estate and infrastructure, equal focus needs to be given to affordable housing. To increase land availability for this segment it is recommended that the State designate specific affordable housing zones within city master plans, allocating at least 10% of all residential land for this purpose.

By institutionalising Land Value Capture, the State can reduce its reliance on conventional funding sources, ensure the fiscal sustainability of urban expansion, and promote greater equity by redistributing part of the land value gains for public benefit. The funds mobilised through this mechanism can be strategically reinvested into strengthening infrastructure networks, expanding the stock of affordable housing, and promoting planned urban growth. This approach will help the State create resilient, inclusive and future-ready cities.

39 Value Capture Finance (VCF) Policy (2017), MoHUA

10 Port-led Development

Support Port-led growth in BCPPER: Unlocking Maritime Potential

10.1 Sectoral Snapshot

Globally, seaborne trade is the backbone of international trade, carrying ~80% of global merchandise by volume[40] and ~70% by value[41]. Cargo throughput stood at 12,000 MMT in 2022 and is projected to rise to 45,000 MMT by 2047, driven by demand in Asia and Africa, reflecting the long-term resilience of sea trade[42].

Despite the dominance of bulk cargo (about 75%), there is an evident shift in cargo mix towards containerised trade, which is expected to rise from 25% in 2022 to 33% by 2047, driven by manufacturing, consumer demand, and e-commerce[43].

Globally, following high performing ports present some of the best case studies:

- **Singapore (Jurong Island SEZ):** Integrated port-industrial hub generating US$ 60 Bn exports and 100,000+ jobs.
- **Rotterdam (Netherlands):** 40% container traffic via inland waterways, lowering logistics costs and carbon footprint.
- **Shanghai & Shenzhen (China):** Port–industrial complexes integrated with global electronics and heavy manufacturing clusters.

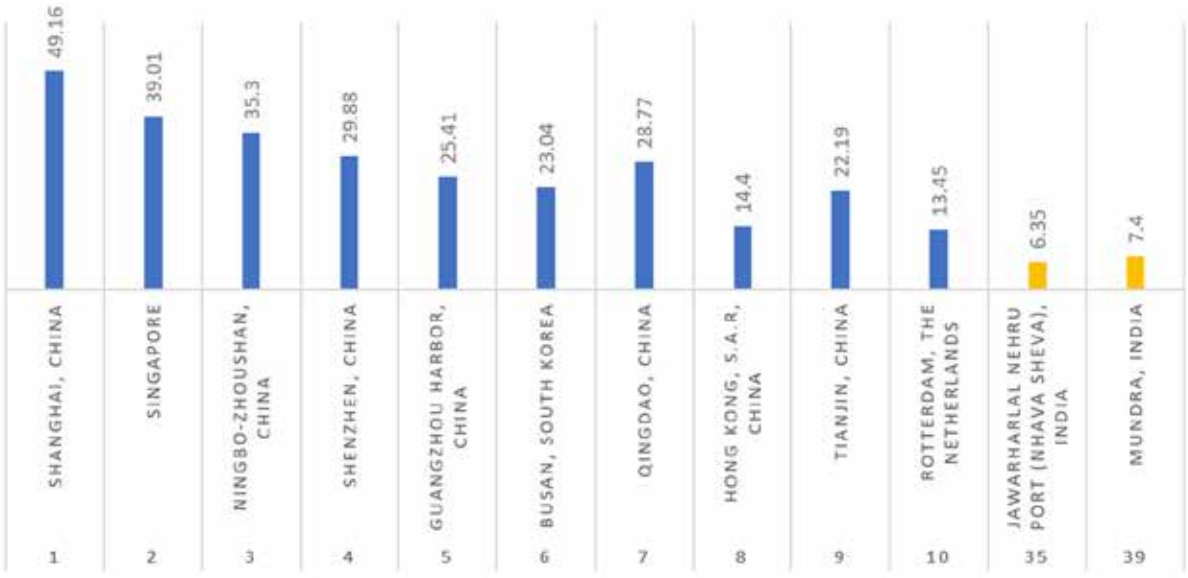


Figure 10.1 Global top container ports by volume 2023 (Mn TEU)*

India manages around 12% of global cargo volumes, with a capacity of 2600-2700 MTPA, but capacity utilisation stands at 55–60% across 12 major and 200+ minor ports . Indian ports handled 1617 MTPA Cargo in FY 2023-24. 85% of India's cargo is managed by 5 states (Gujarat 38%, Maharashtra 15%, Andhra Pradesh 13%, Odisha 12%, & Tamil Nadu 9%).

40 United Nations Conference On Trade And Development Review of Maritime Transport
41 Review of Maritime Transport (2022): United Nations Conference on Trade and Development
42 Maritime Transport Statistics Update (2023): UN Conference on Trade and Development
43 Maritime Transport Statistics Update (2023): UN Conference on Trade and Development

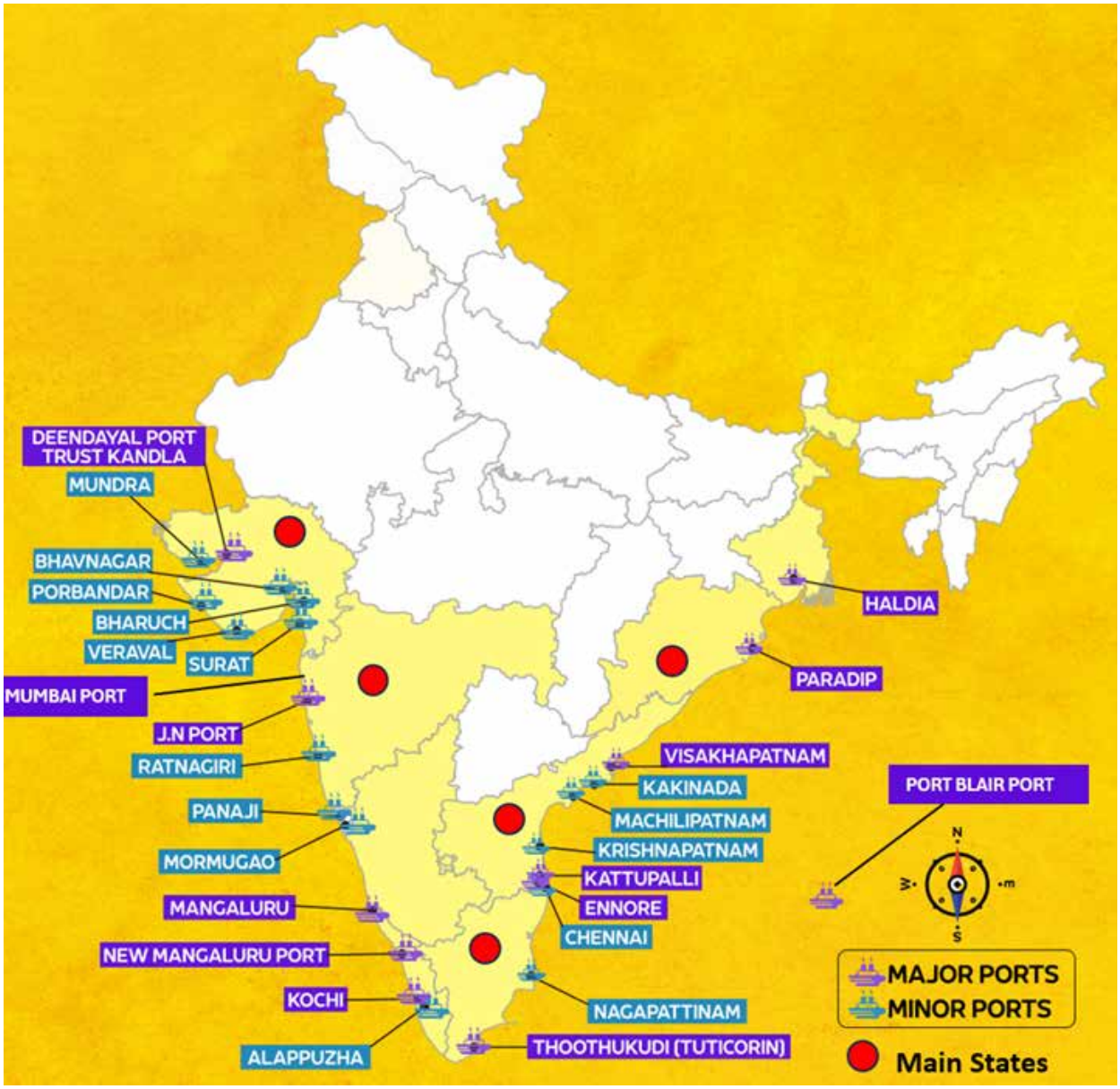


Figure 10.2: Major & minor ports of India

The port sector in India fares poorly on most of the factors when compared to global leaders. There continues to be heavy dependence on bulk cargo with limited containerisation that stands only at 25% as against 60–70% globally. Logistics costs are high at 13–14% of GDP as against the OECD norms of ~8–10%[44] with persistent inefficiencies in evacuation and container scarcity. Despite substantial available capacity, inland water transport handles less than 10% of freight, far below global peers.

Over the last decade, the policy landscape witnessed several far-reaching changes with concerted initiatives towards developing the ports sector, including:

- **Maritime Amrit Kaal Vision 2047:** Raising cargo capacity beyond 10,000+ MTPA, placing 4 Indian ports in the global top 20, 100% green & smart ports and a strategic push for port-proximate industrialisation.

44 Logistic Performance Index (2019): OECD

- **Sagarmala:** Envisions modernisation of ports, connectivity enhancement, port-led industrialisation, coastal shipping, inland transport, & coastal community development.
- **PM Gati Shakti:** Integration of multimodal connectivity to ports.

Odisha has the eighth-longest coastline in India (480 km), encompassing 6 coastal districts, and contributes ~13% of India's cargo throughput. The State has one major port (Paradip) and two minor ports (Dhamra and Gopalpur), with multiple greenfield ports under development.

Table 10.1: Port in Odisha

Paradip Port (Major Port)	Dhamra Port (Adani)	Gopalpur Port (Adani)
• Installed Capacity: 289 MTPA • Throughput: 145.4 MMT (FY24) • Utilisation: ~48%. • Major Exports: Coal (thermal & coking), fertilisers, iron ore; • Major Imports: POL (petroleum, oil, lubricants), machinery, chemicals • Paradeep has 15 berths and 3 SPMs. The 15 berths comprise 3 mechanised berths, 7 general cargo conventional berths, 2 oil jetty and 3 dedicated berths.	• Capacity - 45 MTPA • Throughput: 42.6 MMT FY24 • Commodities: Dry bulk cargo (both thermal/ imported & coking), iron ore, limestone and LNG (5MTPA)	• Capacity - 20 MTPA • Throughput: 11.4 MMT FY24 • Commodities: Dry bulk minerals (iron ore, limestone, coal) & LNG (5MTPA proposed)

Total exports from the state in FY24 totalled US$ 11.93 Bn, dominated by engineering goods (59.7%), iron ore (21.3%) and petroleum products (7.9%)[45]. Containerised cargo is negligible (<0.1% at Paradip). Despite a higher capacity compared with its neighbouring ports like Vizag (82 MMT) and Haldia (67 MMT), the performance of the Paradip port comparatively remains on the lower side.

BCPPER is envisaged to be an industrial and logistics hub, combining Paradip port, planned greenfield sites (Astaranga, Baliharchandi and Mahanadi Riverine), inland waterways (NW-64), and industrial projects like IOCL's refinery and the proposed Coastal Economic Zones (CEZs).

The region has good connectivity, including:

- **Rail:** 3000 km network, Paradeep linked to East Coast Railway, Cuttack–Paradeep corridor & Proposed DFC.
- **Road:** NH-53, coastal highway (Bharatmala planned), PCPIR corridor.
- **Air:** Bhubaneswar airport; Puri & Paradeep airports proposed.

45 Odisha Trade Data FY 23-24 (2023): NIRYAT Portal

- **Inland Water Transport:** NW-64 (underutilised for freight movement) passes through Cuttack & Jagatsinghpur.
- Link to Angul -Sambalpur Coal corridor, proximity to Mining & Steel plants.
- Presence of IOCL Refinery (15 MTPA, US $ 4 Bn), proposed JSW steel plant (13 MTPA, US $ 7 Bn Investment) near Paradip port.

Many new projects are already under implementation or at the planning stage, including:

- **Astaranga Port:** Greenfield with scope for fisheries, tourism & manufacturing.
- **Baliharchandi Port:** Greenfield, with tourism and cruise potential.
- **Mahanadi Riverine Port**: IWT-based multi-cargo hub & upcoming shipbuilding facility.
- **Jatadhar Muhan captive jetty**: Proposed JSW Steel Plant (52 MTPA).

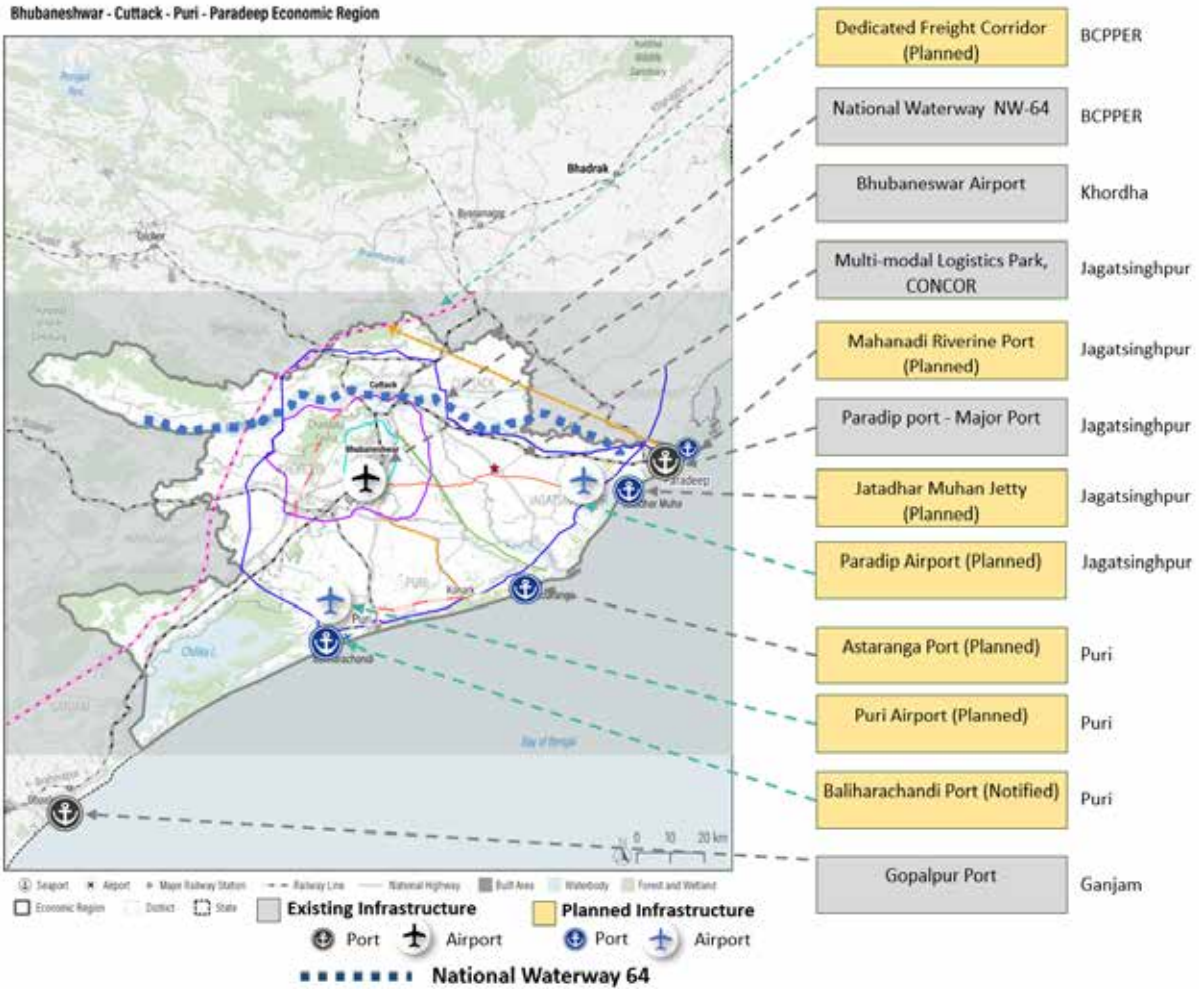


Figure 10.3: Infrastructure inventory – existing vs. planned projects in BCPPER

Most of the planned projects are either delayed or not on track. The region, while boasting of presence of a good ecosystem, presents several challenges that need to be addressed, as brought out in Table 10.2.

Table 10.2: Opportunities & Challenges in Port Sector

Opportunities	Challenges
• Strategic location & hinterland reach: Ideal coastal position for maritime trade (Vietnam, Indonesia, Cambodia), connects vast hinterland, major entry points. • Paradip port has a good draft (16.5 m deep), handles massive cargo volume, & expansion potential up to 500+ MTPA by 2047. • Development of greenfield ports (Astaranga, Baliharchandi, Mahanadi Riverine). • CEZs and FTWZs to attract petrochemical, steel, electronics, capital and engineering goods, and marine industries clusters. • Green transition via green hydrogen hub at Paradeep, aligned with Harit Sagar guidelines. • Tourism potential through cruise terminals in Puri and Jagatsinghpur.	• Underutilisation of inland waterway: NW-64 and NW-5 waterways underutilised due to reliance on road/rail, requiring de-siltation and lacking terminals, jetties, and infrastructure for cargo & passenger movement. • Paradip port not leveraging its full capacity potential: 48% of the total capacity was utilised in 2022-23. Containerisation <0.1% at Paradip as against 60–70% globally[46]. • Connectivity gaps: No airport in Paradeep, congested freight lines, weak last-mile links. • Cyclone and flood exposure (OSDMA Atlas 2023)[47]. • Land acquisition delays for greenfield projects (e.g., Astaranga, Baliharchandi). • Higher tariffs than Vizag/Haldia ports reducing competitiveness. • Competition from Vizag, Dhamra,and Haldia ports in container cargo.

10.2 Proposed Approach

Odisha's coastal districts enjoy a strategic location along the Bay of Bengal, offering direct access to ASEAN markets. Proximity to iron ore, bauxite, and coal provides a significant cost advantage, while logistics costs are nearly 20% lower than inland hubs. Compared to other states, Odisha offers lower land costs, shorter hinterland connectivity (100–150 km vs. 300 km in Tamil Nadu), less congestion than Maharashtra, and deeper ports than Haldia (6.5–8 m). Supported by the Odisha Industrial Policy 2022 and the Sagarmala–PM Gati Shakti convergence, the region is rapidly emerging as a competitive hub for port-led industrial growth.

To enable port-led development of BCPPER, a holistic plan that helps leverage existing assets while recognising how ports, connectivity and manufacturing reinforce each other is required. The approach rests on six mutually-reinforcing pillars, viz.: (i) Port expansion and modernisation; (ii) Multimodal connectivity; (iii) Port-proximate industrialisation; (iv) Green transition and resilience; (v) Operations optimisation with increased digitalisation; and (vi) Governance,

46 Maritime Amrit Kaal Vision 2047 (2024): Ministry of Port, Shipping and Waterway
47 Cyclone Risk Atlas (2023): Odisha State Disaster Management Authority

finance and human capital. Further these interventions need to align with Maritime Amrit Kaal Vision 2047 and Sagarmala objectives to scale capacity, increase containerisation and enable port-led manufacturing as detailed below:

- **Port Expansion and Modernisation:** The capacity utilisation of the Paradip port needs to be scaled up to 350 MTPA by 2030 and 500+ MTPA by 2047 through berth deepening, development of new berths, mechanisation, and focus on container terminal development. The development of Greenfield ports at Astaranga, Baliharchandi and the Mahanadi riverine should be expedited with clearly differentiated roles - industrial and fisheries at Astaranga; tourism and cruise at Baliharchandi; and promote the Mahanadi riverine port as an inland waterway and shipbuilding hub. This differentiated approach will ensure balanced regional development & reduce congestion at Paradip.
- **Multimodal Connectivity:** Prioritise last-mile freight corridors, Dedicated Freight Corridor links, access-controlled coastal highway and a regional air cargo node at Paradeep. Simultaneously, the revival of NW-64/NW-5 waterways must be prioritised. Establishing a regional airport at Paradeep alongside the proposed Puri airport will enhance both trade and tourism flows. The connectivity part is further detailed in the 'Integrated Transport & Logistics' chapter.
- **Port-Proximate Manufacturing and Logistics Clustering:** Create CEZs and FTWZs around Paradip, Astaranga and Baliharchandi, integrate MMLPs and ICDs for freight aggregation, and adopt land-use plans that reserve contiguous parcels for logistics, heavy industry and associated services. Industrial cluster design must include utilities, effluent management and common facilities to lower operating risk to attract petrochemicals, steel, seafood processing, electronics, engineering, and capital goods.
- **Green Transition and Resilience:** Implement Harit Sagar Green Port guidelines, including shore power, electrification of equipment and phased green-fuel bunkering (green hydrogen, ammonia/methanol). Position Paradip as a **Green Hydrogen Hub** offering bunkering for methanol and ammonia. Existing and planned ports to be complemented by renewable power integration, cyclone-resilient port design and ESIA (Environmental and Social Impact Assessment) led livelihood plans for fisheries.
- **Operations Optimisation with Increased Digitalisation:** Reduce turnaround time, improve efficiency and transparency by leveraging technology (establish integrated command & control centres, use blockchain trade systems, etc.)
- **Governance, Finance, and Skills:** Strengthen Odisha Maritime Board and establish a Regional Planning Industrial Development Authority for cross-district project delivery; structure PPPs (DBFOT/BOOST) with targeted viability gap funding for strategic greenfield works; mobilise concessional climate finance for decarbonisation. Parallelly, set up a Maritime CoE for green fuels, port automation and shipbuilding skills.

It is further recommended that a phased approach be adopted, including:

(1) **Short (0–5 yrs):** Paradip port efficiency drive (dredging, mechanisation), NW-64 pilot, FTWZ/ICD site selection, ICCC pilot, tariff rationalisation and PPP procurement, start of Astaranga/Baliharchandi/Mahanadi riverine/ Jatadhar Muhan jetty works

(2) **Medium (5–10 yrs):** Complete Paradip expansion phases, Paradip container berth development, domestic trans-shipment hub, operationalise Astaranga/ Baliharchandi, build Paradeep regional airport, DFC link completion, green-hydrogen pilot plant and MMLPs online

(3) **Long (10–20 yrs):** Paradip port 500+ MTPA, full CEZ operations, Astaranga container berth development, mature green-bunkering export hub, modal shift to IWT, full multimodal integration with ASEAN, with continuous tech upgrades.

10.3 Proposed Projects and Policy Interventions

A. List of Projects

1. Develop FTWZs
Location: Paradip, Astaranga & Bhubaneswar
• **Logistics & Warehousing:** Automated high-rack warehouses, bonded storage, temperature-controlled zones • **Customs & Trade:** On-site Customs Clearance Facility (CCF), EDI/ICEGATE systems, single-window export desks • **Transport Integration:** Dedicated Road to ports, truck terminals, container freight stations • **Utilities:** 24x7 power supply, telecom & internet, RFID and GPS tracking, drone surveillance • Establish airport near Paradeep port for cargo movement
2. Develop ICDs
Location: Paradip, Bhubaneswar, Astaranga Port
• ICDs will serve as central hubs for aggregating freight • Logistics container handling yard for loaded/empty containers, on-site customs station, bonded warehousing, truck parking and entry/exit bays, temperature-controlled and bonded warehouses

3. Establish Logistic Park

Location: Astaranga port Puri & DFC junction Khordha

- In line with Odisha Logistics Policy 2022 to develop Multi-Modal Logistics Park to ensure seamless first-mile and last-mile cargo handling
- Proximity to Paradip Port, Gopalpur port, will serve nearby CEZs and industrial zones, facilitating bulk movement of goods to inland
- MoRTH & IDCO has already proposed MMLPs near Paradeep port there needs to be a Logistics Park to support the port based activities
- Integrated transportation facilities (rail and road connectivity, container handling), warehousing and storage, business support services, etc.

4. Expansion of Container Capacity at Paradip Port and Development of Container Terminal at Astaranga

Building on the proposed 2 lakh TEU container terminal at Paradip, the project envisions a Phase-II expansion to 1 million TEU with integrated logistics infrastructure—including CFSs, multimodal road–rail connectivity to ICDs, and port-proximate warehousing. Based on feasibility, an additional 1 million TEU container terminal may be developed at the upcoming Astaranga Port or through further expansion at Paradip. Together, these initiatives will enhance Odisha's competitiveness against Vizag & Haldia, while capturing Nepal-bound and hinterland (Chhattisgarh, Bihar, West Bengal, Northeast) container traffic.

5. Leading Ship Building & Repair Hub

Location: Mahanadi riverine port in Kendrapara & Jagatsinghpur

- Proposed Odisha shipyard to be developed into a state-of-the-art facility for large and short-sea vessels.
- The proposed shipbuilding hub may include establishing a Design and Innovation Centre for green vessel technology, a Skill Development Academy under Skill Odisha, and adoption of green shipbuilding practices with renewable energy and international standards.
- It should also promote ancillary manufacturing units for engines and navigation systems, along with financial incentives and export facilitation mechanisms to attract private and global investments.

6. E-Methanol & Green Hydrogen Hub

Location: Paradip port & Astaranga

- MoPSW aims to establish Green Ammonia bunkers and refueling facilities at all Major Ports by 2035.
- Current Facilities: Proposal of green hydrogen plant at Paradeep port.
- Supporting Infrastructure: Green methanol and ammonia bunkering and refueling facilities.

7. Develop National Waterways NW-64 & NW-5

Focus on desilting, dredging, and terminal development with fiscal incentives to promote inland water transport and link Odisha's industrial hubs with Paradip and Dhamra ports.

8. Development of Port Proximate Manufacturing Clusters with a Focus on Rare Earth Metals

Leveraging Odisha's rich beach sand mineral reserves and Paradip's port connectivity, the project proposes a rare earth processing and manufacturing cluster to support critical mineral value chains for EVs, clean energy, and defence sectors—complementing existing facilities at Gopalpur.

9. Follow Green Port Initiatives

- Electrification of Port equipments.
- Port crafts: Ports shall make efforts to retrofit port crafts (including tugs, pilot boats, mooring boats, survey boats etc.) with available technology for propulsion on cleaner and greener fuel in phased manner.

10. Integrated Command and Control Centre (ICCC)

Location: Astaranga, Mahanadi riverine & Baliharchandi Port

- In line with Odisha Port Policy for Technology Enablement for monitoring of port operations, cargo flows, traffic management, and logistics hubs (FTWZs, ICDs, MMLPs).
- To better manage the movement of cargo containers and other freight and reduce the number of physical checks, induce transparency, ICCC allows predictive analytics, faster response to disruptions, and optimised cargo routing.
- Based on hub & spoke model, the ICCC will be established at the state level and connected with smaller control centres.

B. Policy Interventions

1. Containerisation Drive

Incentivise container liners through tariff rationalisation and faster clearances. Develop ICDs and FTWZs to strengthen multimodal connectivity in line with the National Logistics Policy (2022).

2. Providing Incentivise to Investors

Offer fiscal benefits for port-linked industries and logistics parks. Align incentives with Odisha Industrial Policy 2022 and SagarMala objectives to attract anchor investors in ship repair, cold chains, and coastal logistics.

3. Green Transition

Implement the Harit Sagar Guidelines 2023, promoting shore power, waste recycling, and energy-efficient operations. Develop bunkering and retrofitting facilities for green fuels (LNG, hydrogen, biofuels) to align with Maritime India Vision 2047.

4. Berthing Policy

Formulate a transparent berthing policy specifying vessel prioritisation, turnaround time norms, and performance-linked incentives. Align with the Major Port Authorities Act (2021) to enhance efficiency and ensure uniformity across all regional ports.
5. Strenghening Governance
Empower Odisha Maritime Board for integrated port management. Establish Regional Port & Industrial Development Authority (RPIDA) for coordinated port–industrial development.
6. One Time Settlement Scheme
Introduce OTS to resolve long-pending dues and disputes. Model the scheme on the Ministry of Ports, Shipping & Waterways (MoPSW) guidelines to improve financial health & investor confidence.
7. Skill Development
Launch a Port and Logistics Skill Hub in collaboration with state universities and maritime institutes to build a trained workforce for emerging port sectors.
8. Digital Port Ecosystem
Adopt Port Community System 2.0 (PCS) for end-to-end digitalisation of port operations, documentation, and cargo tracking aligned with the National Maritime Single Window initiative.

