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Embarking on Viksit Bharat

A Compendium of Policy Briefs and Solution Papers

EMBARK INDIA DEVELOPMENT FELLOWSHIP

2025-26

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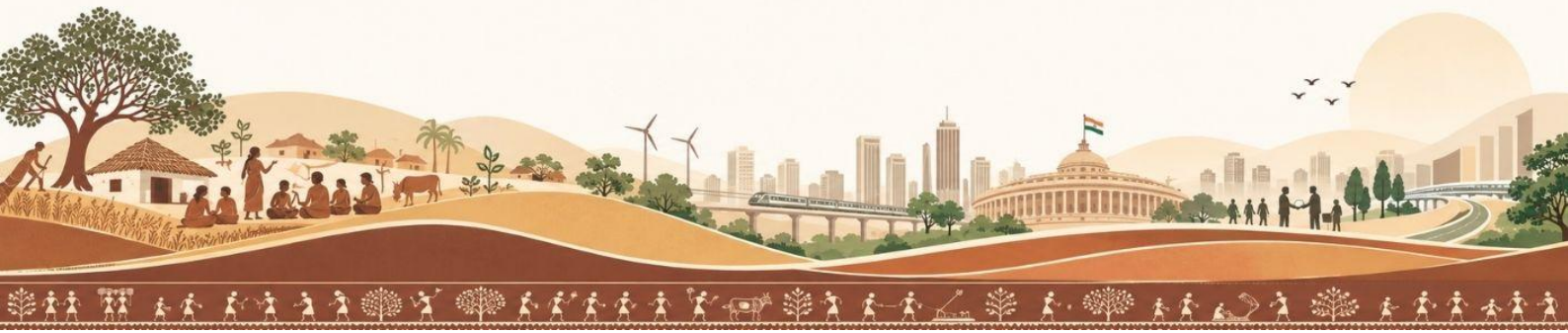

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The views, empirical findings, solution and policy analyses expressed in this compendium are those of the fellows of the EIDF 2025-26. They do not necessarily reflect the official views or policies of the Government of India and / or its subsidiary instituions or other administrative bodies. While fellows have done every effort to ensure the accuracy and approriateness of data, information and interpretation and editors have taken due care to review them, the editors and publishers accept no responsibility for errors or omissions.

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About the Compendium

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Embarking on Viksit Bharat: A Compendium of Policy Briefs and Solution Papers - Embark India Development Fellowship, 2025-26 brings together the inaugural body of work produced under the Embark India Development Fellowship (EIDF), a national initiative of GRAAM anchored in the vision of Viksit Bharat@2047. Over a defined period of six months, twenty fellows were embedded within key Ministries, Departments, and public institutions of the Government of India, working alongside senior officials on pressing questions of governance, policy, and development.

This volume presents their collective output- policy briefs and solution papers spanning environmental sustainability, urban development, public health, disability inclusion, and rural governance, among other domains. Each contribution reflects a fellow's engagement with a real institutional mandate, grounded in field research, data, and sustained dialogue with their respective host department.

Beyond individual findings, the compendium captures a broader argument: that young professionals, given structured access and mentorship, can meaningfully contribute to the machinery of public policy. It is offered as both a record of Cohort I's work and an invitation- to institutions, practitioners, and future fellows- to continue building the evidence-based, youth-driven governance ecosystem that Viksit Bharat@2047 demands.

> **Young professionals, given structured access and mentorship, can meaningfully contribute to the machinery of public policy.**

FOREWORD

Professor Sachin Chaturvedi
Vice Chancellor, Nalanda University

Good policy is rarely made from a distance. It is made by people who have sat with the constraints, spoken with administrators, and understood why a well-intentioned idea so often stalls between design and delivery. This compendium makes the case for that proximity, and shows what it can produce when young professionals are given real access to the systems they seek to improve.

The Embark India Development Fellowship (EIDF), a flagship initiative of GRAAM, took a simple idea and executed it with discipline. It did not ask young professionals to study government from the outside. It placed them inside Ministries, Departments and public institutions, and asked them to work on the questions those institutions actually face. Twenty fellows worked for six months each, on real mandates rather than simulations.

The result is neither purely academic research nor purely bureaucratic reporting. These policy briefs and solution papers combine the rigour of research with the grounding of those who have met implementation realities first-hand. The subjects range widely, from monitoring frameworks to CSR fund allocation, and from mental health integration to urban climate resilience. What they share is that their authors had to reckon with implementation, not only with theory.

I do not think it is an overstatement to say that fellowships like this one are quietly building something India needs- a generation of professionals fluent in both the language of policy and the reality of public systems. This compendium is an early, tangible marker of that work. I recommend it to policymakers, researchers, and anyone curious about what young, well- trained talent can offer Indian governance when given genuine access rather than token consultation.

MESSAGE

Smt Rohini Bhajibhakare, JS, MORD
IAS

The Embark India Development Fellowship (EIDF) represents a valuable bridge between young professionals and the institutions entrusted with shaping India's development journey. By bringing fresh perspectives, research, and youthful commitment into the government, the Fellowship creates opportunities for meaningful learning as well as substantive contributions to public policy.

It has been a pleasure to work with Ms.Shagun Khatiyar during her engagement with the Rural Employment Division of the Ministry of Rural Development. Throughout her fellowship, she has distinguished herself through her diligence, sincerity, intellectual curiosity, and unwavering commitment to her responsibilities. She has approached her assignments with a commendable willingness to learn, a thoughtful analytical outlook, and a genuine desire to understand how policy translates into practice. Her work on rural development, scheme convergence, and monitoring and evaluation reflects her dedication to producing research and insights that can inform institutional thinking and strengthen program implementation.

What makes such engagements particularly valuable is the opportunity to see young professionals move beyond academic understanding and develop a deeper appreciation of the complexities, responsibilities, and possibilities of public service.

I commend GRAAM for facilitating this initiative and for the committed professionals who can contribute meaningfully to India's development aspirations.

MESSAGE

Judith Weinberger-Singh
Resident Representative, Hanns Seidel Foundation India

It gives me great pleasure to congratulate the Fellows of the inaugural cohort of the Embark India Development Fellowship on completing this journey.

Our partnership with GRAAM began in Mysuru. There, since 2022, the Youth for Governance Fellowship has shown what young people can contribute when they are trusted with real questions of local governance. The Embark India Development Fellowship carries that conviction to the national level.

The vision of Viksit Bharat by 2047 calls on every citizen to contribute, and young people most of all. This Fellowship gave 20 talented young professionals from 15 states, the chance to answer that call from within government. Each brought their own expertise to ten Union Ministries and national institutions. This Compendium demonstrates what young professionals can offer when they are given the space to engage with government from within. It also shows the value government can gain from the energy and fresh perspectives of aspiring young leaders. The host departments' openness to this model is itself a significant Achievement.

At the Hanns Seidel Foundation India, we believe democracies are strengthened when young people take an active part in how they are governed. This cohort has done exactly that.

I thank the host institutions and mentors for their trust, and GRAAM for its dedication. I hope each Fellow carries this experience forward and remains a lifelong advocate for good governance and inclusive development, wherever their career takes them.

MESSAGE

Kiran DM
CEO, SewaBridge Consulting

My association with the Embark India Development Fellowship (EIDF) has been a truly enriching experience. I have always believed that our youth must have opportunities to experience government systems closely and understand how policies are conceived, designed and implemented at scale. Such exposure enables them to appreciate both the transformative potential of public policy and the complexities of translating policy intent into outcomes on the ground.

What makes EIDF particularly valuable is its ability to connect institutional understanding with grassroots realities. This grounding nurtures the sensitivity, perspective and vision needed to contribute meaningfully to public policy and nation-building in Bharat.

I also believe the Government should actively encourage such initiatives. Bringing young professionals into public systems introduces fresh perspectives, constructive third-party insights and a healthy questioning of established approaches. In my interactions with the fellows, I have witnessed tremendous curiosity, ambition and, most importantly, a genuine desire to create impact.

EIDF represents a meaningful bridge between youthful energy, public institutions and grassroots Bharat. I strongly endorse its continued growth and expansion as an investment in our youth and in nurturing a generation committed to sewa, responsible governance and nation-building.

MESSAGE

Dr.Aarushi Jain
Vice Chancellor, Nalanda University

As an Advisory Member of the Embark India Development Fellowship, I have had the opportunity to engage with the programme and review the work of the fellows through their presentations and interactions over the course of the Fellowship.
What has been particularly encouraging is the nature of assignments being undertaken by the fellows within ministries and public institutions. The work has included substantial data analysis, policy research, institutional assessments and the development of practical solutions to specific governance challenges. In several of the presentations I attended, the fellows demonstrated a strong ability to work with complex datasets, examine implementation issues closely, and connect research findings with the operational requirements of government.

It has also been useful to hear senior officers speak positively about the contribution of the fellows within their respective ministries and departments. Such feedback indicates that the Fellowship is creating space for young professionals to undertake work that is both analytically rigorous and relevant to ongoing government priorities.
From an advisory perspective, I see considerable value in this model. It provides young professionals with exposure to the functioning of public systems while also bringing research capacity, data skills and new approaches into government institutions.

The policy briefs and solution papers presented in this Compendium provide a useful reflection of that engagement. I congratulate GRAAM and the inaugural cohort and hope the Fellowship continues to strengthen this interface between young professionals, research and public administration.

PREFACE

Dr. Basavaraju R. Shreshta

Executive Director, Grassroots Research and Advocacy Movement (GRAAM)

As India marches decisively toward its centenary of independence in 2047, the national aspiration of building a Viksit Bharat (Developed India) demands more than high-level policy design; it requires actionable evidence, operational efficiency, and a seamless convergence between macro-level strategies and grassroots realities. The Embark India Development Fellowship (EIDF), 2025–26, was conceived precisely at this intersection, to engage bright, dedicated young professionals as catalysts within the administrative machinery of the Government of India, turning evidence-based research into implementable solutions.

It gives me immense pride to present **"Embarking on Viksit Bharat: A Compendium of Policy Briefs and Solution Papers — Embark India Development Fellowship, 2025–26."** This volume represents the culmination of intensive field immersion, rigorous empirical diagnostics, and deep stakeholder engagement by our Fellows across diverse ministries, central departments, and key autonomous institutions.

The Vision and Overarching Theme

The core theme of this compendium centers on "Evidence-Based Policy and Inclusive Governance." Grounded in the conviction that effective governance must be citizen-centric, data-driven, and context-sensitive, these papers cover a rich spectrum of national priorities—spanning digital public infrastructure, urban planning, inclusive development, mobility, youth empowerment, environmental sustainability, and last-mile service delivery in health and other public policy issues.

Rather than approaching policy from a purely theoretical lens, our Fellows were embedded directly within host government departments. Working side-by-side with senior civil servants, frontline administrators, and domain experts, they conducted first-hand gap analyses, evaluated program bottlenecks, and synthesized field observations into concrete policy briefs and solution papers.

PREFACE

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Editorial Integrity and Multi-Tier Quality Assurance

To ensure the highest standards of academic rigor and operational viability, the compilation of this volume followed a meticulous, multi-tier review process:

1. **Departmental Vetting and Approval:** The underlying facts, data points, and field observations in each paper were gathered under the direct supervision of Host Department Mentors and technical advisors. Papers included in this volume have received formal clearance from the respective host government departments, ensuring that the contextual nuances and administrative constraints are accurately represented.
2. **Independent Expert Panel Review:** As an additional measure of quality control, GRAAM organized a dedicated Pre-Conclave Defense, where Fellows presented their findings before an independent panel of distinguished academics, seasoned policy practitioners, and sector specialists.
3. **Editors' Notes:** In cases where valuable recommendations from the Expert Panel could not be incorporated directly into the primary text—owing to the papers having already secured formal departmental approval—the editorial team has thoughtfully preserved these insights as Editors' Notes. This approach safeguards the institutional integrity of the department-approved text while providing readers with additional analytical depth and forward-looking perspectives.

PREFACE

Organization of the Compendium

This compendium is structured categorically and thematically to provide policymakers, researchers, and administrators with clear thematic pathways:

- Section I: Policy Briefs- Examines key policy gaps, institutional challenges, and opportunities for reform across disability inclusion, public expenditure and financing, environmental conservation, government data systems, research and innovation.
- Section II: Solution Papers- Presents actionable frameworks and implementation pathways across youth engagement, urban and rural planning, corporate social responsibility (CSR), traditional systems of healthcare, health financing, rural development, technology deployment, and electric mobility.

Each paper is structured to offer a clear problem diagnosis, empirical evidence, international or regional best practices, and a set of actionable, time-bound recommendations.

Dual Utility: Bridging Policy and Academia

At Grassroots Research and Advocacy Movement (GRAAM), our enduring commitment has always been to complement government capacity with evidence that makes policies more inclusive, people-focused, and impactful.

This compendium is designed to fulfill a dual purpose:

- For Academia and Policy Researchers: It serves as a rich, field-validated repository of contemporary governance case studies, mapping the operational realities of scheme implementation across India.
- For Government Departments and Administrators: It offers a pragmatic toolkit. Ministries and host departments can readily adapt, refine, or pilot the specific recommendations and frameworks outlined by the Fellows.

PREFACE

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We place this compendium before the nation with the earnest hope that it will stimulate meaningful dialogue, inform executive decision-making, and contribute constructively to India's journey toward Viksit Bharat @ 2047.

Dr. Basavaraju R Shreshta
EIDF Fellowship Director & Chief Editor
Executive Director - Grassroots Research and Advocacy Movement (GRAAM)
October 2026

EDITORIAL NOTE

The policy briefs and solution papers featured in "Embarking on Viksit Bharat: A Compendium of Policy Briefs and Solution Papers — Embark India Development Fellowship, 2025–26" represent the synthesis of rigorous field research, administrative engagement, and academic curation.

As the Editorial Team, our primary objective was to preserve the unique voice, empirical findings, and ground-level insights of each EIDF Fellow while ensuring uniformity in structure, analytical depth, and policy relevance. Each paper underwent a multi-stage editorial review process:

- Structural Standardization: Aligning diverse departmental outputs into a consistent Policy Brief / Solution Paper structure (Problem Framing, Empirical Context, Policy Options, Actionable Recommendations).
- Refinement & Editorial Precision: Harmonizing style, language, and executive readability across all sections.

Where valuable recommendations from the Pre-Conclave Independent Expert Panel could not be incorporated directly into the primary text—due to prior formal approval from the host departments—we have added them as Editors' Notes to provide readers with broader analytical context.

We hope this curated compendium serves as a valuable, actionable resource for policymakers, administrators, and researchers working toward the vision of Viksit Bharat @ 2047.

Editorial Board:

- **Dr. Basavaraju Shreshta, Executive Director, Grassroots Research and Advocacy Movement (GRAAM), Chief Editor**
- **Prof.(Dr.) Shobhit Mathur, Co Founder & Vice Chancellor, Rishihood University**
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Dr. Basavaraju R. Shreshta is the Executive Director of the Grassroots Research and Advocacy Movement (GRAAM), a public policy think-and-act tank committed to strengthening governance through evidence, community engagement and institutional collaboration. Associated with GRAAM since its formative years, he has played a key role in shaping its growth into a nationally recognised development institution working across multiple states in India. His work spans public policy, governance, grassroots development, youth engagement and institutional partnerships. He has consistently championed approaches that connect field realities with policy processes, with a strong emphasis on participatory development, implementation learning and strengthening public systems.

Prof.(Dr.) Shobhit Mathur

Co Founder & Vice Chancellor, Rishihood University

Prof. (Dr.) Shobhit Mathur works at the intersection of higher education, technology and social impact. With a mission to reinvent higher education and contribute to nation-building, he embodies the spirit of a disruptive academic social entrepreneur.

He holds a B.Tech from IIT Bombay (2004), an MS from the University of Washington (2006), an MBA from the Indian School of Business (2015), and a PhD from OP Jindal Global University (2024). His career spans Tech Innovation at Amazon.com, leading Youth For Seva, co-founding Vision India Foundation, and establishing Rishihood University where he currently serves as Vice Chancellor.

His research interests span Technology, Education, and Public Policy. He is a regular contributor to leading newspapers and a sought-after speaker at international platforms.

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Deputy Director – Research, Grassroots Research and Advocacy Movement (GRAAM)

Dr. Ananya Samajdar is the Deputy Director – Research at the Grassroots Research and Advocacy Movement (GRAAM) and a senior research and evaluation specialist with extensive experience in public policy and development research. She holds a PhD in Political Science from the National University of Singapore. Her expertise spans qualitative and mixed-methods research, monitoring and evaluation, impact assessment, analytical writing and knowledge documentation. She has contributed to assignments for government institutions, multilateral agencies, corporate partners and development organisations across areas including tribal livelihoods, health systems, workforce policy and skills development. At GRAAM, she contributes to strengthening evidence-based research, evaluation frameworks and policy-oriented knowledge products.

Mr. Yashowardhan Tiwari

Program Manager - Office of Vice Chancellor, Rishihood University

Yashowardhan Tiwari is a public policy and legal professional currently serving as Program Manager – Office of the Vice Chancellor at Rishihood University, where he contributes to institutional thought leadership in public policy and governance. A B.A. LL.B. (Hons.) graduate and LL.M. Silver Medalist from Jindal Global Law School, he previously served as a Research Fellow at India Foundation, contributing to constitutional and legal studies, policy research and national and international conferences. His work spans governance, public policy, legal research, institutional partnerships and leadership development. He has also played a key role in curating experiential governance programmes, including the Good Governance Yatra. An active columnist and researcher, he focuses on connecting academic scholarship, policy practice and institutional networks to advance meaningful social impact.

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EMBARK INDIA DEVELOPMENT FELLOWSHIP

The Embark India Development Fellowship is a flagship program designed to nurture young professionals as partners in India's development journey. This unique fellowship places young professionals at the heart of development policy and governance, where they work within key public institutions, departments, and agencies, assisting ongoing and new development initiatives, conducting evidence-based research, and co-creating innovative solutions.

Anchored in the vision of Viksit Bharat@2047, the program offers a robust capacity-building framework that covers development theories, public policy. The 18-month journey begins with a rigorous selection process and virtual bootcamps, followed by an intensive month-long residential bootcamp, after which fellows go through a defined six-month immersive placement within a host institution, continuing through ongoing mentorship and knowledge dissemination beyond the placement period. Through this strategic mentorship and immersive field placement, fellows gain the skills, exposure, and experience to drive impactful, research-driven solutions to real-world development policy challenges.

Under the Embark India Development Fellowship, 20 selected Fellows were placed within Ministries, Departments, and public institutions of the Government of India for a defined period of six months. During this engagement, each Fellow worked on a problem statement or research question identified by their host Department, closely aligned with its priorities, mandates, and operational requirements.

EMBARK INDIA DEVELOPMENT FELLOWSHIP

Cohort I of the Fellowship brought together this range of engagement across ten core development domains- environmental sustainability, urban mobility, urban development, rural governance, public health, education and skill development, economic growth, capacity building, and research- among other emerging areas, including disability inclusion, and youth empowerment, that reflect the full breadth of the cohort's placements. Each of the twenty Fellows produced blogs, media articles, and one substantive policy brief or solution paper, with key learnings synthesized; the strongest and most representative of these outputs form the chapters of this compendium. Alongside this core research output, Fellows built domain expertise and contributed, where appropriate, to public-facing knowledge products in collaboration with their mentors, demonstrating, in the process, how young professionals can be meaningfully embedded within government departments while respecting institutional processes and norms. Taken together, this inaugural cohort's work lays the foundation for a long-term community of practice that remains engaged with India's development priorities and policy ecosystem, a foundation this compendium seeks to document and carry forward.

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PART I

POLICY BRIEFS

Evidence. Insights. Pathways to Action.

Disability sector in India – current scenario gaps and way forward

From inclusion to empowerment, from potential to participation, from policy to impact

Gowri Prasad K
Embark India Development Fellowship (EIDF) 2026, GRAAM
August 2026

Executive Summary

India's development trajectory towards Viksit Bharat @2047 presents an opportunity to strengthen disability inclusion as an integral part of human development, social protection and economic participation, while subsequent estimates suggest a substantially larger population of the disabled. The Act, 2016, marked a significant step in strengthening India's disability policy framework by expanding the recognised categories of disability from seven to 21 and establishing a rights-based approach.

However, translating these legal provisions into consistent outcomes remains a challenge. This report examines India's disability ecosystem across three interrelated pillars: educational empowerment, economic inclusion, social protection, accessibility, and cross-cutting systems. The analysis highlights four major areas requiring policy attention.

First, fragmented service delivery and information systems constrain coordination and continuity of support. While systems such as RBSK, UDID, DEIC and UDISE+ perform distinct functions, limited interoperability can disrupt the journey from identification and assessment to educational support, rehabilitation and social protection. Second, inclusive education continues to face variations in institutional capacity, particularly in the availability of specialised personnel, accessible learning resources, assistive technology and appropriate support mechanism, continuing to differ from that of the broader population.

In response to these challenges, the report proposes a gradual shift towards a more integrated, capability-orientated and outcome-based disability ecosystem. It emphasises strengthening convergence among existing programmes and institutions rather than creating parallel structures. Disability inclusion must therefore remain an integral part of India's broader development agenda. Strengthening the existing ecosystem across education, economic participation, social protection, accessibility and institutional coordination can support more equitable participation and improve the consistency of service delivery.

1. Introduction and Background

India's disability policy architecture has undergone a significant conceptual shift over the past decade. The Rights of Persons with Disabilities (RPwD) Act, 2016, replaced the Persons with Disabilities Act, 1995, expanding legal recognition from 7 to 21 categories of disability. The latest act further moved the national discourse from a medical model centred on impairment and charity to a broad social and rights-based model centred on participation, dignity and inclusion. This is a necessary but insufficient shift in recognition on paper and has not yet translated into equitable access on the ground.

Globally and nationally, disability inclusion is increasingly framed not as a welfare obligation but as an economic, developmental and human-capital imperative. The World Bank estimates that globally exclusion of persons with disabilities from education, employment and social participation costs countries between 3 and 7 per cent of GDP[1] The UNDP and World Bank frame disability as a development issue and a human-capital issue respectively. With an estimated PwD population of more than 5 crore, India holds a large, diverse and largely untapped talent pool.

[1] World Bank, Disability Inclusion overview.

India's disability ecosystem today spans multiple ministries and schemes, including the Department of Empowerment of Persons with Disabilities (DEPwD), the Ministry of Education (Samagra Shiksha, UDISE+), the Ministry of Health and Family Welfare (Rashtriya Bal Swasthya Karyakram/RBSK), the Ministry of Skill Development and Entrepreneurship (PMKVY, NAP-SDP, NSDC), and state-level departments and commissions. Flagship instruments include the Unique Disability ID (UDID), the Assistive Devices Scheme (ADIP), reservation in public-sector employment (4–5 per cent), and accessibility mandates such as the Accessibility Code for Educational Institutions (2024). Despite this, the sector remains characterised by siloed data systems, an access-output gap, and low economic participation of PwDs relative to the general population.

This brief examines the disability sector in India across three interlinked pillars, namely, educational empowerment, economic inclusion, and social protection & accessibility, and proposes a phased, systems-level roadmap for reform. It draws on secondary data review (laws, policies, schemes, budget documents, government reports and databases), policy mapping and analysis, and strategic synthesis and is intended to inform policy dialogue.

1.1 Theoretical and Conceptual Framework

The analysis in this brief is anchored in five complementary theoretical traditions, each contributing a distinct analytical lens to the person with a disability placed at the centre of the framework with dignity, rights, agency, participation and equality as the organising values:

- **Social Model of Disability:** disability is produced by environmental and attitudinal barriers, not by impairment itself; policy's task is to remove barriers to ensure full and equal participation.
- **Capability Approach (Sen and Nussbaum):** development is evaluated not by resources alone but by the real freedoms, functioning and capabilities that resources enable, moving the policy question from "what is provided" to "what a person is actually able to do and be".
- **Human Capital Theory:** investment in education and skills raises productivity and earnings, linking inclusive education and skilling directly to economic growth.
- **Sustainable Livelihood Framework (SLF):** assets combined with opportunities generate livelihood strategies and outcomes, framing social protection as an enabler of livelihoods rather than a terminal transfer.
- **Systems and Convergence Governance Theory:** coherence, convergence and accountability across institutions, not isolated scheme performance, determine systemic outcomes; this is the lens through which Section 3's findings on data fragmentation should be read.

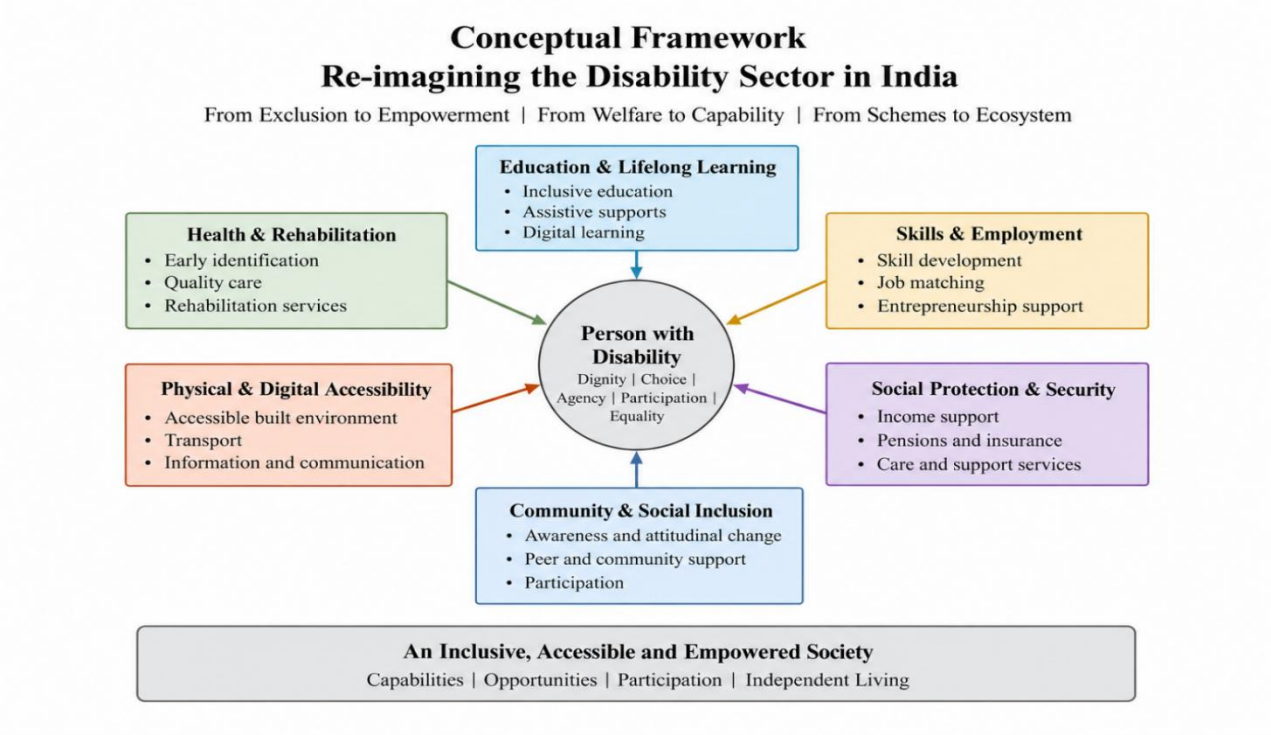

Figure 1: Conceptual framework — six domains of the disability ecosystem organised around the person with a disability. Source: author's analysis, adapted from the underlying presentation.

Read together, these frameworks yield the conceptual architecture used throughout this brief: six interlocking domains – health and rehabilitation, education and lifelong learning, skills and employment, social protection and security. Further, community and social inclusion, physical and digital accessibility must move in convergence, rather than in isolation, if capability gains in one domain are to translate into participation gains overall.

2. Problem Statement

India's disability landscape is structurally uneven and socio-economically embedded rather than uniformly distributed. Five interlinked problems define the current state of the sector:

- Rural concentration and structural deficits: According to Census 2011, nearly 69 per cent of persons with disabilities reside in rural India, where weak primary healthcare systems delay detection and intervention, rehabilitation services and assistive technologies are limited, and transport, schools and workplaces remain largely inaccessible.

- The disability-poverty cycle: poverty increases the risk of disability (malnutrition, unsafe work conditions, inadequate maternal and child healthcare, poor living conditions), while disability reinforces poverty (reduced educational attainment, limited employment, high out-of-pocket health expenditure, social exclusion). Mitra and Sambamoorthi (2014) demonstrate that this relationship is bidirectional, forming a self-reinforcing cycle of cumulative, intergenerational disadvantage in low- and middle-income contexts such as India.

- Measurement fragmentation and undercounting: disability prevalence estimates vary markedly across the Census, National Sample Survey Office (NSSO) rounds and empirical studies owing to differences in survey design, recall periods and screening questions. Definitional narrowness (medical-impairment definitions in the Census versus functional-limitation approaches in the NSS) leads to partial capture of psychosocial, intellectual, developmental and episodic disabilities. Social stigma, household-level non-disclosure and

enumerator bias compound systematic undercounting; even administrative proxies such as UDID capture only a fraction of the actual population. Evidence from Kerala's disability census shows significant variation in disability composition across datasets despite similar prevalence levels, indicating classification bias.

- A welfare-centric, fragmented delivery architecture: the current approach is orientated toward charity, protection and subsidy, producing dependency rather than agency. Multiple schemes, ministries and databases operate with limited convergence, resulting in duplication, inefficiency, and an access-output gap in which coverage does not translate into learning, employability, independence or quality of life.

- Economic underutilisation: low labour-force participation among PwDs relative to the general population represents a direct and measurable loss to GDP, alongside the broader social costs of exclusion.

Who is affected: an estimated 5+ crore persons with disabilities across 21 recognised categories, disproportionately in rural, low-income and marginalised communities, and disproportionately children and youth whose educational and economic trajectories are shaped early. Why it requires attention: measurement error alone leads to biased policy targeting, misallocation of fiscal resources, and weak impact evaluation of disability schemes, meaning that even well-intentioned interventions may not reach those most in need. Consequence of inaction: continued exclusion of a large human-capital base from India's growth story, entrenchment of intergenerational poverty among PwD households, and forfeiture of the 3–7 per cent of GDP the World Bank associates with disability exclusion.

3. Evidence and Key Findings

Evidence was drawn from secondary data review (laws, policy documents, government reports, budget documents and administrative databases including UDISE+, PLFS and Census), policy and institutional mapping across ministries, and comparative analysis. Findings are organised around the three pillars of the conceptual framework used in this brief Educational Empowerment, Economic Inclusion, and Social Protection & Accessibility all orientated around the person with a disability and the values of dignity, choice, agency, participation and equality.

Figure 2: The three pillars of transformative inclusion, mapped to their conceptual basis, key components and structural issues.

Pillar	Conceptual Basis	Key Components	Principal Structural Issues
Educational Empowerment (Human Capital Formation)	Capability expansion (Sen); SDG 4	Inclusive schooling (RTE + RPwD alignment); special educators & assistive technologies; school-to-higher-education-to-skills transition pathways	Enrolment vs. learning gap; teacher preparedness deficit; data fragmentation (UDISE+ vs. NSSO vs. Census)
Economic Inclusion (Livelihood & Productivity)	World Bank inclusion-poverty linkage; SDG 8	Public-sector reservation (4–5%); skill development (NSDC, vocational programmes); entrepreneurship & self-employment; private-sector inclusion	Reservation underutilisation; informal-sector invisibility; skill-job mismatch
Social Protection & Accessibility (Enabling Environment)	WHO-ICF (environmental barriers); SDG 10 & 11	Social security (pensions, insurance); physical accessibility (transport, buildings); digital accessibility; assistive devices	Urban bias in accessibility; weak enforcement of standards; fragmented welfare delivery

Table 1: Conceptual basis, key components and structural issues across the three pillars.

3.1 Educational Empowerment: Accessibility, Competency and Convergence Gaps

Inclusive education faces three major, interlinked challenges: accessibility (are schools truly accessible?), competency (are educators equipped for 21 disability categories?), and convergence (do schemes work as one system?). UDISE+ 2024-25 data show persistent gaps in both physical and digital accessibility.

Physical accessibility: national-level data show that a majority of schools still lack basic physical accessibility infrastructure for children with special needs (CWSN).

Physical Accessibility Indicator (National)	Value
Schools with ramps with handrails	54.94%
Schools with CWSN-friendly toilets	35.55%
Schools with functional CWSN-friendly toilets	33.39%

Table 2a: Physical accessibility in schools — ramps, handrails and CWSN-friendly toilets (national).

Digital accessibility: a further, sharp rural-urban divide is visible in the digital infrastructure schools rely on for inclusive, assistive-technology-enabled learning. The below data project the functional accessibility gap in the disability sector.

Digital Accessibility Indicator (UDISE+ 2024-25)	Rural Schools	Urban Schools
Functional electricity	90.7%	~100%
Computers available	61.3%	80.5%
Functional computers	54.0%	80.5%
Internet connectivity	60.3%	78.1%

Table 2b: Rural-urban gaps in digital accessibility, UDISE+ 2024-25.

On the workforce side, the special-educator pipeline has not kept pace with the legal expansion of disability categories. The training, curricula and competencies under the Rehabilitation Council of India (RCI) remain substantially aligned to the 1995 Act's seven categories. Further, special educators are underprepared for several of the 21 categories recognised under the 2016 Act, particularly cross-disability and need-based categories such as speech and language disability, mental illness, muscular dystrophy, chronic neurological conditions and acid attack survivors. And non-RCI categories such as Parkinson's disease and multiple sclerosis, which currently rely on inclusive education and reasonable accommodation support through the school system rather than a dedicated specialist workforce.

A child's journey from screening to sustained support also reveals systemic fragmentation. Under the ideal pathway, a child is screened through RBSK (vision, hearing, speech, motor/neurological parameters), assessed and issued a UDID, referred to a District Early Intervention Centre (DEIC), and tracked with a feedback loop back into the RBSK system with interpolated data. In practice, RBSK, UDID, DEIC and UDISE+ operate largely in silos with no real-time data sharing, no feedback loop from DEIC back to UDID, and no individual-level tracking. Further limited visibility of human infrastructure (special educators, therapists, counsellors) and structural infrastructure (accessible transport, therapy rooms, assistive devices) at DEICs.

3.2 Economic Inclusion: The Skills-Employment Mismatch

India's Periodic Labour Force Survey (PLFS) 2023-24 shows a labour force participation rate (LFPR) of 40.8 per cent for persons with disabilities against a national LFPR of 59.6 per cent, an 18.8 percentage-point gap[2]. This gap persists despite more than 250 NSQF (National Skill Qualification Framework) aligned disability-specific job roles having been developed (DEPwD, NAA-SDP). A central driver is a structural mismatch between the skills PwDs are trained in digital literacy, tailoring, data entry, beauty and wellness. And handicrafts and the skills the market increasingly needs, including assistive-technology services, healthcare support, digital services, green jobs, and logistics and operations. Sector-wise analysis further shows that while schemes such as PM-DAKSH, NAP-SDP and PMKVY exist for the digital economy, manufacturing, services. And retail, high-growth and emerging sectors, semiconductors and deep tech, the green and sustainable economy, and EV and future mobility have no dedicated disability-specific skilling programme at all, representing untapped GDP potential.

India's demographic transition also presents an underexplored opportunity. With 149 million persons aged 60+ in 2022 (projected to reach 194 million by 2031 and 347 million, or 20.8 per cent of the population, by 2050), and roughly 10 per cent of India's population already serving as family caregivers. Further NITI Aayog's 2026 report on caregiving specifically recommends promoting the participation of PwDs in the care economy as elder-care assistants, child-care assistants, disability support workers, tele-care assistants and care coordinators, reframing PwDs from recipients of care to providers of it.

3.3 Social Protection & Accessibility: From Provision to Sustained Access

India's social protection architecture for PwDs is built primarily around income security (a flat, poverty-targeted disability pension), insurance protection, and physical or assistive-device provision, but it does not adequately compensate for the real costs of disability. The current system is poverty-targeted (benefits linked to BPL status) and offers a flat cash transfer far below the actual disability-related cost. Further relies on a medical model focused on impairment rather than functioning and support needs, which is delivered through fragmented schemes without case management. And most importantly does not recognise the extra costs of assistive technology, transport, rehabilitation, caregiving or personal assistance.

For example, the Assistive Devices Scheme (ADIP), implemented through ALIMCO (Artificial Limbs Manufacturing Cooperation of India) and camps under DEPwD, illustrates the resulting "first-mile, not whole-journey" problem. Only limited annual need is met; many devices are not fully subsidised, leaving beneficiaries with a high out-of-pocket burden. Further awareness and outreach remain limited; assessment, approval and delivery are frequently delayed, and there is little to no post-delivery support for maintenance, repair or user training. A device delivered to a beneficiary is not necessarily a device that remains usable social protection must ensure the whole journey (independence, dignity and inclusion in daily life), not just the first mile (device delivered).

4. Recommendations

The following recommendations are organised as a phased, sequenced roadmap moving India's disability ecosystem from foundation-building, through system-wide acceleration, to institutional excellence rather than as a list of isolated actions. The logic of the phasing is that early, lower-cost actions (data standards, accessibility baselines, workforce foundations) create the conditions on which later, higher-cost structural reforms depend.

With respect to phase one (2026-2030) that is foundation building, the most underlined challenge is fragmentation across identification, assessment, rehabilitation and education and social protection systems in the disability sector.

[2] National Statistical Office, Periodic Labour Force Survey (PLFS), 2023–24.

UDISE+, RBSK, and DEIC, followed by Smagra Shikshana, will require stronger convergence in order to ensure identification of the disabled followed by the timely services. Policy priorities should include common data and service standards, uniform early identification and intervention, child-centric referral and the tracking mechanisms. The objective of this paper is to enable a seamless pathway from the point of education to rehabilitation and the social protection.

Related to phase two (2030-2035), highlighting the accelerating system delivery. Once the foundational architecture is established, the focus should move from connectivity to the measurable outcomes. The existing system often emphasises on infrastructure, enrolment, beneficiary coverage rather than tracking the progression, learning, attendance and employment outcomes. An interoperable disability information system which is supported by the electronic referral system should track the journey from the time of screening to the rehabilitation coupled with the social protection. Monitoring of inclusive education should therefore incorporate learning and the transition outcomes, while workforce development and the disability-inclusive skilling should be ideally linked with the emerging employment opportunities and the stronger employment engagement.

In phase three (2035-2047), the long-term objective should enable that disability inclusion to become an integral components of India's development architecture rather than just treating as a welfare intervention. In this phase more emphasis needs to be provided to institutionalise inclusive teacher competencies , an outcome-based national monitoring framework related to the disability sector, and universal physical coupled with digital accessibility and the lifecycle integration with skill , education and social security along with rehabilitation. Increased investment in the assistive technology innovation, along with the structural public-private community partnerships, can further expand the participation coupled with the participation of the disabled. By the year 2047 the disability sector should just be measured by just scheme coverage rather than the improvements in terms of opportunities and independent living aligned with the broader Viksit Bharath vision.

5. Conclusion

India's disability sector is entering a transformative phase. The RPwD Act, 2016, established the legal and conceptual foundation for a rights-based approach, but a decade on, recognition has not translated into equitable access. And nearly seven in ten persons with disabilities remain in rural areas underserved by health, education and infrastructure systems. Further measurement remains fragmented and undercounted; the special-educator workforce is trained for a legal framework that no longer exists. Moreover, an 18.8 percentage-point labour-force-participation gap represents both a human and an economic loss estimated at 3–7 per cent of GDP.

The central message of this brief is that inclusion is not charity; it is smart economics, and it is central to Viksit Bharat 2047. Reorienting India's disability ecosystem from a welfare-centric, fragmented model to an integrated, capability- and rights-based ecosystem with the person with a disability at its centre is both a moral and a developmental imperative. The phased roadmap proposed here (Foundation Building, 2026–2030; System Acceleration, 2030–2035; Institutional Excellence, 2035–2047) offers a practical, sequenced pathway to that outcome.

Acted on with sustained political commitment and cross-ministerial convergence, these reforms can help build an India where every person with a disability lives with dignity, opportunity and full participation. And further creates an outcome that strengthens not only the disability sector but also India's human development, economic growth, innovation and governance agenda as a whole.

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Editorial Notes

Reviewers acknowledged the importance of disability inclusion and the value of the research, while recommending a clearer connection between the problem statement, supporting evidence, and proposed interventions. They suggested broadening the analysis beyond physical disabilities to include mental and intellectual disabilities,

supported by stronger evidence on education, skilling, employment, and economic participation. Further refinement could focus on identifying priority groups, clarifying stakeholder responsibilities, outlining implementation mechanisms, and defining measurable outcomes.

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The invisible budget - Disability financing in select central schemes: what is allocated, what is delivered, and what cannot be seen

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Executive Summary

The Rights of Persons with Disabilities Act, 2016 places clear financing and implementation obligations on the Union and the States. This brief asks whether allocations meet those obligations, and whether they are visible enough to be monitored: traceable to a single, consolidated, scheme-wise statement of what is allocated and spent on disability across ministries. Disability-related spending is spread across at least four ministries, with no consolidating statement, so India cannot currently state what it spends on disability as a whole. What cannot be seen cannot be measured, and what cannot be measured cannot be systematically fixed.

The evidence bears this out. Budget growth is real but concentrated in schemes without an expenditure history: of the ₹1,669.72 crore provided for 2026-27, ₹300 crore (18.0%) is earmarked for two newly announced schemes with no spending record. Per-person spending cannot even be stated, because the population denominator is not settled, identified disability spending totals approximately ₹3,562 crore, and spend per person ranges sevenfold across the four population estimates in circulation, from ₹178 to ₹1,329. Where schemes do fall short, they fall short of the Government's own standards, not just external benchmarks: the disability pension has stood at ₹300 a month for ages 18-79 since 2012, just 60% of the ₹500 the same scheme already pays at age 80, while SIPDA spent only ₹43.90 crore of its ₹111 crore revised 2024-25 budget. The law's own promises go untracked in turn: the mandated 5% reservation and fixed teacher ratio have no monitoring trail, with only 0.12% of PMAY-Gramin and 0.60% of PMAY-Urban houses sanctioned reaching persons with disabilities, and just 52,274 schools reporting a special educator in 2024-25 against a requirement of 1.27-1.91 lakh. Money also does not consistently reach the States it was voted for: only 63.8% of allocated Samagra Shiksha funds were released nationally in 2025-26, and West Bengal received none of its ₹1,998 crore. Beyond government spending, disability-related CSR activity is reported but cannot be aggregated, since none of ten benchmarked banking-sector companies disclose a disability-specific expenditure figure, because Form CSR-2 has no separate reporting field for disability.

These findings point to five recommendations. First, a single working population estimate should be published before the Census, integrating Census, NSSO, NFHS, UDISE+ and scheme beneficiary records into one denominator for all ministries, at no cost, before the first Budget Statement cycle opens in Year 1. Second, a Disability Budget Statement, modelled on gender budgeting, should require the six ministries accounting for most disability spending to report expenditure with a results column and a Section 37 compliance column, extending to every ministry by the third annual cycle. Third, a disability sub-category should be added to CSR and BRSR reporting, inserting a disability expenditure field in Form CSR-2 and extending BRSR beyond grants to accessible products and employment, targeting 100% of CSR-2 filings by FY 2028-29. Fourth, the pension should be revised and then indexed: of three costed options, matching the ₹500 the scheme already pays at age 80 is the preferred course, since it most directly closes the identified gap, at an estimated additional ₹200 crore a year, against ₹700 crore to round up to ₹1,000 or ₹1,323 crore to match the SBI Research rural poverty line, phased over three years and reviewed at least every three years thereafter. Fifth, delivery constraints should be diagnosed before allocations increase, requiring any scheme using less than 60% of its Revised Estimate to publish a diagnostic statement, so that schemes below that threshold fall from two of four to zero within three Budget cycles.

1. The problem

Disability-related public spending in India is fragmented, hard to see, and weakly aligned with the obligations the RPwD Act creates. The earlier law recognised seven disability categories; the 2016 Act expanded this to twenty-one, in language signalling that the list is not closed. Many institutions still treat twenty-one as a ceiling. Four gaps define the problem.

Incomplete and outdated data. The last national enumeration was the 2011 Census, conducted under an eight-category regime that recorded hearing and speech disability separately, five years before the Act's twenty-one. Official prevalence stands near 2% of the population against a global estimate of 15 to 16%, and Census, NSSO and NFHS diverge materially[3].

Fragmented and opaque financing. Allocations sit across DEPwD, Samagra Shiksha, NSAP and health programmes with no consolidating statement. Gender has had a Gender Budget Statement since 2005-06[4]. Disability has no equivalent.

Statutory entitlements without a routine accounting trail. Section 37 mandates 5% reservation in specified schemes, but no ministry proactively reports performance against it; only when parliamentary questions elicit the underlying numbers, as under PMAY, does the shortfall surface, at 0.12% to 0.60% against the mandate.

Limited evidence on non-government financing. CSR spending is compiled through MCA21 and disclosed under Schedule VII of the Companies Act, 2013, but without any disability-specific head.

Who this affects. At least 2.68 crore persons, roughly 69% of them rural. Labour force participation among women with disabilities is 20.1%, against 36.2% for persons with disabilities overall and 53.2% for the general population. SBI Research estimated the 2022-23 monthly per capita poverty line at ₹1,622 in rural areas and ₹1,929 in urban areas,[5] underscoring the limited purchasing power against which disability-related household costs must be assessed. Those costs are additional by their nature, and budget formulation does not systematically recognise them. The forthcoming Census is a time-bound opportunity to rebuild disability budgeting on an accurate population base. Taking it requires the fiscal and institutional groundwork to be laid first.

2. Three root causes

The gaps above are symptoms. A problem tree analysis traces them to three causes, and every recommendation in Section 6 is addressed to one of them. A measure aimed only at a symptom has to be repeated in every budget cycle.

Root cause 1: the data. No settled population denominator exists. Policy cannot be targeted, and per-person spending cannot be computed, against a base this uncertain.

Root cause 2: the financing. Budget allocations and CSR funds both exist but operate separately. No disability-disaggregated data is maintained across ministries, so allocation and release gaps go unmonitored.

Root cause 3: implementation and institutional capacity. Key sections of the Act remain substantially unoperationalised. The Office of the Chief Commissioner carries a statutory monitoring mandate but has not been equipped with fiscal monitoring instruments to discharge it across ministries, and the Department can request but not compel cross-ministry cooperation, since budgetary control over most disability-relevant spending sits with line ministries that face no institutional incentive to prioritise it. Disability is handled as a departmental

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[3] *Census of India 2011; NSSO 76th Round; NFHS-5; WHO World Report on Disability prevalence estimate. Denominators are reported as scenarios, not measurements. Mitra, S., & Sambamoorthi, U. (2014). Disability prevalence among adults: Estimates for 54 countries and progress toward a global estimate. Disability and Rehabilitation, 36(11), 940–947.*

[4] *Gender Budget Statement, Union Budget, published annually since 2005-06 as Statement 13 of the Expenditure Budget.*

[5] *SBI Research, Household Consumption Expenditure Survey analysis, February 2024: adjusted monthly per capita consumption expenditure of ₹1,622 rural and ₹1,929 urban for 2022-23. A non-governmental estimate, attributed as such throughout; no compliance finding rests on it.*

mandate not a whole-of-government one.