Figure 10.4: Location of key projects across BCPPER

11 Integrated Transport & Logistics

11.1 Sectoral Snapshot

India currently is a mid-sized player in the global logistics sector. Improving efficiency and reducing costs from approximately 14% of the GDP to 8-10% will bring India closer to the standards of the developed countries. The national vision aims at achieving a balanced modal balance by increasing the share of railways in freight traffic to 45% by 2050[48].

In Odisha, roads dominate freight transport, and shifting a greater share to rail and waterways is the key to achieving a better modal balance. While the state has a substantial network of waterways, they are currently underutilised, and its air connectivity is limited due to low intra and inter-state flight connectivity, as highlighted in the Odisha Vision 2047.

For the BCPPER, this sector offers huge potential to drive inclusive development. Expanding highways and freight corridors, modernising rail, ports, and airports, and strengthening urban transit can open new opportunities for businesses and communities alike. By building a modern, multimodal network, BCPPER can ensure faster, cheaper, and greener connectivity laying the foundation for balanced and sustainable growth.

While BCPPER already has a good connectivity network including many new mega projects either under implementation or at the planning stage, it faces distinct challenges. Its existing road network requires improvement, particularly along the coastal belt, and urban public transport is limited, with only an 8% mode share in the Bhubaneswar-Cuttack region[49]. However, the region benefits from its strategic location, with close proximity to Paradip port, upcoming non-major ports, airports, and industrial hubs. With its multimodal potential, the region can leverage upcoming ports, highways and new rail links, to significantly enhance connectivity. This will help reduce logistics costs, decongest urban centres, boost tourism and manufacturing and strengthen exports in alignment with the Odisha Vision 2047. To leverage the opportunities the State needs to address several challenges brought out in Table 11.1.

Table 11.1: Opportunities and Challenges: Transport & Logistics Sector

Opportunities	Challenges
• **Strategic Location Advantage:** Proximity to Paradip port, upcoming non-major ports, Bhubaneswar airport, and industrial hubs positions the region as a multimodal logistics gateway for eastern India.	• **Road Connectivity:** The region continues to face significant challenges in road infrastructure and connectivity. In particular, the region lacks access to high-quality road networks, and the coastal belt remains poorly connected.

48 National Rail Plan for India 2030 (2022): Ministry of Railway
49 Comprehensive Action Plan for Clean Air(2021): Cuttack. Air Quality Monitoring Committee, Odisha

• **Rail Capacity Expansion:** DFC and new strategic rail links will ease congestion on passenger lines, reduce logistics costs, and provide direct port-to-hinterland connectivity. • **Urban Mobility Improvements:** Mass public transit project and scaling up of bus fleet will improve regional mobility and reduce dependence on private vehicles. • **Investment Attraction:** Odisha Vision 2047 and maritime policy emphasise logistics parks, coastal highways, and smart transport infrastructure, creating space for public-private partnerships and green mobility innovations.	• **Rail Congestion:** Freight and passenger trains share the same rail lines, leading to significant congestion and delays. • **Limited Air Connectivity:** The region has inadequate air connectivity to support both existing and upcoming ports, restricting efficient cargo movement and overall regional development. • **Need to Augment Urban Transport:** Urban public transport systems remain inadequate, unable to meet the demands of growing populations and expanding economies. • **Limited Port Connectivity:** Direct freight connectivity to ports remains inadequate, constraining efficient movement of goods and impacting export-oriented manufacturing.

11.2 Key Goals for making BCPPER a Multimodal Transport Hub

The Economic Plan identifies the following three overarching goals (Figure 11.1) for developing the connectivity and logistics sector of the region.

Figure 11.1: Key goals for making BCPPER a multimodal transport hub

Meeting the above goals would require planning for a comprehensive multimodal transportation system that supports the growth strategy by enhancing capacity and efficiency in the movement of goods, services, and people of BCPPER. The

Plan outlines a four-pronged approach to establish the region as a multimodal hub, which focuses on expanding road and rail networks, developing new airports, strengthening inland waterways, and establishing MMLPs. In addition, the strategy proposes a focus on urban transport with planned bus augmentation and regional rail transit, and TOD to support the overall goal of improved connectivity and economic growth.

(i) Expand and Improve Road Network

Ports, industrial hubs and heritage sites rely on seamless access to markets and people, yet existing infrastructure remains inadequate. The Economic Plan proposes to expedite the ongoing and planned projects, including the coastal road, as well as the inner, outer and capital region ring road. Building these corridors is essential not only for trade and logistics but also for boosting tourism, attracting investment, and ensuring balanced regional growth.

Figure 11.2: Road connectivity - planned and proposed

In addition to the above, the following new projects are proposed to improve road connectivity:

- Develop direct road connectivity from Bhubaneswar airport to Paradeep, a new four-lane road connecting Paradeep directly with Bhubaneswar to reduce travel distance and improve logistics efficiency.
- Upgrade the Pipli to Konark highway to enhance safety, cut travel time, and strengthen access to the UNESCO World Heritage Site Konark Sun Temple, supporting tourism and local economies.
- Develop the Phulnakhra - Astaranga port corridor to enable efficient freight movement, support upcoming port operations and foster industrial growth.

- Four-Lane Cuttack (Tangi) to Chandabali to link inter-district routes with coastal districts Kendrapada and Bhadrak via Cuttack and enhance connectivity to northern Odisha's industrial and port regions, reduce congestion, and improve the efficiency of cargo and passenger transport.

(ii) Accelerate Rail Upgradation Projects

Upgrading the rail network is essential to improve modal balance, which is presently skewed towards road travel, and to reduce congestion on corridors that currently carry both passenger and freight traffic. To strengthen capacity and improve efficiency, it is proposed to give priority to expediting the following projects, which are either under implementation or at a planning stage:

- Orbital Corridor for Golden Triangle of Odisha: Puri – Konark – Bhubaneswar:
  - New rail link from Puri to Konark, enhancing connectivity to a key heritage destination.
  - Konark to Bhubaneswar via Gopa & Nimapada, for improving regional mobility and supporting tourism and local development.
- Rail line parallel to 6-Lane Access-Controlled Greenfield Capital Region Ring Road (Bhubaneswar Bypass) from Rameshwar to Tangi:
  - Rajathgarh (Cuttack District) to Kaipadar Road (Khordha District), to ensure seamless movement of south bound freight trains from Talcher-Sambalpur area providing an alternate route to congested passenger route of Cuttack- Bhubaneswar- Khurda Road[50].
- East Coast Dedicated Freight Corridor (Kharagpur–Vijayawada, 1,080 km), which will pass through West Bengal, Odisha, and Andhra Pradesh. It is vital for transforming India's rail and logistics system by eliminating the inefficiencies caused by freight and passenger trains sharing the same tracks.
- Third and fourth lines along the Haridaspur-Vizianagaram and Cuttack–Paradeep corridors.
- New Line between Angul and Nayagarh Town for connecting hinterland and unserved areas of Cuttack District (Narsinghpur-Baramba) and facilitating freight movement for coal and power plants.

In addition to the above, the following new projects are proposed to further strengthen rail connectivity to ports.

- Coastal rail corridor connecting Paradeep with Puri (via planned Konark rail link) and upcoming non-major ports at Astaranga, Baliharchandi and Jatadhar Muhan captive jetty.
- A spur line linking Paradip port to the planned East Coast DFC is proposed for establishing a direct, high-capacity freight connection and improving port–hinterland linkages.

50 Final location survey (FLS) sanctioned

- Paradeep - Talcher - Jharsuguda Dedicated Freight Corridor for establishing a direct, high-capacity freight connection and improving port–hinterland linkages for coal fields, power plants & steel sector.

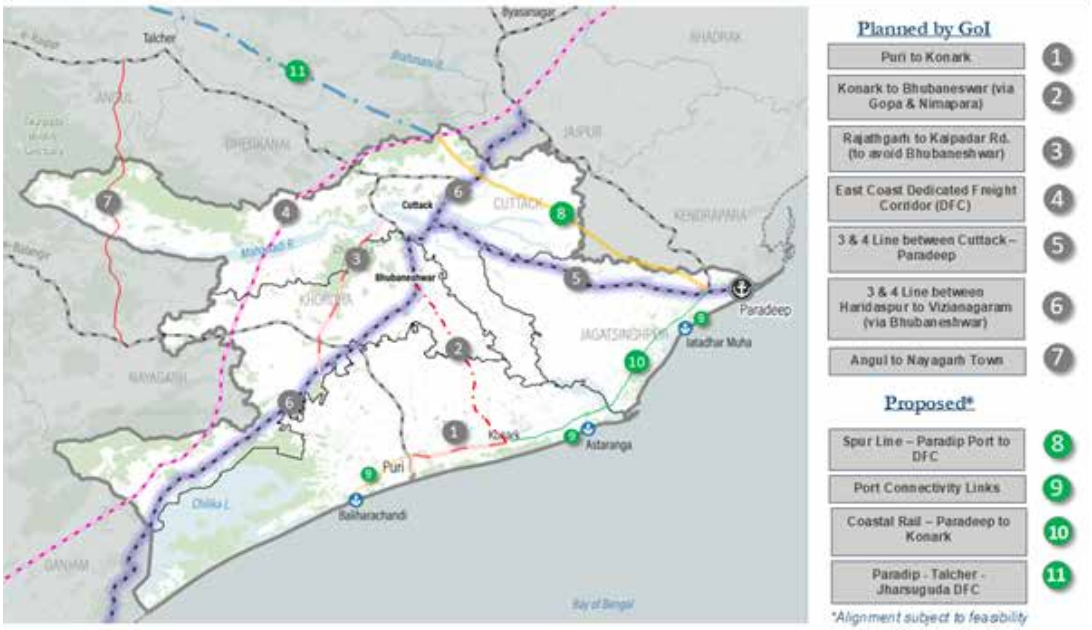


Figure 11.3: Rail connectivity - planned and proposed

Together, these projects will expand rail capacity, decongest passenger lines, and create seamless multimodal connectivity. The proposed coastal rail corridor, in particular, will improve access to ports, coastal tourism hubs, integrate the coastal belt with the national rail network, enhance cargo movement, and stimulate trade, tourism, and regional development. A feasibility study should be undertaken to evaluate coastal rail alignment, costs, and environmental aspects, ensuring sustainable and time-bound implementation of this important initiative. In subsequent phases, the corridor can be extended to connect other key and emerging ports, including Dhamra, Subarnarekha and Gopalpur, as well as the other upcoming non-major ports in the State.

(iii) Build New Airports, MMLPs and Associated Infrastructure for Inland Waterway

Building new airports, MMLPs and associated infrastructure for inland waterways is essential to enhance multimodal connectivity, boost trade, and support economic growth in BCPPER.

(a) **Air Connectivity**: BCPPER is currently served solely by the Biju Patnaik International Airport in Bhubaneswar. Expanding air connectivity is vital to boost tourism, industry, and trade. To improve air connectivity, the implementation of the airport at Puri (to serve global pilgrimage and tourism flows) needs to be expedited, and a new airport to be developed at Paradeep that would help strengthen port connectivity for both cargo and business travel. Presently, Paradip port, one of India's major ports, is served by Bhubaneswar Airport, which is approximately

115 km away. The absence of an airport in Paradeep limits the potential for handling low-volume, high-value cargo efficiently. Establishing an airport or dedicated air cargo facility near Paradeep could significantly enhance logistics capabilities.

In addition, the Economic Plan also proposes adopting cost-effective infrastructure solutions to further strengthen air connectivity by investing in the development of small airstrips with mobile ATC towers and small prefabricated terminal buildings, ensuring rapid deployment at lower capital cost. Proposed locations for these air strips include the upcoming Astaranga Port, Konark, and Satkosia Tiger Reserve to support regional connectivity, tourism, and logistics. In addition, the development of helipads at Chilika Lake (Satpara and Barkul), Satkosia Tiger Reserve, Chaudwar Industrial Area, Jagatsinghpur, and Siali Beach can significantly improve last-mile access to key tourism, industrial and coastal destinations.

The proposed location of these projects is given in Figure 11.4.

Figure 11.4 : Air connectivity planned and proposed

(b) **Inland Waterway:** National Waterway 64 (NW-64) passes through the BCPPER (Figure 11.5), connecting Paradeep to Cuttack, offering an opportunity to reduce logistics costs and balance the modal share of freight by shifting traffic from other transport modes, thereby reducing congestion. There is a need to accelerate the development of inland waterways and associated infrastructure to boost logistics efficiency, tourism, and trade in the region. The implementation of the inland waterway terminal at Cuttack which is already part of existing plans

needs to be expedited. This project coupled with fairway development along the Marsaghai-Cuttack stretch (including dredging and barrage lock facilities) and modern navigation and safety infrastructure (traffic management systems, collision avoidance, hydrographic surveys, buoys, radar, and emergency response), would ensure safe, efficient, and reliable year-round cargo and passenger movement along NW-64[51].

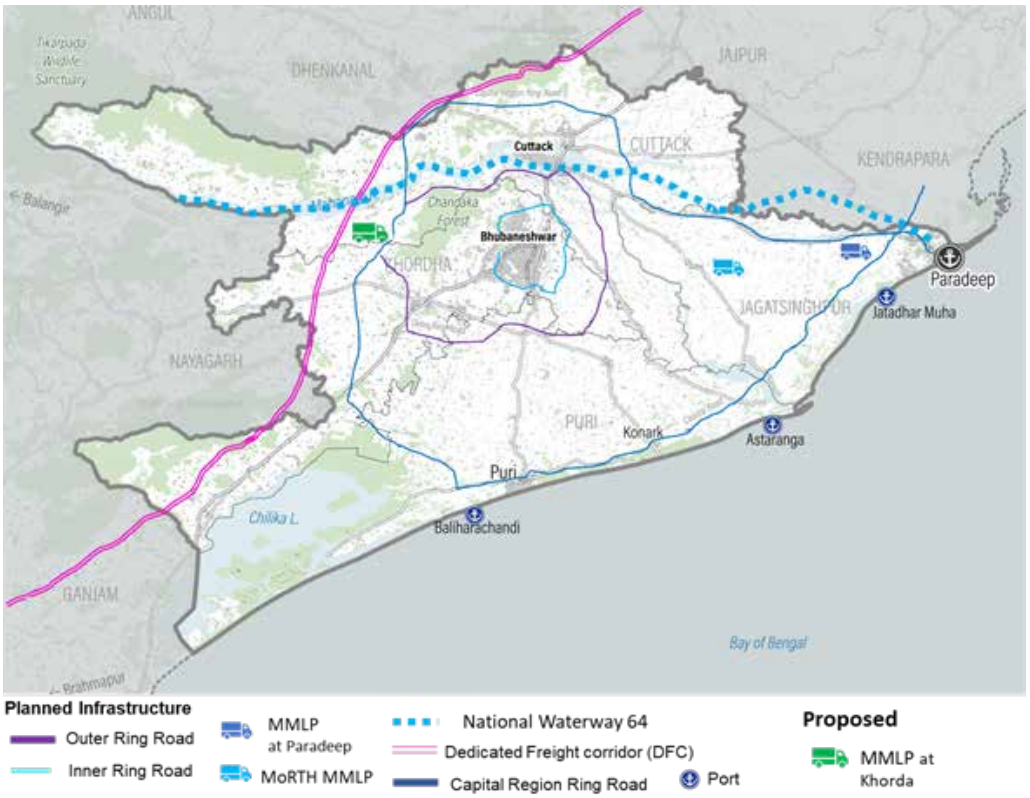


Figure 11.5: MMLPs and inland waterway (NW-64)

(c) **MMLP:** Developing MMLPs in the BCPPER is critical to enable seamless multimodal connectivity, reduce logistics costs, and strengthen warehousing and cargo handling infrastructure for ports, industry and trade. Following interventions are proposed in this regard:

- Expedite the development of the 165-acre MMLP at Balipari-Badabandha, Jagatsinghpur, to resolve the shortage of rail freight terminals and meet the increasing cargo demand in Paradeep[52]. The proposed MMLP will support the current industrial development, but if the Economic Plan is executed as per proposed, an MMLP in the proposed industrial area would be more suitable.
- Development of a 200-acre MMLP in Khordha district (near Bhubaneswar) at the intersection of the planned DFC, proposed industrial belt, and planned Bhubaneswar's ring roads to serve as a central logistics hub integrating road, rail, and inland waterways,

51 Masterplan for Integrated Logistics Corridor in Jagatsinghpur and Kendrapara districts (Draft)
52 Masterplan for Integrated Logistics Corridor in Jagatsinghpur and Kendrapara districts (draft)

with advanced warehousing, container handling, and value-added services (Figure 11.5).

(iv) Urban Transport: The public transport system of BCPPER is predominantly structured around bus-based services, with the Capital Region Urban Transport or CRUT, Bhubaneswar (Ama Bus) operating a fleet of 415 buses across the Khordha, Cuttack, and Puri districts. OSRTC supplements the network with an additional 150 buses[53]. However, the current fleet size remains inadequate when assessed against the national benchmark for the number of buses per lakh population given by MoHUA. This shortfall underscores a critical gap in service provision, necessitating augmentation of the fleet and complementary measures to strengthen overall system capacity, integration with other modes, and long-term sustainability of regional mobility. The bus services need to be strengthened and supplemented by other modes, and institutional changes undertaken for better planning. The following interventions are proposed:

(a) Strengthen Bus Services:

- **Fleet Expansion and Network Optimisation:** Introduce 3,400 new electric buses and establish 34 depots by 2034, while expanding operations to additional cities to address growing mobility demands. In addition to deployment of additional buses in existing, new, and underserved areas the routes need to be redesigned to align them emerging metro corridors.
- **Mandate of CRUT:** Extend operational responsibilities of CRUT across the BCPPER, leveraging its capacity and experience to manage all intra-regional bus services across Bhubaneswar, Cuttack, Puri, and Jagatsinghpur.
- **Bus Priority Measures**: Implement dedicated lanes and signal priority to enhance speed and reliability on congested routes.
- **Multimodal Integration and Infrastructure Readiness:** Integrate buses and railway stations. Improve quality of infrastructure in terms of accessing, waiting, and boarding buses. Develop new depots and terminals, charging infra and digitalisation.
- **Integrated Public and Private Bus Services:** Onboard private bus operators operating within the region and develop a comprehensive, integrated map of both public and private bus services. Based on this, an integrated service plan should be prepared to effectively address the region's mobility needs.

(b) Establishment of a Single Regional Transport Authority: Create a unified Regional Transport Authority to ensure holistic planning, regulation, and integration of all transport modes across BCPPER.

(c) Regional Rail: With the projected rise in population across the region, the feasibility for introducing a regional rail service along the Bhubaneswar–Puri corridor strengthens considerably. In conjunction

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with other transit modes, regional rail will play a critical role in enhancing mobility, decongesting existing road networks, and improving regional connectivity. A 60 km rail-based mass transit system between Bhubaneswar and Puri may be developed to enable seamless regional mobility and catalyse religious and heritage tourism (Figure 11.6). A detailed feasibility study should be undertaken to determine the most suitable technology option—between a Regional Rapid Transit System (RRTS), similar to the operational Delhi–Meerut "Namo Bharat" corridor, or a Suburban Rail System, as implemented by K-RIDE in Bengaluru, Karnataka.

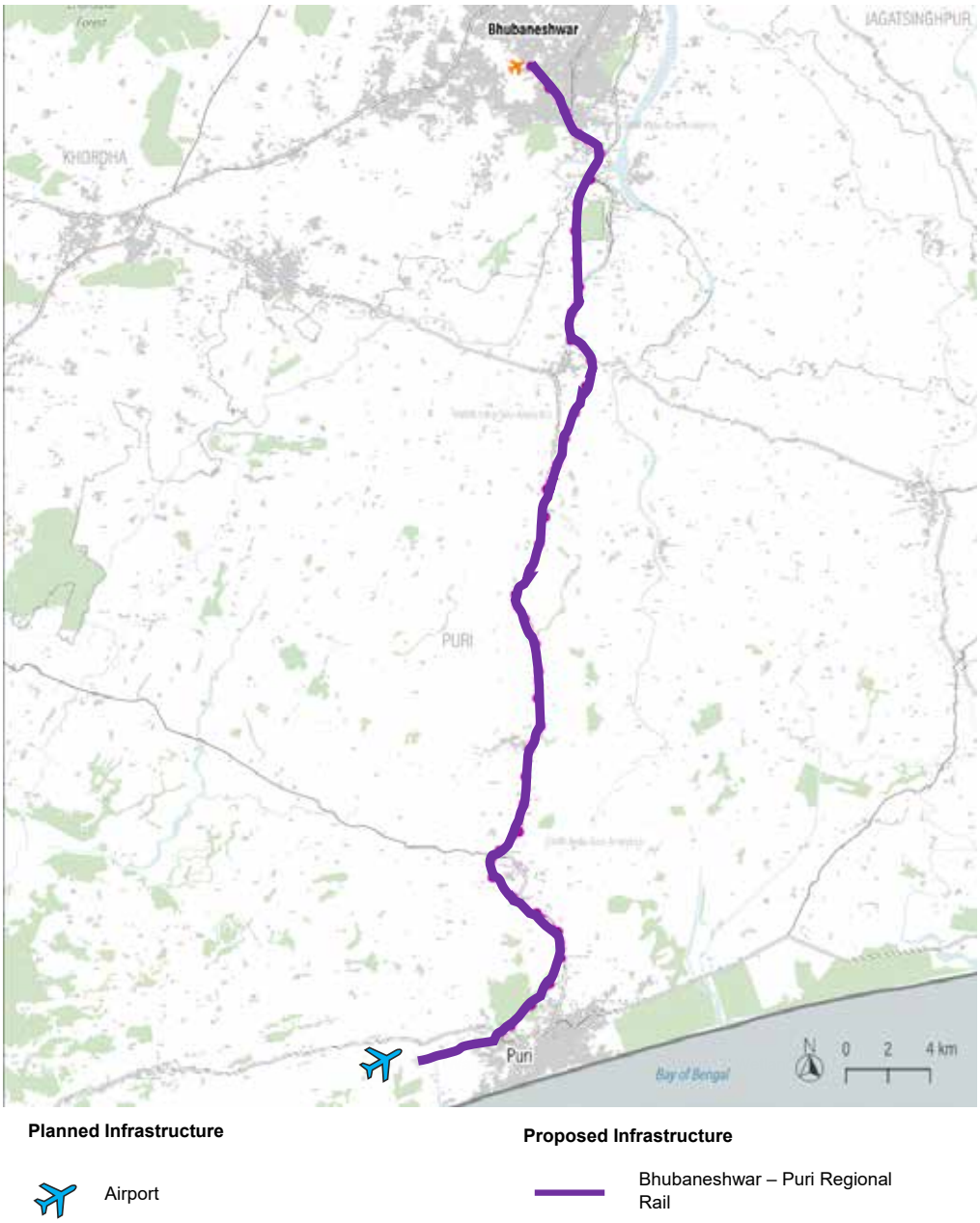


Figure 11.6: High-capacity transit corridor

(d) Transit-Oriented Development or TOD: To enable sustainable urban

growth and improve liveability, there is a need for transit-oriented growth of both residential and employment-generating activities in regional geographies that are centred upon high-capacity transit station areas. Therefore, some of the needs, gaps, and opportunities are linked to the planned expansion of an integrated high-capacity transit network enabling integrated urban growth, improved accessibility, and enhanced land-use efficiency around key transit nodes.

11.3 Proposed Interventions for Integrated Transport and Logistics in BCPPER

A. List of Projects

1. Road Connectivity
(i) Four-Lane Bhubaneswar to Paradeep (via Jagatsinghpur) - Greenfield - 75 km
• Paradeep Port does not have a direct road link to Bhubaneswar Airport. • Currently, it is connected to Bhubaneswar via Cuttack through a two-lane National Highway (114 km). • Establishing a direct road connection between Bhubaneswar and Paradip Port could reduce the travel distance by 25 to 30 km.
(ii) Four-Lane Pipli - Konark Highway (Upgradation or Greenfield) – 41 km
• Currently a two-lane road, the route faces safety issues, and may face limited capacity in the future. • For providing seamless connectivity to the Konark Sun Temple (UNESCO World Heritage Site). • Reduce travel time, improve safety, support tourism growth, and boost local economic activity along the corridor. • Handle future growth in tourist and vehicular traffic with better road capacity and infrastructure.
(iii) Four-Lane Phulnakhra to Astaranga Port (Phulnakhra to Naili - Upgradation & Naili to Astaranga - Greenfield) – 40 km
• The existing Phulnakhra – Astaranga route is primarily a two-lane undivided road, with limited capacity and inadequate infrastructure to support future heavy freight movement. • For improving road safety and reducing travel time, handle projected freight volume efficiently, support timely port construction and future operations and promote future industrial and economic activity along the corridor.
(iv) Four-Lane Cuttack (Tangi) to Chandabali (Greenfield) – 83.8 km

- A Greenfield four-lane corridor is proposed to link inter-district routes with coastal districts Kendrapada and Bhadrak via Cuttack.
- Will enhance travel speed, reduce congestion, and shorten travel time.
- For freight, it will enable efficient cargo movement, optimise routes, lower costs, and improve regional competitiveness.
- Approximately 28 km out of 84 km will be inside BCPPER.

2. Rail Connectivity

(i) Coastal Rail Corridor connecting Paradeep to Konark (linking Paradeep with Puri and upcoming non-major ports at Astaranga, Baliharchandi, and Jatadhar Muhan captive jetty) – Greenfield – 70 km*[54].

- The proposed Coastal Rail Corridor aims to connect Paradeep with Konark, linking key destinations including Puri and upcoming non-major ports at Astaranga, Baliharchandi, and Jatadhar Muhan.
- This corridor will enhance access to coastal tourism hubs, promote balanced regional development by providing efficient inter-port connectivity, support cargo movement, and strengthen regional trade and logistics.

(ii) Spur Line from Planned East Coast Dedicated Freight Corridor (DFC) to Paradip Port – 80 km*

- For establishing a direct, high-capacity freight connection between Paradip Port and the national DFC network, improving port–hinterland linkages.
- Enables faster and more efficient cargo evacuation, reducing turnaround time and logistics costs for industries.
- Decongests existing rail corridors currently shared with passenger traffic, improving reliability, capacity and supporting industrial growth and trade expansion in the region.

(iii) Rail Connectivity Links for Planned Jatadhar Muhan Captive Jetty, Astaranga and Baliharchandani Ports.

For integrating these ports into the regional and national rail network, improving access to markets and hinterland industries.

(iv) Paradeep - Talcher - Jharsuguda Dedicated Freight Corridor

For establishing a direct, high-capacity freight connection and improving port–hinterland linkages for coal fields, power plants & steel sector.

3. Air Connectivity

Air Fields

(i) Astaranga

54 *Subject to alignment and feasibility

• Proposed to support the upcoming port and industrial developments in the region. • It will improve regional connectivity, facilitate business travel, and enable quicker logistics support for port operations.
(ii) Konark
• For enhancing access to the UNESCO World Heritage Site and nearby cultural destinations. • Improved air connectivity will boost pilgrimage and heritage tourism, reducing travel time for both domestic and international visitors.
(iii) Satkosia Tiger Reserve
• Aimed at promoting eco-tourism in one of Odisha's most scenic wildlife areas. • It will also improve accessibility for forest management, research teams, and emergency services in this remote location.
Helipads
(i) Chillika Lake, Satpara
To improve last-mile connectivity to Chilika Lake's western entry point, making it easier for tourists to access the lake and supporting eco-tourism initiatives.
(ii) Chillika Lake, Barkul
• Planned to strengthen access to the lake's eastern gateway. • It will support tourism, quick transfers, and administrative movement in the region.
(iii) Satkosia Tiger Reserve
Proposed to enhance accessibility for tourists and provide critical support for forest patrols, disaster response, and medical emergencies.
(iv) Chaudwar Industrial
To support rapid business connectivity, cargo movement, and emergency services for industries located in and around Chaudwar.
(v) Jagatsinghpur
For improving regional connectivity, particularly for administrative operations and industrial development activities in this growing economic hub.
(vi) Siali Beach
• Proposed to boost coastal tourism by improving access to an emerging beachfront destination. • It will help attract high-value tourism and improve emergency response capabilities.