3. Findings

Method, in one paragraph. Adequacy is stated as a ratio: Estimated Requirement = Eligible Population × Applicable Unit Cost × Coverage Assumption, and Adequacy Ratio = Provision ÷ Estimated Requirement, where 1.00 means a scheme is funded to its own benchmark. Six kinds of benchmark are used and are not treated as interchangeable; the type is labelled wherever one appears, because the weight a reader should give a shortfall depends on it. Expenditure is separated into disability-specific schemes and disability-responsive components of mainstream programmes. Derivations at Annexure B; typology at Table B2.

Disability financing in select central schemes: what is allocated, what is delivered, and what cannot be seen

Finding 1. Budget growth is real but concentrated in schemes without an expenditure history

The Department's allocation has risen, and the rise is real. The published series is set out below. Each figure is a distinct budget stage and the stages are not interchangeable.

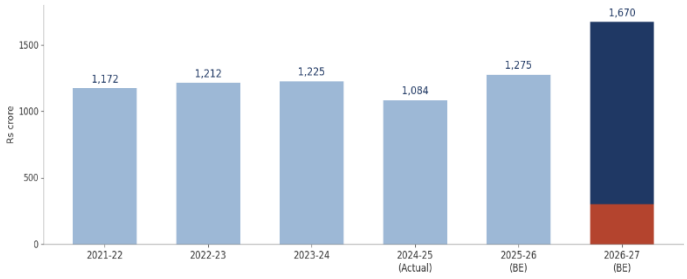
Year	Amount	Budget stage
2021-22	₹1,171.77 crore	Allocation, per parliamentary reply
2022-23	₹1,212.42 crore	Allocation, per parliamentary reply
2023-24	₹1,225.15 crore	Allocation, per parliamentary reply
2024-25	₹1,084.00 crore	Actual expenditure
2025-26	₹1,275 crore BE / ₹1,292 crore RE	Budget and Revised Estimate
2026-27	₹1,669.72 crore	Budget Estimate, Demand for Grants No. 94[6]

Table 1. Departmental allocation by year and budget stage. The 2024-25 figure is actual expenditure and the others are allocations, so the series is read stage by stage rather than as one continuous line.

[6] *Union Budget 2026-27, Demand for Grants No. 94, Department of Empowerment of Persons with Disabilities. Allocations for 2021-22 to 2023-24 from a parliamentary reply; 2024-25 actual expenditure and 2025-26 Budget and Revised Estimates from Union Budget documents.*

Figure 1. Department allocation, 2021-22 to 2026-27

Red segment: the two newly created schemes, 18.0% of the 2026-27 provision



- Of the ₹1,669.72 crore provided for 2026-27, ₹300 crore is earmarked for two newly announced schemes: Divyangjan Kaushal Yojana at ₹200 crore and Divyangjan Sahara Yojana at ₹100 crore. That is 18.0% of the whole provision committed to programmes with no expenditure record.

- The movement from the 2025-26 Budget Estimate of ₹1,275 crore to the 2026-27 Budget Estimate of ₹1,669.72 crore is an increase of ₹394.72 crore. The two new schemes account for ₹300 crore of that, or 76.0%, leaving ₹94.72 crore, a nominal rise of 7.4%, spread across every existing service-delivery scheme covering pensions, aids and appliances, rehabilitation and education support.

- This is not a cut: prices rose by 2.10% in June 2025, so a 7.4% increase is a small real gain[7]. The point is where the new money has gone. Just over three-quarters of it is in new schemes without an expenditure history yet, because they have only just been created, and new schemes take time to set up guidelines and payment systems. Whether this increase reaches people will depend on how quickly those two schemes can start spending.

Finding 2. Per-person spending cannot be stated, because the denominator is not settled

Identified disability-related allocations across the four ministries examined total approximately ₹3,562 crore, built line by line from published sources. What that means per person depends entirely on which population estimate is used, and four are in circulation.

Population estimate	Basis	Persons	Identified spend per person per year
Census 2011	Enumerated count, eight categories (hearing and speech separate)	2.68 crore	₹1,329
Growth-adjusted Census	2011 count projected forward	3.4 crore	₹1,048
Expert estimate	Twenty-one RPwD categories applied	5 crore	₹712
WHO global prevalence	Approx. 16% applied to population	20 crore	₹178

Table 2. Denominator sensitivity. These are scenario values showing how far adequacy moves with the population base chosen. They are not estimates of expenditure actually received per person, and no one of them is preferred here.

The point is not any single figure. A sevenfold movement driven purely by source selection makes per-capita statements unusable for scheme design until the denominator is settled. This is the reasoning behind Recommendation 1.

[7] *National Statistical Office, Consumer Price Index release: headline CPI inflation 2.10% in June 2025; food inflation -1.06%.*

Finding 3. Where schemes fall short, they fall short of the Government's own standards

Schemes fall short for two very different reasons, and mixing them up leads to the wrong fix. Sometimes the amount set aside is simply below the official rate: call this an allocation gap. Sometimes enough money is available but it does not get spent: call this a spending gap. Giving more money to a scheme that cannot spend what it already has will not help anyone, and studying spending delays in a scheme that is simply underfunded will not help either.

Scheme	Type of gap	The standard it is measured against	Where it actually stands	Ratio
Disability pension (IGNDPS)	Allocation	₹500 a month, which this same scheme already pays to people aged 80 and above	₹300 a month for ages 18-79, unchanged since 2012[8]	0.60
Accessibility (SIPDA)	Spending	Its own revised budget of ₹111 crore for 2024-25	₹43.90 crore spent, as on 03.03.2025[9]	0.40
Inclusive Education	Allocation	5% of the Samagra Shiksha Central allocation for 2024-25, using the 5% figure from Section 37 as a rough yardstick	₹1,444.91 crore against ₹2,373.78 crore[10]	0.61

Table 3. Schemes measured against standards the Government itself has set. The last row uses 5% only as a rough comparison, not as a legal requirement. Full workings at Annexure B.

About the pension. The Indira Gandhi National Disability Pension Scheme pays ₹300 a month to people aged 18 to 79, and ₹500 a month to people aged 80 and above. The ₹300 rate has not changed since 2012, and there is currently no proposal to change it. The useful comparison here needs no outside benchmark at all: the Government has already decided that ₹500 is the right monthly amount for one group of people under this very scheme. Measured against its own figure, the rate for everyone else is at 60% of it. Separately, and only as background, SBI Research estimates that a rural household needs about ₹1,622 per person per month to stay above the poverty line[11]. That is a private research estimate, not a legal entitlement, and no conclusion in this brief depends on it. States are advised to add an equal amount from their own funds but are not required to, so what a person actually receives ranges from ₹300 to ₹4,016 a month depending on where they live.[12]

Finding 4. The law promises a 5% share and a fixed teacher ratio, but neither is currently tracked

[8] *Lok Sabha Unstarred Question No. 4028, "Increase in Disability Pension", answered 25 March 2025 (Ministry of Social Justice and Empowerment, Department of Empowerment of Persons with Disabilities): IGNDPS central rate of ₹300 per month for ages 18 to 79 and ₹500 per month at 80 and above; States advised to contribute at least an equal amount; beneficiaries receiving between ₹300 and ₹4,016 per month; no proposal to increase the rate under consideration.*

[9] *Rajya Sabha Unstarred Question No. 2053, "Status of financial and physical progress under SIPDA", answered 17 December 2025 (Department of Empowerment of Persons with Disabilities); and Standing Committee on Social Justice and Empowerment (2024-25), Eighteenth Lok Sabha, Sixth Report, Demands for Grants (2025-26), Ministry of Social Justice and Empowerment (Department of Empowerment of Persons with Disabilities), presented to Lok Sabha and laid in Rajya Sabha on 17 March 2025: SIPDA Budget Estimate, Revised Estimate and actual expenditure, 2021-22 to 2024-25 (2024-25: BE ₹135.33 crore, RE ₹111.00 crore, expenditure ₹43.90 crore as on 3 March 2025); beneficiaries 44,162 (2022-23), 29,374 (2023-24) and 11,933 (as on 16 January 2025).*

[10] *Lok Sabha Unstarred Question No. 2527, "Children with Special Needs under Samagra Shiksha Abhiyan", answered 15 December 2025 (Ministry of Education): State-wise Inclusive Education component under Samagra Shiksha, grand total ₹1,44,491.01 lakh for 2024-25. Source: PRABANDH Portal. The source note records that the figure includes support for Block Resource Persons for CwSN through BRC and URC. The yardstick of ₹2,373.78 crore (5%) is derived from the 2024-25 Central allocation of ₹47,475.67 crore in Lok Sabha Unstarred Question No. 5783, "Funds under Samagra Shiksha Scheme", answered 30 March 2026 (Ministry of Education).*

[11] *SBI Research, Household Consumption Expenditure Survey analysis, February 2024: adjusted monthly per capita consumption expenditure of ₹1,622 rural and ₹1,929 urban for 2022-23. A non-governmental estimate, attributed as such throughout; no compliance finding rests on it.*

[12] *Lok Sabha Unstarred Question No. 4028, answered 25 March 2025 (Ministry of Social Justice and Empowerment): beneficiaries receive between ₹300 and ₹4,016 per month depending on the State top-up.*

Section 37 of the Rights of Persons with Disabilities Act, 2016 says that governments and local bodies must reserve 5% for persons with benchmark disabilities when allotting agricultural land and housing, when running poverty alleviation and development schemes, and when allotting land at concessional rates. The promise is clear. What does not exist yet is any published record showing how much was actually allotted. No ministry publishes that figure scheme by scheme, so nobody, inside or outside the government, can say whether the 5% is being met.

Rural housing illustrates the gap between statutory intent and reported outcomes. Under PMAY-Gramin, 44,991 of the 3.85 crore houses sanctioned as of August 2025 were sanctioned to persons with disabilities—approximately 0.12% of the total, against the 5% benchmark cited in Section 37. Under PMAY-Urban and PMAY-Urban 2.0, 73,839 persons with disabilities had benefited out of 122.28 lakh houses sanctioned as of 22 January 2026, equivalent to approximately 0.60%. These figures were obtained through parliamentary questions rather than routine, scheme-wise public reporting. The absence of consistent disaggregated reporting makes it difficult to establish whether the statutory provision is being implemented effectively. A separate concern emerges from the District Mental Health Programme: against ₹157.624 crore approved for 2024–25, actual expenditure was ₹82.3909 crore, or approximately 52.3%, across a programme sanctioned for 767 districts. This points to a utilisation gap that warrants examination alongside the broader question of whether public schemes are reaching their intended beneficiaries.

Education shows the same pattern, and here the standard has come from the Supreme Court. In Rajneesh Kumar Pandey v. Union of India the Court recorded that India had 22.5 lakh children with special needs but only 28,535 special teachers. The Union then fixed a ratio of one special educator for every ten children in primary school and one for every fifteen after that. In March 2025 the Court asked every State to say how many such posts it had sanctioned and to fill them.[13] Applying that ratio to the 19,05,946 children with special needs in government and government-aided schools, India needs between 1.27 and 1.91 lakh special educators. As of 2024-25, 52,274 such schools reported having one, up from 46,370 in 2020-21 between 27% and 41% of what the ratio requires.[14] Counting private schools as well, the 2024-25 figures are 21,49,258 children and 1,12,340 schools, or 52% to 78%.[15] Both counts are official; the first is used here because that is the set of schools Samagra Shiksha pays for.

Encouragingly, trained people are no longer the main obstacle. The Supreme Court recorded 1,20,781 special educators registered with the Rehabilitation Council of India in 2021, and the Government now reports about 2.33 lakh professionals registered as special educators on the Central Rehabilitation Register; the two figures are defined differently and are not compared as a growth rate here. 93,345 general teachers were approved for training in 2025-26,[16] while government schools with an educator rose by only about six thousand. Trained people exist;

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[13] *Rajneesh Kumar Pandey & Ors. v. Union of India & Ors., W.P. (C) No. 132 of 2016 with W.P. (C) No. 876 of 2017: judgment dated 28 October 2021, reported at (2021) 17 SCC 1; orders dated 21 July 2022, 12 March 2024 and 7 March 2025. In the order of 7 March 2025 the Court directed each State and Union Territory to notify sanctioned posts within three weeks, advertise them and complete the process within twelve weeks.*

[14] *Notification No. S.O. 4586(E) dated 21 September 2022, published 29 September 2022, Department of School Education and Literacy, Ministry of Education: one special educator per 10 CwSN at primary level and one per 15 CwSN at upper primary level (the notification fixes the ratio for the RTE Act schedule; Rajya Sabha Q 485 describes the second limb as "upper primary and secondary"). Cited in Rajya Sabha Unstarred Question No. 485, answered 4 February 2026, and Lok Sabha Unstarred Question No. 5773, "Enrolment of Children with Special Needs in Government Schools", answered 30 March 2026 (Annexure-IV: schools with a special educator, India: 46,370 in 2020-21; 46,150; 52,618; 51,464; 52,274 in 2024-25).*

[15] *Rajya Sabha Unstarred Question No. 485, "Availability of special educators for Children with Disabilities", answered 4 February 2026 (Ministry of Education), Annexures I and II: 1,12,340 schools with special educators and CwSN enrolment of 21,49,258 across all schools, 2024-25; approximately 2.33 lakh professionals registered as special educators on the Central Rehabilitation Register; 93,345 general teachers approved for training under AWP&B 2025-26.*

[16] *Rajya Sabha Unstarred Question No. 485, answered 4 February 2026 (Ministry of Education): approximately 2.33 lakh professionals registered as special educators on the Central Rehabilitation Register; 93,345 general teachers approved for training under AWP&B 2025-26. The 2021 figure of 1,20,781 is the number of special educators registered with the Rehabilitation Council of India as recorded by the Supreme Court in Rajneesh Kumar Pandey & Ors. v. Union of India & Ors., judgment dated 28 October 2021, (2021) 17 SCC 1*

what is missing is sanctioned posts to place them in, which is what the Court's 2025 direction asks States to create. It also follows that existing special schools are best kept running until inclusive education is genuinely staffed, so the change adds capacity rather than leaving children with less than before.

A similar gap shows in the per-child grant. Samagra Shiksha allows ₹3,500 a year per child with special needs, but one assistive device costs an average of ₹11,129 under the Government's own Assistance to Disabled Persons scheme over three times the whole yearly grant and the stipend for girls with special needs, ₹200 a month for ten months, uses 57% of it by itself.[17] The ₹1,444.91 crore Inclusive Education figure cannot be checked against this grant, because it also includes staff and resource-centre costs that no published document separates out.[18] That missing breakdown is the finding, not any assumed shortfall.

Finding 5. Money does not consistently reach the States it was voted for

Delivery is expressed as a Delivery Gap Index (release-stage): DGI = 1 minus (amount released divided by amount allocated). This measures reported central release against allocation, not final expenditure or beneficiary receipt; where expenditure-stage figures are unavailable, the index is a lower bound, as noted in Annexure C.Nationally, only 63.8% of allocated Samagra Shiksha funds were released to States in 2025-26, against 70.9 to 72.6% in each of the four preceding years.[19] More than a third of money already voted by Parliament did not reach the States it was voted for.

State	Allocated	Released	Release rate	Delivery gap
West Bengal	₹1,998 crore	Nil	0.0%	1.00
Kerala	₹452 crore	₹92 crore	20.4%	0.80
Tamil Nadu	₹1,847 crore	₹626 crore	33.9%	0.66
Maharashtra	₹1,432 crore	₹968 crore	67.6%	0.32
Karnataka	₹1,103 crore	₹791 crore	71.7%	0.28
Bihar (for contrast)	₹5,897 crore	₹5,534 crore	93.8%	0.06
National	₹47,017 crore	₹29,997 crore	63.8%	0.36

- *Table 4. Samagra Shiksha fund release, 2025-26.[20] Bihar is included to show that high release rates are achievable within the same system, which is what makes the low ones a delivery question rather than a structural constraint.*

- **West Bengal received none of its ₹1,998 crore.** The stated reason was non-signature of a memorandum for a separate scheme, a condition unrelated to disability. The duty to educate a child with disability arises under the

[17] *Rajya Sabha Unstarred Question No. 532, "Education of Children with Disability", answered 7 February 2024 (Ministry of Education, Department of School Education and Literacy): ₹3,500 per child per year, and a stipend of ₹200 per month for ten months for girls with special needs. Lok Sabha Unstarred Question No. 2613, "Assistance to Persons with Disabilities for Purchase/Fitting of Aids/Appliances", answered 16 December 2025 (Department of Empowerment of Persons with Disabilities): ADIP State-wise beneficiaries and utilised cost, 12,35,669 beneficiaries against ₹1,375.19 crore. Lok Sabha Unstarred Question No. 74, "Braille Equipment Scheme", answered 1 December 2025 (Ministry of Education): 78,612 beneficiaries against ₹5,128.50 lakh.*

[18] *Lok Sabha Unstarred Question No. 2527, answered 15 December 2025 (Ministry of Education): State-wise Inclusive Education component under Samagra Shiksha, 2024-25, grand total ₹1,44,491.01 lakh. Source: PRABANDH Portal.*

[19] *Lok Sabha Unstarred Question No. 5783, "Funds under Samagra Shiksha Scheme", answered 30 March 2026 (Ministry of Education): State-wise Samagra Shiksha Central allocation and Central share released, 2021-22 to 2025-26 (India total, 2025-26: ₹47,017.26 crore allocated, ₹29,996.83 crore released).*

[20] *As at note 21 above.*

Act and does not depend on such conditionalities. Maharashtra likewise received nil under the disability pension in each of the five years to 2024-25.[21]

- **Under-utilisation is documented over four years in SIPDA, with the reasons stated by the Department itself.** Provision was cut at Revised Estimate stage in three of four years, expenditure fell below the revised figure in three of four, and beneficiaries declined from 44,162 to 11,933. The Department attributes this to the demand-driven nature of the sub-schemes, to States submitting proposals without utilisation certificates or physical progress reports, and to teething problems after the move to CNA Model-2.[22] The four-year series is at Annexure B10.

- **Part of the mechanism is a stated funding rule, and redress fails geographically too.** Under the Department of Expenditure's revised procedure, ministries release funds just-in-time and in no case more than 25% of a scheme's annual earmark at a time, with further tranches conditional on 75% utilisation of the previous release, so a single outstanding utilisation certificate can arrest the remaining release for the year.[23] The same geographic pattern appears in grievance redress: of 1,095 accessibility complaints on the Sugamya Bharat App, 567 were disposed and 528 remain pending, but in Delhi, Chandigarh and Rajasthan the disposal rate is nil against 134, 40 and 30 complaints respectively.[24]

Finding 6. Disability-related CSR activity is reported, but expenditure cannot be aggregated

- Ten banking-sector companies were scored out of 16 on the clarity of their disability-related reporting across FY 2015–FY 2025, covering policy clarity, breadth of activity and governance quality.[25] Several report substantial work, including support to more than five lakh persons with disabilities in one case, and talking ATMs and Braille cards in another. Yet none publishes a disability-specific expenditure figure.

- This is partly a structural reporting problem. Section 135 requires eligible companies to spend 2% of average net profits on CSR, while Schedule VII expressly permits disability-related activities, including education and vocational skills for the differently abled and measures benefiting persons with disabilities.[26] But disability is not a separate CSR reporting category in Form CSR-2. Companies therefore report expenditure against broader

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[21] *As at note 21 above.*

[22] *Rajya Sabha Unstarred Question No. 2053, answered 17 December 2025 (Department of Empowerment of Persons with Disabilities); Standing Committee on Social Justice and Empowerment, Sixth Report (Demands for Grants 2025-26), presented 17 March 2025, on SIPDA; and Department of Expenditure, Ministry of Finance, Office Memorandum No. 1(18)/PFMS/FCD/2021 dated 9 March 2022, Revised procedure for flow of funds under Central Sector Schemes (CNA Model-2).*

[23] *Department of Expenditure, Ministry of Finance, Office Memorandum No. 1(18)/PFMS/FCD/2021 dated 9 March 2022, Revised procedure for flow of funds under Central Sector Schemes, para 3(ix): funds released just-in-time and in no case more than 25% of the amount earmarked for the scheme in a financial year at a time; further release is conditional on utilisation of at least 75% of the funds released earlier. https://cdnbbsr.s3waas.gov.in/s3d69116f8b0140cdeb1f99a4d5096ffe4/uploads/2024/02/2024022171810374.pdf*

[24] *Rajya Sabha Unstarred Question No. 3168, "Improving accessibility for Divyangjan and elderly citizens", answered 20 August 2025 (Department of Empowerment of Persons with Disabilities): Sugamya Bharat App, 1,095 complaints received, 567 disposed and 528 pending; nil disposal in Delhi (134 received), Chandigarh (40) and Rajasthan (30). https://sansad.in/getFile/annex/268/AU3168_6XfqF6.pdf?source=pqars*

[25] *Author's assessment applying the instrument at Annexure F, Table F1 to published company annual reports, CSR disclosures and BRSR filings for the ten companies named. Not a government statistic; no standardised external index of this kind exists.*

[26] *Companies Act, 2013, §135; Schedule VII, item (ii), which includes promotion of education and employment-enhancing vocational skills, particularly among the differently abled, and item (vii), which includes training to promote Paralympic sports.*

Schedule VII categories rather than a distinct disability head.[27]The result is that disability-related CSR activity can be substantial without producing an aggregate national figure for disability spending.

4. Policy Options Analysis

Six measures are recommended below. Further options were examined and set aside; they are recorded here with the reasoning so a reader can weigh them independently.

- **Extending the 5% principle to the private sector.** Section 37 binds government and local authorities, not companies. One option raised in consultation is to apply the same proportion within the existing corporate obligation rather than creating a new one: 5% of the 2% CSR spend mandated by section 135 of the Companies Act, 2013, earmarked for disability. It needs no new levy and rests on a base already in law. The obstacles should be stated plainly. It would require a Schedule VII amendment or an MCA notification, so unlike the recommendations below it is not administratively achievable; and Finding 6 shows there is no baseline against which to judge whether such a share would be an increase or a reduction. It is therefore recorded as an option for consideration once Recommendation 3 has produced that baseline.
- **Two options set aside.** Penalising States that underspend, because the penalty lands on beneficiaries in the weakest districts, which is the opposite of the intended effect. And a per-capita-income benchmark for the pension, raised in consultation but not costed here, because no notified government standard supports it and this brief measures only against standards the Government has itself set.
- **GST exemption on assistive devices and a caregiver allowance.** Physical assistive devices receive concessional or exempt GST treatment in specified cases, but assistive software, including screen readers, may attract GST at the applicable rate, with no blanket disability-specific exemption.[28]Disability-related income-tax deductions under Sections 80DD and 80U of the Income-tax Act, 1961, correspond to Sections 127 and 154, respectively, of the Income-tax Act, 2025, effective from 1 April 2026. These deductions remain unavailable under the new tax regime.[29] These matters fall under the Ministry of Finance and the GST Council and are therefore outside the recommendations of this brief. They are noted because they illustrate the broader challenge of translating formal benefits into accessible support. A caregiver allowance was also raised in interviews but is not recommended here because the study did not collect sufficient evidence to establish its design, delivery mechanism or fiscal cost. Research estimates that disability-related additional costs in India can amount to 12–26% of average household monthly consumption expenditure, indicating the scale of the financial burden without establishing the appropriate structure or fiscal cost of a caregiver allowance.[30]

5. Recommendations

[27] *Ministry of Corporate Affairs, Form CSR-2, Report on Corporate Social Responsibility, prescribed under Rule 12 of the Companies (Accounts) Rules, 2014. The form requires reporting of CSR expenditure by Schedule VII activity categories but does not provide a separate reporting field for persons with disabilities/disability.*

[28] *Ministry of Finance, Notification No. 09/2025-Central Tax (Rate), dated 17 September 2025; and Rajya Sabha Unstarred Question No. 1029, "GST rates on assistive devices and technologies used by PWDs," answered 28 July 2026 (Ministry of Finance). The parliamentary response discusses GST treatment of assistive devices, including the exemption applicable to hearing aids.*

[29] *Income-tax Act, 2025, Sections 127 ("Deduction in respect of maintenance including medical treatment of a dependant who is a person with disability") and 154 ("Deduction in case of a person with disability"), effective from 1 April 2026. These correspond to Sections 80DD and 80U, respectively, of the Income-tax Act, 1961.*

[30] *Karan, A. K., Hussain, S., Ishida, M., Varghese, S., Soji, F., Grills, N., Dhariyal, T., Baurai, U., Bonyhady, B., & Mahal, A. S. (2023). The Unmet Needs of People with Disability in India: Prevalence, Costs and Opportunities for Government Investments. University of Melbourne.*

1. One working population estimate, published before the Census. The Department should integrate Census, NSSO, NFHS, UDISE+ and scheme beneficiary records into a single working estimate under common operational definitions, publish it with its sources and assumptions rather than holding it internally, and notify it as the common denominator for all ministries. Owner: the Department with the Registrar General and the Ministry of Statistics. Year 1, at no cost, published before the first Budget Statement cycle opens. Finding 2 shows why this is the precondition for everything else.

2. A Disability Budget Statement, on the gender budgeting model. The Ministry of Finance should require every relevant ministry to report disability-related expenditure annually with a results column alongside, beginning with the six ministries accounting for most such spending: Social Justice, Education, Health, Rural Development, Housing and Urban Affairs, and Electronics and IT. Reporting should distinguish disability-specific from disability-responsive expenditure and carry a Section 37 compliance column, so the 5% obligation becomes visible in the same document.[31] Target: all six in the first statement, extended to every ministry with identified disability-relevant budget lines by the third annual cycle. Recommendation 1's definitions must be issued before the first cycle opens, failing which ministries will tag expenditure inconsistently and year-one figures will not be comparable.

3. A disability sub-category in CSR and BRSR reporting. The Ministry of Corporate Affairs should insert a disability sub-category in Form CSR-2 capturing expenditure, persons reached and whether an independent impact assessment was conducted; SEBI should extend BRSR to accessible products and employment, not grants alone; and both should notify a single common definition so one company does not report two figures under two frameworks.[32] Target: 100% of Form CSR-2 filings to include a completed disability expenditure field by FY 2028-29, with a national baseline published after one full reporting cycle. An indicative minimum share should be considered within one cycle of that baseline, and not before, since setting a share without a baseline risks fixing it below current practice.

4. Revise the pension, then index it. The Indira Gandhi National Disability Pension Scheme pays ₹300 a month to persons with disabilities aged 18 to 79. That rate has not moved since 2012[33]. The same scheme already pays ₹500 a month to persons aged 80 and above. We recommend raising the 18-79 rate to close that gap, and then linking future increases to inflation, with a review at intervals of not more than three years, so the rate cannot freeze for over a decade again.

Three options exist, each costed on the scheme's own notified beneficiary ceiling of 8,33,751, as additional spending over what is already provided: 1) Match the rate the scheme already pays at age 80 (₹500): approximately ₹200 crore a year. 2) Round up to ₹1,000: approximately ₹700 crore a year. 3) Match the rural poverty line SBI

[31] *As at note 11 above.*

[32] *Ministry of Corporate Affairs, Form CSR-2, Report on Corporate Social Responsibility, prescribed under Rule 12 of the Companies (Accounts) Rules, 2014 (no separate reporting field for disability); and Securities and Exchange Board of India, Business Responsibility and Sustainability Reporting (BRSR) framework (2021).*

[33] *Indira Gandhi National Disability Pension Scheme, under the National Social Assistance Programme. Introduced in 2009 at ₹200 per month; raised to ₹300 per month on a Cabinet decision of 18 October 2012 (effective 1 October 2012); unrevised since. Ministry of Rural Development, NSAP Suo Motu Disclosure (RTI) https://rural.gov.in/sites/default/files/NSAP_Suo_moto_disclosure_for_RTI_01112021.pdf; PIB release of 18 October 2012 https://www.pib.gov.in/newsite/erelcontent.aspx?relid=88514. State top-up practice: Lok Sabha Unstarred Question No. 4028, answered 25 March 2025, and Lok Sabha Unstarred Question No. 3745, answered 12 August 2025.*

Research estimated for 2022-23 (about ₹1,622 per person per month, adjusted)[34]: approximately ₹1,323 crore a year. Of these, Option 1 is the preferred course: it is the option that directly closes the gap this recommendation targets, the ₹200 rate difference already paid within the same scheme at age 80, and it does so at the lowest additional cost of the three.

The additional cost should initially be met by reprioritising within existing social-sector ceilings, with fresh allocation sought only where necessary; the Centre-State share should be determined by the Ministry of Finance, as States currently provide varying top-ups, resulting in pensions ranging from ₹300 to ₹4,016 per month. A common Centre-State guideline should establish a national floor, with payments tracked through the Public Financial Management System and State-wise disbursements published quarterly. The revision should be phased over three years to make implementation verifiable. This recommendation addresses the adequacy and predictability of the pension, not coverage: eligibility remains a separate question and is not proposed for change in this brief.

5. Diagnose delivery constraints before increasing allocation. Some schemes are short of money; others have money but do not spend it, and the two require different fixes. SIPDA, the Government's main accessibility scheme, spent ₹43.90 crore of its ₹111 crore revised budget in 2024–25, while West Bengal received ₹1,998 crore under Samagra Shiksha but released none of it to the ground level. A utilisation threshold should therefore trigger a mandatory diagnostic statement: where a scheme uses less than 60% of its Revised Estimate, the Ministry concerned should, before the next Budget cycle, publish the constraint and identify the exact stage at which funds stopped moving. The Department of Expenditure should incorporate this requirement into the annual Budget Circular and require the statement before considering an enhanced Budget Estimate, while the Chief Commissioner should record non-publication in the annual report to Parliament. The measure is diagnostic, not punitive: the target is to reduce schemes below the 60% utilisation threshold from two of four assessed at baseline to zero within three Budget cycles, with the Delivery Gap Index published annually by State.

6. Equip the monitoring function; treat statutory reform separately.

6A. Immediately achievable. The Office of the Chief Commissioner carries a statutory mandate to monitor implementation but has not been equipped with the reporting instruments to discharge it across ministries. Through a Government-approved protocol, every ministry with a disability-relevant budget line, not only the nodal Department, should furnish an annual and quarterly disaggregated expenditure and beneficiary return, for the Commissioner to incorporate into the reports laid before Parliament under section 78.[35]

6B. Longer-term reform. Whether the Office should be constituted as an autonomous body, with jurisdiction extending beyond monitoring into departmental audit, is a separate institutional question. It would require legislative amendment and consideration of its relationship with the CAG and internal audit, and is recorded here

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[34] *SBI Research, Household Consumption Expenditure Survey 2022-23: Analysis of adjusted monthly per capita consumption expenditure, State Bank of India, February 2024 (rural ₹1,622 for 2022-23, adjusted). https://sbi.bank.in/documents/13958/36530824/270224-HCES_Feb24.pdf. Beneficiary ceiling of 8,33,751: Lok Sabha Unstarred Question No. 3745, answered 12 August 2025 (Ministry of Rural Development), Annexure (State/UT-wise cap, total 8,33,751). https://sansad.in/getFile/loksabhaquestions/annex/185/AU3745_par5qK.pdf?source=pqals. Rate of ₹300: Lok Sabha Unstarred Question No. 4028, answered 25 March 2025.*

[35] *RPwD Act, 2016, s. 75(1)(h) (monitor implementation of the Act and of schemes and programmes meant for persons with disabilities) and s. 75(1)(i) (monitor utilisation of funds disbursed by the Central Government for the benefit of persons with disabilities); s. 77(1)(b)–(c) (powers of a civil court to require the discovery and production of documents and to requisition any public record); s. 78 (annual and special reports submitted to the Central Government and laid before each House of Parliament with an action-taken memorandum); s. 93 (penalty for failure to furnish information). The fiscal monitoring mandate therefore already exists in statute; what is absent is a standing reporting channel through which ministries other than the nodal Department furnish disaggregated expenditure data as a matter of routine rather than in response to an inquiry. Constituting the Office as an autonomous body would require amendment of Chapter XII and is accordingly recorded as a proposition for consideration rather than as an administratively achievable measure.*

for examination rather than proposed as administratively achievable. Most disability expenditure sits outside DEPwD in Education, Health, Rural Development and Housing, so an office dependent on one Department cannot scrutinise the others on equal terms.

6. Implementation Considerations

Implementation alone will not suffice; monitoring establishes whether it is occurring, while evaluation establishes whether it is working. The brief therefore proposes a time-bound cycle built on transparency, quarterly review and clear ownership. Population estimates, budget allocations, CSR disclosures, State-wise releases and utilisation diagnostics should be publicly reported, with release and utilisation data published quarterly through PFMS. Finance, MCA, SEBI, the Rehabilitation Council, NCTE and the Chief Commissioner should have defined responsibilities. Recommendations 1 and 2 should precede the pension costing and CSR baseline, while classification guidance should reach accounting units before reporting begins. Persons with disabilities and industry bodies should inform indicator and reporting design.

7. Conclusion

The evidence points more strongly to implementation, financing and accountability gaps than to gaps in the statutory framework. India has a comprehensive disability Act, and almost every respondent said so. What is missing is the accounting behind it: a pension unrevised for fourteen years and set below a rate the same scheme already pays at 80; a mental health programme in 767 districts spending only 52.3% of its 2024-25 allocation; more than a third of allocated school funding never released to States; four-fifths of new departmental money routed to schemes with no expenditure record; a 5% housing reservation met at 0.12% to 0.60% of sanctioned units; a special educator requirement directed by the Supreme Court and still largely unfilled; and ten large companies with no field in which to report what they spend.Each of these is a measurement failure before it is a money failure. That is why the brief is called The Invisible Budget. What we cannot see, we cannot measure; what we cannot measure, we cannot fix.

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ANNEXURES

Annexure A. Sampling frame

Stakeholders were mapped at design stage by institutional category and role, which determined the purposive sampling frame. Twenty-seven interviews were completed: ten with civil society organisations; nine with government officials across the Ministry of Education, Ministry of Health and Family Welfare, NITI Aayog, NCERT, the Social Justice Division, Safdarjung Hospital and NSAP functionaries; and eight with CSR and philanthropy professionals. The Office of the Chief Commissioner and the nodal Department were engaged throughout as host institutions and as key informants.

Annexure B. Derivation of adequacy and cost figures

B1. Adequacy ratios

Unit costs are drawn from the GeM portal, the ADIP rate schedule and each scheme's notified norms; eligible population figures from UDISE+ enrolment and scheme beneficiary records. Where a published rate is a ceiling rather than an average, a 60 to 70% utilisation factor is applied. The Coverage Assumption is 1.00 below, meaning full coverage; where a scheme is intended to cover only a defined sub-group, the ratio should be recomputed with the applicable coverage fraction, which raises it substantially.

Scheme	Eligible population	Unit cost	Estimated requirement	Provision 2026-27	Ratio	Shortfall
Disability pension (IGNDPS)	Not computed; see note	₹3,600 per year at current rate	Not computed	₹290 crore	See note	Rate at 0.60 of the 80+ rate
Assistive devices (ADIP)	2.68 crore (Census floor)	₹11,129, scheme's own five-year average	Not computed; see note	₹375 crore	Coverage, not ratio	2,47,134 reached per year, 0.92%
Scholarships	Not applicable	Not applicable	Not computed	₹150 crore	Not a shortfall	Applications fewer than slots
Special educators (posts)	19,05,946 CwSN	1 per 10 to 1 per 15	1,27,063 to 1,90,595 posts	52,274 schools	0.27-0.41	74,789 to 1,38,321 posts
Girls' stipend	8,27,521 girl CwSN	₹2,000 per annum	₹166 crore	Within IE outlay	Not reported	Not disaggregated
Inclusive Education outlay	Not applicable	5% of parent allocation (analogy)	₹2,373.78 crore	₹1,444.91 crore	0.61	₹928.87 crore

Table B1. Adequacy ratios derived strictly from the stated formula at a coverage assumption of 1.00. The ratios measure distance from universal provision at the benchmark rate, not administrative failure against a narrower target.

Note on the pension row. No adequacy ratio is computed, and this is deliberate. Doing so would require an eligible-population denominator, and no verified official source establishes how many persons meet the scheme's conditions of severe or multiple disability, age 18 or above and BPL status. Inventing that denominator would repeat the error identified at Finding 2. What is established is the notified ceiling of 8,33,751, the unchanged rate, and the internal comparison against the ₹500 the scheme pays at 80 and above.[36]

Note on the ADIP row. No adequacy ratio is computed, because no published source establishes how many persons require a device in a given year. What is published is coverage: 12,35,669 beneficiaries over five years at a

[36] *Lok Sabha Unstarred Question No. 3745, answered 12 August 2025 (Ministry of Rural Development): IGNDPS beneficiary ceiling of 8,33,751 with State/UT-wise cap annexure. Rate of ₹300 and ₹500 at 80 and above: Lok Sabha Unstarred Question No. 4028, answered 25 March 2025 (Ministry of Social Justice and Empowerment).*

utilised cost of ₹1,375.19 crore, giving ₹11,129 per beneficiary and annual reach of about 0.92% of the recorded disabled population.[37]

Note on the scholarships row. Deliberately not reported as an allocation shortfall. Applications received nationally in 2024-25 were fewer than the slots available and the Revised Estimate was reduced from ₹142.68 crore to ₹80.00 crore. The binding constraint is awareness, certification and application, not the size of the provision, and recommending a larger allocation would misdiagnose the problem.

B2. Types of benchmark used, and their standing

Type	Definition	Where used	Standing
Statutory obligation	A duty created by the RPwD Act, 2016	ss. 24, 25, 26, 31, 37, 40-46	Legally binding; non-compliance is a legal failure
Judicially directed norm	A standard the Supreme Court directed be notified and met	Special educator PTR (Annexure E)	Binding through the Court's orders; compliance judicially supervised
Notified administrative norm	A rate or ceiling fixed by executive order or scheme rule	Samagra Shiksha ₹3,500 per child; girls' stipend; ADIP rates	Binding on the scheme, revisable by the executive without legislation
Statutory proportionality benchmark	The 5% of s. 37 applied by analogy to a scheme it does not textually cover	5% of the Samagra Shiksha allocation (B4)	Indicative of scale only; expressly not a legal requirement
External reference standard	A published non-governmental estimate, not created as an entitlement	SBI Research adjusted rural MPCE line	Descriptive only; attributed on every use; never asserted as an entitlement
Own-budget utilisation	A scheme measured against money already voted to it	SIPDA revised estimate	Internally binding; a shortfall is an absorption failure, not an allocation failure

Table B2. Benchmark typology. The compliance claim holds for rows one, two, three and six. Rows four and five support descriptive statements about scale and adequacy, not compliance findings.

B3. What the per-child norm can actually buy

An earlier approach costed promised components against assumed numbers of children needing each. No published source establishes those numbers, so that approach is not used. Instead each component is compared, at the Government's own realised cost, against the ₹3,500 per-child annual norm. This requires no assumed population and no estimate of need.

Component	Government's own realised unit cost	Source of the cost	As a multiple of the ₹3,500 norm
One assistive device	₹11,129 per beneficiary	ADIP five-year average: ₹1,375.19 crore across 12,35,669 beneficiaries[38]	3.18 times the whole annual norm

[37] *Lok Sabha Unstarred Question No. 2613, answered 16 December 2025 (Department of Empowerment of Persons with Disabilities): ADIP State-wise beneficiaries and utilised cost, 12,35,669 beneficiaries against ₹1,375.19 crore.*

[38] *Lok Sabha Unstarred Question No. 2613, "Assistance to Persons with Disabilities for Purchase/Fitting of Aids/Appliances," answered 16 December 2025, Ministry of Social Justice and Empowerment, Department of Empowerment of Persons with Disabilities, Annexure I, p. 3.*

Component	Government's own realised unit cost	Source of the cost	As a multiple of the ₹3,500 norm
Braille equipment	₹6,524 per beneficiary	ADIP braille component: ₹51.29 crore across 78,612 beneficiaries[39]	1.86 times the whole annual norm
Stipend, girls with special needs	₹2,000 per annum	Notified rate, ₹200 per month for ten months[40]	0.57 of the norm, before any other component

Table B3. Notified per-child norm against the Department's own realised unit costs. Every figure is drawn from a parliamentary answer; none rests on an assumed population.

B4. The 5% proportionality benchmark, and its limits

Section 37 does not textually cover education. The calculation below applies its 5% proportion by analogy, as an indication of scale. It is not a legal requirement and no compliance finding rests on it.

Step	Basis	Value
Parent scheme allocation	Samagra Shiksha central allocation to States and UTs, 2024-25	₹47,475.67 crore
5% proportion applied	Section 37 proportion, by analogy	₹2,373.78 crore
Inclusive Education component	2024-25, PRABANDH Portal, reported in Parliament[41]	₹1,444.91 crore
Ratio	₹1,444.91 crore ÷ ₹2,373.78 crore	0.61
Difference	₹2,373.78 crore − ₹1,444.91 crore	₹928.87 crore

Table B4. Both rows are 2024-25 figures, so the comparison is within a single year. Applying the same 5% to the 2026-27 Budget Estimate of ₹42,100 crore would give ₹2,105 crore, but no 2026-27 Inclusive Education component is yet published to compare against.[42]

Two cautions attach. First, the Inclusive Education figure is a composite: the source table states it includes support for Block Resource Persons for CwSN through BRC and URC, so it is not a like-for-like student-support figure, and the comparison indicates the scale of the disability component within the parent scheme rather than the adequacy of student support specifically. Second, because the analogy is not a statutory requirement, the correct use of this row is to prompt the question whether the disability component is proportionate, not to assert that a legal floor has been breached.

B5. Composition of the identified total

Component	Amount	Year and basis	Source
DEPwD, all schemes	₹1,669.72 crore	2026-27 Budget Estimate	Demand for Grants No. 94[43]

[39] *Lok Sabha Unstarred Question No. 74, "Braille Equipment Scheme", answered 1 December 2025 (Ministry of Education): 78,612 beneficiaries against ₹5,128.50 lakh.*

[40] *Stipend of ₹200 per month for ten months for girls with special needs and ₹3,500 per child per year: Rajya Sabha Unstarred Question No. 532, answered 7 February 2024 (Ministry of Education).*

[41] *Lok Sabha Unstarred Question No. 2527, answered 15 December 2025 (Ministry of Education): State-wise Inclusive Education component under Samagra Shiksha, 2024-25, grand total ₹1,44,491.01 lakh. Source: PRABANDH Portal.*

[42] *Lok Sabha Starred Question No. 426, "Allocation for Samagra Shiksha Scheme in Union Budget 2026-27", answered 23 March 2026 (Ministry of Education): Samagra Shiksha 2025-26 Budget Estimate ₹41,250 crore and Revised Estimate ₹38,000 crore; 2026-27 Budget Estimate ₹42,100 crore.*

[43] *Union Budget 2026-27, Notes on Demands for Grants, Demand No. 94, Department of Empowerment of Persons with Disabilities (BE 2026-27 ₹1,669.72 crore).*

Component	Amount	Year and basis	Source
IGNDPS disability pension	₹290.00 crore	2026-27 Budget Estimate	Demand for Grants No. 87; ceiling of 8,33,751 and rate as at notes on the pension[44]
Samagra Shiksha, Inclusive Education	₹1,444.91 crore	2024-25	Grand total 1,44,491.01 lakh, PRABANDH Portal[45]
District Mental Health Programme	₹157.62 crore	2024-25, approved under NHM	₹82.39 crore actually spent in 2024-25, a utilisation rate of 52.3% against the allocation[46]
Total identified	₹3,562.25 crore	Mixed years, as above	No single year is published for all four components

Table B5. The components fall in different reporting years because no published source reports all four for the same year. That is a limitation of the source material, not a choice, and it is the visibility problem of the brief documents. No share of the Union Budget is claimed, because no source in this study establishes the comparable denominator.

B6. The disability pension: what is established

No adequacy ratio against an eligible population is computed, and no real-value calculation is offered, because neither a verified eligibility denominator nor a scheme-specific deflator is established from the sources used. What follows is confined to published figures.

Measure	Value
Central rate, ages 18 to 79	₹300 per month, unrevised since 2012
Central rate, age 80 and above	₹500 per month, same scheme
₹300 as a share of the Government's own 80+ rate	0.60
Notified State and UT beneficiary ceiling	8,33,751
2026-27 provision	₹290 crore
Range actually received, including State top-up	₹300 to ₹4,016 per month
Position on revision	No proposal to increase the rate is under consideration
SBI Research adjusted rural MPCE line (non-governmental)	₹1,622 per month; urban ₹1,929

Table B6. The comparison at row three needs no external benchmark and no price series: the Government already pays ₹500 under this scheme to one group of beneficiaries.[47]

On the subsistence comparison. The ₹1,622 figure is not an official Government of India poverty line and is not presented as one. It is SBI Research's adjusted monthly per capita consumption expenditure estimate for rural areas, derived from Household Consumption Expenditure Survey data, with a corresponding urban figure of

[44] *Union Budget 2026-27, Notes on Demands for Grants, Demand No. 87, Department of Rural Development, item 6.04, IGNDPS: Budget Estimate 2026-27 ₹290.00 crore. https://www.indiabudget.gov.in/doc/eb/sbe87.pdf. Ceiling of 8,33,751: Lok Sabha Unstarred Question No. 3745, answered 12 August 2025; rate: Lok Sabha Unstarred Question No. 4028, answered 25 March 2025.*

[45] *Government of India, Ministry of Education, Department of School Education and Literacy, Lok Sabha Unstarred Question No. 2527: "Children with Special Needs under Samagra Shiksha Abhiyan," answered 15 December 2025, Annexure II, "Grand Total," 2024–25 column. Source: PRABANDH Portal. ₹1,44,491.01 lakh converted to ₹1,444.91 crore.*

[46] *Rajya Sabha Unstarred Question No. 288, answered 2 December 2025 (Ministry of Health and Family Welfare): District Mental Health Programme under the National Health Mission, 2024-25, funds approved ₹157.62 crore, actual expenditure ₹82.39 crore; DMHP sanctioned for 767 districts. https://sansad.in/getFile/annex/269/AU288_eBYI3u.pdf?source=pqars*

[47] *Lok Sabha Unstarred Question No. 4028, answered 25 March 2025 (Ministry of Social Justice and Empowerment): IGNDPS central rate of ₹300 for ages 18 to 79 and ₹500 at 80 and above.*

₹1,929. It is attributed to every use. It supports one limited statement: a transfer meeting under a fifth of that cost is not, on any reading, discharging a subsistence function. No compliance finding rests on it.[48]

B7. Costing of the pension revision

Additional cost = Beneficiaries × monthly increase × 12 × Centre share. The figures below are additional annual expenditure over the existing base, not gross programme cost.