4. Multimodal Logistic Park
(i) 200-acre MMLP at Khorda
• Proposed in Khorda district (near Bhubaneswar) at the intersection of the planned DFC, proposed industrial belt, and planned Bhubaneswar's ring roads. • It will serve as a central logistics hub integrating road, rail, and inland waterways, with advanced warehousing, container handling, and value-added services.
5. Urban Transport
(i) Augmentation of Bus Services and Associated Infrastructure
• Strengthening public transport through expanded and modernised bus services is essential to improve regional mobility, reduce congestion, and offer affordable travel options. • This includes deploying an additional 3400 buses, introducing modern fleets, developing bus terminals and 34 depots, and improving passenger amenities.
(ii) Regional Mass Transit from Bhubaneswar to Cuttack
• Developing a high-capacity regional mass transit system between Bhubaneswar and Cuttack is crucial to ease traffic congestion, reduce travel time, and support transit-oriented urban growth. • A reliable and efficient transit corridor will enhance daily commuting, improve regional integration, and promote sustainable mobility, benefiting both cities and surrounding economic zones.

B. Policy Interventions

1. Policy related to Transit-Oriented Development
(i) State TOD Policy
TOD Policy provides a framework to promote compact, mixed-use development around high-capacity transit nodes, such as metro stations, railway stations, and major bus terminals. Key objectives include increasing public transport ridership, optimising land use around transit hubs, reducing dependency on private vehicles, improving last-mile connectivity, and fostering economic development through commercial, residential, and recreational projects near transit corridors. This should be inlines with national transit oriented development policy 2017.
2. Policy related to Regulating High Cost of Road Freight Transportation
Issue: Road transport unions are charging INR 6.50–6.60 per NTKM for freight movement, which is significantly higher than the national average of INR 3.20–3.50. per NTKM[55]. This elevated cost creates a major challenge for captive road users, particularly small and medium industries, leading to reduced competitiveness and higher logistics expenses.

55 Masterplan for Integrated Logistics Corridor in Jagatsinghpur and Kendrapara districts (Draft)

Details:

Formulate and implement a Road Freight Pricing Regulation Policy to rationalise and standardise freight transportation charges for trucks. The policy should promote fair pricing, transparency, and competitive logistics practices, ensuring affordability for industries while maintaining sustainability for transport operators.

Projects at a Glance

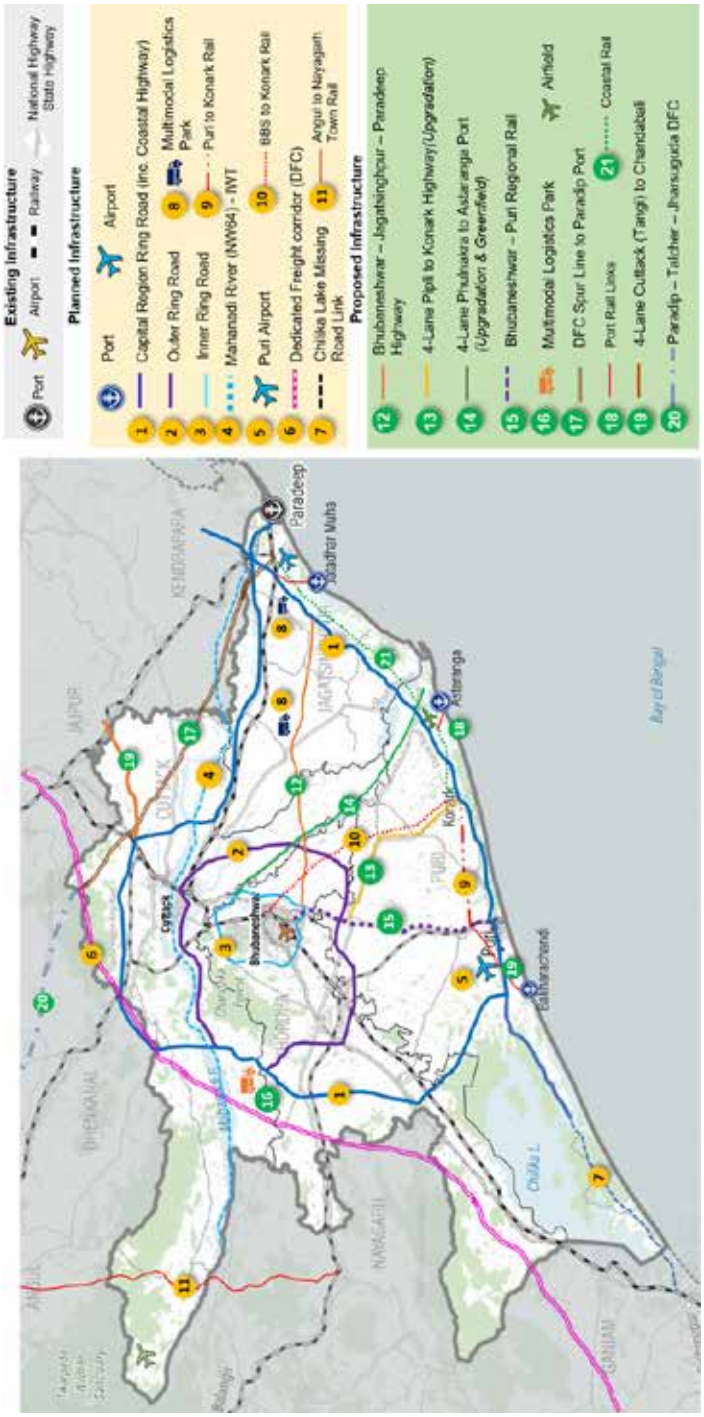


Figure 11.7 Integrated Transport & Logistics Projects

12 Manufacturing Sector

12.1 Sectoral Snapshot

The manufacturing sector functions through a complex value chain that often transcends national boundaries, includes raw material sourcing, processing and component production, final assembly, logistics, distribution, sales, aftermarket and end-of-life services.

India, despite being the fifth-largest global leader in manufacturing, has a marginal share of 2.9% of the global market (US$ 461 Bn) in 2022, compared to China's US$ 4,663 Bn (31.6%)[56]. Notably, India's manufacturing sector recorded an average growth rate of 6.5% between 2012 and 2023, outpacing the global average of 3.5%[57]. The sector contributed around 13% to India's GVA in FY 2023–24[58], with total manufacturing GVA reaching ₹21.97 lakh crore in 2022–23[59]. Basic metals and chemicals and chemical products together accounted for nearly 22% of India's manufacturing GVA.

In Odisha, the value chain is currently concentrated in processing and component manufacturing. With targeted investments and policy support, the State has significant potential to move up the value chain into higher value-added activities of advanced manufacturing and export-oriented production.

In FY 2023-24, the manufacturing sector contributed 23.1% to Odisha's GVA, amounting to about ₹1.93 lakh crore[60], placing the state at the 11th position in terms of share of manufacturing in GVA at the national level[61]. The sector, however, is highly concentrated, with basic metals (60%); coke and refined petroleum products (15.5%) together accounting for 75.5% of Odisha's manufacturing GVA. Odisha ranks first in basic metals, contributing 16.3% of national manufacturing GVA in this subsector, and sixth in coke and refined petroleum products, with a 5.63% share[62]. Unlike leading states such as Maharashtra, where a diversified mix of subsectors, including food products, chemicals and pharmaceuticals, textiles, electronics, and refined petroleum, drives nearly 80% of manufacturing GVA, the concentrated Odisha's industrial base of Odisha underscores the need for greater diversification with focus on value addition. Encouragingly, over the past three years (2022-24), the State has attracted more than ₹5 lakh crore in planned investments through MoUs in various projects in the sector, as highlighted in Odisha Vision 2047, pointing to a strong potential for broadening its industrial base.

56 Datasets for value added manufacturing(2024): The World Bank Group
57 Datasets for value added manufacturing (2024): The World Bank Group
58 PIB by Ministry of Statistics & Programme Implementation; 2024 – https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2022323
59 Statement 7A, Annual Survey of Industries 2022-23, MoSPI; 2024
60 Odisha Economic Survey 2023-24 (2024): Government of Odisha
61 Statement 7A, Annual Survey of Industries 2022-23 (2024): Ministry of Statistics and Programme Implementation
62 Statement 7A, Annual Survey of Industries 2022-23 (2024): Ministry of Statistics and Programme Implementation

Figure 12.1: Planned investment in the manufacturing sector in Odisha over the last 3 years

BCPPER has a well-endowed ecosystem to support the chemical and petrochemical industries as detailed in subsequent sections. In contrast, it lacks the mineral endowments that underpin much of Odisha's industrial base. While the State ranks among the top producers at the national level - first in aluminium, steel, stainless steel, chromite, bauxite, and iron ore[63] - none of these mineral deposits are located within BCPPER. As per information shared by the state government during discussion, the region has been able to leverage its chemical, petrochemical, and port-led strengths to attract investments exceeding ₹3 lakh crore over the past three years (Figure 12.2) [64].

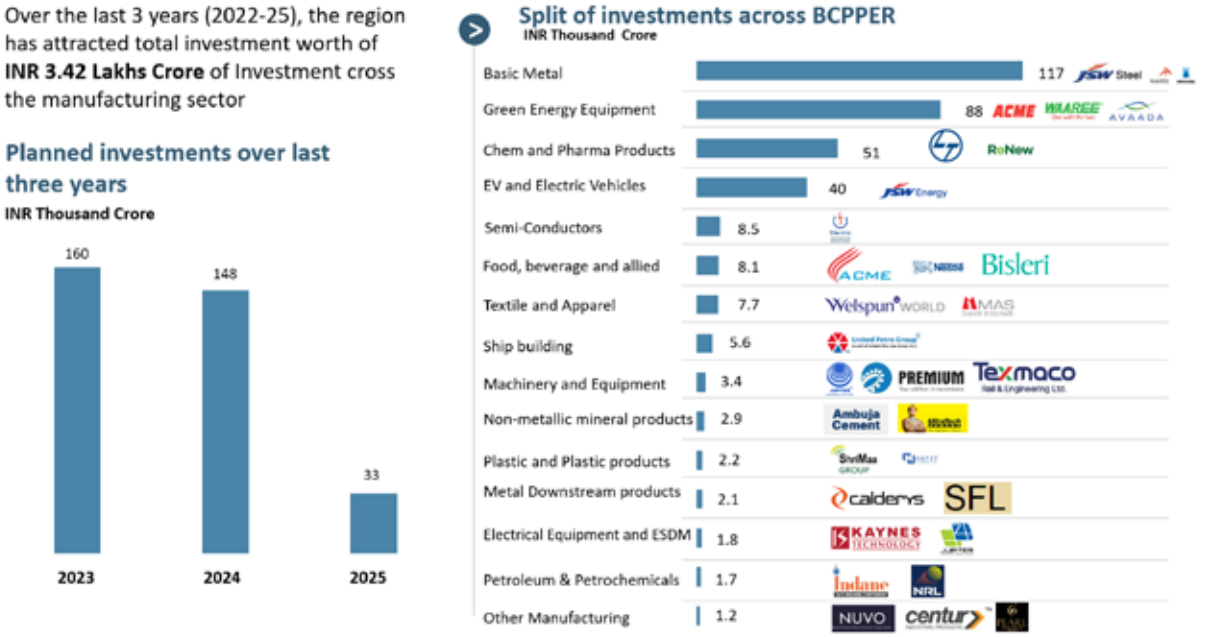


Figure 12.2: Planned investment in the manufacturing sector in BCPPER over the last 3 years

63 Odisha Economic Survey 2023-24 (2024): Government of Odisha
64 Data shared by Industries Department, Government of Odisha (2025)

There are 37 industrial estates in the region with the presence of 7 major industry leaders as indicated in Figure 12.3. The region, while boasting the presence of an ecosystem that supports industrial growth, also has several challenges that need to be addressed, as brought out in Table 12.1.

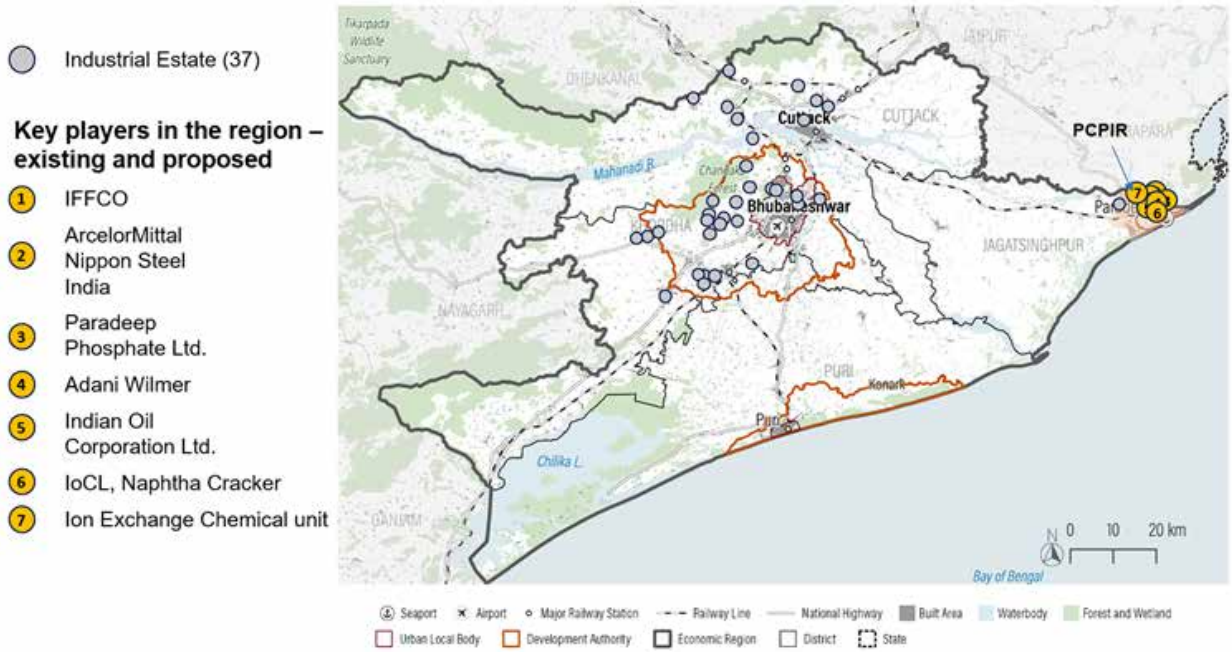


Figure 12.3: Industrial estates in BCPPER

Table 12.1: Opportunities & Challenges of the Manufacturing Sector

Opportunities	Challenges
• **Competitive Advantages** While not a national leader in manufacturing, Odisha possesses distinctive strengths that can drive industrial growth. • **Strategic location and infrastructure** Robust connectivity, proximity to ports, and the upcoming ring road provide a strong foundation for expanding the manufacturing base in the region. • **Investment momentum** The Odisha Vision 2047 targets ₹30 lakh crore in investments, alongside goals of doubling employment and exports from the sector.	• **Concentration of Output** Nearly 75% of the state's manufacturing GVA comes from two sectors, basic metals and petroleum products, neither of which has a significant presence in the BCPPER region. • **Fragmented ecosystem** The industrial landscape is constrained by weak academia–industry collaboration and limited innovation linkages. • **Infrastructure gaps** The region has few sector-specific industrial estates/areas, with inadequate common facilities and limited plug-and-play infrastructure for investors.

• **Committed pipeline** Over the past three years, the region has secured MoUs amounting to ₹3.42 lakh crore in planned investments, underscoring its attractiveness for industry. • **Sustainability focus** The state is developing an overarching growth strategy and has initiated studies to identify priority sectors for greening value chains, aligning industrial growth with sustainability goals.	• **Low-value manufacturing** The city region is dominated by low value–added manufacturing, restricting economic diversification and higher productivity gains. • **Labour migration** A large share of Odisha's workforce migrates out of the state to work in sectors such as textiles, reflecting missed opportunities for local employment generation. • **Environmental pressures** Several polluting industrial estates lie within city limits, adversely affecting quality of life and constraining the sustainable growth of industry.

12.2 Approach for Upgrading the Manufacturing Sector in BCPPER

The Economic Plan adopts a holistic approach to transform BCPPER into a modern, sustainable and competitive manufacturing hub. At its core is the creation of sector-specific industrial estates, relocation of industrial estates out of city regions and establishment of industrial corridors aligned with the broader strategy of port-led growth.

The industrial estates (IEs) and industrial areas (IAs) in the BCPPER are spread across Bhubaneswar and Cuttack. The local administration has the authority to allocate land within the estate to small industries with investments up to ₹50 crore. This has resulted in mixed-use estates that often house industries from multiple, non-complementary sectors[65].

65 Project Evaluation including Allotment of Land/Shed (2024): Invest Odisha

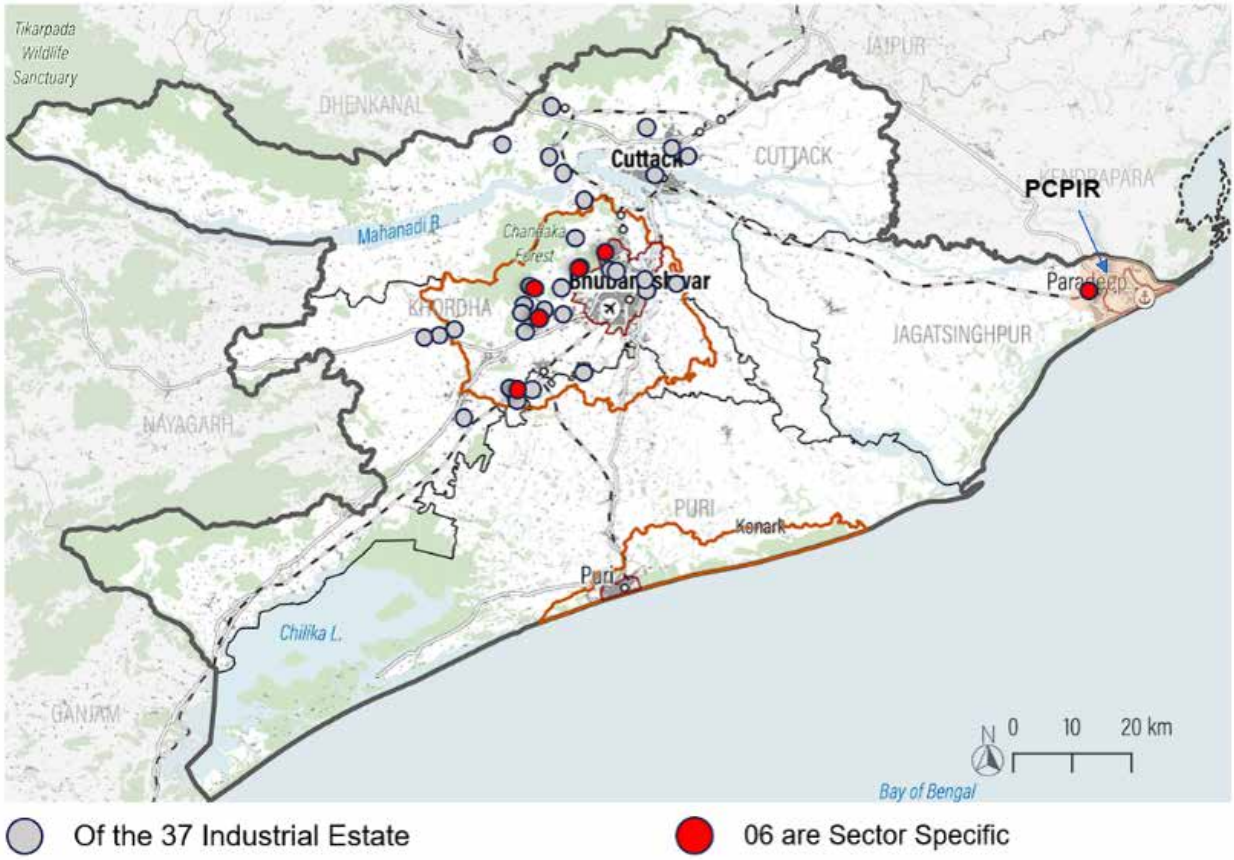


Figure 12.4: Out of 37 IEs only 6 are sector specific

Currently, out of the 37 industrial estates, only six are sector-specific[66]. The remaining 31 estates owing to their multi-sectoral nature, lack common facilities such as effluent treatment plants, plug-and-play infrastructure, thus limiting efficiency and competitiveness. Further nearly 14 estates are located within city limits, potentially constraining both urban growth and industrial expansion. Of these, seven estates host polluting units such as fabrication shops, steel plants, and silicon manufacturers, adversely affecting the quality of life.

66 Data provided by Industrial Development Corporation Odisha, Government of Odisha

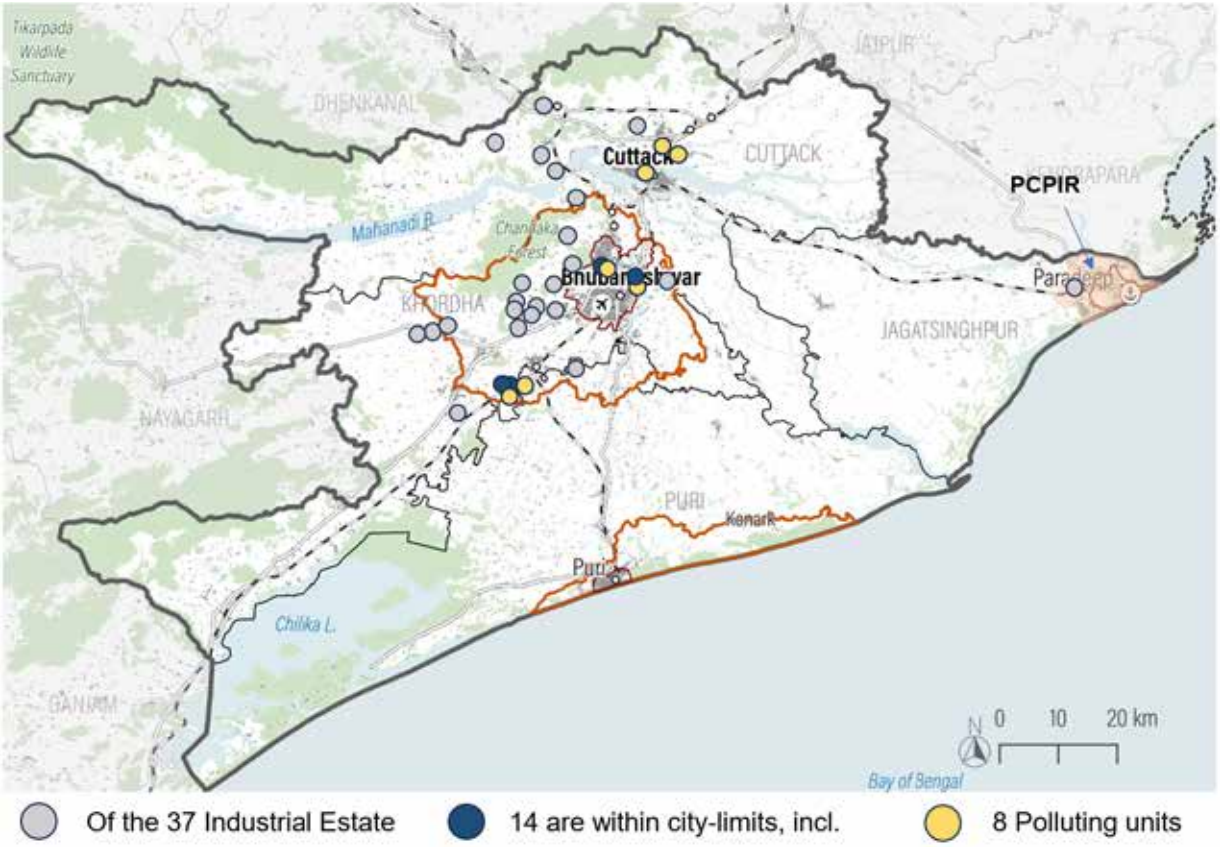


Figure 12.5: Out of 37 IEs, 14 are within city limits including 8 polluting units

Following interventions are proposed to streamline the IEs in the region:

(i) Establish Planned IEs

(a) Establish Sector-Specific IEs.

(b) Providing Common Facilities and Plug-And-Play Infrastructure.

(c) Facilities for Workers: Facilities such as worker housing, creches etc. improve productivity, reduce formation of slums and reduce attrition.

(ii) Relocation of Industries

IEs, traditionally located outside city limits, are increasingly being engulfed by expanding cities, as shown in Figure 12.5. This reduces the quality of life for residents and places additional pressure on ULBs. The issue can be addressed through following measures:

- Relocate IEs and IAs away from city boundaries. Initially, polluting units could be moved within a five-year horizon, followed by relocation of all units; refer recommendation 1.1 given below.
- Develop dedicated industrial zones and belts along transport corridors with port access to enhance connectivity and efficiency. These zones are to be earmarked on the development plan to restrict city growth towards that direction; refer to recommendation 2 given below.

- Introduce incentives for IEs to relocate voluntarily, coupled with penalties for non-compliance.

(iii) Identify Sectors for Greening the Value Chain

It is recommended to evolve a forward-looking strategy aligned with net-zero targets that aims to enhance the manufacturing sector's sustainability, resilience, and global competitiveness by meeting additional power needs through renewable energy. Greening operations improves efficiency by reducing energy, water, and material waste, while green value chains minimise the risks from climate change, regulations, and raw material shortages.

12.3 Proposed Interventions for Upgrading Manufacturing Landscape in BCPPER

A. List of Projects:

1. Proposals for Setting Up New Sector Specific Industrial Estates/Areas
Location: Multiple locations across BCPPER: Medical Devices - Cuttack and Khordha; Technical Textile - Jagatsingpur; Mini textile park - Khordha (near Bhubaneswar); Downstream chemical park - Jagatsingpur (PCPIR); Integrated Aquaculture Park – Jagatsingpur; Food processing park – Khordha; Metal processing and Capital good & white goods – Khordha.
High-value export-oriented sectors having interlinkages with existing sectors. The sectors are aligned with global & domestic demand/trends or having support from the state government. As per the initial assessment the state is heavy reliant on 2 sectors for there is a need to diversify existing sectors and seed in new. This IEs will require common facilities such as reliable power, water and logistics while food processing will need additional cold storage.
1.1 Moving Polluting IEs/IAs away from City
Location: Earmarked zone in Khordha and Cuttack
Polluting industries within cities strain infrastructure and reduce Liveability; relocating them to peripheral zones with larger land availability and better logistics can reduce risks, improve compliance, and support cleaner urban cores. This requires identifying non-conforming industries, planning relocation of industrial estates by providing serviced land and incentives, and creating a clear industrial relocation policy with timelines such as, hazardous units moving within 4-5 years and non-polluting units within 9-10 years, along with satellite industrial zones and penalties for units unwilling to shift.
1.2 Upgrading existing Industrial Estates
Location: All possible industrial estates in BCPPER

- Assess potential for common facilities (CETPs, plug-and-play) in all estates.
- Conduct zoning audits of existing IEs/IAs and allocate vacant land accordingly.
- Monitor industry output to identify scale-up needs and required amenities.
- Revive underperforming estates by addressing infrastructure gaps and inefficiencies.
- Provide worker amenities and modern plug-and-play facilities to boost investor confidence.

1.3 Unlocking the Industrial Land in Urban City Limits

Location: Potential industrial estates within city limits that have moved out

Unlocking underutilised industrial land within city limits is critical for economic growth, urban renewal, and sustainable development, particularly in Bhubaneswar and Cuttack, where old estates sit on prime land. The project proposes land-use reclassification to convert outdated industrial areas into mixed-use or commercial zones, supported by impact studies, with vacant plots redeveloped through PPP or land monetisation and master plans updated to accommodate reclassification while retaining essential MSME pockets. Linking with the state land bank and OSFC will unlock clean-titled parcels for housing, education, and commercial use, with clear land-use mapping guiding redevelopment aligned with future urban growth and sustainability.

2. Dedicated Industrial Belt

Location: Aligned with the DFC and Capital Region Ring Road, the site is likely to be located in western Khordha, south of the Mahanadi River, subject to final alignment

This approach promotes efficient, sustainable, and competitive industrial development by creating large-scale industrial zones with appropriate infrastructure, environmental safeguards, and shared high-capacity facilities to reduce costs and improve competitiveness. Dedicated zones strengthen supply chain linkages and MSME clusters, while pre-approved sector-aligned land parcels attract anchor investors by reducing delays and policy risks.