Target rate	Rationale	Inputs applied	Additional annual cost
₹500 per month	Parity with the rate the Government already pays under this scheme at age 80 and above	8,33,751 × ₹200 × 12	Approx. ₹200 crore
₹1,000 per month	A round administrative target	8,33,751 × ₹700 × 12	Approx. ₹700 crore
₹1,622 per month	Parity with the SBI Research adjusted rural line	8,33,751 × ₹1,322 × 12	Approx. ₹1,323 crore

Table B7. The base is the scheme's own notified ceiling of 8,33,751. All assume the increase applies to the 18-79 rate; no age breakdown of the ceiling is published, so the first row slightly overstates cost by including beneficiaries already receiving ₹500. No costing is offered for the school support norm, because the Inclusive Education outlay is not disaggregated between student support and salaries, and any figure would be assumption rather than evidence.

B8. Departmental allocation series

Year	Amount	Budget stage
2021-22	₹1,171.77 crore	Allocation, per parliamentary reply
2022-23	₹1,212.42 crore	Allocation, per parliamentary reply
2023-24	₹1,225.15 crore	Allocation, per parliamentary reply
2024-25	₹1,084.00 crore	Actual expenditure
2025-26	₹1,275 crore BE / ₹1,292 crore RE	Budget and Revised Estimate
2026-27	₹1,669.72 crore	Budget Estimate, Demand for Grants No. 94

Table B8. Each figure is a distinct budget stage and the stages are not interchangeable; the 2024-25 figure is actual expenditure and the others are allocations, so the series is read stage by stage rather than as one continuous line.[49]

B9. Denominator sensitivity

Population estimate	Basis	Persons	Identified spend per person per year
Census 2011	Enumerated count, eight categories (hearing and speech separate)	2.68 crore	₹1,329
Growth-adjusted Census	2011 count projected forward	3.4 crore	₹1,048
Expert estimate	Twenty-one RPwD categories applied	5 crore	₹712
WHO global prevalence	Approx. 16% applied to population	20 crore	₹178

[48] *SBI Research, Household Consumption Expenditure Survey 2022-23: Analysis of adjusted monthly per capita consumption expenditure, State Bank of India, February 2024. https://sbi.bank.in/documents/13958/36530824/270224-HCES_Feb24.pdf*

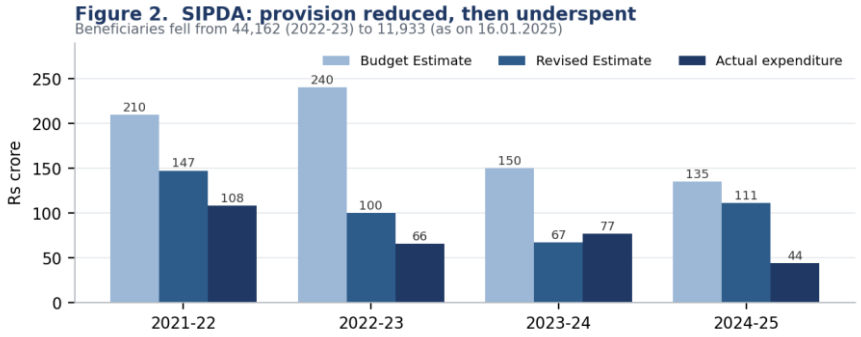
[49] *Union Budget 2026-27, Notes on Demands for Grants, Demand No. 94, Department of Empowerment of Persons with Disabilities, and Rajya Sabha Unstarred Question No. 2053, answered 17 December 2025.*

Table B9. Scenario values showing how far adequacy moves with the population base chosen. They are not estimates of expenditure actually received per person, and none is preferred here.[50]

B10. SIPDA over four years

Year	Budget Estimate	Revised Estimate	Actual expenditure	Beneficiaries
2021-22	₹209.77 crore	₹147.31 crore	₹108.44 crore	Not reported
2022-23	₹240.39 crore	₹100.00 crore	₹65.59 crore	44,162
2023-24	₹150.00 crore	₹67.00 crore	₹76.79 crore	29,374
2024-25	₹135.33 crore	₹111.00 crore	₹43.90 crore (03.03.2025)	11,933 (16.01.2025)

Table B10. Provision was reduced at Revised Estimate stage in three of four years, expenditure fell below the revised figure in three of four, and beneficiaries declined by roughly three quarters.[51]



Annexure C. The Delivery Gap Index

Delivery is decomposed into two sequential stages, each with its own responsible actor, so that a blockage can be located rather than merely observed. Release Rate = Funds Released ÷ Funds Allocated (Centre stage). Absorption Rate = Expenditure ÷ Funds Released (State stage). Delivery Gap Index (release-stage) = 1 − (Funds Released ÷ Funds Allocated); where expenditure-stage data exists, this is a lower bound on the true delivery gap.

State	Allocated	Released	Release rate	Delivery gap
West Bengal	₹1,998 crore	Nil	0.0%	1.00
Kerala	₹452 crore	₹92 crore	20.4%	0.80
Tamil Nadu	₹1,847 crore	₹626 crore	33.9%	0.66
Maharashtra	₹1,432 crore	₹968 crore	67.6%	0.32
Karnataka	₹1,103 crore	₹791 crore	71.7%	0.28
Bihar (for contrast)	₹5,897 crore	₹5,534 crore	93.8%	0.06
National	₹47,017 crore	₹29,997 crore	63.8%	0.36

[50] *Census of India 2011; National Statistical Office, Persons with Disabilities in India: NSS 76th Round (July to December 2018); NFHS-5 (2019-21); WHO and World Bank, World Report on Disability (2011). Denominators are scenarios, not measurements.*

[51] *Rajya Sabha Unstarred Question No. 2053, answered 17 December 2025 (Department of Empowerment of Persons with Disabilities), and Standing Committee on Social Justice and Empowerment, Sixth Report (Demands for Grants 2025-26),*

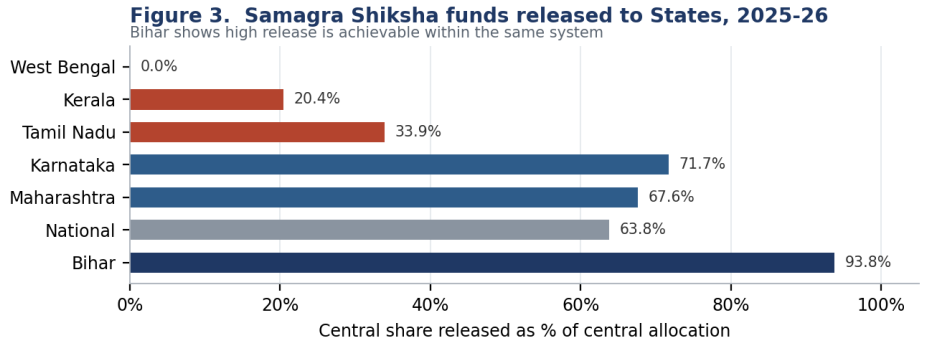


Table C1. Samagra Shiksha fund release, 2025-26. Bihar shows high release rates are achievable within the same system, which is what makes the low ones a delivery question rather than a structural constraint.

The index runs from 0.00, all allocated money spent, to 1.00, none of it spent. In the States examined the failure is at the release stage rather than the absorption stage, meaning the State never received the money it is recorded as having been allocated; a remedy aimed at State capacity would not address this. Where expenditure-stage figures are not published, the index is reported as a release-stage lower bound and marked as such. Publishing it annually by State and scheme is the monitoring instrument proposed at Recommendation 5.

Annexure D. The statutory 5% floor: scope and what is not published

Element	What Section 37 provides	What it does not provide
Who is bound	The appropriate Government and local authorities, so Union, States and local bodies alike	It does not bind private companies
Which schemes	Land and housing allotment; poverty alleviation and development schemes; concessional land allotment	It is not a 5% earmark on the whole Union or State budget, and does not textually cover education or health schemes
Who benefits	Persons with benchmark disabilities, with priority to women	It does not extend to all persons with disabilities as defined in s. 2(s)
How it operates	By notification, meaning a scheme must be notified to give it effect	It is not self-executing in the absence of a notification

Table D1. Scope of Section 37. Stating the boundary precisely is what makes the compliance argument in Finding 4 and Recommendation 6 difficult to dispute.[52]

What this brief does and does not claim. It claims the reservation exists and that ministries do not proactively publish performance against it. Where parliamentary questions have elicited the data, as for PMAY, the share allotted is a small fraction of the mandate: 0.12% under PMAY-Gramin and 0.60% under PMAY-Urban. Substituting an estimate for any scheme lacking such data would still breach the evidentiary

standard the brief sets for itself. Routine, proactive publication of the disaggregation across all schemes remains the point of Recommendation 6.[53]

[52] *Rights of Persons with Disabilities Act, 2016, s. 37 (special schemes and development programmes) and s. 38 (special provisions for persons with disabilities with high support needs).*

[53] *Rajya Sabha Unstarred Question No. 2062, "4 per cent housing reservation policy for PwDs," answered 6 August 2025 (Department of Empowerment of Persons with Disabilities); Rajya Sabha Unstarred Question No. 239, "Inclusion of Persons with Disabilities under PMAY–Urban," answered 2 February 2026 (Ministry of Housing and Urban Affairs),; RPwD Act, 2016, s. 37.*

Annexure E. Special educators: judicial record and requirement derivation

Date	What was recorded or directed	Significance
28 October 2021	22.5 lakh children with special needs against 28,535 special teachers available, and 1,20,781 special educators registered with the Rehabilitation Council. A dearth of qualified professionals held; Union directed to notify pupil-teacher norms and create commensurate permanent posts	Establishes the shortfall as a judicially recorded fact and the norm as judicially directed
21 July 2022	Union confirmed acceptance of RCI-recommended norms: one special educator per ten children at primary, one per fifteen at upper primary and above, with parity of pay and service conditions	Fixes the ratio used in Table 1 and Table B1
12 March 2024	Further directions on compliance with the 2021 judgment	Part of the compliance record the 2025 order refers back to
7 March 2025	No State had made appointments against sanctioned posts and a large majority had not identified how many were required. Every State directed to notify sanctioned posts, advertise vacancies in two widely circulated newspapers and on departmental websites, and recruit only RCI-certified teachers	Establishes the gap as a documented compliance failure four years after judgment

Table E1. Rajneesh Kumar Pandey & Ors. v. Union of India & Ors., W.P. (C) No. 132 of 2016 with W.P. (C) No. 876 of 2017.[54]

Step	Basis	Value
Enrolment, government universe	UDISE+ 2024-25, government, aided and local body schools	19,05,946
Enrolment, all-schools universe	UDISE+ 2024-25, all schools including private	21,49,258
Requirement at 1 per 15 / 1 per 10, government universe	Enrolment ÷ 15 and ÷ 10	1,27,063 to 1,90,595
Schools with an educator, government universe	UDISE+ 2024-25 (46,370 in 2020-21)	52,274
Schools with an educator, all-schools universe	UDISE+ 2024-25	1,12,340
Supply as share of requirement	Government universe / all-schools universe	0.27-0.41 / 0.52-0.78
Registered special educators	Central Rehabilitation Register, reported 2026	Approx. 2.33 lakh

A related staffing norm. In January 2026 the Central Board of Secondary Education amended Clause 2.4.12 of its Affiliation Bye-Laws to require one counselling and wellness teacher for every 500 students, together with a career counsellor. It is an affiliation condition applying to CBSE schools rather than a disability-specific or universal norm, and the brief does not treat it as one. It is recorded only as an analogy: it shows that a per-student

[54] *Rajneesh Kumar Pandey & Ors. v. Union of India & Ors., W.P. (C) No. 132 of 2016 with W.P. (C) No. 876 of 2017: judgment dated 28 October 2021; orders dated 21 July 2022, 12 March 2024 and 7 March 2025.*

staffing ratio can be made a condition of affiliation for CBSE schools, but it is not authority for enforcing the special educator ratio, which rests on the notification of 21 September 2022 and the Supreme Court's orders.[55]

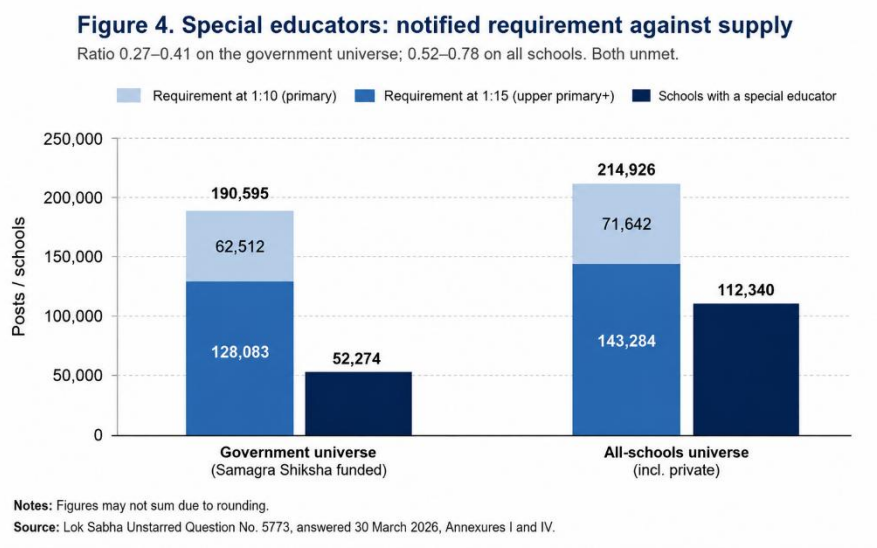


Table E2. Requirement derivation on both published universes. Supply is counted as schools reporting an educator, not individuals, so a school with two educators counts once and the true ratio is at or below each range shown. The brief uses the government universe, which Samagra Shiksha funds; the all-schools universe is reported so a reader encountering the higher official figure can see how the two relate.[56]

Annexure F. CSR benchmarking instrument and scores

The scale is a disclosure-quality instrument, not a spending measure. It scores what a company says and how verifiably it says it, because no company publishes a disability expenditure figure. Sixteen points are distributed across three dimensions and scored in half-point increments from published sources only. The number sixteen is the sum of the three-dimension weights and carries no external significance; it is reported so scores can be reproduced.

Dimension	What it captures	Points	Scoring basis
Policy clarity	Whether disability is named as a distinct CSR pillar, and consistently across years	6	Named and sustained scores highest; incidental mention lowest
Breadth of activity	Distinct domains covered: employment, accessibility, education, assistive technology, products	6	One point per domain evidenced in published reporting
Governance quality	Whether numbers are published and independent impact assessment conducted	4	Published beneficiary or expenditure figures and third-party assessment

Table F1. Bands: 13.0 and above Transformative; 7.0 to 12.5 Programmatic; below 7.0 Emerging.

[55] *Central Board of Secondary Education, Circular No. 02/2026 dated 19 January 2026, Amendment in Clause 2.4.12 of the Affiliation Bye-Laws 2018 regarding appointment of Counsellor and Wellness Teacher in CBSE schools*

[56] *Notification No. S.O. 4586(E) dated 21 September 2022, Department of School Education and Literacy (one special educator per 10 CwSN at primary level, one per 15 above); Rajya Sabha Unstarred Question No. 485, answered 4 February 2026, Annexures I and II; Lok Sabha Unstarred Question No. 5773, answered 30 March 2026, Annexure-IV (52,274 and 46,370).*

Company	Score / 16	Band	What stood out
Bajaj Finserv	15.0	Transformative	Reports supporting 5,54,229 persons with disabilities
Bajaj Finance	14.5	Transformative	Named disability pillar for five consecutive years
Union Bank of India	14.5	Transformative	Talking ATMs, braille cards, five national awards
Axis Bank	10.0	Programmatic	2,50,000 persons reached; disability in founding mandate
Kotak Mahindra Bank	9.5	Programmatic	966 trained, 58% placed, independently assessed
HDFC Bank	7.5	Programmatic	Largest CSR spender, but disability not a named pillar
Federal Bank	7.5	Programmatic	Rehabilitation institute partnership; women entrepreneurs
IndusInd Bank	7.5	Programmatic	45 para athletes supported over ten years
State Bank of India	7.0	Programmatic	The only rupee figure in the sector, ₹10 crore to ALIMCO
ICICI Bank	4.0	Emerging	First disability disclosure in 2025, after seventeen years

Table F2. These scores are the author's assessment applying the instrument at Table F1 to published company annual reports, CSR disclosures and BRSR filings. They are not a government statistic, and no standardised external index of this kind exists.[57]

Scope note. These ten are banks and non-banking finance companies; insurers were excluded because their disclosure conventions differ enough to make comparison unreliable. Two distinct models of engagement are present: grant-giving, which appears in CSR accounts, and building accessible products and hiring disabled staff, which barely appears at all. A reporting rule capturing only the first would systematically undercount the second, which is why Recommendation 3 extends to BRSR.

Annexure G. Thematic coding of interviews

Twenty-seven interviews were coded by hand against a common codebook and checked against two computational methods, one keyword-based and one semantic. A theme was marked present if the respondent raised it. Frequencies describe this purposive sample and are not population estimates.

Theme	Civil society (n=10)	Government (n=9)	Both
Policy design and implementation	100%	100%	Yes
Accessibility and administrative barriers	100%	100%	Yes
Budgeting, data and resources	100%	77.8%	Yes
Governance and coordination	Not coded	88.9%	No
Digital governance and data systems	Not coded	88.9%	No
Employment, corporate responsibility, attitudes	100% each	Not coded	No
Technology and accessibility tools	70%	Not coded	No

[57] *Author's assessment applying the instrument at Annexure F, Table F1 to published annual reports, CSR disclosures and BRSR filings of the ten companies named. Not a government statistic; no standardised external index of this kind exists.*

Theme	Civil society (n=10)	Government (n=9)	Both
Caregiver support; representation	60% each	Not coded	No
Staffing; rehabilitation and mental health; rural inequality	Not coded	55.6% each	No
Inclusive education	Not coded	44.4%	No

Table G1. Two codebooks were applied, one to civil society and one to government transcripts, which is why not every theme appears in both columns.

Three notes on what these figures can bear. First, within the budgeting theme, respondents in departments other than the nodal Department described disability allocations in terms of scheme provisions rather than statutory obligations, and awareness of the Section 37 reservation as a budgeting requirement was limited; this is a qualitative observation, not a measured frequency, and it is the basis for the circular proposed at Recommendation 6. Second, the table covers 19 of the 27 interviews; the eight with CSR professionals informed Finding 6 and the design of Recommendation 3 but were not coded into a frequency table, so the interview count should not be read as the base for these percentages. Third, coding was performed by a single researcher. Two computational methods agreed on the principal themes, but a lone coder applying their own codebook tends towards higher apparent consensus than double-coded work, so the 100% rows record what one coder logged as raised, not verified inter-coder agreement.

The vocabulary is itself a finding. Implementation, inclusion, accountability, governance, budget and accessibility dominate both codebooks. Words associated with charity or medical treatment barely appear. Respondents on all three sides describe disability as a question of systems and money.

Annexure H. Consolidated research limitations

Limitation	Effect on findings
No current national disability population denominator; four estimates varying sevenfold	All per-capita figures are scenario values, not measurements. Table B9 reports the full range rather than selecting one.
Coverage limited to four ministries	Aggregates are identified expenditure within schemes examined, never a national total. No share of the Union Budget is claimed.
Benchmarks are of six different types, only some statutory	The compliance claim holds for statutory, judicially directed, notified administrative and own-budget benchmarks. The proportionality benchmark and the subsistence comparison are descriptive and labelled as such.
Unit costs rely in places on published ceiling rates, with a 60 to 70% utilisation factor	Requirement estimates, and therefore shortfalls, are conservative.
Unit costs are realised averages, not per-item catalogue prices	An average across a mix of devices does not price any single device. It establishes order of magnitude against the norm, which is the only claim made.
Special educator supply counted as schools, not individuals	The true ratio is at or below the range reported, never above it. The direction of error is conservative.
No verified eligible-population denominator for the disability pension	No adequacy ratio is computed for IGNDPS. The finding rests on the internal rate comparison and the notified ceiling, neither of which requires a denominator.
Section 37 compliance data is not proactively published for any scheme examined	Where parliamentary questions elicited the data, as for PMAY, the share allotted, 0.12% to 0.60%, is reported as a measured shortfall, not merely an accounting gap.
DMHP utilisation figure rests on a single reply	The ₹82.39 crore expenditure figure comes from one parliamentary reply and has not been independently corroborated across years.

Limitation	Effect on findings
The subsistence comparison uses a non-governmental estimate	The ₹1,622 figure is SBI Research's, not an official poverty line. It is attributed on every use and no compliance finding rests on it.
CSR sample is ten financial-sector companies, purposively selected	Supports no sector-wide or economy-wide inference. The reporting-field finding generalises only because it follows from the form's design.
CSR scores are the author's assessment, not a government or third-party index	They measure disclosure quality only, are reproducible from the instrument at Annexure F, and support no claim about spending levels.
Qualitative interviews purposive (n = 27), not statistically representative	Theme frequencies describe this sample only and are not population estimates.
Single-coder thematic analysis without second-coder verification	Apparent consensus is likely overstated. Triangulated against two computational methods as partial mitigation.
Analysis is descriptive and administrative, not causal or econometric; no regression, panel-data, or outcome-linkage methods are applied	This is a deliberate scope choice, not an oversight: the brief establishes what allocations, releases and expenditures are and are not, which requires no causal model. Claims about why delivery fails, or what spending causes in welfare terms, are outside this brief's evidentiary base and are not made.
State delivery figures obtained at release stage only	Delivery Gap Index values are release-stage lower bounds.
International estimates of the cost of exclusion derive from older cross-country modelling	Not used as a finding. No contemporary India-specific estimate was located, so no such figure is relied upon.
Cost estimate covers the frozen pension norm only	The ₹200 to 1,323 crore range is not the cost of full RPwD Act compliance, which this study does not estimate. No costing is offered for inclusive education, because the outlay is not disaggregated.

Table H1. Consolidated limitations and their effect on what the findings can support.

Acknowledgement

This policy brief was developed as part of the Embark India Development Fellowship (EIDF) 2025–26, in association with GRAAM, during a placement at the Office of the Chief Commissioner for Persons with Disabilities (CCPD), Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment, Government of India.The author gratefully acknowledges the guidance and institutional support received from the Office of the Chief Commissioner for Persons with Disabilities. Particular appreciation is extended to Mr. S. Govindraj, Commissioner, Office of the Chief Commissioner for Persons with Disabilities, for his mentorship and encouragement; Dr. Balu I, Senior Research Fellow, GRAAM, for research guidance and analytical support; and Mr. Kiran Rajashekariah, Senior Advisor, ESG and Sustainability, for valuable inputs on corporate social responsibility, ESG and disability inclusion.The author also thanks GRAAM and the EIDF programme team for the opportunity, training and continued support that made this work possible.

Editorial Notes

The review highlighted the need to make the analysis more empirically grounded and to clarify how the study's evidence supports its conclusions. Reviewers also suggested examining the relationship between budget allocations and actual delivery, including the limits of available data. Further work could sharpen the problem definition, explain the analytical method and distinguish clearly between documented findings and areas where evidence remains incomplete.

The invisible budget - Disability financing in select central schemes: what is allocated, what is delivered, and what cannot be seen

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September 2026

1. Executive Summary

Under the Divyang Sahara Yojana (DSY), ALIMCO is establishing permanent Assistive Technology Marts (AT Marts) to transition from cost-capped welfare camps toward an open-market, commercial retail model. This initiative significantly expands consumer choice for Divyangjan and senior citizens by offering certified, basic-to-advanced assistive devices under one roof. However, scaling a franchised retail format creates key operational risks regarding service quality, clinical fitting, after-sales maintenance, and partner oversight. To safeguard the brand and guarantee consistent service standards, ALIMCO must institutionalise a unified oversight protocol integrating ERP-driven tracking, field audits, and clear exit contingencies. Ensuring financial accessibility for high-value devices requires formalising point-of-sale EMI and credit partnerships, supported by structured referral pipelines with clinicians and NGOs. Furthermore, ALIMCO should supplement its franchise and company-owned rollouts by piloting capital-light delivery alternatives: a member-owned Divyangjan cooperative leveraging NDFDC self-help groups, and a tripartite Public-Private-Philanthropic Partnership (PPPP) using CSR capital and NGO retail operations. Implementing these integrated measures alongside designated Centre-State nodal governance will position AT Marts as sustainable, trusted hubs delivering lifelong assistive technology support.