3. Industry Academia Collaboration

Location: In the key city region / or in hubs of world skill centres as proposed in knowledge economy proposals

This initiative aims to boost innovation and manufacturing competitiveness by aligning education with industry needs and accelerating R&D commercialisation. Technology transfer hubs will link academia, startups, and MSMEs, while faculty-industry immersion keeps educators updated. Universities in Bhubaneswar and Cuttack should collaborate with industry through hackathons, innovation challenges, and tech parks/incubators, supported by incentives such as CSR or tax deductions to strengthen R&D, labs, and training infrastructure.

B. Policy Interventions

Implementing each project on the ground will necessitate the execution of specific policy unlocks.

Project related to: 1.1 Moving polluting industries away from city limits

Policy unlocks

- Phase-wise mapping and audit for industries in the urban limit that are polluting, space-constrained or non-conforming.
- Develop satellite industrial zones in the Industrial belt.
- Offer relocation incentives, for the selected industries.
- Enable reuse of old industrial land.

Project related to: 1.3 Unlocking the industrial land in urban city limits

Policy unlocks

- Conduct utilisation audits of existing IEs: Map industrial land parcels in cities (e.g. Rasulgarh, Mancheswar in Bhubaneswar; Jagatpur & IAs in Cuttack etc) to identify underuse, encroachments or misalignments).
- Link with state land banks: Offer parcels for investment in housing, education or commercial centres.
- Land assembly and investment mechanisms offer redevelopment incentives.

Improved Regulatory Compliance

- A more streamlined and time-bound approval process is required.
- The state is already performing well on single-window clearances.
- Additional financial incentives, including PLI support for select sectors, should be introduced.
- The state should also provide R&D support and export facilitation.

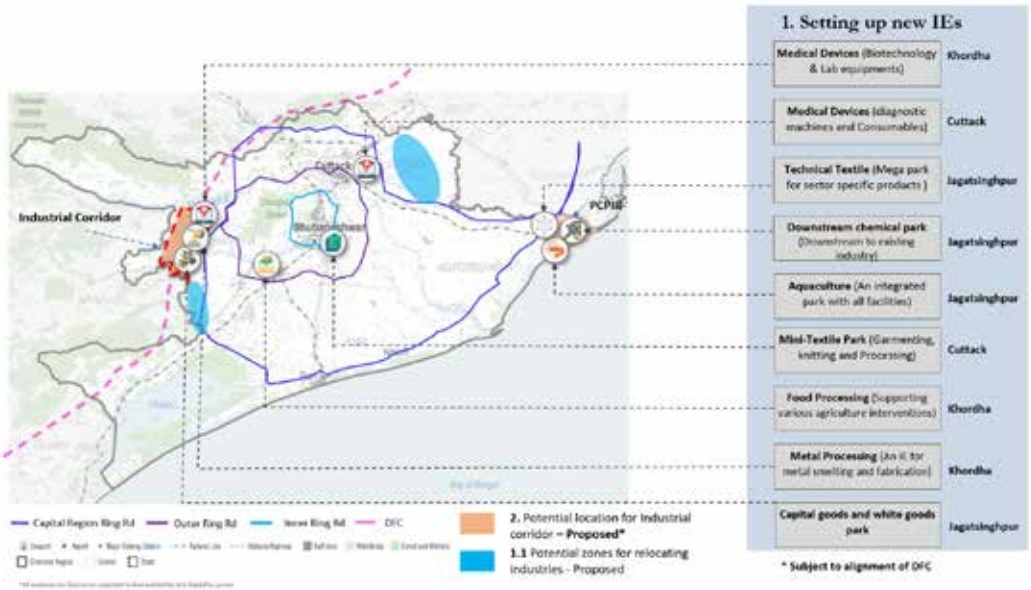


Figure 12.6 Indicative location of proposed projects in the manufacturing sector

13 Textiles, Handloom, & Handicraft Sector

13.1 Sectoral Snapshot

The textile, handloom, and handicraft sectors are considered as the key drivers of economic growth, particularly in countries like India, given their ability to generate large-scale employment, strengthen rural livelihoods, and empower women. As the second-largest source of employment after agriculture, it sustains the livelihood while fostering both income generation and social inclusion.

Textile sector has an important footprint in the global value chain, impacting the economy of several nations through trade and commerce. In 2022, India ranked as the world's sixth-largest exporter of Textiles and Apparel or T&A[67]. Textiles contribute around 8% of India's total exports in FY 23–24, reflecting the sector's strategic importance in global trade[68]. However, its scale and size remain limited compared to global leaders like China and even other smaller countries like Bangladesh and Vietnam. The sector is constrained by structural inefficiencies, fragmentation, and limited value addition, which restrict its ability to compete globally at scale.

The T&A sector of India has shown strong momentum, propelled by its vast domestic market. While the global T&A market is expanding at a rate of 4% annually, India outpaces it with a 7% growth rate[69]. Valued at US$165 Bn in 2022, India's T&A market is projected to more than double by 2030, reaching US$ 350 Bn[70].

Handloom and handicraft exports form a crucial part of India's economic and cultural fabric. In FY23, the total exports of handicrafts stood at ₹30,019 crore (approximately US$ 3.60 Bn), comprising fabrics, bed linen, carpets, rugs, and home textiles, with strong demand from markets such as the USA, UK, Germany, Italy, and the UAE[71]. These exports not only contribute significantly to the economy but also safeguard India's rich cultural traditions while supporting livelihoods.

By emphasising traditional skills and cultural heritage, the sector has the potential to foster inclusive, sustainable, and decentralised economic growth, positioning India more prominently on the global stage.

In Odisha, despite the rich tradition in textiles, handlooms and handicrafts, the heritage-linked products account for only a marginal share of the State's exports. Instead, ready-made garments dominate the export basket, comprising 97% of Odisha's T&A exports, with the state ranking 19th in India's textile exports in FY 23-24.

The sector benefits from supportive government policies, including attractive subsidies, capital incentives, and single-window clearances. Importantly, each region of Odisha carries a distinct textile and craft heritage, offering a vast scope for value addition and future growth. The State's celebrated ikkat weaving tradition and other handloom clusters have been instrumental in empowering thousands of artisans and women through upskilling and cluster development.

67 Textile and Apparel Growth (2023): Wazir Advisors
68 National Import-Export Record for Yearly Analysis of Trade (NIRYAT): Accessed on 2025
69 Annual Report on Indian Textile & Apparel Industry (2023): Wazir Advisors
70 Textile Industry's Amrit Kaal: Roadmap for US$ 350 Bn Market (2023): FICCI-Wazir Advisors
71 Handloom Industry and Exports (2025): India Brand Equity Foundation

Figure 13.1: State's Export for FY 2023-24 (Commodity: Textile)

Within Eastern India, BCPPER has emerged as a key hub for the textile sector. Notably, Cuttack alone accounts for nearly 50% of the region's MSMEs in the textile sector. The region is also home to a vibrant artisanal ecosystem, enriched by several GI-tagged crafts such as Silver Filigree (Tarakasi, Cuttack), Khandua Silk (Nuapatna, Cuttack), Pattachitra (Raghurajpur, Puri), Applique Work (Pipli, Puri), etc.

Silver Filigree | Khandua Silk | Khandua Silk | Applique Work

Figure 13.2: GI-tagged crafts of BCPPER

While BCPPER stands out for its remarkable strengths and distinctive specialties, offering unique competitive advantages, it needs to navigate its own specific challenges as indicated in Table 13.1.

Table 13.1: Opportunities and Challenges for the Textile Sector in BCPPER

Opportunities	Challenges
• Availability of Raw Material (like cotton, silk, other natural fibres) and a large number of traditional weavers and artisans • Natural Gateway to South-East Asian Economies with three major ports (Paradeep, Dharma, and Gopalpur) along the coastline, will improve export potential • Pro-Poor and Pro-Industry outlook of the Government with environment-friendly infrastructure incentives under Industrial Policy Resolution 2022 and Apparel and Technical Textiles Policy 2022 • Rich and renowned Handloom textiles like Sambalpuri, Bomkai, and Berhampuri need more marketing and branding • Cluster-Based Development Model helps in strengthening textile clusters in places with improved shared infrastructure, raw material procurement, and product standardisation. • Scope of Growth in Technical Textiles with the availability of raw material from Indian Oil Corporation Limited (IOCL) Paradip Refinery	• Lack of Organised Clusters where most units are small-scale, unorganised, and lack integration across the value chain • Limited Technological Penetration, providing a lack of access to modern machinery and reduced productivity • Underutilised textile policy incentives. Small players lack awareness or the capacity to leverage subsidies, tax benefits, and infrastructure support • Competition from established textile hubs like the states of Gujarat and Tamil Nadu, which have better infrastructure and market access. • Market volatility & price fluctuations in global cotton and raw material prices affect production costs • High Risk of climate hazards such as floods, heat stress, recurring drought, and extreme rainfall events leads to reduced quality of life

13.2 The Approach: Heritage and Innovation-led Transformation in BCPPER

The proposed approach underscores innovation while retaining heritage as the key drivers of transformation in BCPPER. By adopting a 5T strategy, traditional strengths can be systematically developed to align with contemporary requirements. Leveraging emerging trends enables heritage-based products to access new markets, while infrastructure improvements provide the foundation for scaling heritage-linked industries with modern efficiencies. Policy reforms further institutionalise these innovations, ensuring that heritage, when redefined through innovation, serves as a sustainable engine of economic growth and value-chain development with a clear focus on inclusion.

(i) Adopting the 5T strategy

The textile sector in Odisha holds immense potential to emerge as a national and global hub, and this can be unlocked through a comprehensive **5T approach**[72].

- The first step is to **track** Odisha's unique strengths in its rich handloom legacy of Sambalpuri Ikkat, Bomkai, Khandua, Habaspuri, and Berhampuri silk, coupled with abundant natural fibres.
- Simultaneously, **training** weavers, artisans, and entrepreneurs in modern tailoring, quality control, branding, design innovation, and digital marketing will upgrade skills while safeguarding traditional craftsmanship.
- Efforts to **transform** production processes and supportive policies by incentivising investments, adopting sustainable practices, and promoting eco-friendly manufacturing will build an investor-friendly and resilient ecosystem.
- Targeted initiatives to **trigger production**, including R&D in technical textiles, scaling up of apparel and garment units, and enhancing cost competitiveness, will strengthen Odisha's manufacturing base.
- Finally, boosting **trade** through strategic branding, export facilitation, incubation of new textile enterprises, and global collaborations will position Odisha's textiles in international markets, driving employment generation, women's empowerment, and cultural pride.

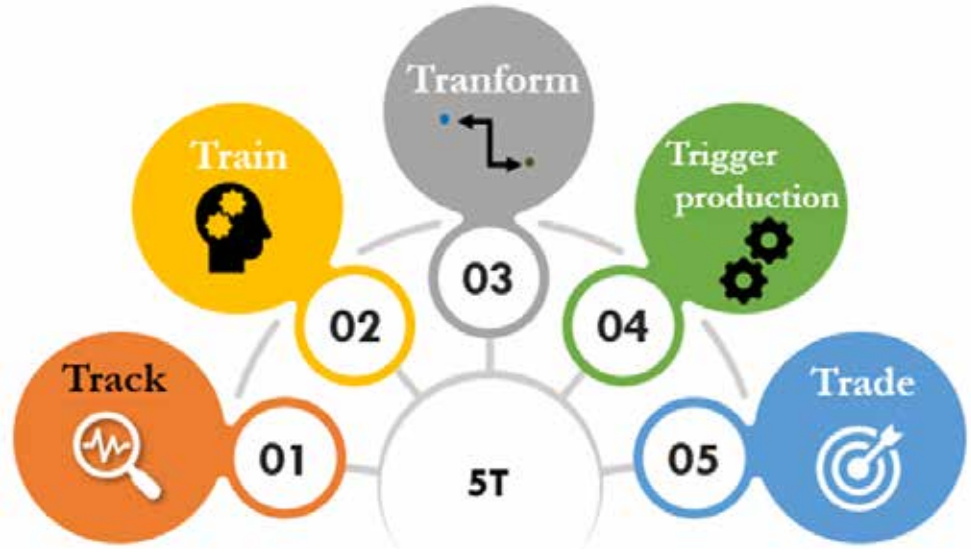


Figure 13.3: 5T Approach for the textile sector

(ii) Leveraging Global and National Trends

It is essential to align with the latest trends to enhance Odisha's prospects of emerging as a preferred manufacturing destination. In the T&A sector, two key growth drivers are apparel and technical textiles. In 2023, India ranked as the sixth-largest apparel exporter globally[73], but the wide gap with leading players underscores immense growth potential. While Bangladesh

72 Source: NID, Ahmedabad
73 Press Information Bureau (2025): Ministry of Textiles

and Vietnam have moved ahead in global export markets, shifting global dynamics are now creating new investment opportunities. With China and India projected to be the fastest-growing apparel markets, India enjoys a strategic advantage as rising wages and tariffs make China less competitive. To seize this opportunity, India must strengthen its policy and industrial ecosystem to attract large-scale apparel investments.

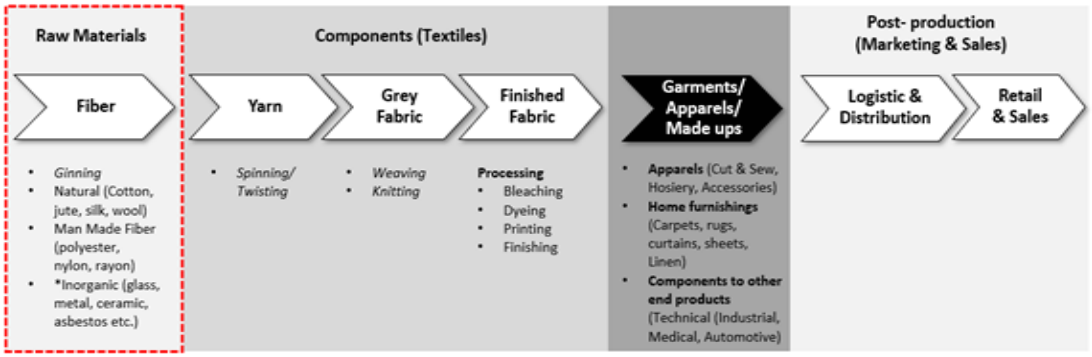


Figure 13.4: BCPPER has existing potential in raw material availability

Odisha stands out with its strength in the availability of raw material, particularly in cotton, where yields average around 550 kg per hectare[74]. They are among the highest in the country. In Odisha, the area under cotton cultivation grew by 39%, rising from 169,600 hectares in 2019-20 to 235,600 hectares in 2023-24. This robust local resource base provides a strong platform for building an integrated textile and apparel industry. By diversifying into other segments of the value chain, such as spinning, twisting, weaving, knitting, and processing, Odisha can significantly increase production, create employment, and establish itself as a competitive hub in the apparel sector.

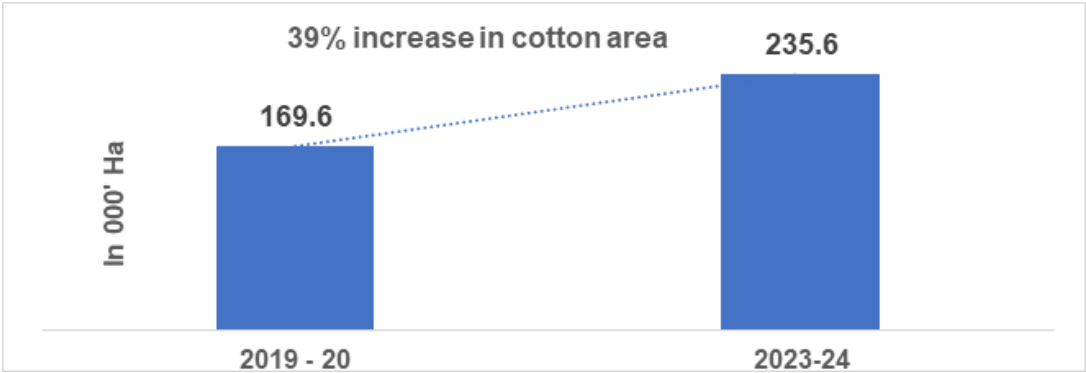


Figure 13.5: Increase in cotton area cultivation75

Technical textiles are emerging as a sunrise sector. Growing at a CAGR of 5.2 per cent during 2022-27, the global market is projected to reach US $ 274 Bn by 2027[76]. Technical textiles account for 12–15% of India's textile value chain, with the domestic market expected to grow to US $ 40 Bn by 2030.

74 Meeting of Committee on Cotton Production and Consumption (COCPC) 2024
75 Odisha Economic Survey 2024-25; Government of Odisha
76 India 2047-Vision and strategic roadmap for technical textiles (2023): Ministry of Textiles

Of the 12 application segments, Mobiltech, Indutech, and Sportech dominate globally, while Indutech and Packtech lead in India. However, India's presence is largely concentrated in low-value, low-technology products, leaving the high-value global demand untapped.

The presence of the IOCL Paradeep Refinery offers Odisha a strategic advantage with the local availability of key petrochemical raw materials. Strengthening Paradeep's petrochemical output would reduce India's reliance on imported PTA and MEG (key ingredients in polyester fibres), bolstering domestic MMF production.

India already ranks among the top global producers of raw materials and possesses strong capacities in fibre, filament, and yarn production[77]. Leveraging these strengths, Odisha has the potential to integrate further into the global MMF value chain by focusing on value addition in weaving, knitting, and garmenting.

(iii) Improving Existing Infrastructure

The region is home to prominent nationalised institutes that serve as the backbone of R&D. Odisha has recently witnessed substantial investments from textile and apparel companies, leading to a steady increase in the number of apparel manufacturing units over the years. Existing and planned ecosystem development in BCPPER is encouraging[78]:

Existing Handloom Cluster –18+	No of power looms – 1282+	No. of Textile MSME – 2976+
Already proposed Handloom Cluster - 2	Upcoming Textile/Apparel/Technical Textiles Units – 22 +	
Existing Large Apparel Units – 5+	Upcoming Textile/Apparel/Technical Textiles Investment – 6335.6 Cr.+	

The region has, however, limited textile clusters or parks. Strengthening industrial infrastructure, such as dedicated textile parks, common facility centres, and logistics networks, will reduce production bottlenecks and attract large-scale investments. Improved connectivity, enhanced warehousing, and logistics facilities can position BCPPER as a competitive hub for both domestic and export markets. At the same time, strengthening local clusters, encouraging MSMEs in different segments of the value chain, and integrating traditional handlooms and crafts into modern value chains will help achieve inclusive growth. Creating synergy with the handloom and handicraft sectors is crucial so that they complement each other, rather than functioning in isolation.

(iv) Reform in Existing Policy

The Odisha Apparel and Technical Textiles Policy 2022 are a comprehensive strategy by the Government of Odisha to develop and promote the textile

77 Study To Promote Growth of Man-Made Fibre Textile Industry in India; Textiles Committee, Ministry of Textiles
78 Industrial Promotion and Investment Corporation of Odisha (IPICOL)

sector, particularly apparel and technical textiles. Further streamlining the focus sectors in the policy proposed below will increase its positive impact at the grassroots level:

Table 13.2: Existing sectoral policy

Policy: Odisha Apparel and Technical Textiles Policy 2022
Focus Areas Expand focus to full value chain: fibre to fashion, including spinning, ginning, and pre-processing Integrate traditional sectors (handlooms, handicrafts) with modern value chains
Target Sector: • Modernise machines to harness the potential of technical textiles • Support fusion-based design (handloom + tech textile) **Incentives & Subsidies:** • Include a design-led handloom subsidy scheme with GI-based support • Offer 10% innovation subsidy for handloom-tech startups • Make green compliance a precondition for incentives • Introduce green processing grant scheme for natural dye & waste management • Provide sector-specific incentives for each type of investor, like OEM (Original Equipment Manufacturer) **Infrastructure Requirements:** • Build Common Effluent Treatment Plants (CETPs) and Zero Liquid Discharge systems (ZLDs) inside existing textile parks • Create women-first industrial clusters with creches, hostels, etc.

13.3 Key Recommendation

The following key interventions in the BCPPER region are proposed:

(a) Mega Technical Textile Park

With petrochemical refineries in the region, it is crucial to streamline development and focus on the technical textile sector. A mega park located near Paradip port can help leverage logistics and trade, and the availability of key petrochemical raw materials for the MMF industry supported by upcoming petrochemical expansions. The region can prioritise the development of polyester and nylon manufacturing hubs to feed the mega park. Strengthening Paradeep's petrochemical output will also help reduce India's reliance on imported PTA and MEG, both essential ingredients in polyester fibre production.

(b) Apparel Park

Establishing an apparel park in Cuttack is a strategic initiative aimed at revitalising the region's rich textile heritage. The park will catalyse

modernisation production, preserve cultural traditions, generate employment, and integrate traditional crafts into global supply chains, thereby rejuvenating the textile sector. It will host large-scale manufacturing units, which will also support the numerous fragmented downstream MSME units in the Cuttack district.

(c) Kala Innovation Zones or KIZs

KIZ is proposed as a development zone premised on a hub and spoke model for the integration of textiles, handlooms, and handicrafts. The central 'hub' in Cuttack district provides advanced infrastructure, design, research, and training facilities, while the surrounding 'spokes' in six different districts support local clusters of artisans and small enterprises. Clusters connect to the hub and spokes in the KIZs for CFCs, raw material procurement, supply chain integration, technical support, market access, and design labs for fusing crafts. This model fosters collaboration, enhances productivity, and promotes the seamless blending of traditional crafts with modern manufacturing and design practices.

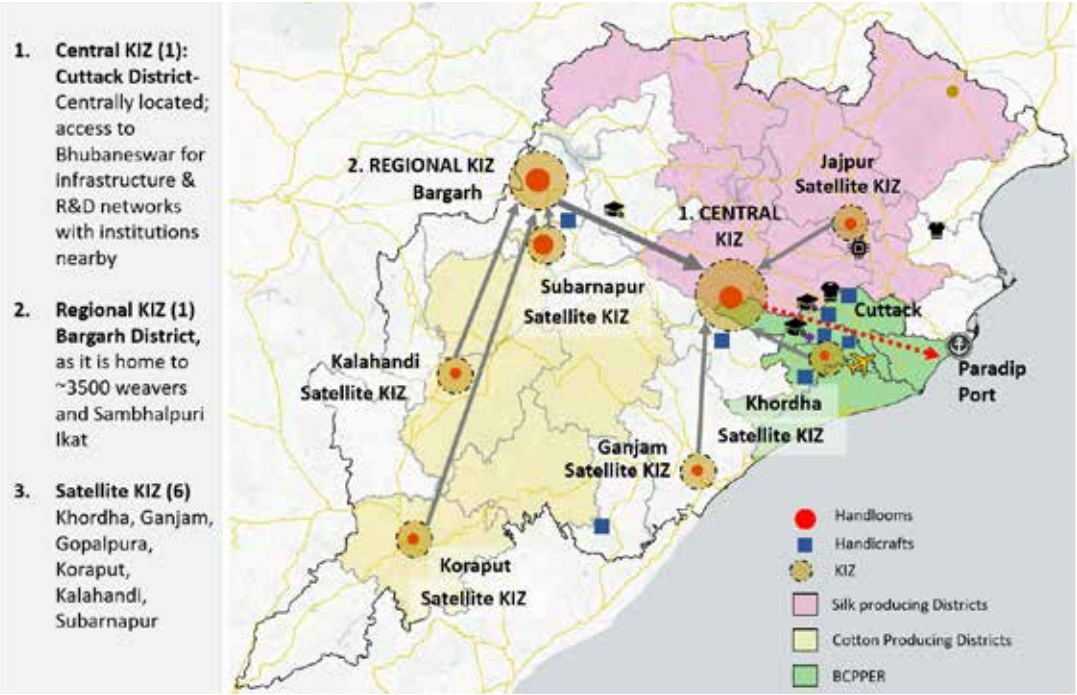


Figure 13.6: Map of Kala Innovation Zones (KIZs)

13.3 Proposed Interventions

A. List of Projects

1. Develop Mega Park for Technical Textile, Leveraging Paradeep Port's Connectivity and Odisha's Emerging Petrochemical Ecosystem
Location: Appropriate location in proximity of PCPIR, preferably within a 20-30 km radius of Paradip Port

Area required: 250 – 500 acres, with expansion potential
Infrastructure and Facility:

- Plug-and-Play Industrial Plots for quick setup
- CFC: R&D labs, product testing centres, certification labs
- ETPs for sustainable operations

Value Addition: Strengthen India's position in the global technical textile value chain by focusing on value addition

2. Establish an Apparel Park with Plug-and-Play Facilities for MSME's

Location: Choudwar, Cuttack

Area required: 150 – 200 acres, with expansion potential
Infrastructure requirements:

- Well-constructed internal roads, 2.5 MLD water supply, and 4 MW 24/7 power supply.
- Designed to accommodate around 40-50 apparel manufacturing units, offering industrial plots to attract MSMEs

Value Addition: MSME's will cater to the specific segment of the value chain and help in revitalising the region's textile industry

3. Mini Textile Parks (MTPs) to Promote Small-Scale, Decentralised, and Cluster-Based Development

Location: Across all four districts in the region

Area required: Minimum 2.5 acres with at least 3 industrial units
Government Subsidy/Incentives required:

- 50% of the project cost or a maximum ₹2.5 crore for common infrastructure (for 50 parks initially)
- Facilities included: Roads, ETPs, common power supply, storage, testing labs, training centres

Mode of development: By private developers with financial assistance from the government. Promoters (Cooperative societies, SHGs, groups of MSMEs) apply with a DPR for the proposal

4. Mini Ready-Made Garment Parks for Women for Setting Up Women-led or Women-Employed Textile and Garment Units

Location: Across all four districts in the region

Area required: Minimum 2.5 acres with at least 3 industrial units
Vision:

- Develop women-led industrial parks
- Boost employment, especially in rural and semi-urban areas
- Dedicated to specific purposes like cutting, stitching, finishing, and packing

Target sector: Ready-made garments, knitting, apparel manufacturing

5. CoE for Synergy between Textile Parks, Handloom Clusters, and Local Artisans
Location: Bhubaneswar (strategically located near NIFT Bhubaneswar)
Area required: Approximately 5 acres **Scope:** CoE will focus on developing technical textile products in segments **Focus on:** Innovation, inclusion, and market.
6. KIZ as a Hub and Spoke Model for Handloom and Handicraft
Location: • Central KIZ in Cuttack District (one central hub), • Regional KIZ in Bargarh District (one regional hub) and • Satellite KIZ in Khorda, Ganjam, Gopalpura, Koraput, Kalahandi and Subarnapur District (six spokes).
Area required: • Central KIZ = 25 acres, • Regional KIZ = 10 acres, • Satellite KIZ = minimum 5 acres **Activities proposed in KIZ:** • Help in raw material procurement • Supply chain integration • Design & innovation facilities • Market access and value addition • Branding and exports **Infrastructure requirements:** Smart CFCs & shared spaces for artisans from both sectors to co-create.

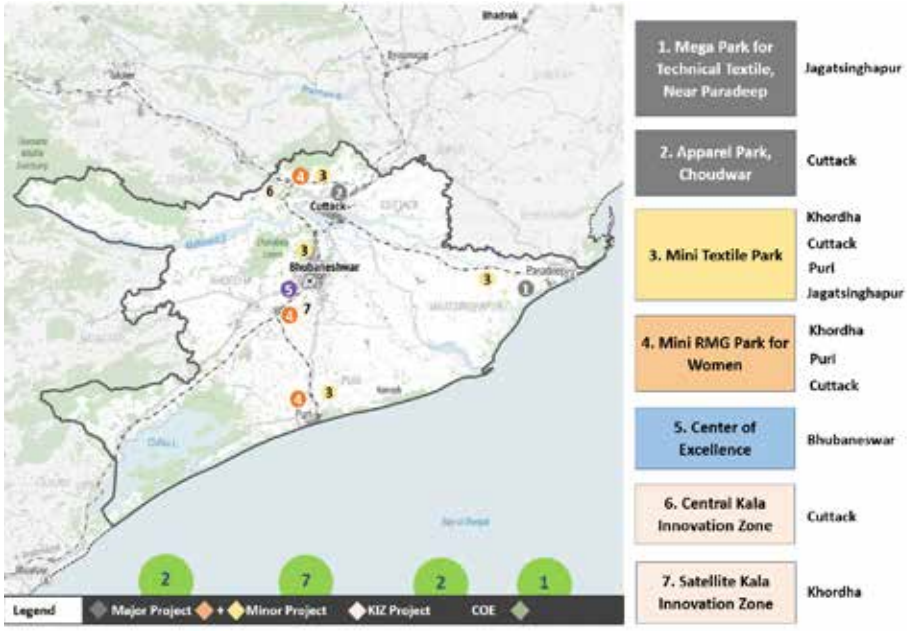


Figure 13.7: Map of proposed projects in the textile sector

14

Chemical Sector

Eastern Chemical Hub of India

14.1 Sectoral Snapshot

The chemical industry by providing critical inputs for agriculture, pharmaceuticals, electronics, textiles, consumer goods and supporting a wide range of downstream industries, contributes significantly to GDP and employment. The sector drives innovation in material science and sustainability by supporting substantial investments in R&D. However, its high environmental footprint underscores the urgent need for sustainable production practices and adoption of greener technologies, positioning the industry as a key driver of India's future economic and industrial growth.

Despite ranking sixth for chemical production, India is not a major global player as its share of total output is only 2-3%, valued at approximately US$ 113 Bn[79] which is modest compared to China's dominant 44% share (US$ 1,880 Bn), followed by the European Union at 14% (US$ 645 Bn) and the United States at 11% (US$ 475 Bn). The sector accounts for about 9% of India's GVA[80], and by 2047, the country aims to capture nearly 12% of the global chemical market, emerging as a US$ 1 Tn chemical manufacturing hub[81].

At present, Gujarat, Maharashtra, and Uttar Pradesh together contribute around 55% of the national output[82], while Odisha remains a peripheral player despite hosting a PCPIR. In Odisha, chemicals and chemical products, including coke and refined petroleum products, contribute 10–16% of the state's manufacturing GVA[83].

The PCPIR forms the primary chemical cluster in Odisha, spread across two districts, viz. Jagatsinghpur and Kendrapara, with the latter outside BCPPER. Of the 284.15 sq. km earmarked for development, only 33% has been utilised[84], highlighting considerable untapped potential. Opportunities for downstream industries are emerging, with a 120-acre plastic park under development, proposals for technical textiles, and growing opportunities in packaging.

Positioned at the intersection of national ambitions and local strengths, BCPPER holds distinct advantages for the chemical sector while also facing structural and implementation challenges that must be addressed to unlock its full potential. The opportunities and challenges of the sector are detailed in Table 14.1.

79 Facts and Figure of the Industry (2023): The European Chemical Industry Council, European Chemical Council (Cefic)
80 Chemical and Petrochemical Statistics at Glance (2024): Ministry of Chemicals and Fertilisers
81 The next Chemical Manufacturing hub (2023): McKinsey & Company
82 Chemical and Petrochemical Statistics at Glance (2024): Ministry of Chemicals and Fertilisers
83 Odisha Economic Survey 2023-24 (2024): Government of Odisha
84 Information shared by state government

Table 14.1: Opportunities & Challenges of Chemical Sector

Opportunities	Challenges

• **Established vs. Emerging Hubs:** Gujarat and Maharashtra are established chemical and petrochemical hubs, while Odisha is emerging as the fastest upcoming region.
• **Eastern Chemical Hub Potential:** Odisha has the potential to position itself as the Eastern Chemical Hub of India, driven by its strategic advantages.
  • **Anchor tenant**: IOCL refinery with 15 MMTPA capacity already operational.
  • **Port Advantage:** Paradip Port with deep-draft facilities enabling global connectivity.
  • **Petrochemical Complex:** A processing complex under development to catalyse downstream investment.
• **Downstream Industry Prospects:** Strong opportunities in plastics, synthetic fibres, specialty chemicals, and packaging, opening new avenues for value addition.
	• **Absence of SEZs:** Despite its scale, the PCPIR region does not host a single SEZ.
	• **Connectivity Gaps:** Weak highway, rail, gas pipeline, and digital connectivity continue to limit investment potential.
	• **Underutilised Land:** A large share of the PCPIR area and the planned plastic park remains unutilised.
	• **Limited Integration:** The anchor tenant is restricted to crude oil refining, with no integration into downstream petrochemicals or speciality chemicals.
	• **Low Budgetary Support:** Limited budgetary allocation for industry reduces incentives and slows common infrastructure development.

14.2 The Approach for Making Paradeep PCPIR a Catalyst for Industrial Growth

The Economic Plan proposes capacity expansion and downstream industry development towards setting up a chemical hub in BCPPER. The key focus areas are:

(i) Attract Global and National Anchor Tenants: While national anchor tenants are already established in the region, it is imperative to attract international players to enhance competitiveness and global integration. To this end, the State Government needs to prioritise the following:

- **Accelerate Land Acquisition and Parcel Readiness**: Expedite land acquisition and prepare serviceable parcels to enable immediate industrial setup, leveraging existing infrastructure such as port, rail, highway, refinery access, and planned airport.
- **Attract Global Speciality Chemical Producers:** Allocate dedicated land to global tenants for high-value speciality chemical units to bring advanced technology and expertise to the region.
- **Enable Strategic International Partnerships**: Empower the SPV to enter bilateral agreements with partner countries to support OMCs in establishing Verbund-model petrochemical complexes as SEZs.

(ii) **Broaden the Downstream Segment**: Expanding the downstream segment in PCPIR is critical to maximise value addition, strengthen linkages with key industries, and enhance export competitiveness. It also embeds sustainability by advancing circular economy practices and efficient resource use, ensuring growth that is both resilient and environmentally responsible. The following is proposed in this regard:

- **Establish Dedicated Sectoral Estates:** Develop industrial estates focused on specific sectors to create specialised clusters that promote efficiency, knowledge sharing, and innovation among downstream industries.
- **Leverage Industrial Symbiosis:** Design these estates to utilise waste streams or by-products from related industries, fostering circular economy practices, reducing costs, and minimising environmental impact.
- **Encourage Integration and Collaboration:** Facilitate collaboration between upstream and downstream units within the estates, enabling co-located value chains, shared infrastructure, and enhanced competitiveness for all participating industries.

14.3 Proposed Interventions

In order to accelerate industrial growth and enhance regional competitiveness, the following projects are proposed.

A. List of projects

1. Global/ National Anchor Tenants
Location: In the PCPIR Paradeep region
• **Target Leading Global Investors:** IDCO should proactively reach out to top-tier international chemical companies such as Aramco, ExxonMobil, SABIC, and BASF to establish high-value speciality chemical production units. Engaging these global leaders can bring world-class technology, operational excellence, and credibility to the region. • **Offer Incentives and Dedicated Land Parcels:** Provide strategically located, ready-to-develop land parcels along with fiscal, regulatory, and infrastructure support to attract anchor tenants. This ensures rapid project deployment while reducing entry barriers and risks for investors. • **Facilitate Technology Transfer & Strategic Partnerships:** Structure collaborations that enable knowledge sharing, advanced manufacturing practices, and integration with domestic supply chains. This approach not only strengthens competitiveness but also supports the growth of downstream industries and ecosystem development in the region.

2. Establish Chemical Downstream Industrial Estate
Location: In PCPIR Paradeep
• **Develop Sector-Specific Industrial Estate:** IDCO will create a dedicated industrial estate within the PCPIR, tailored for MSMEs operating in downstream chemical sectors. The estate will foster a clustered ecosystem, promoting collaboration, operational efficiency, and access to specialised markets. • **Construct Flatted Factories with Shared Facilities:** Design flatted factories to provide ready-to-use units for MSMEs, integrated with common infrastructure such as CETP, quality control certification centres, laboratories, steam boilers, and fire safety and emergency response systems, reducing capital expenditure for tenants. • **Provide Comprehensive Support Infrastructure:** Equip the estate with intra-roads, pipelines, power, and other essential utilities to ensure seamless operations. By offering end-to-end infrastructure, the estate minimises operational risks and accelerates business setup, making it highly attractive for investors and entrepreneurs.
3. Develop a Floating Regasification Plant at Paradip Port
Location: Paradip Port, PCPIR region
• **Develop Sector-Specific Industrial Estate**: IDCO will create a dedicated industrial estate within the PCPIR, tailored for MSMEs operating in downstream chemical sectors. The estate will foster a clustered ecosystem, promoting collaboration, operational efficiency, and access to specialised markets. • **Construct Flatted Factories with Shared Facilities:** Design flatted factories to provide ready-to-use units for MSMEs, integrated with common infrastructure such as CETP, quality control certification centres, laboratories, steam boilers, and fire safety and emergency response systems, reducing capital expenditure for tenants. • **Provide Comprehensive Support Infrastructure:** Equip the estate with intra-roads, pipelines, power, and other essential utilities to ensure seamless operations. By offering end-to-end infrastructure, the estate minimises operational risks and accelerates business setup, making it highly attractive for investors and entrepreneurs.
4. Develop a Gas and LNG Pipeline Network from Inter and Intra Region
Location: Paradeep PCPIR region
Expediting the natural gas pipeline being developed by GAIL from Hazira Port to Paradip Port is critical for strengthening energy security and enabling industrial growth in the region. The pipeline will provide a reliable and cost-effective supply of natural gas, supporting refineries, petrochemical complexes, and downstream industries with cleaner fuel. Faster implementation will not only reduce dependence on imported fuels but also enhance Paradeep's attractiveness as a competitive hub for large-scale investments in energy-intensive manufacturing.

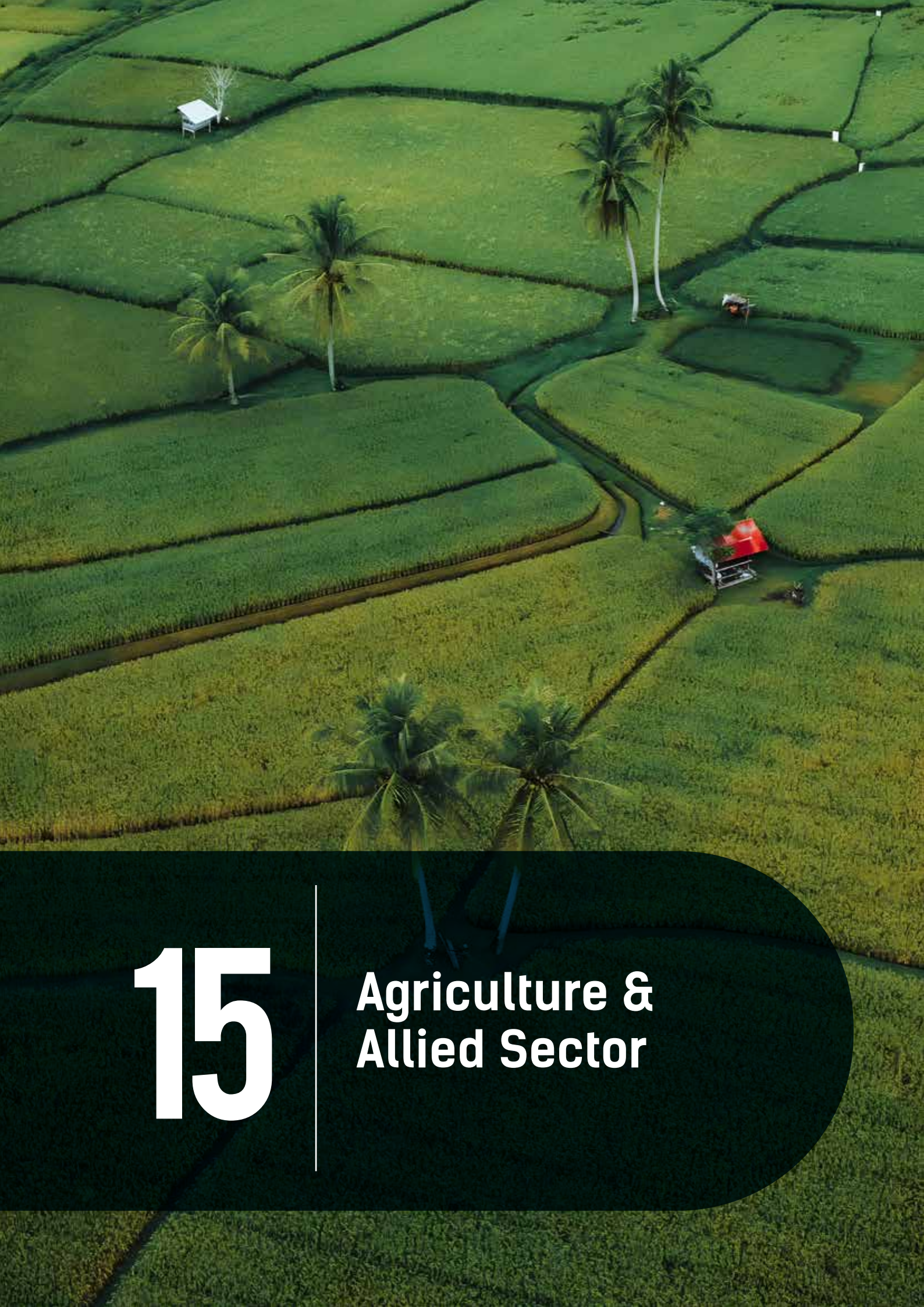
5. Enhance the ITI Centres and Integrate them with Industries and CIPET
Location: In PCPIR Paradeep
The Odisha Skill Development Authority should establish new ITI centres, while simultaneously upgrading existing ones with industry-relevant courses tailored to emerging needs in chemicals, petrochemicals, and allied sectors. By integrating these initiatives with CIPET Bhubaneswar, the state can create a strong pipeline of skilled manpower, ensuring local youth are job-ready and capable of supporting high-value industrial projects in the region.
6. Empower the Integrated Command Control Centre
Location: In Paradeep City or Jagatsingpur District headquarters
The PCPIR should establish and empower an ICCC to serve as the central platform for monitoring environmental compliance across the region. By leveraging advanced technologies such as IoT-based sensors, satellite mapping, and AI-driven analytics, the ICCC can enable real-time tracking of emissions, effluents, and waste management practices. Provisions for automated alerts, transparent reporting, and strict penalty enforcement will ensure industries adhere to regulatory standards, while also building investor confidence by positioning the region as a model for sustainable and responsible industrial development.

B. Policy prescriptions

While the state has a progressive policy framework to attract investments, the following interventions are proposed to enable a more robust industrial ecosystem.

1. Notification of Draft REACH Rules
The Government of India needs to notify the draft REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) Rules to promote the sustainable production and management of hazardous chemicals. Formalising these regulations will align India with global standards, ensuring safer handling, reduced environmental risks, and greater compliance with international trade requirements. By mandating transparency, robust evaluation, and responsible use of hazardous substances, the rules will not only protect public health and ecosystems but also enhance the competitiveness of Indian chemical producers in global markets.
2. Enhance the Budget Allocation to the Industrial Sector
Odisha's budgetary allocation to the industrial sector remains among the lowest in the country, underscoring a sharp contrast with the higher allocations made by more industrialised states. This limited investment constrains the state's ability to create robust infrastructure, provide fiscal incentives, and support innovation-driven growth in key industries. By increasing its budgetary focus on industrial development, Odisha can accelerate the creation of sector-specific clusters, strengthen downstream linkages, and attract greater private investment, thereby positioning itself more competitively in the national industrial landscape.

Figure 14.1:Indicative location of proposed projects in chemical sector



15 Agriculture & Allied Sector

Agriculture & Allied Sector

The agriculture and allied sectors play a vital role in the national economy, serving as one of the largest sources of employment and livelihood. Despite this, agriculture does not feature in the urban-focused growth model.

Figure 15.1 Agriculture is one of the key economic contributors to California

Global experience, however, demonstrates the value of integrating agriculture into broader economic strategies. For instance, California, which is one of the world's largest and most dynamic economies, has embedded agriculture within its growth framework, enabling the state to emerge as a global leader in agri-exports.

Building on global best practices and the region's untapped potential, agriculture and allied activities have been identified as a key growth driver for BCPPER. With targeted interventions, the sector can anchor balanced and inclusive development, serving as a pillar of food security, a foundation for rural economic growth, a bridge that strengthens urban–rural linkages and a key measure to curb distress migration. It is in this context that agriculture has been positioned as a growth driver in the Economic Plan for BCPPER.

15.1 Sectoral Snapshot

India stands out amongst major economies in terms of agriculture's contribution to GDP and employment. Yet, agricultural productivity and the share of global exports remain relatively low compared to other leading agri-producing nations.

In Odisha, agriculture and allied activities are central to the economy, supporting nearly 60% of the population, employing 49% of the workforce, and contributing 18.9% to the state's GVA[85]. However, existing cropping patterns are highly concentrated, with cereals and pulses accounting for ~74% of the GCA, of which paddy alone covers ~45%[86]. Average productivity also lags behind the national average and neighbouring states such as Andhra Pradesh and West Bengal[87]. On the positive side, the state government has actively promoted agri-tech adoption to modernise farming practices, enhance productivity, and support smallholder farmers; initiatives that have already delivered encouraging results on the ground.

In this context, BCPPER is uniquely positioned, with inherent strengths and specialities that provide distinct advantages, even as it contends with its own set of challenges.

Table 15.1: Oppotunities and Challenges of Agriculture Sector

Opportunities	Challenges
Cuttack • Major hub for **rice, jute, and sugarcane** farming. • Transitioning into a **Smart Agricultural District** with digital and climate-smart initiatives. • Growing focus on **floriculture**, especially gladiolus and roses. **Khordha** • Major **rice hub** with strong **horticulture.** • Irrigation improvements to tackle erratic rainfall. • Growing **floriculture** potential for marigold & tuberose • **Aquaculture** from Chilika & shrimp processing plants.	**Post-Harvest Losses** • Lack of cold storage causes major losses: Khordha (18), Cuttack (13), Puri (11), Jagatsinghpur (6) defunct units. **Low Productivity** • Paddy: Below national average due to low seed replacement, outdated methods. • Pulses: Weather shocks, no high-yield varieties. • Jute: Declining demand, competition from synthetics. **Lack of Market Access & Technology Gap** • Inadequate food-processing technology. • Shortage of skilled workforce.

85 Odisha Economic Survey 2024-25 (2025): Government of Odisha
86 Odisha Agriculture Statistics 2023-24 (2024): Department of Agriculture & Farmers' Empowerment
87 Odisha Agriculture Statistics 2019-20 (2020): Department of Agriculture & Farmers' Empowerment

Jagatsinghpur • Agriculture-driven economy focused on **paddy** (Kharif) & green gram (Rabi). • Diverse soil types and high rainfall support **multiple crops**. • Strong **brackish water aquaculture** with growing shrimp & crab farming. **Puri** • Major rice, vegetable, and jute farming hub. • **Expanding irrigation** for higher productivity. • Growing demand for **organic crops & floriculture** (lotus, hibiscus, marigold).	**Untapped potential for Aquaculture** • Puri & Jagatsinghpur's brackish waters are underutilised; • Shrimp/crab farming hit by disease and lack of hatcheries. • Cold chain/storage gaps cause fish spoilage. **Aquaculture & Industry Support** • Shortage of quality shrimp seed; Poor value addition & cold chain. • Limited private investment & high tariffs; Harbours not upgraded to EU/ HACCP norms. • No insurance for crops/vessels.

15.2 The Approach: A Tech-led Strategy for Transitioning to Modern and Sustainable Agriculture in BCPPER

The EP proposes the following five-step, tech-driven approach to transition BCPPER towards modern, sustainable, and competitive agriculture with a cluster-based agri-development model, aligned with the overall strategic theme of port-led growth at the core:

(i) Diversify the Existing Cropping Pattern

As mentioned earlier, the state's agriculture sector currently shows high commodity concentration, making diversification essential to enhance resilience, improve farmer incomes, and tap into emerging markets. High-value and export-oriented crops have been identified for large-scale cluster development, including:

- **Rice** in Cuttack
- **Coconut** in Khordha & Puri
- **Potato** in Cuttack
- **Floriculture** (Marigold, Roses, Orchids) in Bhubaneswar

Alongside, smaller, localised clusters are proposed for niche crops such as **Mushroom (Bhubaneswar)**, **Exotic Fruits (Khordha)**, and **Amrut Anna (Puri)**.

To further support diversification, the establishment of a **seed village in Cuttack** is recommended, focusing on high-yielding, climate-resilient seed varieties that strengthen both sustainability and crop diversity.

(ii) Accelerate Farm Mechanisation

Enhancing farm mechanisation is critical to ensure timely and efficient operations, reduce dependence on labour and improve overall resource-use efficiency. Key recommendations include:

- Improving access for small and marginal farmers to affordable machinery.
- Promoting need-based and customised mechanisation tailored to local conditions and demand.
- Encouraging R&D and local manufacturing to drive innovation and sustainability in farm equipment.

(iii) Cluster Development with a Focus on Tech and Innovation

Crop-specific clusters are proposed to enable targeted interventions and strengthen the entire value chain. Key considerations for selecting crops for cluster development include considerations like the regional cropping patterns and suitability, aligning production with market demand, promoting high-value and export-oriented crops, diversifying into agri-processing, fisheries, and horticulture, and replacing low-yield crops with higher-efficiency alternatives.

The detailed architecture of the cluster-based ecosystem is presented in the next section.

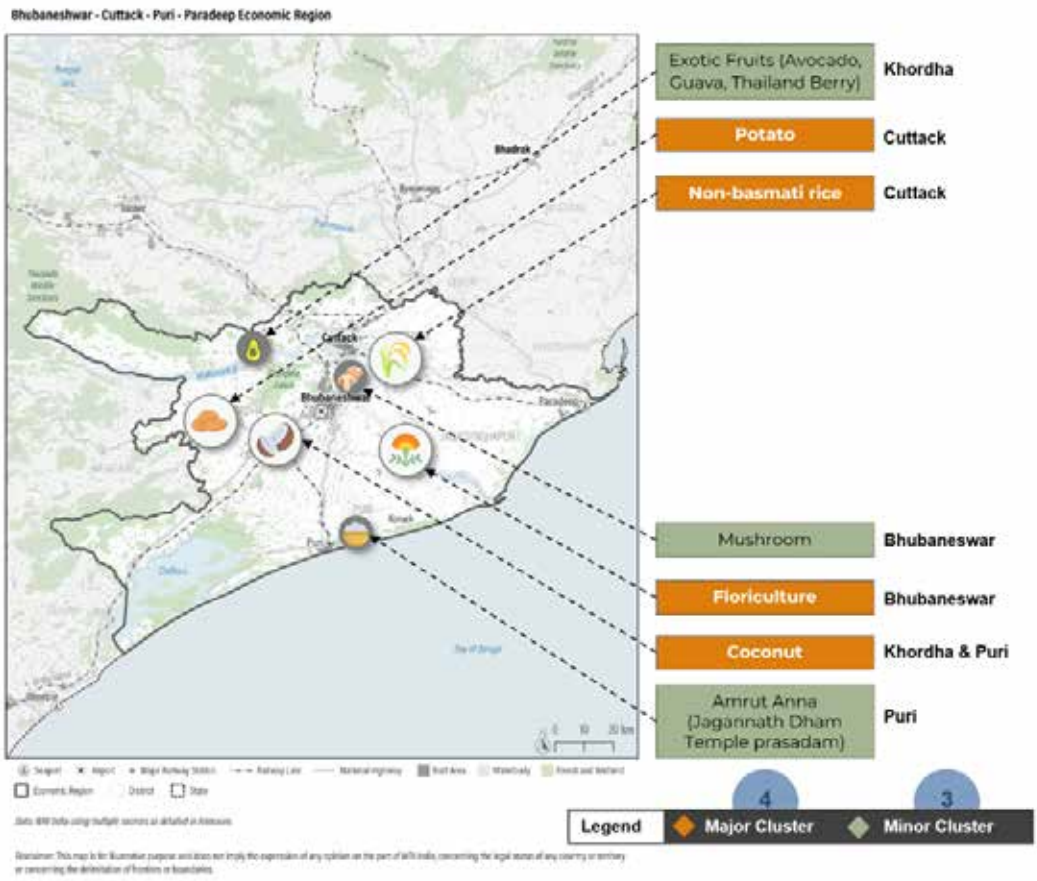


Figure 15.2: Cluster development with a focus on tech & innovation

(iv) Position BCPPER as East India's Agri-Export Gateway

BCPPER is strategically positioned to drive India's "Look East Policy" by leveraging its unique endowments of:

- **Port Infrastructure**: An existing major port and two upcoming ports provide direct access to Southeast Asian markets, key importers of Indian agricultural products.
- **Rich Hinterland**: Access to diverse agricultural produce from Odisha and neighbouring states, including Andhra Pradesh, Chhattisgarh, and West Bengal.
- **Connectivity**: Extensive existing and planned transport infrastructure ensures smooth and efficient movement of goods.

Figure 15.3 explains key interventions proposed for transforming BCPPER into India's agri export gateway and also benchmarks them to global best practices.

Figure 15.3: Recommended interventions for transforming BCPPER into India's agri export gateway

(iii) Harness the Power of Digital Data for Future Farming & Drive Productivity and ROI with Agri-Tech Solutions & Agri-Entrepreneurships

The strategic use of digital data is crucial for enabling smarter, sustainable, and profitable agriculture. Odisha has emerged as a frontrunner in adopting digital technologies in the sector. To accelerate this adoption, the state can establish large-scale, state-led digital skills and advisory training, implement mechanisms for end-to-end digitalisation and supply chain traceability, and introduce targeted funding and incentives for rapid rural broadband expansion.

Integrating agripreneurship with agri-tech offers a transformative pathway for the agriculture and allied sectors. A subscription-based agri-tech model is proposed to modernise farming at scale, providing low upfront costs,

continuous technical support, and flexible solutions tailored to specific needs. Key use cases across different levels of the value chain are illustrated in Figure 81.

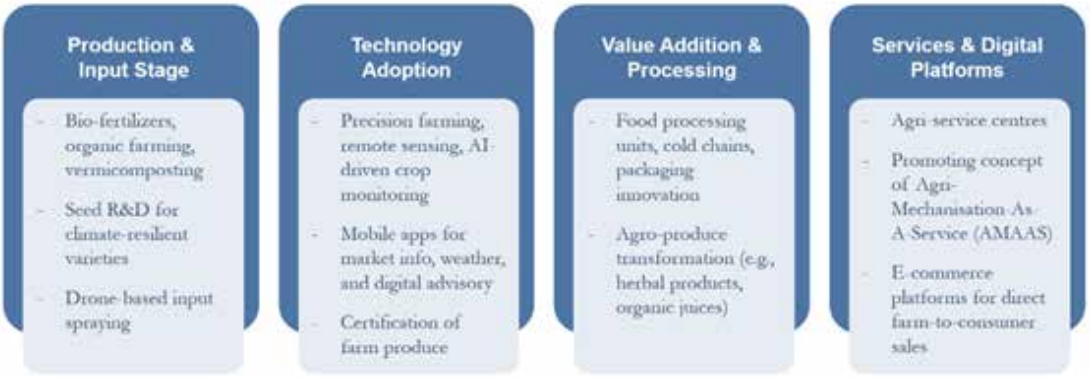


Figure 15.4: Agri-tech for the complete value-chain

15.2.1 Driving Efficiency through a Cluster-Based Approach with Hub (Processing Centres) and Spoke (Production Clusters) Architecture Supported by an Enabling Ecosystem

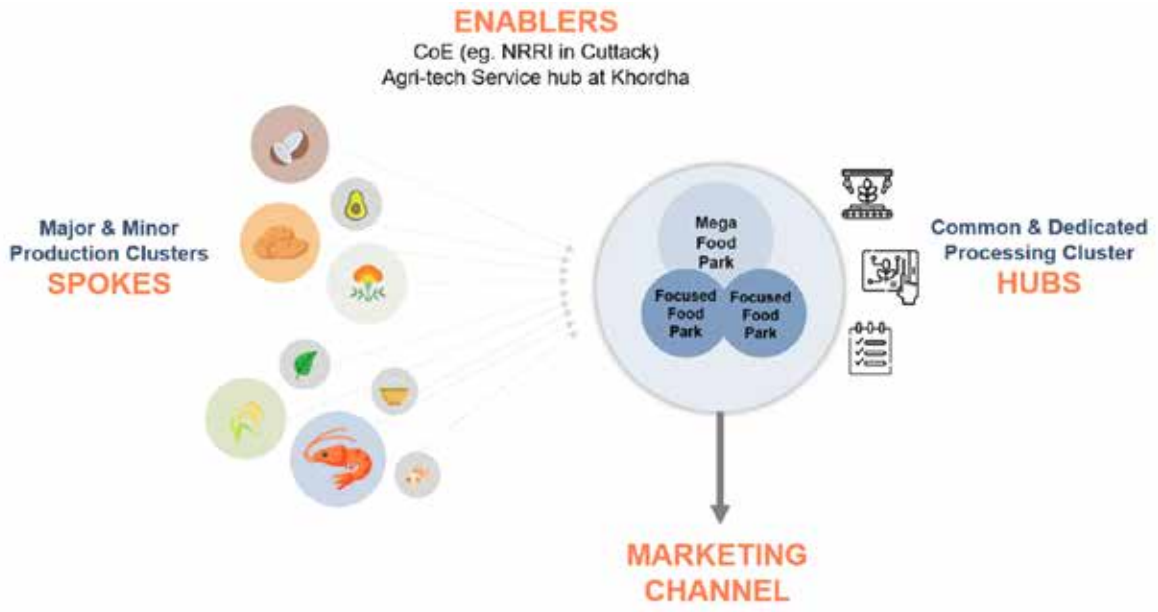


Figure 15.5: Hub & spoke model for cluster development

The hub-and-spoke model for cluster-based agricultural development positions crop-specific production clusters (spokes) around centralised processing facilities (hubs) to boost efficiency and value chain integration.