2. Introduction & background

Timely access to high-quality assistive devices is a fundamental need for India's Divyangjan and senior citizens. The Divyang Sahara Yojana (DSY), announced in the Union Budget 2026–27 with an outlay of ₹100 crore, responds to this need through three components. First, it supports the Artificial Limbs Manufacturing Corporation of India (ALIMCO) in scaling up production of assistive devices and investing in R&D and AI integration. Second, it strengthens PM Divyasha Kendras (PMDKs), the existing network of centres through which beneficiaries access ALIMCO's devices and services. Third, it supports the establishment of Assistive Technology Marts (AT Marts): modern, retail-style centres where Divyangjan and senior citizens can see, try, and purchase assistive products. The scheme forms part of the Department's broader mandate for disability empowerment and its Viksit Bharat@2047 goal of ensuring inclusive and dignified access to services.

ALIMCO sits at the centre of this transformation. The corporation, a MiniRatna Category-II Central Public Sector Enterprise operating since 1976, runs six Auxiliary Production Centres and seven Regional Marketing Centres nationally, alongside 100+ operational PM Divyasha-Vayoshri Kendras covering every state and union territory.[58]

[58] ALIMCO, Company profile

Its established implementation model, institutional capacity, and extensive outreach through Central Sector schemes such as Assistance to Persons with Disabilities for Purchase/Fitting of Aids /Appliances (ADIP Scheme) and Rashtriya Vyoshri Yojana (RVY) will therefore be critical to the successful execution of DSY.[59]

ADIP provides free or subsidised assistive devices to persons with disabilities through ALIMCO, National Institutes, CRCs and eligible NGOs, mainly through assessment and distribution camps. RVY supports economically vulnerable senior citizens aged 60+ with free or subsidised assisted-living devices and is implemented exclusively by ALIMCO through camps in coordination with district administrations.

This brief focuses specifically on the third component: AT Marts. As understood by the DSY announcement, AT Marts are the permanent, retail presence where beneficiaries can see, try, and purchase assistive products. This represents a significant addition to India's disability ecosystem. It would also place ALIMCO in more direct and sustained contact with beneficiaries as customers.

AT Marts are the most immediate of the three DSY components to act on. In April 2026, ALIMCO published a formal Expression of Interest inviting agencies to be empanelled for the establishment and operation of AT Marts on a franchise basis.

The brief therefore examines whether ALIMCO is institutionally positioned to launch and oversee AT Mart models and, based on its readiness to manage risks identified through comparable global and local examples, considers alternative models and policy actions that could support the successful operationalisation of AT Marts.

The brief is intended primarily for senior policymakers and decision-makers within the Ministry of Social Justice and Empowerment, DEPwD and ALIMCO, with relevance for State Governments, implementation partners and other stakeholders involved in the design and operationalisation of AT Marts.

3. Problem statement

AT Marts would mark a shift in how ALIMCO delivers assistive technology (AT). Today, much of its distribution under ADIP and RVY happens through camps. AT Marts would require a permanent retail presence. This raises a basic question: is ALIMCO ready to manage this new model?

AT Marts could make access easier for beneficiaries. They would not have to wait for a camp or follow a fixed schedule. They could visit a Mart when needed, compare products, and return for fitting or adjustments. This could also give them greater choice. But this will work only if products are affordable and services are reliable.

[59] ALIMCO-Call of interest

The franchise structure also creates an oversight challenge. Under the current empanelment terms, ALIMCO would oversee store design, branding, and promotional support. The empanelled franchise partner would manage day-to-day operations. This makes partner selection and oversight critical to the success of the model.

This matters because AT Marts will deliver more than a retail product. They will also need to provide fitting, adjustments and follow-up support. Inconsistent partner quality and weak day-to-day oversight can undermine franchised service models. The challenge becomes greater when the same service standards must be maintained across multiple independently operated locations.[60]

This risk is particularly important for assistive technology. The relationship with a beneficiary does not end when a device is sold or distributed. Many devices require fitting, follow-up, maintenance, or adjustments.

This is not a new challenge. A 2021 peer-reviewed review of India's wheelchair provision system found that while manufacturing and supply infrastructure was well established, post-distribution services such as fitting, follow-up and maintenance remained limited.[61] AT Marts therefore have an opportunity to address an existing gap, but only if these services are built into the operating model.

AT Marts could help address some of these gaps. But they could also reproduce them in a different form. A well-designed store, strong branding, and product availability will not be enough if service quality varies across franchise locations. If these gaps are not addressed early, AT Marts could become mainly points of sale rather than points of service. Beneficiaries may receive poorly fitted devices, face difficulty getting repairs or adjustments, or avoid returning to the Mart altogether. For ALIMCO, this could also lead to inconsistent beneficiary experience, weak franchise performance, and loss of trust in the AT Mart brand. The key challenge is therefore to establish clear service standards and a workable system for monitoring franchise partners.

This makes the current stage of implementation critical. AT Marts are already out for empanelment, while the operating model is still taking shape. ALIMCO therefore needs to define the capabilities, service standards and oversight mechanisms required before the network is scaled.

4. Evidence and key findings

ALIMCO enters the AT-Mart rollout with an established manufacturing and distribution network but limited retail-format experience. While it has an online delivery system for beneficiaries outside ADIP and RVY, a government-mandated assistive technology retail model is new to the organization.

KIIs with ALIMCO's CMD, marketing, design and operations heads, and a franchise partner provided insights into its understanding of the AT-Mart concept.

[60] User satisfaction and dissatisfaction with assistive technology devices and services in India
[61] Assistive technology usage, unmet needs and barriers to access: a sub-population-based study in India

Under DSY, AT-Marts are envisioned as specialized, year-round, open-market retail outlets operated through PPP/franchise partnerships alongside COCO flagship stores. They will provide persons with disabilities, senior citizens and caregivers access to certified assistive products, from basic mobility aids to AI-enabled solutions. The model is commercially viable and non-grant based, emphasizing consumer choice, experiential retail, clinical guidance, and post-purchase technical support.

Operationally, the model maintains a clear division of control: ALIMCO centrally oversees branding, cataloguing, procurement, and quality assurance referencing BIS/CE benchmarks, while franchise partners manage local storefronts, footfall, and primary customer service within fixed MRP limits. Inventory flows through ALIMCO's national warehouse backbone with tiered replenishment, complemented by a shared, multi-tiered after-sales service network that provides warranty coverage, hands-on staff training, and professional onboarding.

Early learnings from the pilot rollout in Kanpur demonstrate strong commercial interest and agile manufacturing adjustments, underpinning phased near-term expansion plans across Tier 2 and Tier 3 markets. However, the study identifies critical strategic and operational hurdles to sustainable scaling: synchronising manufacturing and procurement with network expansion, bridging working-capital and partner-performance disparities, setting up consumer financing such as EMIs for high-cost devices, and resolving Centre-State-ALIMCO governance interfaces through dedicated standard frameworks.

The detailed version is provided in Annexure: "Thematic Summary".

A. Literature review : what government-run retail requires

Evidence from assistive technology (AT) and other government-supported retail models offers useful lessons for the proposed AT Marts. These examples show that expanding access is possible, but depends on affordability, product availability, service quality and strong oversight.

The UK's Transforming Community Equipment Services (TCES) provides a direct example of government-supported AT retail. Healthcare professionals assess users and prescribe equipment, which can then be obtained from approved local retailers. Users can pay extra for a preferred product. The model expands choice and reduces the need for public agencies to hold large inventories. However, uneven retailer coverage in rural areas and the burden of monitoring private providers remain challenges.[62] ,[63]

Norway and Sweden take a more service-oriented approach. Their regional AT centres combine assessment, product trials, fitting, training, repairs, maintenance and redistribution. This supports users throughout the device

[62] NHS Brighton and Hove's Transforming Community Equipment services Feasibility Study
[63] Department of Health: Research and development work relating to assistive technology 2010-11

lifecycle rather than treating AT as a one-time purchase. The model places less emphasis on commercial incentives. Its limitation is that dependence on regional centres can affect physical access and make expansion more difficult.

Brazil's Farmácia Popular programme offers a useful lesson on public-private delivery. Its accredited private pharmacy network expanded faster than the government-owned network, suggesting that partnerships can support rapid scale-up. However, a 2010 federal audit found weak internal controls in the private network, including dispensing and record-keeping gaps. This shows that formal oversight systems are not enough. They must be properly resourced and enforced.[64], [65]

The closest Indian precedent is Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP). Its government-branded franchise model has expanded from around 80 stores in 2015 to more than 18,000 by early 2026.[66] Franchisees receive a 20% operating margin and performance incentives, with additional support for Divyangjan entrepreneurs.[67] Its quality system is also structured, with products sourced from WHO-GMP-certified manufacturers and tested through NABL-accredited laboratories. Yet financial sustainability remains a concern. A 2018 survey found that 84.6% of 169 store owners earned less than ₹5,000 per month.[68] A further lesson comes from India's government-supported wheelchair provision system. A 2021 review found that while manufacturing and supply infrastructure had developed substantially, fitting, follow-up and maintenance services remained limited. This highlights a key risk for AT Marts: building a retail network is only part of the solution. The model must also provide reliable post-sale support.

5. Policy options analysis

Option 1: Franchise-led scaling - A franchise model is a business arrangement where the brand owner (the franchisor — ALIMCO, in this case) grants an independent operator (the franchisee) the right to sell its products under its name and systems. The franchisee invests their own capital, runs day-to-day operations, and bears the commercial risk of that single outlet. In return, they typically buy stock from the franchisor at a discount and keep the margin when they sell it, rather than paying a separate royalty. The franchisor keeps control over things like branding, product specifications, and quality standards, but hands off daily staffing, local execution, and operational decisions to the franchisee.

Advantages: Lower capital needs, faster expansion, and strong local market knowledge through partners.

Considerations: The model is still being tested. As it expands, stronger monitoring and consistent operating standards will be important.

[64] Emmerick ICM, et al. "Farmácia Popular Program: changes in geographic accessibility of medicines during ten years of a medicine subsidy policy in Brazil
[65] Impacts of a Brazilian pharmaceutical program on the health of chronic patients
[66] IMPRI India, Instagram
[67] PIB, 7th Mar, 2026
[68] The Ken, 25th Nov, 2021

Feasibility: High in the near term, as the model is already operational and expanding.

Option 2: Company-owned, company-operated (COCO)- Here, ALIMCO itself owns the outlet outright and directly employs the staff running it — there's no external partner. This means ALIMCO bears the full capital cost and operational risk, but in exchange keeps complete control over quality, staffing, pricing, and the customer experience. It's the same structure many people already know from company-run petrol pumps, as opposed to franchised ones.

Advantages: Greater control over quality, staffing and customer experience, with more consistent service standards.

Considerations: Higher operating costs, slower expansion, and a need to build in-house retail capabilities.

Feasibility: Suitable for selected locations and useful for building ALIMCO's retail experience, but less suited to rapid national scaling on its own.

Overall assessment

Both models have clear strengths. Franchising supports faster, lower-cost expansion, while COCO provides greater operational control. Rather than choosing one model, the recommendations consider how both could be strengthened and whether complementary models could support DSY's goals.

6. Recommendations

The recommendations below are based on the key informant interviews referenced throughout this brief. These interviews covered ALIMCO's CMD, Marketing, Design & Development, Materials Management & Projects, and Delhi/NCR leadership.

A. Alternative Model Based Recommendations

1. Pilot a Divyangjan-Owned Cooperative AT-Mart Model

The franchise and COCO models both keep ownership of the AT-Mart outside the beneficiary community. Under the franchise model, a franchise partner owns the outlet. Under the COCO model, ALIMCO owns it. In both cases, Divyangjan and senior citizens participate mainly as customers.

A cooperative model could provide a third option. Under this approach, the outlet or the collective buying power behind it would be owned by persons with disabilities or their households. This would extend the empowerment approach used elsewhere in the brief. It would move beyond product access to include ownership.

Two variants could be considered.

A producer or worker cooperative would be owned and operated by a PwD-led collective. The collective would manage the outlet and retain the retail margin. It would source validated products from ALIMCO on broadly franchise-like terms. ALIMCO's role in manufacturing and quality assurance would remain unchanged.

A consumer or member cooperative would be simpler and more immediately workable. In this model, a beneficiary-owned buying collective would pool demand for expensive products such as motorised wheelchairs or myoelectric prosthetics. The collective could negotiate purchases and share costs. The model would be closer to a credit union than a traditional shop.

a. Rationale: Two domestic examples show the potential of federated, member-owned structures. Amul's three-tier "Anand Pattern" consists of village societies, district unions, and a state federation. It built a competitive brand while keeping producers as the owners of the value chain.[69]

Kudumbashree is Kerala's state-wide network of women's collectives. It uses a similar three-tier structure. The network supports livelihood generation, including retail and micro-enterprise.[70] A Divyangjan cooperative would not need to create an entirely new support system. The Department of Empowerment of Persons with Disabilities (DEPwD) already operates the National Divyangjan Finance and Development Corporation (NDFDC). Through its Swavlamban Kendras, NDFDC organises Divyangjan trainees into self-help groups and connects them to microfinance. It also provides finance for assistive devices that support employability and self-employment.

A cooperative pilot could therefore be routed through the existing NDFDC and self-help-group structure. This makes the idea more practical in the near term.

b. Expected outcomes: A cooperative model would allow the economic benefits of running an AT-Mart to accrue to a Divyangjan-led collective. Under the franchise model, this margin would instead accrue to the franchisee.

The approach would also extend DSY's empowerment framing from product access to ownership. The consumer or member model could provide a relatively low-cost way to test demand. It would not require a new outlet.

c. Risks and mitigation: Retail operations are different from production or thrift and credit activities. Amul's members are producers, not retailers managing footfall and daily cash flow. NDFDC's Swavlamban Kendras also operate in a limited number of districts. This limits where a pilot could realistically be located. The initial pilot should therefore use the simpler consumer or member model. Two or three sites could be selected in partnership with existing Disabled People's Organisations or NDFDC-linked self-help groups.

2. Pilot a Public-Private-Philanthropic Partnership Model at One Site

ALIMCO should test a tripartite model at one site. Under this model, ALIMCO would act as the supplier. A CSR foundation would provide the capital. An NGO would operate the retail outlet on a cost-recovery basis. The pilot should run alongside the existing franchise and COCO rollout.

a. Rationale: Of the alternative delivery models considered, the Public-Private-Philanthropic Partnership (PPPP) model appears to be the most immediately actionable. It builds on ALIMCO's existing CSR relationships. These

[69] The Amul's Anand Pattern
[70] Kudumbshree community Pattern

relationships generated more than ₹120 crore in CSR-funded orders last financial year. This means the model would build on an existing relationship rather than require ALIMCO to develop a new one.

b. Expected outcomes: The model could provide ALIMCO with a lower-capital-risk delivery channel. It could also expand geographic coverage into locations that may not support a full commercial Mart. This would be possible where the NGO partner is able to operate on a cost-recovery basis.

c. Risks and mitigation: A model involving three stakeholders would require greater coordination. The best way to manage this risk is to start with one tightly defined pilot. Scaling should only be considered after the pilot has been assessed.

B. Implementation Nudges

Other recommendations	Key Action	Expected Outcome	Key Risk / Mitigation
Consolidate Franchise Oversight into One Documented Protocol	Integrate audit and inspection rights, ERP-based sales tracking and surprise inspections into a single formal oversight protocol, initially piloted at Kanpur.	Earlier identification of underperforming partners, consistent enforcement of product exclusivity, and clearer renewal/termination decisions.	Increased workload for regional offices; mitigate through phased implementation beginning with Kanpur.
Confirm a Financing or EMI Partnership	Finalise at least one EMI/credit-financing partnership and promote financing as a standard option for higher-value devices.	Expand the customer base and improve accessibility and commercial viability of AT Marts.	Dependence on financial institutions; engage multiple potential financing partners.
Formalise Specialist and Institutional Referral Channels	Develop a documented referral protocol covering medical specialists, NGOs and institutional/bulk purchasers.	Generate a higher-intent customer pipeline and create a replicable approach for new AT Marts.	Risk of informal referral incentives; use independent protocol sign-off and clear safeguards.
Standardise the "One-Stop-Shop" Brand Campaign and Conversion Metrics	Develop a national brand toolkit and standardise footfall-to-conversion KPIs, while allowing local adaptation of media and language.	Consistent brand positioning and comparable assessment of marketing and site performance.	National messaging may be too generic; retain central brand standards with local execution.

Other recommendations	Key Action	Expected Outcome	Key Risk / Mitigation
Formalise Customer Feedback into a Service-Quality Metric	Integrate a service-quality indicator into the planned digital feedback system, covering measures such as satisfaction and repair turnaround time.	Identify service gaps early and inform retraining, partner development and renewal decisions.	Additional reporting burden; incorporate the metric into the existing digital platform.
Document a Standard Contingency Path for Franchise Exit	Establish a standard decision process for re-franchising or COCO conversion, including a target reopening period.	Reduce disruption following partner exit and provide greater operational clarity.	Site-specific constraints; use a standard process with an explicit regional override.

7. Implementation considerations

Area	How It Gets Done
Key stakeholders	ALIMCO's Marketing Department leads all commercial partner-facing actions, including franchise oversight, brand standardisation, and referral frameworks. Materials Management, Projects, and Regional Offices handle stock monitoring, inspections, and contingency exits. Design & Development hosts the ERP modules, point-of-sale tracking, and the digital service-feedback metric. External critical partners join by workstream: commercial banks/fintechs for device EMI financing; a vetted CSR foundation and an operating NGO for the single PPPP pilot site; and DEPwD/NDFDC alongside target DPOs or self-help groups for the Divyangjan cooperative collective. Central and State nodal officers anchor broader governance alignment.
Resource requirements	The majority of implementation steps (oversight codification, referral protocols, brand toolkits, feedback KPIs, and exit paths) require internal staff time, procedural documentation, and existing IT integration rather than fresh capital. The alternative delivery models are intentionally capital-light for ALIMCO: the PPPP site relies on CSR grant capital for store fit-out and NGO cost-recovery operations, while the initial cooperative pilot functions as a demand-pooling collective financed through NDFDC's existing microfinance and credit lines. POS financing requires API hooks and desk collateral rather than corporate subvention budgets.
Institutional arrangements	Codify the oversight protocol, surprise audit rights, exclusivity rules, and formal medical referral terms directly into the standard franchise agreement and future EOI releases. Formalise the PPPP pilot via a legally binding tripartite MoU (ALIMCO–CSR Partner–NGO) defining operational cost recovery and stock-holding terms. Channel the cooperative pilot through an MoU linking ALIMCO with NDFDC's existing Swavlamban Kendra and SHG network to avoid building new legal vehicles from scratch. Implement a structured operating framework with designated Centre-State nodal officers to handle regional administration.
Capacity-building needs	Focus on internal operational alignment rather than structural hiring: train ALIMCO regional/zonal officers to conduct standardised ERP-based audits, field inspections, and rapid COCO-conversion protocols consistently. Partner-side training requires orienting franchise staff on financing application workflows, customer feedback logging, and basic fitting escalation. For the alternative models, deliver

Area	How It Gets Done
	technical fitting, product familiarisation, and inventory management modules to NGO frontline staff and cooperative SHG leadership, backed by ALIMCO's existing rehabilitation professional base.
Suggested implementation timeline	0–1 Month: Codify the unified franchise oversight protocol and pilot it at Kanpur; initiate partner scoping with selected CSR/NGO candidates and NDFDC/DPOs; draft standard exit-contingency workflows. 1–3 Months: Engage prospective financial institutions to finalise at least one POS/EMI credit partnership; formalise the medical/NGO referral protocol; embed the service-quality metric into the planned digital feedback platform; build the national brand toolkit. 3–6 Months: Launch the single-site PPPP pilot; roll out the 2–3 site consumer-cooperative demand-pooling pilot; enforce the unified oversight and referral protocols across all newly opening AT Mart locations.

8. Conclusion

AT Marts are likely to become an important part of ALIMCO's future retail presence and its engagement with Divyangjan and senior citizens. Their success will depend on strong operational oversight, reliable post-sales support, consistent inventory, and competitive, transparent commercial pricing. ALIMCO should strengthen monitoring and ERP-based oversight, tighten franchise governance from partner selection through to exit, build a consistent national brand and referral architecture, and explore financing options such as credit and EMI facilities, PPPP models, and a Divyangjan-owned cooperative format, to widen its addressable market and broaden who shares in the model's economic upside. Embedding clinical support, maintenance, reliable inventory and structured customer feedback will help AT Marts become sustainable, trusted service hubs.

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Annexure

Detailed Findings from KIIS

Theme	Thematic Summary
A. Vision & Policy	Informants consistently describe DSY and AT Marts as extending beyond ADIP's cost-capped welfare distribution into a separate, open-market retail channel. The framing used is distribution toward empowerment, choice and lifelong support, aimed at Divyangjan and senior citizens with higher purchasing capacity and product aspirations, offered alongside — not instead of — the continued subsidised channel through ADIP, RVY and PMDVKs. AT Marts are described as open to any paying customer regardless of income, filling a gap where no single retail point previously offered a full range of assistive products, from basic aids to AI-enabled high-end devices, under one roof.
B. Positioning vs. PMDVKs & Pricing Structure	AT Marts and PMDVKs are described as functionally distinct rather than overlapping: PMDVKs implement ADIP/RVY with scheme-defined eligibility, while AT Marts are a no-scheme-relationship retail channel open to any customer, generally carrying a distinct product range and priced through ALIMCO's own commercial costing framework. Where a product exists in both catalogues, pricing is described as consistent between channels. The margin passed to franchise partners varies by product category, set through a formal internal costing process, with partners free to retail up to a fixed MRP;

Theme	Thematic Summary
	specific product-level examples were given showing how manufacturer cost, ALIMCO's margin, and the eventual retail price relate.
C. Franchise Structure — Division of Control	There is consistent agreement on the control split: branding, store design, promotional support and MRP enforcement (via centralised billing) sit with ALIMCO, justified by nationwide brand consistency given the Corporation's and Department's name is attached. Product mix and supply are also ALIMCO-determined, since partners draw from ALIMCO's own manufacturing/procurement pipeline rather than sourcing independently. Day-to-day staffing and footfall generation sit with the franchise partner, who retains pricing flexibility up to MRP and keeps the resulting margin. ALIMCO's role in professional staffing (audiologists, P&O specialists) is described as advisory and facilitative rather than contractually mandated.
D. Quality Control & Monitoring	Product quality assurance is described as multi-staged: sample, in-process and final-product checks internally, plus a separate technical vetting process for externally sourced or technology-transfer products — review by a committee including outside technical experts, certification referencing BIS and CE standards, and full inspection before AT Mart clearance. Asked directly about the risk of quality decline in franchise-retail models, drawing on India's Jan Aushadhi experience, the response treated this as a legitimate concern rather than dismissing it, pointing to the internal quality system and a stated willingness to acknowledge and act on defects after the fact. Ongoing partner monitoring combines ERP-based sales tracking, stock checks and direct interaction, with confirmed audit and inspection rights, though the language describing this monitoring ranged from relationship-based to formally audit-based.
E. Procurement & Stock Continuity	ALIMCO's existing national warehouse network is described as the supply backbone, holding a substantial centralised buffer stock, with individual Marts expected to hold only small local display/storage inventory. Stock moves from warehouse to Mart through an internal quality/goods-receipt check before dispatch, with replenishment triggered once a partner's stock falls below an agreed minimum, informed by sales data. The precise reporting mechanism was, however, described somewhat differently across informants — ranging from real-time, ERP-triggered automatic replenishment to periodic, specifically fortnightly, manual stock reporting — rather than one single, precisely converged process.
F. After-Sales & Maintenance	Responsibility is consistently described as shared and layered: the Mart is first point of contact for minor fitment issues and complaint intake, expected to maintain or arrange primary-level technical staff, while ALIMCO retains responsibility for manufacturing defects, warranty honouring and technical escalation. A centralised toll-free channel feeds complaints through a network described as well over a hundred existing service-and-repair touchpoints, alongside the expanding PMDVK network and mobile outreach vans — several hundred touchpoints nationally once fully scaled. A one-year warranty is confirmed on AT Mart products.
G. Staffing & Training	Franchise partners are supported in bringing in qualified rehabilitation professionals — audiologists and P&O specialists named as the core minimum, scalable with footfall — drawing on ALIMCO's existing in-house rehabilitation professional base for onboarding guidance. Frontline and repair-technician training is described as an established, recurring practice, including a specific, recently completed hands-on repair-and-maintenance training cohort, alongside regular remote technical check-ins with partner-side staff.
H. Scale, Timeline & Early Learning	The first Mart opened in Kanpur in June, with two further sites expected within weeks through existing dealer relationships. The concept is traced back roughly a year to eighteen months, evolving from an initial e-commerce-style idea after PMDVK visitors began asking to purchase rather than receive a scheme-based product. Early Kanpur sales data is already feeding into production planning — one product category emerged as higher-demand than expected, prompting a manufacturing adjustment. Near-term expansion cited seven to nine additional sites within three to four months, combining franchise and company-owned formats, sequenced deliberately by purchasing capacity before extending to Tier 2/3 cities. A longer-range next-year figure was also mentioned, offered with an explicit caveat about its own precision.
I. Risks & Open Challenges	Four broad risk areas recur: keeping pace with evolving customer expectations across all disability categories; identifying the right startup/private-sector product collaborations; financing mechanisms (EMI/credit partnerships) to widen the pool able to purchase higher-cost devices; and maintaining a responsive, synchronised supply chain as the network scales. Overall risk posture varied across informants — from reporting no major concerns identified so far given strong underlying demand, to framing the central challenge as patience and sustained brand-building, to naming two distinct execution challenges: consistency of partner performance and working capital across sites, and keeping network expansion synchronised with production/procurement capacity.

Theme	Thematic Summary
Policy POV — Centre-State-ALIMCO Coordination	One perspective, speaking specifically from a policy and governance standpoint, identified Centre-State-ALIMCO coordination as a distinct governance-layer challenge separate from franchise-partner oversight, recommending a standard operating framework with designated nodal officers at Central and State level to reduce duplication, delay and gaps in responsibility.
7. Marketing & Demand Generation	DSY's purpose is framed around providing high-end assistive devices to persons with higher aspirations, with the Mart's core proposition being a full product range for all major disabilities under one roof. Awareness-building in the three pilot cities has relied on outdoor media and promotions targeted at medical specialists (e.g., ENT specialists) as a referral channel. Institutional and NGO interest has emerged organically around specific high-value products such as motorised mobility scooters. Footfall and conversion are tracked, though the specific methodology was not detailed.

Overall, the brief offers useful and practical recommendations for the rollout of AT Marts under the Divyang Sahara Yojana. Since the main argument is clear, I would suggest keeping the revisions limited to a few important points rather than making major changes. The publication year and source for the evidence on post-distribution services need to be checked, along with the ₹120 crore CSR-related claim and the timeline for the rollout. The annexure title and all **the references also need some attention to ensure consistency.** A few minor corrections to terminology and wording would further improve the readability of the brief.

For future research, a longitudinal study could track AT Marts over time to assess customer experience, affordability, after-sales support and financial sustainability. Comparing franchise, company-owned, cooperative and PPPP models across different regions could also help identify which approaches best balance accessibility, service quality and long-term viability, thereby informing future policy decisions and the wider expansion of AT Marts.

Editorial Notes

Reviewers appreciated the presentation and the practical relevance of the proposal, while encouraging a more detailed examination of implementation readiness. The paper could clarify how assistive-technology services would be delivered, including accessibility, affordability, user needs and the roles of relevant stakeholders. Future refinement should compare available technologies and service models, identify gaps in provision and explain how the proposed approach could work in practice.

Enhancing Urban Forestry: Field Evidence and Implementation Recommendations for the Nagar Van Yojana

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Host Ministry/Department: National campa, moefcc
Embark India Development Fellowship - 2026, GRAAM
Date: 24.08.2026

Executive Summary

The Nagar Van Yojana (NVY) aims to build 1,000 dense, climate-resilient urban forests across India by the year 2027, funded by National CAMPA[71]. This scheme has created high-density green spaces with clear public-health and recreational gains, but a June - July 2026 field evaluation across UP, MP and Rajasthan have found the same operational weakness at nearly every site.

The scheme's biggest long-term risk is a funding cliff[72]. Over 60% of sites visited face prolonged budget delays after establishment despite a sanctioned creation budget of Rs.4 lakh per hectare. Sapling supply is rarely the issue; rather, it is funding for upkeep that often falls short, adversely affecting frontline livelihoods, maintenance and dry-season irrigation, particularly in arid and alkaline (Usar) areas. Of the 14 sites surveyed, only three sites – two in Bhopal and one in Ujjain, have any local revenue mechanism and the rest run entirely on state allocations. The indicative annual upkeep cost for a 50-hectare Nagar Van works out to roughly Rs. 6.7 lakh (Section 6), a modest recurring burden against the one-time creation grant.

This brief proposes a blended, phased handover model to bridge the gap between creation and long-term survival of Nagar Vans. It envisages a guaranteed three-to-five-year CAMPA funding cycle for frontline wages and maintenance, followed by a decentralised Public–Private–Community Partnership (PPCP) model that enables JFMCs to generate revenue from non-core zones, including through eco-tourism and ticketing, from the second or third year. Scaling what already worked out in different Nagar vans (Etawah's off-grid solar, MP's cultural zoning, Alwar's hill-top hiking) would let these forests stop depending on state money and become community-owned assets.

Introduction and Background

Urban forests are ecological infrastructure inside fast-growing cities. They help in offsetting environmental degradation, easing out the urban heat island (UHI) effect, supporting biodiversity and improving public health.[73] Under the Compensatory Afforestation Fund Act, 2016, the Ministry of Environment, Forest and Climate Change (MoEFCC) launched the Nagar Van Yojana in the year 2020[74], funded through a one-time National CAMPA

[71] Ministry of Environment, Forest and Climate Change (MoEFCC). (2024). Year-End Review 2024: MoEFCC Achievements. Press Information Bureau, Government of India.
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grant[75] and targeting 1,000 Nagar Vans and Vatikas by the year 2027[76]. The scheme replaces ornamental, barren or non-functioning urban landscapes with dense native forest zones.

This brief examines how the scheme plays out across UP, MP and Rajasthan – from the alkaline Usar soils of the Indo-Gangetic plains (Hardoi, Etawah, Kanpur Dehat) to municipal and reserve forest areas (Bhopal, Dewas, Ujjain, Sagar) and the topographical wilderness of Alwar, Shahpura and Viratnagar. Comparing what works in each context and where resources fall short, this brief tries to set out recommendations for urban forestry sustenance and evolution for these three regions.

Problem Statement

NVY has worked well in places like Etawah, Sagar and Jaipur, where steady footfall (both morning & evening) gives residents real psychological and recreational benefits. But the long-run threats are ecological and administrative, showing up all across UP, MP and Rajasthan. The core mismatch is between a standardized one-time funding model and the local, long-term realities of continued maintenance, community integration and ecological survival.

The Specific Challenges and Gaps:

- **Ecological constraints and severe water scarcity:** In arid, degraded zones, standard plantation protocols fail. Hardoi's heavily alkaline (Usar) soil, intense summer heat and groundwater stress push sapling survival well below 70%, and without dependable water-harvesting infrastructure, managers fall back on ad-hoc municipal tankers.
- **Human-wildlife conflict:** Semi-urban fringes often lack properly maintained barriers (Hardoi, Dewas, Alwar), so wild boars and nilgais regularly destroy young plantations and set back early afforestation phase.
- **The funding cliff and maintenance bottlenecks:** Most Nagar Vans get adequate budgets for the first two years, then they hit a cliff[77]. Without a provision covering at least three to four years of post-plantation care, managers cannot fund basic maintenance, pay ground staff or keep off time irrigation running properly .
- **Socio-economic and staffing deficits:** Staffing is also seen to be thin at many sites (Kanpur Dehat, Dewas, Alwar). When funding lapses and wages cannot be guaranteed, ground workers' livelihoods suffer the most, and outside a few successful sites, footfall stays considerably low. Therefore, the intended social and psychological benefits do not reach most of the city's population.

[75] MoEFCC (2020). Implementation Guidelines: Nagar Van Yojana (NVY), Clauses C.I.12(a) and E.2-E.3: one-time development and non-recurring grant of Rs.4 lakh per hectare up to Rs.2 crore per Nagar Van/Vatika (50 ha), released in two instalments.
[76] Press Information Bureau (2024). Ministry Achieves 100-Day Target of 100 Nagar Vans (PRID 2057503); original target was 400 Nagar Vans and 200 Nagar Vatikas during 2020-21 to 2024-25 (PIB, PRID 1846954).
[77] MoEFCC (2020). Implementation Guidelines: Nagar Van Yojana (NVY), Clause C.I.12(h): financial assistance is provided to each Nagar Van/Nagar Vatika for the first two years only; grants release in two instalments (70% first, balance after 60% utilisation of the first instalment).

Who is Affected:

- **Urban residents:** Urban locals lose their accessible, well-kept natural spaces they rely on for stress relief, exercise and from the escape of urban heat.
- **Ground staff and forest workers:** They face uncertain livelihoods and heavy physical strain because sites are understaffed and maintenance budgets are unreliable.
- **Local municipalities and forest departments:** They are left with dying plantations and wasted resources because nothing bridges creation and long-term maintenance.

Initial investment under NVY requires sustained maintenance funding, soil and water measures suited to each site, and adequate staffing. In their absence, sites are liable to become unmaintained and isolated, thus limiting the long-term sustainability of the green spaces.

Evidence and Key Findings

All findings comes from a multi-site field evaluation done in the month of June-July 2026, thus combining quantitative visitor surveys, qualitative consultations, Participatory Rural Appraisal (PRA) transect walks, Focused Group Discussions (FGDs) and Key Informant Interviews (KIIs) with Divisional Forest Officers (DFOs), Range Forest Officers (RFOs), guards, visitors and local labourers across UP, MP and Rajasthan. Data availability varied considerably across sites. Visitor-survey sample sizes ranged from 0 to 21 across the 14 sites, while some sites had no KIIs or FGDs because of limited visitor and personnel availability. Fieldwork during the monsoon season also affected visitor presence at some sites. Given the relatively small and uneven sample across three states, site-level findings should therefore be interpreted as indicative rather than nationally generalisable.

A. Demographic Demands and Socio-Economic Footfall

- **Inclusivity of access:** At the high-performing sites (Etawah, Sagar, Jaipur), the visitor mix is strikingly well balanced as men, women, children and elderly use these urban forests at roughly the same rates, mainly for walking, jogging, open-gym exercise and health practices like yoga and breathing exercises.
- **Catchment radius and peak hours:** Visitor numbers are higher in the mornings and evenings, with peak footfall during the evening hours. The catchment reaches well beyond the neighbourhood; people travel from 500 metres to over 2 kilometres, mostly on foot but some also come by car, bike or cycle. These forests have become regional destinations, not just local parks.
- **Safety and basic amenities:** No security incidents involving women or children were reported in any of the surveyed Nagar vans. Over 80% of sites have washrooms and clean drinking water. Upkeep and maintenance of them is a weak spot - at a minority of sites toilets sit locked or broken because maintenance is delayed, and some water purifiers run dry.

Note: these footfall, safety and amenity indicators measure social and recreational success, not ecological survival. Ecological outcomes are tracked separately below.

B. Operational Vulnerabilities and Grassroots Coping Mechanisms

- **The revenue void:** Of all operational urban forests surveyed, only three out of 14 – two in Bhopal (Laharpur and Chandanpura) and one in Ujjain (Naulakhi) run a ticketing or entry-fee system (Rs.12 per user). The rest have no local revenue and depend entirely on external allocations, though a few (Jaipur, Etawah) are planning their own systems.
- **The institutional funding crisis:** Over 60% of surveyed sites face constant budget delays that hit guards and maintainers' livelihood. Sapling availability is rarely the constraint as most sites run their own nurseries or get steady sapling supplies. When funding lapses, wages cannot be guaranteed, workers lose livelihood security, and staff sometimes take informal loans just to keep the operations going.[78]

Table 1: Discrepancy between high initial infrastructure establishment and severe post-creation funding deficits across surveyed Nagar Vans.

Category	Status (Out of 14 nagar vans visited)
Basic Infrastructure Established (Toilets/Water)	80%
Severe Budget/Wage Deficits (Maintenance Phase)	60%

- **Peripheral rural livelihoods:** Outskirts forests (Hardoi, Kanpur Dehat in UP; Dewas, Ujjain in MP; Viratnagar in Rajasthan) are tied closely to surrounding villages. Villagers regularly cut dry grass and collect biomass from buffer zones, thus gaining free animal fodder and giving the forest a community with a stake in protecting it.
- **Boundary integrity and wildlife mitigation:** Every site (except a few with incomplete fences) has physical boundary fencing. To mitigate wildlife-related damage, the Shahpura site (Atal Van) installed solar-powered fencing to deter macaques, while Hardoi used deep peripheral trenches (nalas) and fencing to prevent grazing animals from entering plantation areas.

C. Deep-Dive Case Studies

Case Study 1: Off-Grid Clean Energy Transition - The Etawah Nagar Van Model

This 50-hectare Etawah Nagar Van is present in southwestern part of Uttar Pradesh shows how off-grid solar model can sustain green infrastructure in a semi-arid, ravine-carved landscape with dropping water tables[79], thereby avoiding recurring grid-electricity costs.

[78] Central Empowered Committee (CEC) to the Supreme Court of India (2025): about 85% of compensatory afforestation targets achieved but only about 67.5% of CAMPA funds utilised, indicating systemic delays in fund release.
[79] National Compensatory Afforestation Fund Management and Planning Authority (National CAMPA). (2024). Success Stories of CAMPA 2022-24. Ministry of Environment, Forest and Climate Change, Government of India.

The key components are:

- Two high-capacity solar water pumps draw deep groundwater for micro-irrigation and feed a solar water-cooling network supplying clean drinking water to hundreds of visitors a day.
- Solar streetlights keep the perimeter lit and secure overnight at zero electricity cost and zero GHG emission.
- With water tables dropping, the site has also built two large percolation ponds, each with three strata of differing permeability. This is a layered design that cuts runoff, filters water as it sinks and slowly recharges groundwater.

Working with the local Joint Forest Management Committee (JFMC), the project has turned degraded common grazing land into a dense carbon sink. The site regularly attracts 100–150 visitors in the mornings and 200–300 in the evenings, with footfall rising to 500–600 on weekends. It also has a well-maintained open gym and children's park. Facilities kept in good condition give residents a real reason to choose the Nagar Van over a standard municipal park.

Case Study 2: Cultural Architecture & Indigenous Stewardship - The Madhya Pradesh Landscape

The Madhya Pradesh Forest Department has adopted a different approach at Nagar Van Naulakhi (Ujjain) and City Forest (Sagar). Rather than relying on conventional plantation approaches alone, these sites integrate afforestation with local belief systems through Nakshatra Vatikas, Rashi Vans and Navgrah Vans, creating a cultural connection between families and trees associated with their birth stars. [80] Naulakhi also blends a Ran Van Aagman Path into its walking route, mixing spiritual and cultural reverence with the nature walk. Sagar City Forest also follows strict deep-ecology rules, excluding artificial lighting so nocturnal species are left undisturbed. Locals coordinate their own plantation drives and events through a community WhatsApp group, suggesting that strong ecological integrity attracts people to the site.

Case Study 3: Topographical Integration – The Alwar and Viratnagar Model

Field observations in Alwar and Viratnagar, Rajasthan shows that where a site sits can itself be the main attraction point. The Alwar Nagar Van (Bhugor) is built on a hilltop; and visitors trek up through the forest to a summit looking out over the city, with dedicated sunrise, sunset and selfie points that attract youngsters and travellers. This view, which flat municipal parks cannot offer, gives people a clear reason to visit, care for the site and help pay for its upkeep.

Rather than relying on generic ornamental landscaping, Bhugor leverages its hilltop topography to function as a thriving, off-grid urban wildlife sanctuary. This van is also surrounded with a network of 37 solar panels that illuminates pathways and facilities, a dense canopy of native and medicinal trees (Arjun, Neem, Banyan, Teak,

[80] MoEFCC (2020). Implementation Guidelines: Nagar Van Yojana (NVY), Clause C.II.3 lists Rashi (Nakshatra) Van among approved theme-based plantation components.

Palash/Dhak) that anchors the ecology, and a rescue bird house that treats distressed birds. Trekkers routinely encounter peacocks, rare green pigeons, partridges and mongooses in their natural habitat; this is an immersive, living wilderness that fosters public ownership and willingness to support its preservation.

Section 4. Policy Options Analysis

The field work points to two structural policy paths addressing management irregularities, water shortages, delayed disbursements, precarious livelihoods and stagnant revenue source.

Option 1: Restructuring the National CAMPA Fund Model (Financial & Administrative Pathway)

- **Description:** This option rewrites the fiscal disbursement rules for NVY within National and State CAMPA. Instead of cutting funding after the first two years of site creation, it establishes a mandatory three-to-five-year rolling disbursement cycle. Money for frontline staff wages, routine irrigation, infrastructure maintenance and fence reinforcement would be set aside and released in pre-scheduled phases based on rapid site assessments.
- **Advantages:** It removes the funding cliff and the delays that push field staff into taking informal personal loans to keep public assets running. Guards and *malis* can receive stable wages, enabling consistent care of the Nagar Van, including watering during harsh summer spells that threaten sapling survival in extreme zones such as Hardoi and Kanpur, as well as continuous upkeep of infrastructure.
- **Limitations:** It requires structural amendments to existing State CAMPA fund management protocols under the CAF Rules, 2018, and adds a monitoring burden on state authorities, which would need to demonstrate that extended funding translates into improved tree survival. As this requires a central-level rule change (under the CAF Rules, 2018/National CAMPA Governing Body), it cannot be implemented through state-level administrative action alone and would require a longer, phased implementation period.
- **Feasibility Evaluation:**
    - **Technical feasibility: High.** The existing Digital APO Portal frameworks can handle it.
    - **Economic feasibility: Medium.** It needs a long-term fiscal commitment from the state's Net Present Value (NPV) or accumulated interest corpus, slightly reducing capital for new sites.
    - *Administrative feasibility:* Medium-low. It demands intensive reconciliation between departments and bureaucratic sign-off across the State Steering Committees. As this requires a structural amendment to the CAF Rules, 2018, it would require clearance from the National CAMPA Governing Body rather than state-level administrative action alone.

Option 2: Decentralized Public-Private-Community Partnership (PPCP) Framework (Operational & Revenue Pathway)

- **Description:** This option introduces a collaborative governance model that legally empowers JFMCs and Urban Local Bodies (ULBs) to co-manage the urban forest and build financial self-reliance, recognising that citizens need a compelling reason to pay. The scheme's own guidelines already permit user fees from year one *(Clauses C.I.12(f)/E.8)*; the phasing here is a deliberate practical deviation from that flexibility, it is a readiness choice, not a new provision. Year-two or three phasing is preferable because ticketing works only once trees have matured and facilities are visibly well-kept. The State Forest Department must therefore guarantee maintenance funding for the first two to three years. Visitor-survey feedback suggests options such as discounted monthly passes for regular users and time-based ticketing, which could keep mornings and evenings free for regular walkers while charging a small entry fee during afternoon or picnic hours.[81]

Table 2: Current revenue models of surveyed Nagar Vans, highlighting the critical lack of localized funding mechanisms.

Revenue Status	Number of Sites	Percentage
Zero Local Revenue (Dependent on State Funds)	11	~79%
Active Local Revenue (Ticketing System)	3	~21%

- **Advantages:** It fills the revenue gap that hits more than 80% of existing sites without ignoring public feeling. Waiting until the park is well established can help build trust and footfall; flexible ticketing—with free hours for walkers and paid hours for picnics—can also keep the forest accessible to everyone while raising local revenue for emergency irrigation and minor repairs.

- **Limitations:** Revenue from corporate interest or high footfall concentrates in dense municipal areas and tier-II hubs, so peripheral sites (Dewas, Viratnagar) and heavily degraded places (Hardoi, Kanpur Dehat) may not raise enough locally. Preventing commercial encroachment needs careful legal MoUs.

- **Feasibility Evaluation:**

    - **Technical feasibility: High.** It copies community-driven models that already work in agriculture and non-timber forest products (NTFP).

    - *Economic feasibility:* High. It eases the fiscal burden on National and State CAMPA by creating a self-sustaining financial cushion. However, feasibility varies by site: it is high for high-footfall urban sites and low to medium for peripheral or degraded sites, such as Dewas, Hardoi and Kanpur Dehat, which may have limited potential to generate sufficient local revenue. The model should therefore not be considered uniformly replicable across sites.

    - **Administrative feasibility: Medium.** Forest guards and JFMC members need real training in account auditing, ticketing and public asset management.

[81] MoEFCC (2020). Implementation Guidelines: Nagar Van Yojana (NVY), Clauses C.I.12(f) and E.8 already permit implementing agencies to levy user fees from the first year and to ensure sufficient revenue generation for maintenance and upkeep.

Comparative Policy Options Matrix

Table 3: Systematic comparison of centralized vs. decentralized policy interventions for long-term urban forestry governance.

Evaluation Criteria	Option 1: Re-Architecting CAMPA Devolution	Option 2: Decentralized PPCP Model
Primary Focus	Centralized financial timeline optimization	Localized operational self-reliance & community co-management
Technical Feasibility	High	High
Economic Feasibility	Medium	High
Administrative Feasibility	Medium-Low	Medium
Long-Term Sustainability	High (Systemic policy guarantee)	High (Localized economic durability)

Note: *the two "High" ratings on Long-Term Sustainability rest on different bases; Option 1 via a systemic policy guarantee, Option 2 via localized economic durability are not directly comparable.*

Recommendations

Based on the field evidence, this brief recommends a *Blended Phased Financial and Operational Handover Model.* It combines the systemic financial security of Option 1 (CAMPA devolution) during the establishment phase with the community-driven revenue model of Option 2 (PPCP) for the longer term.

Specific Recommendations:

1. **Mandate a 3-year minimum CAMPA funding cycle:** Change State CAMPA guidelines so that every newly approved Nagar Van automatically gets a continuous three-to-four-year operational budget, thus covering regular wages for *malis* and guards and irrigation costs such as peak-summer water tankers, preventing the funding cliff after year two.
2. **Formalize the urban PPCP exit strategy:** By the end of year two, a tripartite MoU should be signed between the State Forest Department (SFD), the Urban Local Body (ULB) and the JFMC, legally letting the JFMC raise local revenue through eco-tourism, regulated entry or sustainable resource harvesting such as dry fodder.
3. **Incentivize off-grid, topographical & cultural infrastructure:** Scale the proven models like Etawah's 100% solar operation, MP's cultural and zodiac zoning, Alwar's topographical advantage - by directing CAMPA to prioritise proposals with renewable energy, indigenous community zoning and region-specific advantages.