- Spokes feature high-yield seeds, irrigation, soil testing, small-scale processing, protected farming, and seed multiplication.
- Hubs provide processing units, cold storage, quality labs, packaging, and crop-specific facilities.

- R&D through centres of excellence, agritech hubs, and start-ups using GPS, IoT, drones, AI, and data analytics act as enablers.
- Dedicated marketing channels connect clusters to domestic and international markets, ensuring better returns.

Implementing this model involves establishing multiple crop-specific clusters, upgrading the existing mega food park in Khordha to serve as the CPC, creating a central R&D centre at OUAT, Bhubaneswar, and strengthening market access.

15.3 Proposed Interventions

A. List of Projects

1. Develop Four Crop-Specific Production Clusters and Upgrade the Mega Food Park in Khordha to Serve as the CPC

Location: Non-basmati rice cluster in Cuttack; Coconut cluster in Khordha & Puri; Potato cluster in Cuttack; Floriculture cluster in Cuttack

Details:

Production Cluster:

- Set up seed production and multiplication units.
- Develop input hubs for fertilisers, bio-inputs, CHCs, and agri-advisory.
- Establish primary aggregation and storage centres.

Processing Cluster:

- Set up large-scale processing units for grading, pulping, milling, etc.
- Establish packhouses and cold storage with pre-cooling & ripening chambers.

Value Addition:

- Promote by-product utilisation (e.g., Coconut: Coir, shell powder, activated carbon; Rice: Bran oil, husk briquettes).
- Set up logistics and distribution hubs linked to markets and ports.

2. Additional Recommendations to Accelerate Firm Mechanisation Initiatives *Over and Above the Ongoing Schemes and Initiatives

Location: Across the region

Details:

Access & Infrastructure:

- Expand CHCs with mobile/satellite units to reach remote areas.
- Promote rental, leasing and pooling models so small farmers can afford modern machines.
- Provide tiered subsidies and credit support, with higher benefits for small/marginal & women farmers.

Capacity & Innovation:

- Organise training & certification for operators, including women and youth.
- Support local innovation in small-scale machines suited to Odisha's varied terrain and crops.
- Partner with universities/start-ups for climate-smart and precision mechanisation (e.g., sensor-based tools, drones).

Policy & Digital Governance:

- Implement monitoring frameworks to measure impact (productivity, cost savings, farmer satisfaction).
- Incentivise sustainable mechanisation (energy-efficient, soil-friendly machines).

3. Establish a Seed Village under the Beej Gram Yojana, GoI

Location: Utkrushta Beej Gram (seed village) in Cuttack

Details:

- Identify 1–2 villages, each with at least 50 farmers, with a compact, uniform, contiguous area.
- Set up a seed distribution facility with subsidy support.
- Conduct training on seed production protocols.
- Set up village-level or cluster-level processing units with a grading & certification facility.
- Provide seed storage infrastructure, quality control & monitoring and conduct regular awareness drives.

4. Establish Agri-Export Terminals at 2 Sea Ports

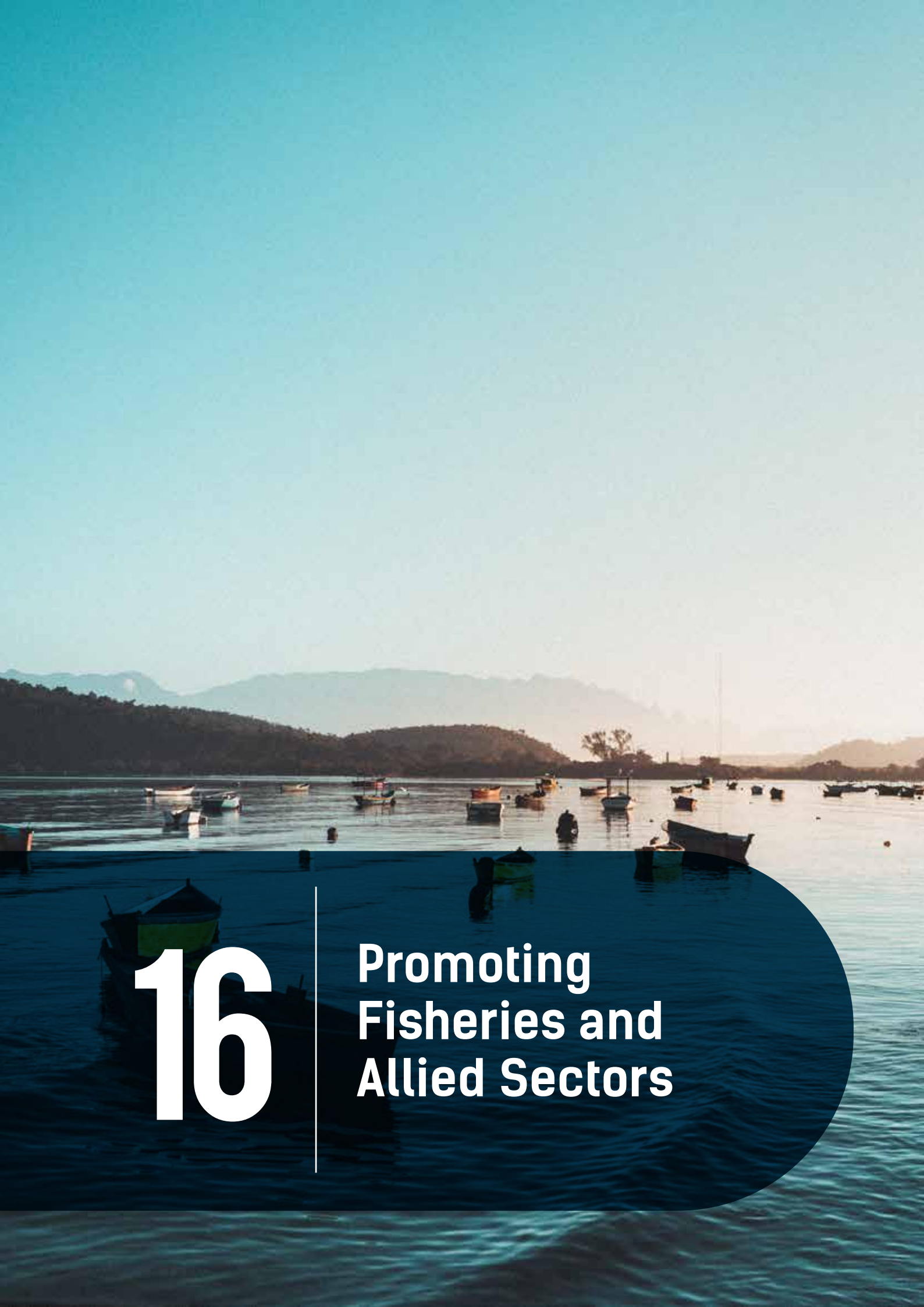
Location: Establish dedicated agri-export terminals at Astaranga & Jatadhar Muha port

Details:

- Establish dedicated agri berths and container handling zone.
- Set up agri warehousing and storage facilities.
- Establish an integrated cold chain zone.
- Set up an agri-frieght consolidation hub.
- Develop multimodal connectivity infrastructure among ICDs, agri clusters, and mandis.
- Establish a single-window export facilitation centre (customs, DGFT, plant quarantine, and APEDA).
- Set up final processing and packaging zone.

5. Projects and Interventions for Agri-Export Training & Promotion & Promote Agripreneurship and Agritech-As-A-Service Model
Location: Establish OUAT as the CoE for agri-export training and promotion
Details: • OUAT to serve as a nodal knowledge and facilitation hub with satellite training centres. • Set up incubation and mentoring hubs at OUAT for agri-export enterprises. • Set up district-level agripreneurship hubs as satellite incubators linked to OUAT. • Train FPOs and farmers on key export standards and practices. • Set up regional export facilitation desks. • Market promotion and branding activities. • Launch mobile agri clinics and e-advisory platforms. • Introduce a digital agriculture innovation fund and state-level agritech challenges and innovation competitions.

Figure 15.6: Indicative location of proposed projects



16 Promoting Fisheries and Allied Sectors

16.1 Promoting Fisheries and Allied Sectors to Unlock Blue Economy Potential

Odisha, with its long coastline of 575 km, rich inland water resources, and extensive brackishwater and marine ecosystems, is among India's foremost maritime states. The state holds immense untapped potential to expand both capture and culture fisheries, contributing significantly to the growth of the blue economy. By strategically harnessing these resources, Odisha can substantially enhance fish production to cater to rising domestic demand, boost seafood exports, and generate large-scale employment and income opportunities, particularly for coastal communities. Strengthening the fisheries and allied sectors will not only improve food and nutritional security but also position Odisha as a national leader in sustainable and inclusive blue growth.

(i) Current Production Trends:

Odisha has witnessed strong growth in fish production over recent years. Between 2018-19 and 2022-23, total fish production rose from about 7.59 LMT to 10.52 LMT, reflecting roughly a 40% increase. It now ranks fourth among Indian states in overall fish production. Freshwater production dominates the sector, accounting for approximately 66% of the total catch in 2022-23, with brackishwater and marine sources contributing around 14% and 20% respectively.[88]

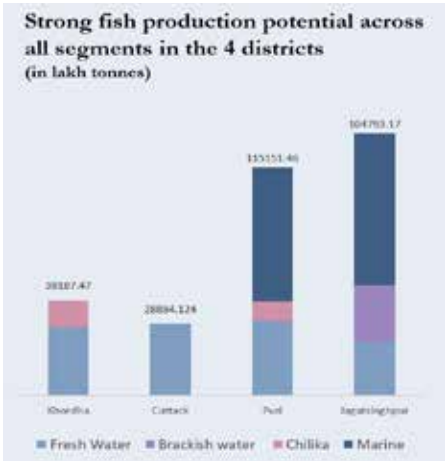


Figure 16.1: Fish production potentials in BCPPER

BCPPER is a significant constituent of Odisha's fisheries economy, integrating substantial inland aquaculture potential with significant marine and estuarine resources. The coastal districts of Jagatsinghpur and Puri account for a major share of marine landings, whereas Cuttack and Khordha contribute predominantly to inland fish production through well-developed networks of ponds, reservoirs, and community tanks. Collectively, the region plays a pivotal role in sustaining both capture and culture fisheries, thereby reinforcing Odisha's position as a leading maritime state.

(ii) Proposed and Approved Projects:

GoI, through its flagship scheme Pradhan Mantri Matsya Sampada Yojana (PMMSY), and the Fisheries & Animal Resources Development Department, GoO, have been implementing multiple projects to strengthen the fisheries sector in the region. In this context, the following sections present recommendations aimed at enhancing both the effectiveness and operational relevance of these initiatives, ensuring that they deliver maximum impact and are aligned with the objectives of sustainable growth and inclusive development in Odisha's fisheries economy.

88 Odisha Economic Survey 2023-24 (2024): Government of Odisha

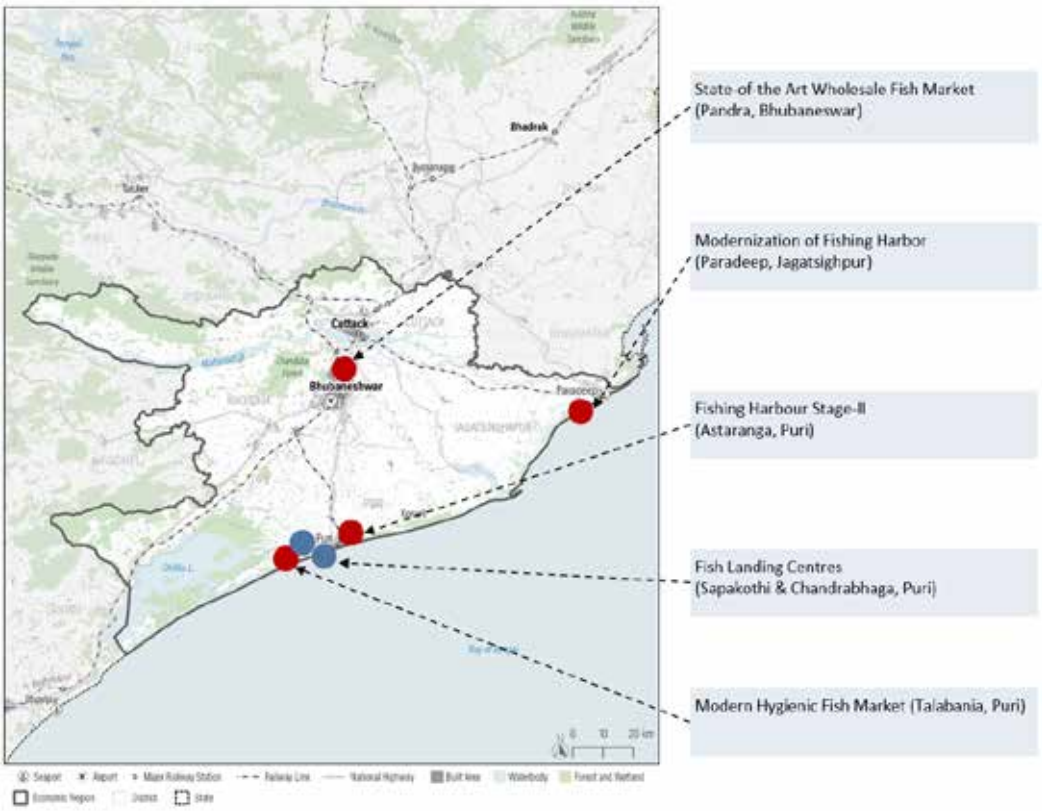


Figure 16.2: Sanctioned & ongoing projects under PMMSY

(iii) Key Infrastructure Gaps in Odisha's Fisheries & Aquaculture Sector

Despite Odisha's rapid growth in fish production, critical infrastructure gaps continue to constrain the full potential of the fisheries and aquaculture sector. The major gaps are highlighted in Figure 16.3.[89] The Plan aims to address these gaps to ensure sustainable expansion, improved livelihoods, and stronger integration with the blue economy framework.

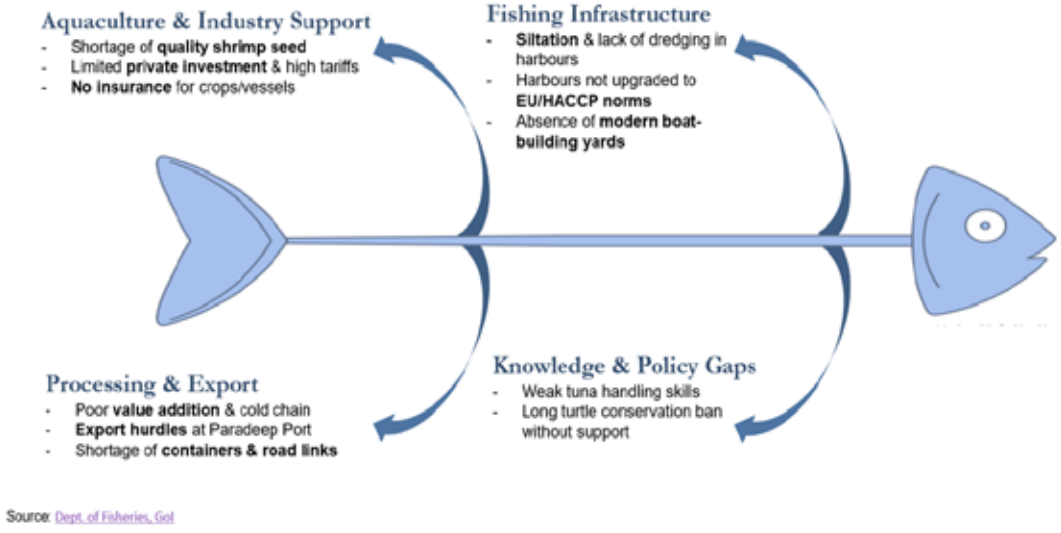


Figure 16.3: Key infrastructure gaps in Odisha's fisheries & aquaculture sector

89 Shared by Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, GoI

16.2 Proposed Interventions

A. List of Projects

1. Establish an Integrated Aquapark*

GoI has approved one Integrated Aqua Park under PMMSY in Sambalpur and may take up another Aqua Park based on the success of the pilot

Location: Jagatsinghapur

Details:

Seed and grow-out infrastructure:

- Establish hatchery and seed infrastructure units.
- Set up grow-out culture systems with pond-based farming systems, and cage culture systems in reservoirs.

Health management and monitoring:

- Set up aquatic animal health and disease management centres with diagnostic labs, mobile vet services, and disease surveillance units.
- Deploy IoT-based farm monitoring systems.

Post-harvest and processing infrastructure:

- Establish post-harvest handling and logistics facilities with ice plants, insulated fish boxes, and refrigerated transport units.
- Set up fish and shrimp processing plants.
- Develop integrated cold storage infrastructure with cold rooms, blast freezing, flake ice units, and pre-chilling stations.

2. Hygienic Fish Markets under PMMSY for a Safe & Resilient Value Chain*

Additional recommendations for the GoI sanctioned project for the construction of the state-of-the-art wholesale fish market

Location: Pandra, Bhubaneswar

Details:

Market Infrastructure:

- Establish covered auction halls.
- Set up loading/unloading bays with on-site ice plants and ice production units and insulated fish boxes.
- Develop integrated cold storage and pre-chill facilities and blast-freezing capacity.

Quality & Safety Management:

- Set up quality control and diagnostic labs & FSSAI/NABL-accredited testing facilities on-site for microbial, histamine, and residue analysis.
- Establish waste management and sanitation systems with hygiene facilities.

IEC & Branding:

- Run promotional campaigns under unified identities (e.g., “Certified Hygienic Fish Market”).

3. Mega Seafood Park*

Additional recommendations for GoI approved construction of the mega seafood park

Location: Deras, Khurda

Details:

Upstream & Production Linkages:

- Strengthen backward linkages with fishermen and farmers

Processing & Value Addition:

- Provide infrastructure support for filleting, marination, IQF, ready-to-cook, & speciality products

Facilities & Export Logistics:

- Install pre-cooling units, blast freezers, cold storage, and reefer-truck docking bays
- Create direct linkages to nearby sea port terminals, including container yard plug-points
- Deploy a digital export traceability platform and integrate with MPEDA traceability standards

Standards, Labs, & Facilitation:

- Build export certification and testing labs in partnership with MPEDA/EIA
- Create an export-focused training centre at Deras for capacity building in HACCP, SPS compliance, traceability systems, and international standards

B. Policy Prescriptions

Policy Name (reference policy, if any)
Focus Areas: The **Odisha Fisheries Policy 2015,** prioritises food security, livelihoods, and employment, but requires significant updates to align with the **National Fisheries Policy, 2020** and international standards.
• **Weak Monitoring, Control, and Surveillance (MCS):** Establish a robust MCS framework with vessel tracking, gear registration, licensing reforms, and integration with Coast Guard/Marine Police for IUU prevention. • **Formal Mechanism for Hatchery Accreditation and Seed Certification:** Enforce hatchery registration, quality control protocols, and seed certification standards aligned with national guidelines to ensure availability of disease-free, genetically sound stock. • **Gender Equity and Social Protection:** Introduce gender-inclusive policies with dedicated programs for fisherwomen, insurance schemes, safety nets, and targeted capacity-building.

- **Digital Infrastructure and Spatial Planning Tools:** Leverage GIS for aquaculture zonation, carrying capacity assessments, and introduce digital platforms for licensing, extension services, and farmer support.
- **Blue Economy and Marine Spatial Planning Concepts:** Align Odisha's marine strategy with Blue Economy principles, including marine spatial planning, sustainable tourism, and integrated coastal zone management.

Figure 16.4: Indicative location of proposed projects

17 Sustainability & Disaster

17.1 Introduction

The EP envisions accelerating GDP growth through targeted interventions while safeguarding Odisha's heritage, religious identity, environment and local culture. This approach aligns with the Odisha state's Vision 2047, which rests on a strong foundation of cultural richness, natural abundance, and human capital. Industrial and service sector expansion will be pursued alongside robust ecological safeguards to ensure balanced development.

It further aspires to position Odisha as a national leader in climate adaptation, resilience, and disaster preparedness, embedding these priorities within the framework of economic growth. All proposed growth drivers have been designed with environmental safeguards and sustainable practices in place. While taking note of the ambitious target set in this Plan to expand the economy of BCPPER by nearly 23 times, from US$ 22.4 Bn to US$ 500 Bn by 2047, this chapter highlights strategies to ensure growth does not come at the cost of rising pollution, unmanaged waste, environmental degradation, or negative health impacts.

Odisha State Sustainability Strategy

Odisha's Vision 2036 and 2047 outlines a set of sustainability strategies that will guide long-term development. These strategies, which will also be localised for BCPPER, include:

(i) **Energy:** Achieving over 80% penetration of Electric Vehicles (EVs) and ensuring more than 70% of energy comes from renewable sources by 2047, as part of the state's urban development strategy.

(ii) **Air Quality:** Reducing the state's average Air Quality Index (AQI), currently 100–120, to below 80 by 2029, below 50 by 2036, and below 20 by 2047.

(iii) **Water Resources:** Building on initiatives such as the 'Drink from Tap' program, which has already benefited 1.2 Mn people, the state aims to achieve 90% household access to piped water by 2029 and universal coverage by 2036.

(iv) **Land Use:** Redeveloping eight brownfield cities, including Paradeep, while mandating the integration of blue (water systems) and green (parks and vegetation) infrastructure into city planning.

(v) **Biodiversity & Ecosystems:** Developing a biodiversity hub in line with National Green Tribunal (NGT) norms, with projects such as the Mahanadi waterfront in Cuttack designed to combine ecological sustainability with the promotion of local culture.

(vi) **Climate Change Risks:** Addressing the high vulnerability of coastal cities to cyclones and floods through resilience-building measures.

(vii) **Waste Management:** Targeting 100% treatment of solid waste and wastewater by 2047.

17.2 Climate Vulnerability in BCPPER

The region is confronted with complex sustainability challenges arising from its coastal geography, accelerated urbanisation, rapid industrial growth, and

pronounced vulnerability to climate change. Utilising a range of datasets, including Service Level Benchmarks (SLBs) under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), historical disaster records from the Odisha State Disaster Management Authority (OSDMA), climate datasets from the World Resources Institute (WRI), and spatial analyses such as multi-hazard maps as presented in Figure 17.1. This section systematically evaluates critical environmental and resilience indicators. The assessment identifies trends in climate risks, temperature variability, biodiversity, water resources, flood hazards, and air quality, thereby providing an evidence-based understanding of the region's exposure to extreme weather events and mounting resource stresses.

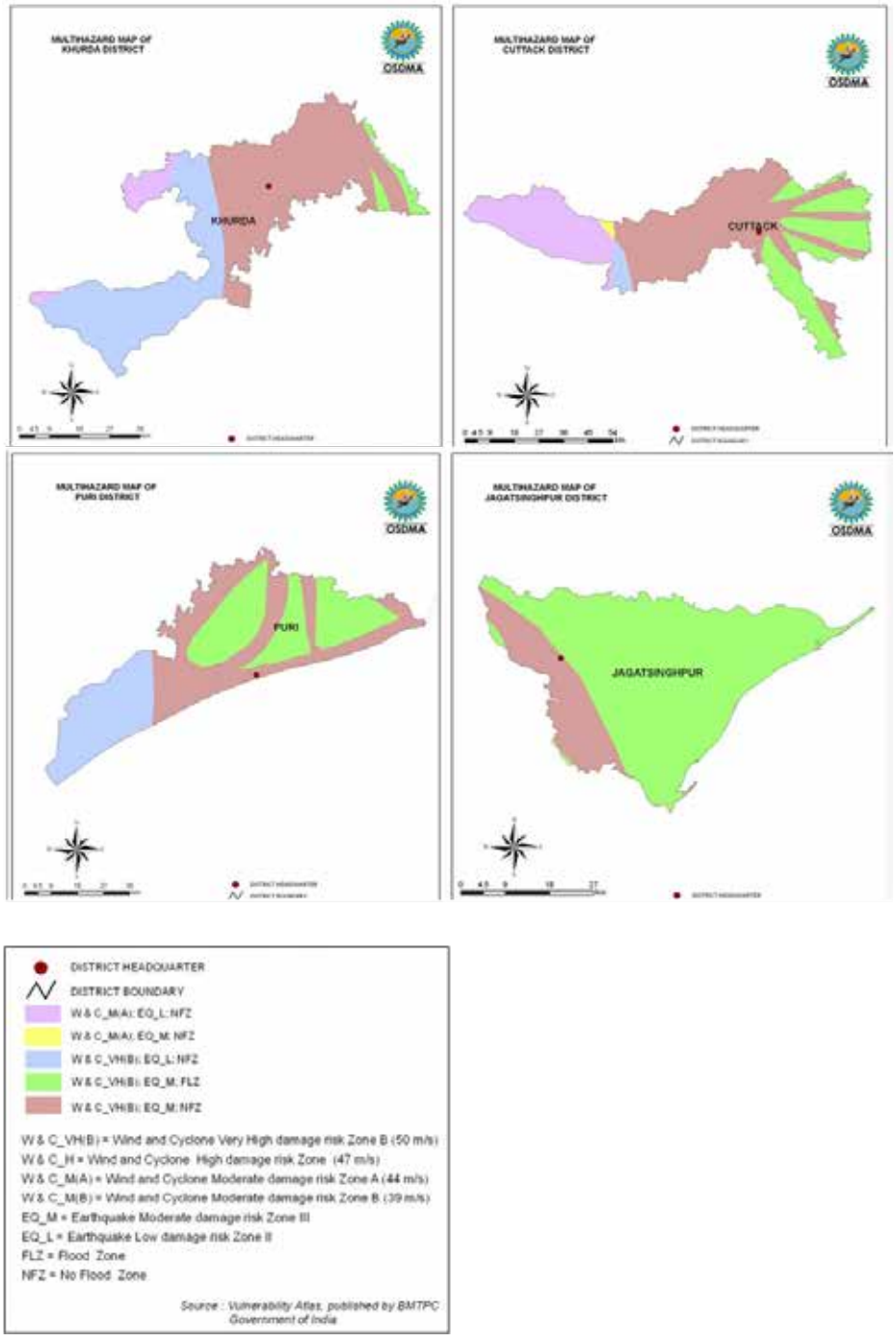


Figure 17.1: Multi hazard map of four districts of BCPPER

Cyclone Vulnerability

According to OSDMA's multi-hazard maps, the region is highly susceptible to cyclones, floods, and storm surges. Bhubaneswar faces an elevated cyclone risk, with a Climate Action Plan under preparation to strengthen resilience. Cuttack is exposed to both cyclone and flood hazards, supported by OSDMA-led preparedness measures. Puri, due to its coastal location, faces severe cyclone and storm surge risks, while Paradeep's vulnerable coastline further amplifies these threats.

Between 1891 and 2024, Odisha experienced over 100 cyclones. Proactive interventions by OSDMA have been instrumental in reducing disaster impacts, achieving a nearly 99% reduction in casualties between the 1999 Super Cyclone and Cyclone Fani in 2019. However, extreme wind speeds associated with cyclones over the past three decades have significantly affected coastal stretches along Konark, Puri, and Paradeep. Analysis undertaken by WRI indicates that nearly 63.2% of the population within BCPPER remains highly vulnerable to cyclone risks, with almost the entire Jagatsinghpur district falling within this zone.

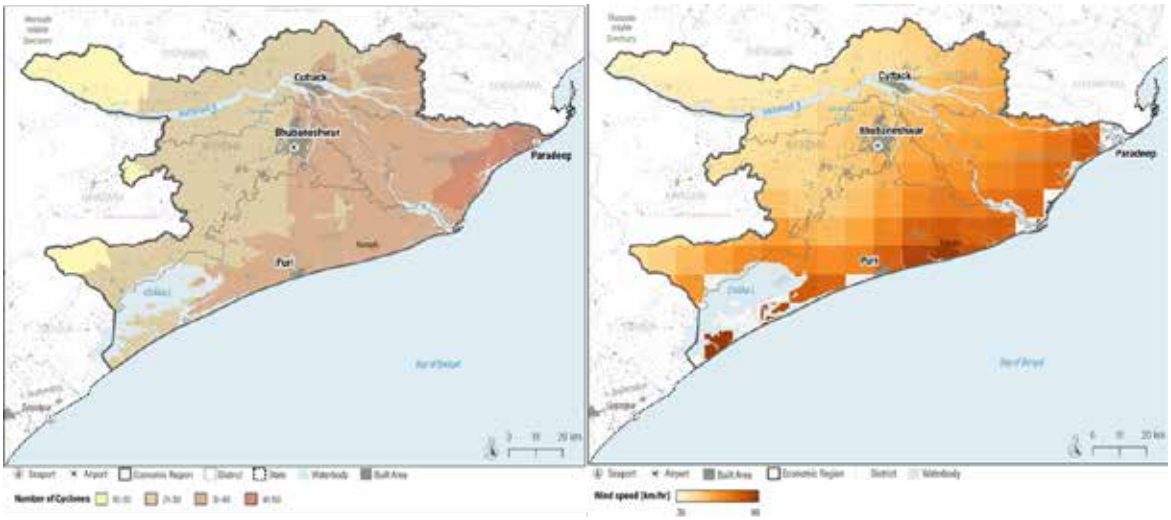


Figure 17.2: Left- historic cyclone map from 1891 to 2020 & Right - Extreme wind speed map; Source: WRI analysis

Odisha is the first state in India to establish a last-mile early warning system for disseminating critical disaster-related information. Nearly 1,200 villages across all coastal districts now receive cyclone and tsunami alerts through sirens and mass messaging. This system, supported by watchtowers at over 120 coastal locations, forms the backbone of the state's disaster preparedness framework. Complementing this, OSDMA has developed more than 800 multi-purpose cyclone shelters and constructed evacuation roads along the coastline. Community-level resilience is further reinforced through village-level Disaster Management Plans implemented across the state.

Extreme Rainfall Vulnerability

Odisha experiences recurrent floods and droughts, largely driven by erratic and uneven rainfall patterns, placing additional stress on water management

and disaster preparedness systems[90]. India Meteorological Department (IMD) classifies rainfall above 64.5 mm/day as heavy to extremely heavy, and analysis of 2000–2021 data highlights frequent extreme events across the state. Southwest and western Odisha receive the highest rainfall, with over 150 extremely rainy days recorded. Trend analysis indicates that the number of extreme rainfall days has more than doubled, rising from 42 in 1991–2000 to 74 in 2001–2013, underscoring the increasing risk of flood disasters.

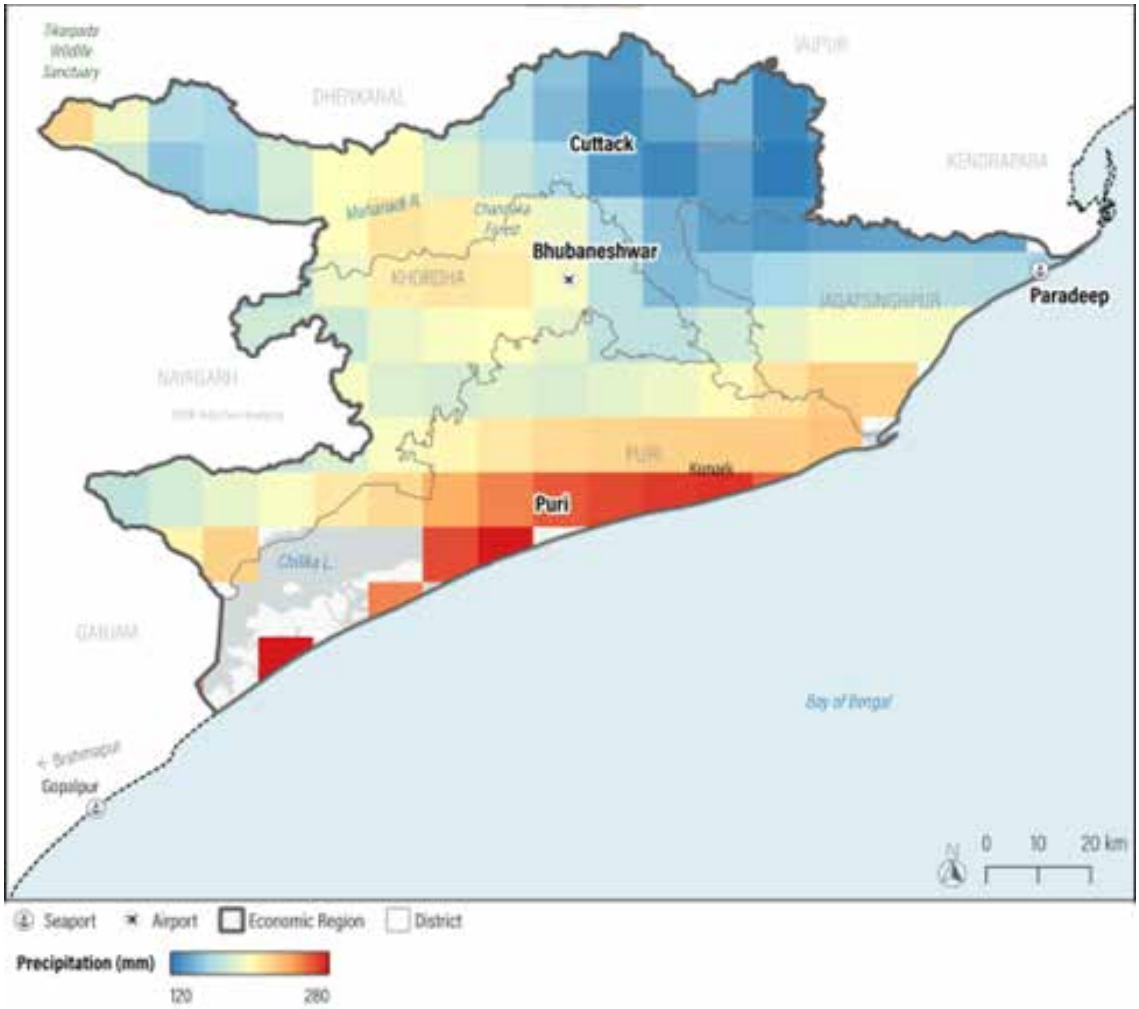


Figure 17.3: Maximum 24-hour accumulated rainfall between 2000-2021; Data source WRI analysis from ERA 5

Extreme Temperature:

- **Maximum Air Temperature:** The IMD defines heat waves as extreme temperature conditions when coastal areas record ≥37°C, plains ≥40°C, or when deviations exceed +4.5°C from normal levels (Figure 17.4). Odisha has witnessed a sharp increase in the frequency of heat waves, rising from five heatwave days (with the longest spell lasting three days) in 2021 to thirty-seven heatwave days (with eighteen days) in 2024. This escalating trend highlights intensifying risks to human health and underscores the need for robust heat management strategies.

90 Odisha Climate Budget 2023-24 (2024): Finance Department; Government of Odisha, 2023

- **Land Surface Temperature (Nighttime):** Odisha aims to mitigate urban heat stress by enhancing green cover and promoting sustainable infrastructure planning, as urban heat island effects intensify particulate matter retention in high-traffic zones. Data from 2001 to 2021 indicates a steady rise in nighttime land surface temperatures (LST) (refer Figure 17.4), with an increase of nearly 1°C between 1990 and 2005. Decreasing vegetative cover and rapid construction associated with urbanisation are some of the factors contributing to this trend. Higher LST and urban heat island values are particularly evident along riverside sandbars, further exacerbating localised heat stress.
- **Universal Thermal Comfort Index (2005–2025):** The Universal Thermal Comfort Index reflects an increasing incidence of warm nights compared to warm days, creating heightened risks for public health and livelihoods. Rising temperature and humidity levels are amplifying heat stress, while longer heatwave spells further compound discomfort. The index consistently indicates conditions of extreme thermal stress, contributing to heat-related illnesses and mortality (refer Figure 17.4). Mitigation strategies addressing human health, mortality, and climate-induced migration, alongside integrated socioeconomic policy planning, are becoming increasingly critical for Odisha.

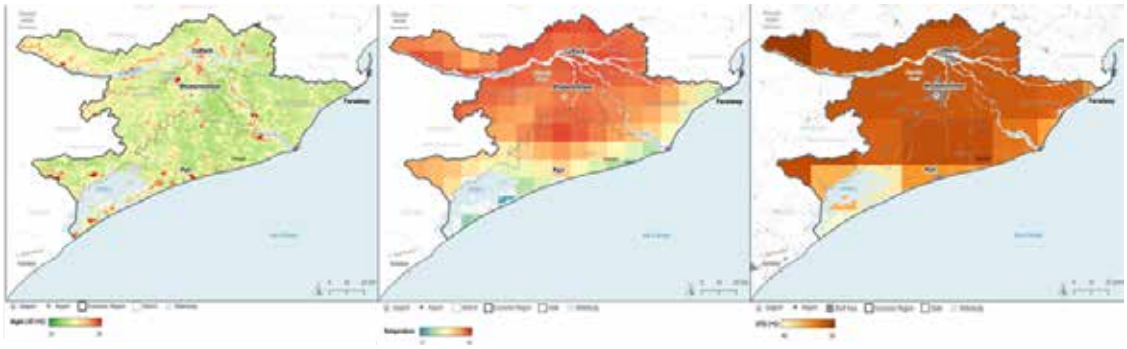


Figure 17.4 : From left to right - Land surface temperature nighttime, Maximum air temperature & Universal thermal comfort index. Data source: WRI analysis

Groundwater Depletion

Monsoon rainfall is the primary source of groundwater recharge in Odisha, contributing 58.24% of the total annual recharge. Combined rainfall (monsoon and non-monsoon) accounts for 66.89%, while the remaining 33.11% is derived from canal seepage, return flows from irrigation, and recharge from tanks, ponds, and water conservation structures, as shown in Figure 17.5.

Groundwater conditions vary significantly across districts in the BCPPER, with challenges of both stress and salinity. While Cuttack is considered safe for extraction, the Bhubaneswar block in Khordha exhibits semi-critical stress levels. Jagatsinghpur and Puri face widespread salinity issues that undermine groundwater usability for agriculture and domestic purposes. District-wise information is given below[91]:

91 Dynamic Ground water resource of Odisha, Directorate of Ground water development, Government of Odisha; 2025

- **Cuttack:** Net annual extractable groundwater is 690.58 MCM, with extraction at 324.63 MCM. All 14 blocks are categorised as safe, with a Stage of Groundwater Extraction (SOGWE) of 47.01%.
- **Jagatsinghpur:** Extractable groundwater is 452.34 MCM, with extraction at 266.57 MCM. The Ersama block is fully affected by salinity, while three others, Balikuda, Kujang, and Nuagaon, are partially affected.
- **Khordha:** The Bhubaneswar block records 88.66% groundwater utilisation, classifying it as semi-critical, whereas the Banapur block shows the lowest utilisation at 42.89%.
- **Puri:** Extractable fresh groundwater stands at 596.44 MCM, with extraction at 322.96 MCM. All 11 blocks in the district are partially affected by salinity.

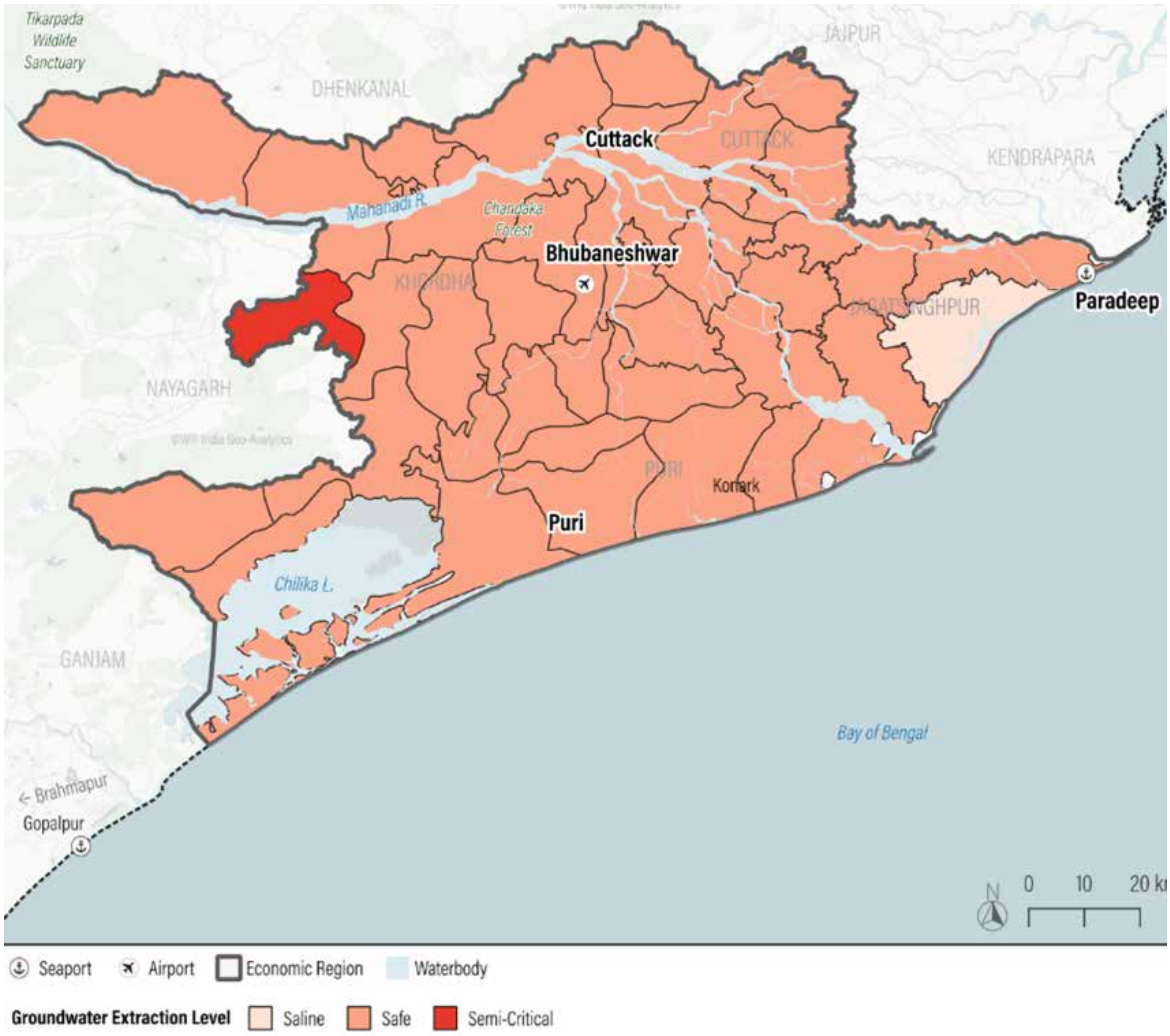


Figure 17.5: Groundwater condition in BCPPER; WRI Analysis with India groundwater tool and Central groundwater board as data source

Meteorological Drought Probability

Despite Odisha's abundant water resources, 20 out of 30 districts face seasonal or perennial water stress due to rapid urbanisation, unregulated groundwater

extraction, and uneven distribution of surface water bodies[92]. In BCPPER, the IMD categorises drought probability risk as low; however, localised vulnerabilities persist, particularly in Puri district, where nearly 28% of the population remains exposed to drought risk, reflecting the uneven nature of water stress across the region.

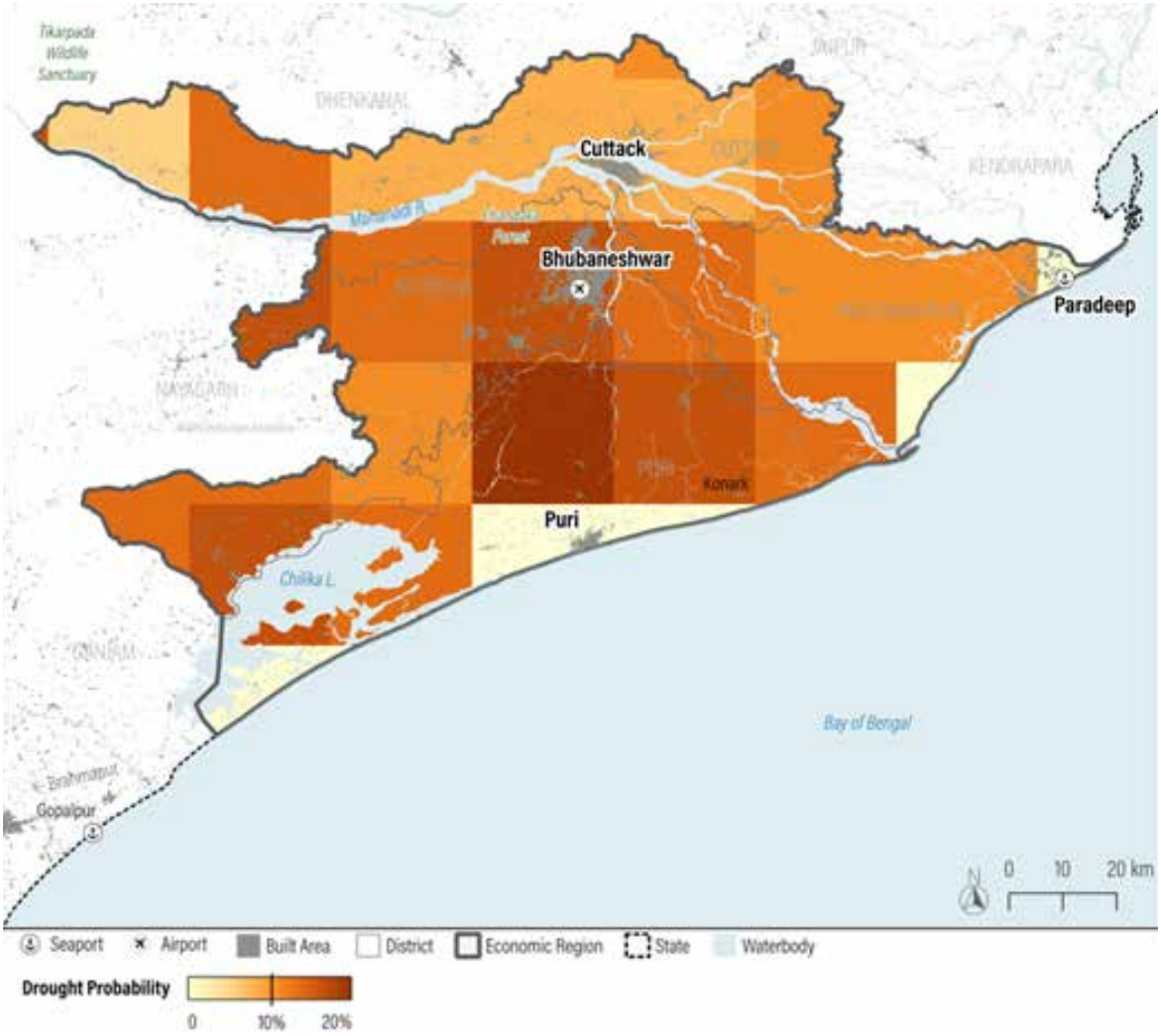


Figure 17.6: Drought probability map, WRI Analysis

Air Pollution Particulate Matter 2.5

The average AQI in Odisha ranges between 100–120, with reduction targets set under the Odisha Vision Document to below 80 by 2029, below 50 by 2036, and below 20 by 2047. Preliminary assessments highlight vehicular emissions, road dust, and construction activities as major contributors to air pollution in Bhubaneswar and Cuttack. Analysis of PM 2.5 concentrations between 1998 and 2021 indicates that most areas consistently exceed the CPCB's permissible annual limit of 40 µg/m^3, underscoring persistent air quality challenges across the state. The map in Figure 17.7 shows the maximum annual average PM 2.5 concentration in the study period for each grid.

92 Odisha Vision Plan 2036 & 2047

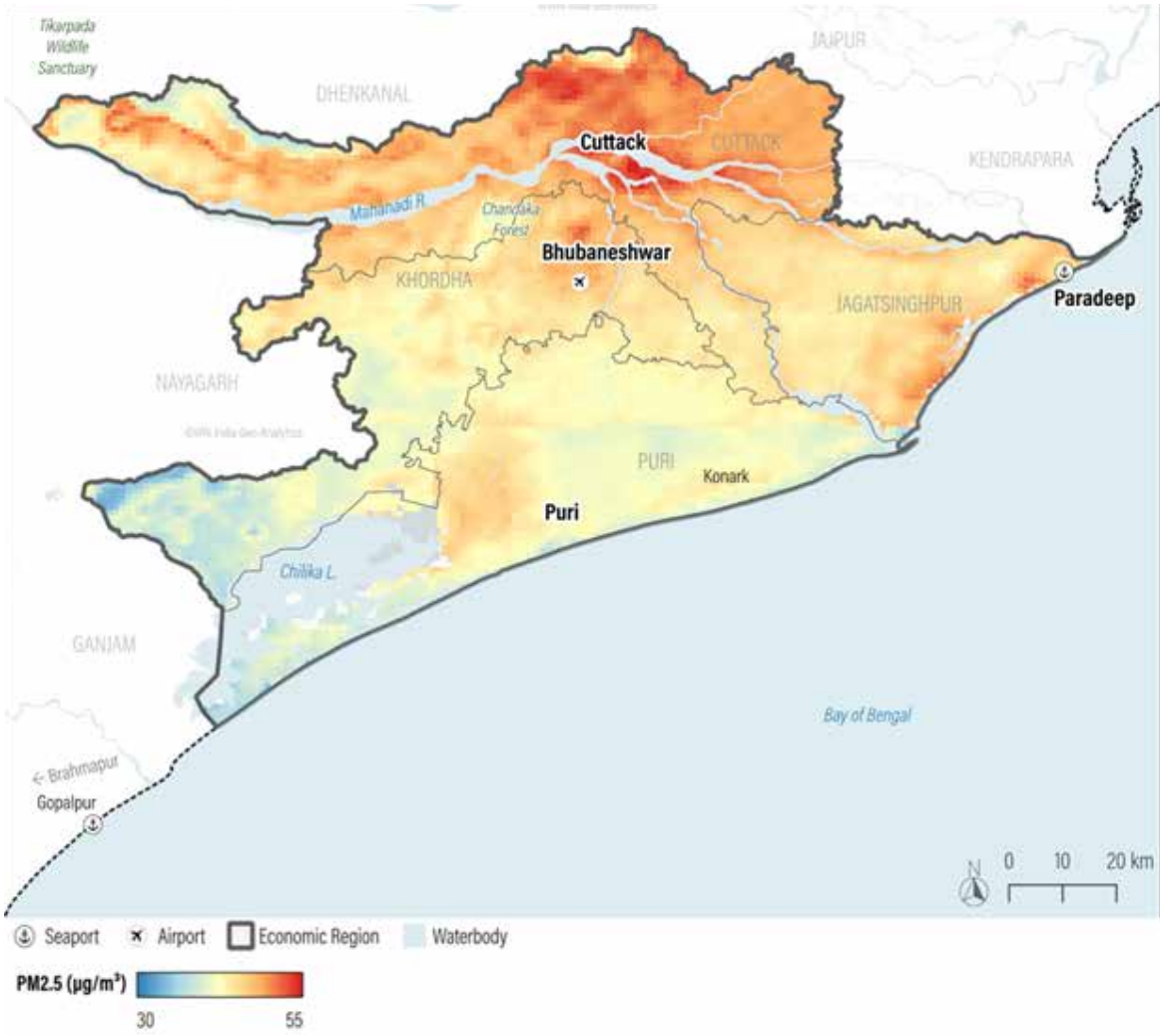


Figure 17.7: PM 2.5 concentration map, WRI analysis

Eco-sensitive Areas

BCPPER constitutes one of India's most ecologically diverse and sensitive regions, where unregulated development poses a significant threat to natural systems. The EP, therefore, proposes that built-up activity in these zones is restricted to safeguard biodiversity and maintain ecological balance. From the nesting grounds of endangered sea turtles to the Mahanadi floodplains and the vast expanse of Chilika Lake, the area hosts ecosystems critical to Odisha's biodiversity, climate resilience, and long-term sustainability, as indicated in Figure 17.8 and given below.

- **Khordha:** Chandaka-Dampara Wildlife Sanctuary, Nandankanan Zoological Park
- **Cuttack:** Mahanadi River floodplains & wetlands, Ansupa Lake
- **Jagatsinghpur:** Jatadhari River estuary & mangroves, coastal mangrove patches near Paradip, turtle nesting beaches, wetlands.
- **Puri:** Chilika Lake, Balukhand-Konark Wildlife Sanctuary, turtle nesting beaches (Ramchandi, Astaranga coast), coastal dunes.

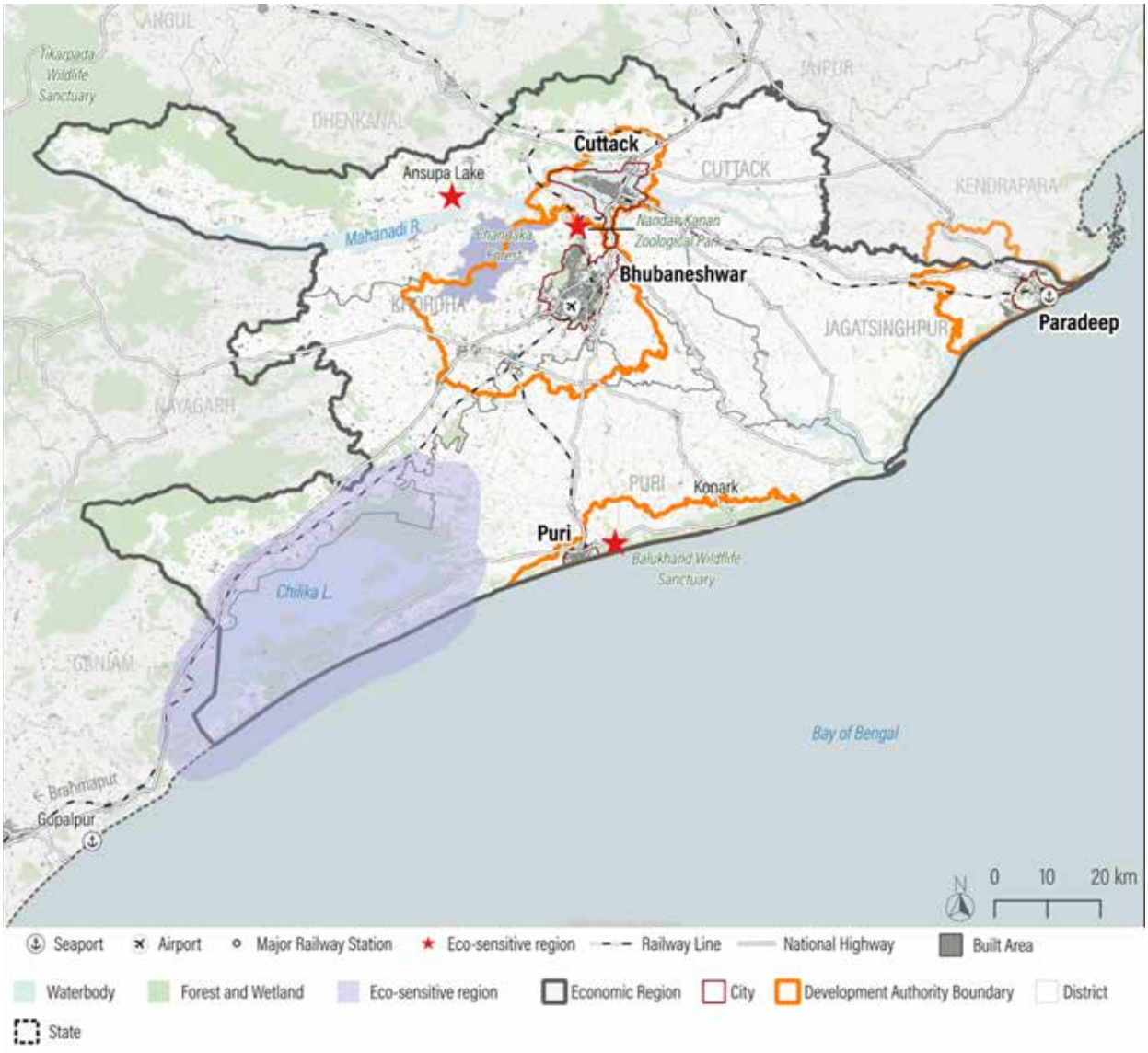


Figure 17.8: Ecological sensitive zones

17.3 Proposed Interventions for the Region

To address various climate vulnerabilities and ecological safeguarding, the EP recommends the following proposals.

(i) Climate Resilience and Disaster Preparedness

- **Embed resilient infrastructure standards** in all new urban and industrial projects. Given that Odisha has faced over 100 cyclones since 1891, designs must integrate cyclone wind speeds, storm surge heights, and multi-hazard risks. Adoption of resilient building codes can reduce disaster losses by up to 40%, as per NDMA estimates.
- **Expand early warning dissemination systems** to achieve 100% last-mile coverage. While 1,200 villages already receive alerts, coverage should be universal, with mobile-based alerts, multilingual content, and community radio. Global evidence shows early warning reduces mortality by over 80% in cyclone-prone regions.

- **Strengthen natural buffers** such as mangroves, wetlands, and dunes. Coastal mangroves in Odisha reduce storm surge impacts by up to 60%, yet degradation has left areas like Jagatsinghpur highly exposed. Restoration through MGNREGS and CSR can enhance both resilience and local livelihoods.

(ii) Water Security and Resource Management

- **Adopt integrated water resource management** to address uneven availability. While rainfall accounts for 66.9% of groundwater recharge, 20 of 30 districts face seasonal or perennial stress. District-level water balance studies should guide regulation of withdrawals and allocation.
- **Promote wastewater reuse and recycling**, drawing from Gujarat's urban-to-industry circularity model. Industries in Paradeep and Khordha could use treated sewage from Bhubaneswar and Cuttack, reducing dependence on freshwater. Gujarat's model has cut industrial freshwater demand by 30–40%.
- **Establish salinity mitigation programs** in Jagatsinghpur and Puri, where all blocks are salinity-affected, and plausible solutions like recharge wells, rainwater harvesting, and controlled abstraction need to be considered. Salinity-free zones would directly benefit agriculture, which supports over 50% of rural livelihoods.
- **Implement decentralised flood management** by restoring urban tanks, ponds, and water retention basins. With extreme rainfall days doubling from 42 (1991–2000) to 74 (2001–2013), such measures are critical to mitigate waterlogging and urban flooding.

(iii) Clean Air and Urban Environment

- **Operationalise NCAP action plans** in Bhubaneswar and Cuttack with measurable PM2.5 reduction targets. Current average AQI levels (100–120) exceed CPCB limits (40 Qg/m3 annual for PM2.5). Clear targets, below 80 by 2029 and below 20 by 2047, should guide interventions.
- **Expand green urban infrastructure** by mandating roadside plantations, rooftop gardens, and dedicated green belts. Evidence from Indian cities shows urban greening can lower PM2.5 levels by up to 10% and reduce nighttime land surface temperatures by 1–1.5°C.
- **Adopt clean construction guidelines** across all ULBs, building on Odisha's 2025 RMC plant guidelines. Dust suppression and regulated siting will reduce construction-related pollution, a key source in Bhubaneswar and Cuttack.
- **Strengthen public health surveillance** by linking air quality monitoring with Acute Respiratory Illness (ARI) data under the State Action Plan on Climate Change and Human Health (2022–2027). This will help quantify health costs, which currently represent 1–2% of GDP nationally.

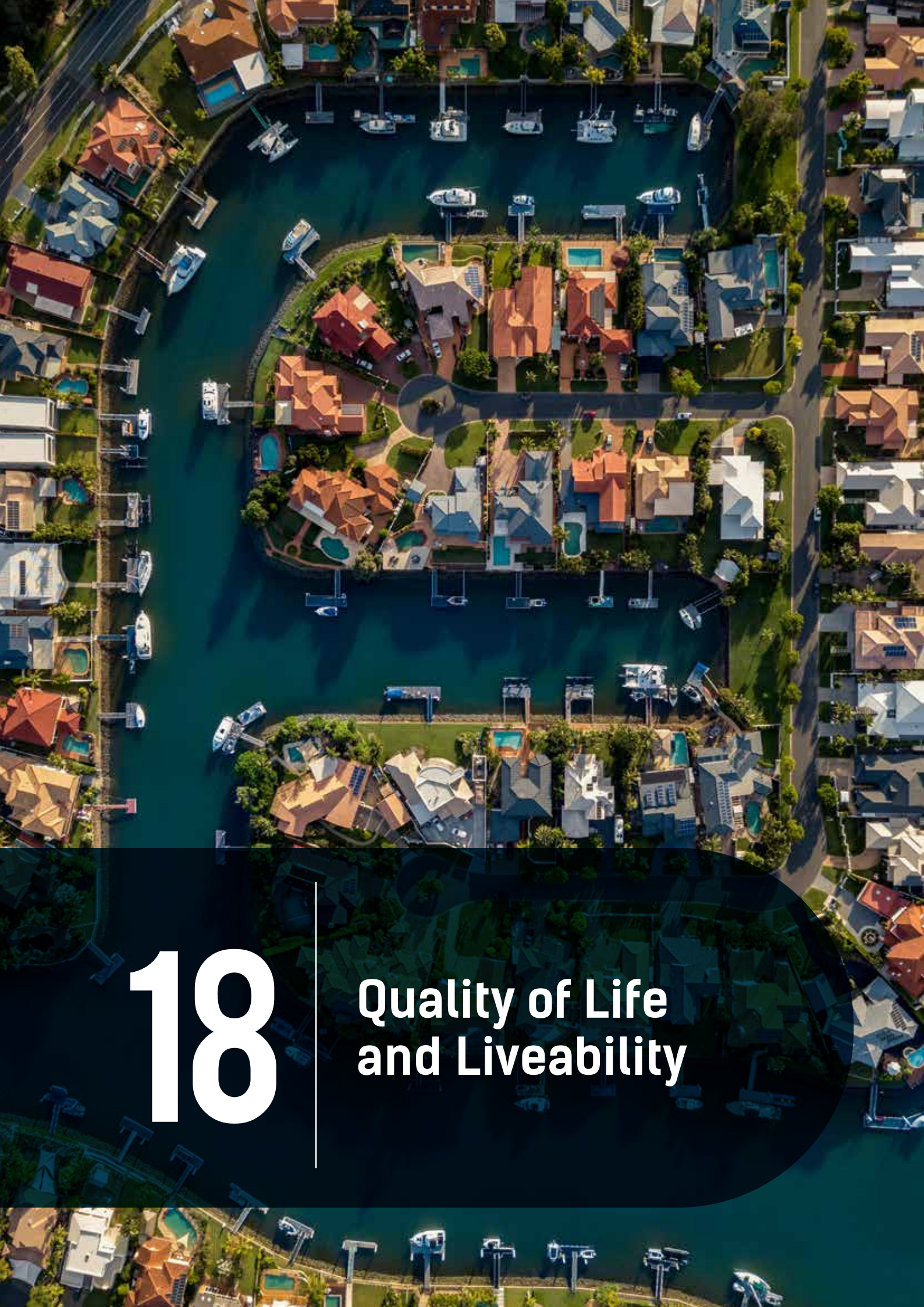
(iii) Biodiversity and Eco-sensitive Zone Protection

- **Declare no-build and restricted development** zones in areas such as Chilika Lake, Mahanadi floodplains, and turtle nesting beaches. Limiting built-up in these zones preserves ecosystems that; provide flood control, fisheries, and tourism revenues worth an estimated ₹1,500 crore annually.
- **Promote integrated land-use planning** to secure wildlife corridors and reduce human-animal conflict. With 10 elephant corridors identified for restoration, coordinated land-use controls are essential to balance urban growth with conservation.
- **Leverage eco-tourism and cultural tourism models** in Chilika, Konark, and mangrove areas. Globally, eco-tourism generates 20–30% higher per capita local income compared to mass tourism, offering Odisha a sustainable growth pathway.
- **Mandate ecological offset policies** requiring industries near sensitive zones (e.g., Paradeep petrochemical belt) to finance mangrove restoration and wetland protection. Offsets ensure industries internalise ecological costs, aligning with NGT principles.

(iv) Heat Stress and Public Health Adaptation

- **Develop a regional Heat Action Plan** covering Khordha, Cuttack, Puri, and Jagatsinghpur. With heatwave days rising from 5 in 2021 to 37 in 2024, early warning systems, designated cooling centres, and workplace advisories are essential.
- **Mandate heat-resilient building codes** that incorporate reflective roofs, passive cooling, and ventilation. Retrofitting programs could lower indoor heat stress by 2–3°C, reducing heat-related illness cases.
- **Expand blue-green infrastructure** by creating shaded corridors, restoring water bodies, and developing urban forests. Studies show such infrastructure can reduce local land surface temperature by 1–2°C, mitigating the urban heat island effect.
- **Invest in community health awareness programs**, especially for children, the elderly, and outdoor workers. Odisha could adopt Ahmedabad's Heat Action Plan model, which reduced heatwave mortality by 30% in its first decade.

For mitigation and adaptation measures based on this please refer Annexure II.



18 Quality of Life and Liveability

18.1 Snapshot

"**Quality of Life and Liveability**" is one of the three core pillars of the **G-Hub Framework**, focusing on translating economic growth into measurable and equitable improvements in citizens' well-being. This pillar emphasises the creation of inclusive, resilient, and sustainable urban environments that enhance accessibility, health, safety, and social cohesion. The recommendations of the Economic Plan for BCPPER are built upon the strategic priorities outlined in **Odisha Vision 2047**, which envisions the state as *"a land of opportunity and prosperity, leveraging its natural assets and cultural heritage to ensure that every citizen can lead a better, healthier, and happier life".*

BCPPER, home to nearly **17% of Odisha's population** and contributing approximately **19% of the State's GDP**, serves as the principal anchor of Odisha's urban and economic landscape. The region demonstrates significant potential for enhancing liveability and economic competitiveness, while also facing distinct developmental challenges.

- **Opportunities:** The region benefits from strong institutional capacities, a growing services sector, and progressive initiatives in housing, healthcare, education, and sustainable infrastructure. The integration of smart systems and regional transport networks is further strengthening accessibility, connectivity, and service delivery across the region.
- **Challenges:** Rapid urbanisation has led to rising congestion in Bhubaneswar and Cuttack, limited access to basic urban services in peri-urban areas, low public transport modal share (around 8%), and a persistent shortage of affordable housing. Additionally, the region's coastal location heightens its vulnerability to cyclones and flooding, underscoring the need for enhanced climate resilience and disaster preparedness.

These dynamics highlight the need to move from sectoral interventions to a convergent, citizen-centric framework that improves both access and quality of urban life.

18.2 Approach: Integrating Liveability with Growth Drivers

The liveability agenda in BCPPER is not a standalone sectoral target but an **integrated outcome of coordinated action across sectors**. This chapter aligns with the sectoral recommendations of the growth drivers while proposing new and complementary interventions to enhance urban experience, safety, inclusivity, and sustainability.

- **Housing and Real Estate:** Expanding the supply of affordable and serviced housing, supported by industrial township models and land value capture mechanisms, will promote inclusive and well-planned urbanisation.
- **Transport and Mobility:** Establishing a seamless regional mobility network integrating road, rail, and public transport systems will decongest urban cores and strengthen connectivity between major cities and emerging economic nodes.

- **Health and Education:** Developing sector-focused education corridors, skilling hubs, and Edu-SEZs will expand social infrastructure and reinforce the region's human capital base.
- **Environment and Resilience:** Implementing coastal protection measures, blue-green infrastructure, and renewable energy initiatives will enhance the region's sustainability, resilience, and environmental security.
- **Governance and Service Delivery:** Advancing institutional reforms through the Economic Region Development Authority (ERDA) and expanding Integrated Command and Control Centres (ICCCs) will strengthen data-driven governance and responsive service delivery across the region.

18.3 Proposed Interventions for Liveability

Projects
1. Climate Action and Urban Greening
• **Low Emission and Clean Air Zones (LEZs):** Designate LEZs in high-density areas to curb emissions and improve air quality. • **Urban Green Corridors:** Develop interconnected blue-green networks along rivers, canals, and open spaces to manage flood risks and enhance recreation. • **Nature-Based Solutions (NbS):** Integrate NbS for stormwater management, coastal resilience, and heat mitigation in urban planning.
2. Public Spaces and Connectivity
• **Complete Streets Policy:** Adopt design standards for pedestrian-friendly, inclusive, and universally accessible streets with integrated utilities. • **Urban Infrastructure on Tender SURE Model:** Implement coordinated road and utility development standards to improve safety and maintenance. • **Placemaking and Cultural Landscape Projects:** Revitalise temple precincts, waterfronts, and heritage corridors to strengthen local identity and community life.
3. Housing and Sustainable Development
• **Green Building Practices:** Promote energy-efficient designs, local materials, and water-sensitive construction

4. Governance and Monitoring

- **Regional Liveability Index:** Establish measurable indicators across air quality, accessibility, housing, open space, and safety.
- **Integrated Urban Observatory:** Expand ICCC networks into a regional platform for environmental, mobility, and utility data integration.

Collectively, these measures will position BCPPER as a model for integrated regional development where economic growth and liveability are mutually reinforcing. By strengthening sectoral investments and improving the built environment, environmental quality, and overall well-being, BCPPER will drive Odisha's urban transformation and emerge as a preferred destination for skilled talent, innovative enterprises, and sustainable long-term investment.

19 Conclusion:

A Blueprint for Regional Transformation

19.1 Conclusion

Hon'ble Prime Minister, while addressing the celebrations of 20 years of Gujarat's urban growth story, had observed that "Urban areas are our growth centres, we will have to make urban bodies growth centres of economy. " Urban regions have historically been at the forefront of development, driving progress, innovation, and prosperity. And their critical role in shaping national growth will only intensify in the coming decades.

To harness the full potential of India's urban economy, it is essential to develop long-term strategic plans that are anchored in economic growth, with locally grounded solutions, and an inclusive, holistic approach. The Economic Plan for BCPPER is one such example, a forward-looking roadmap for a city-region that not only considers the aggregated impact of the regional economy but also brings the economic growth model to the centre of urban planning.

Aligned with the national and state visions of Viksit Bharat@2047 and Viksit Odisha@2047, the Economic Plan seeks to position the region as a key growth hub of Eastern India through a structured framework comprising 89 sectoral projects and 37 policy prescriptions with 4 dedicated economic zones. The plan focuses on institutional reforms, regulatory facilitation, infrastructure development, and sectoral strategies to ensure sustainable and inclusive economic growth.

This Economic Plan is not a static blueprint but a dynamic and adaptable framework, designed to respond to evolving challenges, opportunities, and aspirations. By striking a balance between ambition and practicality, and between localisation and scalability, the Economic Plan for BCPPER provides a strategic long-term framework that lays the foundation for sustained, inclusive, and future-ready regional growth.

The projects are indicative in nature; while some are at various stages of development, several new ones have been proposed. It will be necessary to undertake feasibility studies and prioritise them based on demand and complementarity.

Project Team

Managing Urbanization Division- NITI Aayog

Team Lead

- Ms. Anna Roy, Principal Economic Adviser & Programme Director

Team Members

- Ms. Urmila, Director
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- Mr. Deepak Rana, Young Professional
- Ms. Swati Pradhan, Consultant
- Mr. Sandeep Gangala, Consultant

Annexure

Annexure-I

Table 20.1: Anchor Institutions for Knowledge Corridors

Corridor	Potential Institutions	Potential Industry/Clusters
IT Corridor (Bhubaneswar-Cuttack)	IIT Bhubaneswar, IIIT Bhubaneswar, OUTR, NISER, XIM University	GCCs (Infosys, TCS, Wipro, Deloitte), IT parks in Bhubaneswar & Cuttack
Maritime & Manufacturing Corridor (Paradip & Khordha)	IIT Bhubaneswar (ocean engineering), CIPET Bhubaneswar, Engineering colleges in Khordha/Cuttack	Paradip Port industries, PCPIR (Paradip), Khordha industrial clusters, MSMEs
Medical & Biotech District (Cuttack-Bhubaneswar)	AIIMS Bhubaneswar, SCB Medical College, IMS & SUM, SOA University	Biotech startups, healthcare service industry, pharma hubs
Agriculture & Marine Corridor (Puri & Jagatsinghpur)	OUAT, ICAR-CIFA (Central Institute of Freshwater Aquaculture)	Agri-tech firms, food processing industries, and marine biology research linked to Chilika & coastal Puri
Heritage & Culture Corridor (Puri)	Shri Jagannath Sanskrit University, Odia University, Utkal University (heritage studies)	Tourism operators, cultural institutions, heritage management firms

Annexure-II

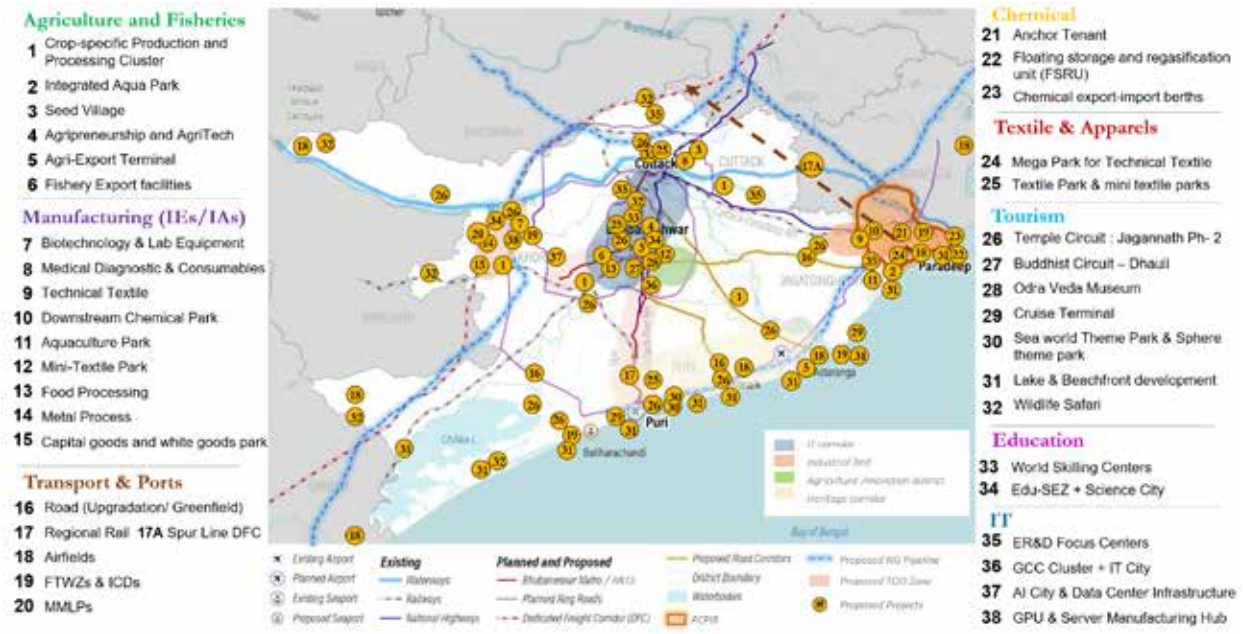

Figure 20.1: List of projects in BCPPER located on the map

Mitigation and Adaptation Measures

The Economic Plan is built on a three-pillar framework focusing on balanced growth, improved quality of life and inclusivity, and long-term sustainability. Under the sustainability pillar, a detailed assessment of environmental risks and disaster resilience was conducted, with key findings summarised in **Section 17**. Based on analyses of climate vulnerabilities, resource depletion, and ecologically sensitive zones within the BCPPER, project-specific mitigation strategies have been developed. These strategies are to be integrated into project design and implementation as core elements of sustainable development.

S. No.	Projects Covered (Figure 20.1)	Key Environmental Risks / Focus Areas	High-Level Mitigation Strategies
i	**All Tourism Projects (Sr. No. 26–32)**	Eco-sensitive zones, biodiversity, waste management	• Maintain **10 km buffer** around ESZs/protected areas. • Avoid fragmentation of **natural corridors**. • Promote **afforestation** and **soil restoration** using indigenous species. • Ensure **community participation** in eco-tourism and conservation. • Protect **mangroves** and **shoreline ecosystems**. • Enforce **OSPCB norms** for solid and municipal waste, especially near **Chilika Lake**.

ii	**Transport and Ports Projects (Sr. No. 18–20)**	Marine ecology, pollution, regulatory compliance	• Obtain **MoEFCC/SEIAA clearances** with clean fuel and low-emission design. • Ensure **CPCB-compliant** water and waste management. • **Zero waste dumping** into natural water bodies. • Conduct **marine ecology, CRZ, and EIA** impact studies with **state-level review**.
iii	**Paradip PCPIR Projects (Sr. No. 10–16, 21–25)**	Cyclones, floods, and disaster resilience	• **Early warning systems** per NIDM, with GIS tracking. • **Drone-based surveillance** and 3D/4D data assimilation. • Enforce **structural codes** (IS:875-1987, IS:456-2000, IS:800-1984). • Support **community-based adaptation** and **cyclone-resistant housing**.
iv	**Dedicated Industrial Belt (Sr. No. 1, 14, 15, 26, 32, 34, 38)**	Groundwater depletion, heat stress	**Groundwater Risk Management:** • Implement **Zero Liquid Discharge (ZLD)**. • Install **rainwater harvesting** systems. • Reuse **treated wastewater** for non-potable applications. **Heat Stress Mitigation:** • Use **dry/hybrid cooling** systems. • Develop **green cover** and shaded areas. • Add **vertical gardens** and **rooftop greenery**. • Use **reflective, permeable pavements**. • Provide **energy efficiency incentives** for industries.

v	**All Coastal Projects beyond PCPIR (Sr. No. 1, 5, 16, 17, 19, 20, 26, 29, 30, 31)**	Flooding, cyclones, storm surges, heat stress	• Build above **surge levels** with resilient design standards. • Maintain **mangroves, dunes, and wetlands** as buffers. • Use **blue–green drainage systems** for stormwater. • Strengthen **early warning, evacuation, and continuity systems**. • Enhance **heat and water security** through passive cooling and **reservoir rejuvenation**.
vi	**Projects within Core City Limits**	Air pollution, indoor air quality, energy use	• Develop **green and clean infrastructure** (urban forests, vertical gardens). • Adopt **renewable energy** and **EV-based transport**. • Install **advanced air filtration** in all buildings. • Implement **continuous air quality monitoring** and **public disclosure**.

Annexure-III

Comparative Analysis of State Data Centre Policies in India (Deloitte Analysis)

State	Policy Year	Incentives Offered	Capacity Targets	Power/Infra Provision	Remarks
Maharashtra	2023	Capex subsidy, dual-grid power, stamp duty exemption	700 MW	Strong renewable linkage	Benchmark model
Tamil Nadu	2021	Land subsidy, power tariff benefit	200 MW	Designated DC parks	Mature policy
Gujarat	2022	Capital support, 100% stamp duty exemption	4 MW	Cluster-based	Early stage
Odisha	2022	Limited incentives via IT Policy, lacks a standalone framework	NA	General infra support	Needs update

Annexure-IV

Type	District	Name of City/Town
Municipal Corporation (2)	Cuttack	Cuttack
	Khordha	Bhubaneswar
Municipality (6)	Cuttack	Choudwar
	Jagatsinghapur	Jagatsinghapur
	Jagatsinghapur	Paradip
	Khordha	Jatani
	Khordha	Khordha
	Puri	Puri
Notified Area Council (NAC*) (7)	Cuttack	Athagad
	Cuttack	Banki
	Khordha	Balugaon
	Khordha	Banapur
	Puri	Konark
	Puri	Nimapada
	Puri	Pipili

Sector	No. of projects		
	MC/ M	NAC	Total
Agriculture	3	0	3
Education & Skilling	9	0	9
Fishery	1	0	1
Integrated Transport	2	0	2
IT & Innovation	4	1	5
Manufacturing	3	0	3
Ports	3	4	7
Real Estate	1	0	1
Textile, Handloom and Handicraft	6	0	6
Tourism	9	9	18
Total	**41**	**14**	**55**

** A Notified Area Council (NAC) in Odisha is an urban local body created in towns that are developing urban characteristics but are not yet large enough to be declared municipalities. NACs serve as transitional urban administrative units and are empowered to provide civic amenities and oversee development in fast-growing towns.*

Annexure-V

Details of Existing Projects - BCPPER

Project Name	Location	Brief Overview	Timeline	Developed by	Implementing Organization	Status of Operation
Mahanadi Riverfront Project	Cuttack	Sabarmati-model riverfront development in Cuttack, featuring eco-tourism zones, water sports, cultural festivals, and flood-resilient infrastructure	2025-2026 (Phase I)	State	Housing & Urban Development Dept., Odisha	In Progress
Development of Puri Konark Marine Drive Beachfront Chandrabagha, Puri	Puri	Beachfront structures, gym, landscaping	2021-22	OTDC	OTDC	In Progress
PRASHAD: Chausath Yogini Temple	Hirapur, Bhubaneswar	Infrastructure development at the 9th-century Chausath Yogini Temple in Hirapur (Khordha), including pilgrim amenities and conservation efforts.	2024-2026	Centre (Ministry of Tourism)	State Tourism Dept. / Archaeological Survey of India (ASI)	In Progress
Redevelopment of Astasambhu Tourism Corridor and other tourist places of Niali Block	Cuttack	Redevelopment of temples, gates, complexes	2024-25	OTDC	OTDC	Yet to Start
Development of Integrated Craft Centre at Raghurajpur in Puri District	Puri	Craft centre, electrification, welcome gate	2024-25	OTDC	OTDC	Yet to Start
Repair-Maintenance/ Value addition work of Indigenous Rural Tourism Project at Pipili, Puri	Puri	Tourist amenity, crafts centre, landscaping	2023-24	OTDC	OTDC	Yet to Start

Project Name	Location	Brief Overview	Timeline	Developed by	Implementing Organization	Status of Operation
Construction of common facilities centre of excellence on Silver Filigree, Cuttack	Cuttack	Construction, façade lighting, external development	2024-25	OTDC	OTDC	Yet to Start
Development of Mangala River Side Beach, Puri	Puri	Toilets, café, yoga area, seating, landscaping	2024-25	OTDC	OTDC	Yet to Start
Redevelopment Work at Blue Flag Beach, Puri	Puri	Beach amenities, café, yoga deck, play area	2024-25	OTDC	OTDC	Yet to Start
Extension of Preservation/ Protection of Coastline and Beach near Lotus Resort/ Eco Retreat at Ramchandi, Konark (286 mtr)	Puri	Embankment extension (286 m)	2023-24	OTDC	OTDC	In Progress
Construction of Satakosia Eco Tourism in Cuttack District	Cuttack	6 Eco-cottages, Swimming Pools, Landscaping, etc.	2018-19	OTDC	OTDC	Yet to Start
Construction of Eco-Cottages at Baliput Satakosia in Cuttack District	Cuttack	Eco-cottages, landscaping, tree house, etc.	2022-23	OTDC	OTDC	In Progress

Project Name	Location	Brief Overview	Timeline	Developed by	Implementing Organization	Status of Operation
Infrastructure Development Barabati Fort at Cuttack	Cuttack	Welcome gate, parking, bridge, landscaping	2022-23	OTDC	OTDC	Yet to Start
Development of Visitor Centre Complex at Udayagiri & Khandagiri, Prohibited Zone (Part-1)	Khordha	Visitor centre, plazas, promenade	2021-22	OTDC	OTDC	Yet to Start
PRASHAD: Infrastructure Development at Puri	Puri	Holistic development of Puri's spiritual and tourism infrastructure, including Shree Jagannath Dham, beachfronts, pilgrimage routes, and waste management systems.	2015-Ongoing	Centre (Ministry of Tourism)	State Tourism Dept. / India Tourism Development Corporation (ITDC)	In Progress
Integrated Development of Ekamra Kshetra	Bhubaneswar	Development of temple areas, plazas, and markets	2018-19	PWD	PWD	In Progress
Development of Maa Mangala Temple at Kakatpur in Puri District	Puri	Civil works, electrification, welcome gate	2024-25	OTDC	OTDC	Yet to Start
Masterplan for Destination Development of Bakulabana, Satyabadi District-Puri (Phase -1)	Puri	Beautification, plaza, pond, landscaping	2022-23	OTDC	OTDC	In Progress

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