Rationale: *Early-stage forests (years 1-3) face the most ecological stress (water scarcity in Hardoi and Kanpur Dehat; wildlife damage in Shahpura and Dewas); therefore they need guaranteed state capital. Mature forests (years 4+) hold real civic value and can pay for themselves if local committees can monetize them responsibly.*

Expected Outcomes:

- Sapling mortality declines sharply during the critical one-to-three-year growth window.

- Frontline forest workers get secure livelihoods.
- Nagar Vans stop depending on state money and become financially self-sustaining civic assets.

Potential Risks and Mitigation Measures:

- *Risk:* Commercialization or encroachment of forest land under the PPCP model.
- **Mitigation:** The SFD keeps outright land ownership and a veto over all commercial activity; revenue is limited to non-invasive eco-tourism and maintenance-focused ticketing.

Implementation Considerations

Putting this blended policy approach in place calls for coordination across several levels of government:

- **Key Stakeholders:**
    - *National level:* MoEFCC and National CAMPA, which issue the amended three-year funding directive.
    - *State level:* State CAMPA Steering Committees and State Forest Departments (SFDs).
    - *Local level:* Urban Local Bodies (ULBs), Joint Forest Management Committees (JFMCs), and corporate CSR partners.
- **Resource requirements:** State CAMPA allocates a slightly higher initial NPV corpus per site to cover the guaranteed three-year maintenance period, later offset by the site's own revenue.

Indicative annual maintenance cost for a 50-hectare Nagar Van:

Component	Basis	Annual cost (Rs.)
Frontline staff wages (2 malis + 1 guard)	3 staff x Rs.400/day x 300 days (HP State CAMPA wage norm, 2024)	3,60,000
Seasonal and casual labour (watering, weeding)	200 person-days x Rs.400/day	80,000
Summer water tankers	Peak-summer irrigation, 75 trips x Rs.1,000	75,000
Fence, gate and pathway repair	Routine upkeep of boundary, gates, paths	50,000
Nursery inputs and replacement saplings	~10% casualty replacement, tools and manure	40,000
Contingency (~10%)		60,500
Total (50 ha)		~6,65,500

The calculated amount comes out at about Rs.6.7 lakh per year for a 50-hectare site; the cost is roughly Rs.13,300 per hectare per year and about Rs.40,000 per hectare over the guaranteed three-year cycle (about Rs.20 lakh per site). This sits between two already published anchors: 1. The National Afforestation and Eco-Development Board (NAEB) ceiling of Rs.9,120 per hectare for planting plus three years of maintenance, and 2. The Delhi Parks and Gardens Society (DPGS) benchmark of Rs.1,08,500 per acre per year for maintained city parks. Note: *The wage component uses the Rs.400-per-day rate notified in Himachal Pradesh's CAMPA norms for 2024-25, matching the minimum wage for unskilled workers effective April 2024.*

- **Institutional arrangements:** SFDs shift from a sole custodian's role to more of a facilitator; tripartite MoUs must spell out who shares revenue and who maintains what between JFMCs and ULBs.
- **Capacity building:** Frontline forest staff and JFMC members need training and workshops in basic financial management, on how to run eco-tourism and in handling conflicts before they can manage a space that earns its own money. *Given how central this is to the PPCP pathway, capacity building should be elevated from a bullet point to a dedicated programme line:* roughly 10–15 days of structured training per JFMC in year one (financial management, ticketing, conflict handling), followed by refresher workshops, at an estimated Rs.2–3 lakh per site drawn from the maintenance cycle.
- **Suggested Implementation Timeline:**
    - *Months 1–6:* MoEFCC issues the revised multi-year CAMPA funding guidelines. For the rule amendment under Option 1, allow a longer implementation period of 12–18 months for amendment of the CAF Rules, 2018 and clearance by the National CAMPA Governing Body, phased alongside the operational pilot.
    - Months 6-12: Pilot the tripartite MoU (PPCP model) in 8-10 high-footfall Nagar Vans across UP, MP and Rajasthan.
    - Months 12-24: Roll out capacity-building programs and workshops for JFMCs and apply maintenance guidelines to all new project proposals.

Conclusion

The Nagar Van Yojana is a real boon for India's urban landscapes as it treats green space as working, climate-resilient infrastructure rather than mere ornamental landscape. However, the field evidence clearly shows that the scheme succeeds only if something connects initial creation to long-term upkeep.

If MoEFCC reforms the CAMPA disbursement cycle to better support the survival of early-stage forests and long-term maintenance, and pairs this with a decentralised PPCP model that gives local communities a stronger role in management, the scheme could address some of its current weaknesses. Nagar Vans could thereby evolve into more sustainable, community-supported spaces that contribute to public health, livelihoods and climate adaptation.

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Annexure I: Survey Methodology and Sample

This brief synthesises primary field data collected between June and July 2026 across fourteen Nagar Van and Nagar Vatika sites in Uttar Pradesh, Madhya Pradesh and Rajasthan. Three instruments were used: a structured visitor survey, key informant interviews (KIIs) with forest department and site staff, and focused group discussions (FGDs) with site management and regular users. The table below summarises the achieved sample by site.

Site	State	Visitor's survey	KIIs	FGDs
Kanpur Dehat Nagar Vatika	Kanpur Dehat, Uttar Pradesh	0	1	1
Hardoi Nagar Van	Uttar Pradesh	3	1	2
Etawah Nagar Van	Uttar Pradesh	21	2	1
Chandanpura Nagar Van	Bhopal, Madhya Pradesh	2	0	1
Laharpur Nagar Van	Bhopal, Madhya Pradesh	1	1	0
City Forest Nagar Van	Sagar, Madhya Pradesh	17	1	1
Bartuma Army Area	Sagar, Madhya Pradesh	6	1	1
Daulatpur Nagar Van	Dewas, Madhya Pradesh	2	1	1
Naulakhi Nagar Van	Ujaain, Madhya Pradesh	2	1	0
Nagar Van Rajgarh	Alwar, Rajasthan	7	1	1
Bhugor Nagar Van	Alwar, Rajasthan	21	0	1
Virat Nagar Nagar Van	Viratnagar, Rajasthan	4	2	1
Sanjay Van Shahpura	Shahpura, Rajasthan	0	1	1
Grass Farm Nursery Nagar Van	Jaipur, Rajasthan	20	2	2
Total		106	15	14

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Editorial Notes

Reviewers commended the strong field grounding, quality of data and focused recommendations. They encouraged further attention to long-term sustainability, financial planning and institutional ownership, including how local authorities and businesses could support the maintenance of Nagar Vans beyond initial funding. The potential for responsibly regulating revenue-generating activities could also be explored. Clearer visual storytelling would help communicate the evidence and recommendations more effectively.

Human-Wildlife Conflict: A Convergent Solutions Framework for Community-Based Conservation and Livelihood Security

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Embark India Development Fellowship - 2026, GRAAM
Date: August 2026

Executive Summary

India's conservation success has driven its wildlife population beyond protected area boundaries, leading to increased spatial overlap with humans, resulting in an alarming escalation in negative human-wildlife encounters. This policy brief is based on primary and secondary data collected from six wildlife reserves: Dudhwa Tiger Reserve (Uttar Pradesh), Pilibhit Tiger Reserve (Uttar Pradesh), Pench Tiger Reserve (Madhya Pradesh), Tadoba-Andhari Tiger Reserve (Maharashtra), Ranthambore Tiger Reserve (Rajasthan) and Jawai Bandh Leopard Conservation Area (Rajasthan). The intensity of human-wildlife conflict can be estimated through the official state forest department records, which suggest 128 human deaths and 114 injuries, 8,196 livestock-kill incidents, and roughly Rs. 22.2 crore paid in compensation in order to offset the loss over the past 10 years.[2][82] Primary data collected from 180 households across all six reserves confirm the pattern: 149 respondents blamed wildlife conflicts as a major reason for ancestral livelihood change. Qualitative data collected from 68 key informant interviews (KIIs) and eight focus group discussions (FGDs) with state forest department officials and local community members further revealed the harsh socio-economic ground reality, and the issue of underreporting of wildlife-related livelihood conflict incidences creates a significant data gap, making it difficult for policy and decision-makers to understand the pattern and take appropriate action. The shift in generational aspirations also has a major role in understanding the present conflict tolerance of local communities, as the younger generation are more inclined towards newer livelihood sources which have low chances of human-wildlife spatial overlaps.

This brief proposes a convergent solutions framework built on three reinforcing pillars: a human-wildlife conflict (HWC) loss evaluation and monitoring framework that measures livelihood damage transparently, trains field staff to assess it and incentivizes reporting; strengthened Self Help Groups (SHGs), Eco-Development Committees (EDCs) and other village-level committees to deliver livelihood diversification at district scale; and convergence of rural, tribal, cultural and other suitable schemes onto that SHG-EDC platform. Together they can make diversification wildlife-friendly by design and sustain community-based conservation beyond one-off project spending. The framework will help in addressing the human-wildlife conflict data gap, estimation of the actual economic loss and providing sustainable sources of livelihood by giving forest-fringe households a year-round income that sustains community tolerance for wildlife, advancing the Viksit Bharat@2047 vision of green growth.

Introduction and background

India shelters nearly 8% of the world's recorded species, including 75% of Bengal tigers and 60% of Asian elephants, on a land mass shared by 1.4 billion people where only 21.7% is under forest cover and barely 5% is legally protected[3]. These pockets cannot hold such wide-ranging wildlife, making spillover structural rather than accidental and driving a predictable rise in human-wildlife conflict (HWC) on the forest fringe, where over 500

[82] Livestock-kill and compensation figures cover Tadoba-Andhari, Ranthambore and Jawai, the reserves with livestock records, and count dated incidents from 2015-16 onward; undated incidents are excluded. Tadoba-Andhari records livestock conflict incidents only, so each incident is taken as one animal. Livestock includes cattle, goats, sheep and camels. Ranthambore livestock records begin in 2019-20.

human deaths occur annually on a national level[5] alongside heavy livestock and crop losses and retaliatory killing of wildlife. HWC is therefore a national development challenge, not a peripheral wildlife concern: it places rural safety, farm incomes, food security and biodiversity at stake, erodes the community goodwill on which India's protected area network depends, and weakens commitments central to Viksit Bharat@2047 and the Global Biodiversity Framework. The burden falls hardest on those least able to absorb it, as landless and marginal households, tribal families dependent on farming, livestock rearing and forest gathering, and the women and children who collect fuelwood, fodder and minor forest produce face the highest exposure and slide fastest into debt and distress migration[4].

The state's principal mitigation measure remains post-facto ex-gratia compensation: a necessary humanitarian obligation but a poor conservation instrument, since it treats each incident as a closed transaction and shifts the entire burden of coexistence onto the state, excluding communities from the conservation process.

Problem Statement

Policy-level recommendations proposed in this brief are based on the following field-level problems:

1. The claim process itself discourages reporting, so official records understate the loss. Filing a claim requires land records, post-mortem certificates and similar documents that fringe households often cannot source; disbursement is delayed and the loss is valued well below its real cost. Several state departments carry no ex-gratia head for crop damage at all, so the monthly or weekly crop damage reported by 44% of households in the primary survey leaves little trace in the records.[1] With losses dominated by low-value young and small stock, filing a claim frequently costs the household more than it returns.
2. There is a lack of village-level institutions capable of delivering livelihood alternatives at scale. Livelihood diversification is already under way but unguided, with 68% of households entering daily wage labour within the last 20 years due to wildlife conflict rather than opportunity, while wildlife-compatible alternate livelihoods have barely arrived.[1] SHGs and EDCs can act as institutional bodies which can help in facilitating multiple livelihood sources for vulnerable households in conflict zones.
3. Wildlife-compatible alternate livelihoods can help in providing additional income sources for villages falling in high conflict zones. The existing schemes require a formal channel that delivers them to conflict-prone villages. Rural livelihood and wage employment programmes, tribal welfare and forest rights support, and cultural and tourism schemes each operate on their own track. Convergence of these schemes with the SHG-EDC platform would make diversification wildlife-friendly by design and fund it through annually renewed scheme outlays rather than a single project cycle.

NTFP collection and grazing emerged in the KIIs and FGDs as leading circumstances of human death and injury. However, the state records show only four of 242 human casualty cases: two mahua-collection deaths and injuries during minor forest produce collection and cattle grazing; the exposure that communities face is not visible in official data.[2] Behavioral changes in wild animals are further making the conflict incidences unpredictable.

Evidence and Key Findings

The evidence base has two components. The secondary data set comprises state forest departmental records of human death, human injury, livestock predation and compensation of the six reserves. The primary data set is a household survey of 180 respondents (30 households per reserve from one hamlet),

supported by 68 KIIs and eight FGDs with forest department officials and community members.[1]

The household survey findings describe the six sampled hamlets and should not be treated as representative of all communities around the six reserves.

The findings below are grouped by the three pillars the brief proposes.

1. Low reporting of conflict incidences: the actual loss is neither accurately recorded nor measured, due to which a significant HWC data gap exists. Departmental records capture the incident and payment but rarely the circumstance: only four of 242 human casualty records name the activity underway, and crop loss appears only where a reserve reports it separately, as at Tadoba-Andhari with Rs. 2.66 crore in ex-gratia across 5,971 claims, even though 44% of households reported crop damage monthly or weekly.[1,2] Since a claim requires land records and post-mortem certificates that fringe households often cannot source, and the livestock lost are dominated by low-value young and small stock (633 calves, 485 goats and 280 cows of 2,469 head), filing frequently costs more than it returns.[2]
2. Livelihood diversification is happening at a few places but there is a lack in institutionalizing it at village level. Ancestral livelihoods attract wildlife overlaps such as agriculture, livestock rearing, NTFP collection, etc. Household surveys showed 72% of households gathering from the forest, 71% keeping livestock and 67% farming, while only 9.4% held a fixed income job. Since the state's monitoring and evaluation of livelihood-related wildlife conflict does not function effectively, this overlap goes unmeasured. 83% of households blame wildlife conflict, seasonal unpredictability and cash need as the main reason for livelihood change, as 68% have moved into daily wage labour within the last 20 years. The wildlife-compatible alternatives have barely arrived: 77% have never earned from eco-tourism and only 18% earn from it year-round.[1] The demand for change is established but the formal village-level institution to deliver it at scale is missing.
3. Scheme support does not reach conflict-prone villages: only 22% of households (40 of 180) receive support from a government scheme or SHG, and 78% receive none, so the rural, tribal, cultural and tourism schemes already operating in these districts are not converging on the conflict hotspot villages.[1] The payout meanwhile continues to grow: in 2025-26 alone the six reserves recorded 23 human deaths, 25 injuries and 309 livestock head lost and roughly Rs. 1.82 crore paid in compensation.[2]
4. 27% of the recorded human deaths and 17% of injuries were women, a pattern consistent with the gendered divisions of labour, which place women in frequent proximity to wildlife during firewood, fodder and NTFP collection.[2] In this sample, 63% of women respondents reported forest gathering as an ancestral occupation and 34% have already discontinued it due to conflict threats; KIIs with women

suggested a similar narrative.[1] Exposure and vulnerability are unevenly distributed by gender and age; however, this is difficult to interpret from departmental records, which record the zone of the incident in only 43.8% of cases and the victim's age in 7.4%.[2] Where the fields that would locate and characterise exposure are blank for most cases, no amount of analysis can direct prevention to the people and places that need it.

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[1] Refer to Annexure 1 for the secondary data indicators drawn from State Forest Department conflict and compensation records, and Annexure 2 for the primary data indicators from the household questionnaire (n = 180 across six reserves).

5. Tolerance is intact but households' self-protective capacity has decreased. 83% of households still regard large animals as ancestors or protectors and 83% accept some level of loss, yet 81% report that wildlife now comes closer to the village than it once did, 33% report greater aggression, 17% see animals by day that were previously nocturnal, and 55% report that traditional deterrents are being lost and that they feel less safe than they did twenty years ago.[1] Tolerance is therefore an asset that must be preserved before it edes.

Policy Options Analysis

A. Strengthened Departmental Response through compensation and physical mitigation measures

1. Ex-gratia compensation for human death, injury and livestock loss, with claim records read as a geo-referenced map of conflict hotspots.
2. Physical barriers such as fencing, trenches and walls, sited at the ranges and beats generating the most claims.
3. Forest Department Quick Response Teams (QRTs) for incident response, whose faster attendance also keeps the hotspot map current.

Advantages: All three elements are already in place and require no new institutional design. Disbursal channels and the legal basis are settled at every reserve studied, while barriers and QRTs deliver a standardised, department-controlled response that does not depend on household participation. They also reinforce each other: ex-gratia records are the only continuous geo-referenced conflict data the department holds, so claim patterns by range, beat and season show where barriers and QRT deployment yield the highest return per rupee, and faster QRT attendance keeps that record current, all without new data collection.

Limitations and mitigation: The approach treats symptoms rather than the driver, and cost and caseload keep rising. Because compensation is triggered by loss, it cannot reduce loss, and low-value young and small stock dominate the claims, so filing often costs more than it returns and the record understates the true burden; streamlined filing and transparent valuation would partly correct this. Barriers and QRTs are the most capital-intensive route and are already expanding unevenly without a monitoring framework, with 33% of households

now waiting for the Forest Department and 55% reporting that traditional deterrents are being lost. Neither instrument reaches the crop and NTFP-collection exposure of the 72% who gather from the forest, and spending stays inside notified boundaries while most deaths occur outside them, a mismatch further expenditure on this route cannot correct.[1]

Feasibility: Administratively straightforward and technically proven, but fiscally open-ended, costly to extend across the full forest fringe, and unable to address the livelihood exposure that generates the claims.

B. **Convergent Solutions Framework for community-based conservation and livelihood security (Recommended)**

1. A human-wildlife conflict (HWC) loss evaluation and monitoring framework that measures livelihood damage transparently, with trained assessors, standardised reporting formats, transparent valuation of loss, and short-term incentives for reporting so that filing becomes routine.
2. Strengthening of Self Help Groups (SHGs), Eco-Development Committees (EDCs) and other similar village-level committees for large-scale district level implementation of livelihood diversification interventions.
3. Convergence of rural, tribal, cultural, eco-tourism and other relevant schemes with the SHG-EDC platform, so that diversification is wildlife-friendly by design and sustains community-based conservation beyond one-off project spending.

Advantages: The monitoring framework addresses the data gap in Finding 1. Strengthening SHGs and EDCs network supplies the delivery layer every scheme needs. As the only village-level bodies with a conservation mandate, they can organise enterprise groups, hold revolving funds, negotiate buffer-zone tourism revenue shares and take on assisted filing, so loss reporting, diversification and convergence all can happen sequentially. This can also help in the identification of community leaders who carry ground-level needs upward. Regulated year-round buffer-zone tourism addresses the largest untapped opportunity in the primary data while lowering NTFP dependence and spatial overlap, responding to demand that already exists among the 83% of households that have changed livelihood due to wildlife conflict. Convergence then closes the reach gap in Finding 3, where only 22% cite any scheme or SHG participation.[1]

Limitations and mitigation: Eco-tourism carrying capacity is finite and varies sharply across the six landscapes, so pilot sites must be matched to demonstrate visitor demand rather than applied uniformly; convergence will depend on inter-departmental agreements, mitigated by using existing EDC and SHG structures rather than forming new bodies; and reporting incentives risk becoming a permanent entitlement, mitigated by a defined transitional period date tied to record completeness.

Feasibility: All three elements sit within existing State Forest Department heads for wildlife habitat improvement, forest protection works and eco-development and can be delivered through EDCs and SHGs that are already constituted in most wildlife reserves.

Recommendations

Building on Option B, four recommendations follow. The first three set out what to do; the fourth sets the sequencing that makes them deliverable. Each is anchored to a specific finding in the evidence.

1. **Human-wildlife conflict (HWC) loss evaluation and monitoring framework:** Establish a wildlife conflict loss evaluation and monitoring framework, and incentivise reporting through recognition and service access rather than payment alone. Standardise the reporting fields that are currently incomplete (zone, range, beat, species, activity at the time of the incident, victim profile and valued loss) across all reserves, extend valuation beyond livestock death to crop and property, and train Range and Beat-level staff in loss assessment. Remove the filing burden from the household: assisted single-page filing by a named EDC member, with a numbered acknowledgement slip and status update for every claim regardless of outcome. Reward reporting by recognising the best-reporting beats and EDCs in the quarterly review, and by giving reporting villages priority access to departmental services such as fodder plots, LPG linkage, solar fencing, veterinary camps and first-aid response. The same reported-case list should then select households for eco-tourism training and enterprise rosters. These incentives should run for a defined transitional period, until filing becomes habitual and the record can support a credible unit cost of conflict.
2. **Strengthening of SHG-EDC network:** Build SHGs, EDCs and village committees into the standing delivery layer at village level. Revive dormant committees and equip each to hold and rotate revolving funds, maintain a beneficiary and reported-case list, negotiate on behalf of members, and carry out assisted filing. One strengthened committee then serves loss reporting, livelihood delivery and scheme implementation at once, and becomes the body through which community leaders emerge. In the field, this means a readiness standard rather than mere existence: a functioning general body, a bank account, a member register and one trained member per hamlet, since assisted filing depends on a named person the household can reach on foot. Book-keeping, fund rotation and record maintenance are new skills at this level and need structured training, not a circular. Revolving funds must be capitalised before any income-generating activity begins, and Range officers should carry committee readiness as a reviewable item in their work plan.
3. **Wildlife-compatible livelihoods and scheme convergence:** Route eco-tourism livelihoods and existing government schemes through the SHG-EDC committees. With 77% of households never having earned from eco-tourism and only 18% earning year-round, the largest headroom lies in organised community participation in wildlife tourism: guiding, transport, homestay, food supply, craft, and maintenance contracts such as bush clearing to open and upkeep safari pathways, with a fixed share of buffer-zone tourism reserved for local committees.[1] Because seasonal tourism leaves an off-season gap, departments should permit and monitor buffer-zone tourism on an annual calendar including monsoon products such as birding, trail and heritage circuits, with carrying-capacity limits and revenue shares fixed in advance. Convergence supplies the rest of the income mix and the money to build it: only 22% of households cite any government scheme or SHG participation behind their livelihood change, so skilling, credit, enterprise,

tribal welfare, cultural-heritage, tourism and clean-energy programmes should run through the same committees on a shared beneficiary list and a single review cycle, funded through annually renewed scheme outlays.[1] Delivery then runs at two levels. At the reserve, Range officers supervise tourism permits, revenue-share compliance and buffer conflict monitoring as part of their work plan. At the district, the shared beneficiary list needs a named nodal officer and a standing item in the monthly review rather than a one-off convergence order, the loss register must be open to line departments so conflict-prone habitations outside a scheme's target list can be added on its strength, and each committee needs a plain-language entitlement list in the local language.

4. **Sequencing:** Target the first phase geographically and by exposure. Concentrate the three measures above on buffer and revenue land where loss is concentrated. Phase 1 should name specific beats within those ranges, since a reserve-wide launch spreads training and volunteer support too thin to shift filing behaviour anywhere. At those beats, fatality prevention around the NTFP collection exposure identified in Section 2 means group collection at fixed hours, escorted routes in high-risk months, and fuelwood or LPG substitution for the heaviest collectors, whom the loss record identifies.

Each recommendation is drawn from the two data sets described in Section 2. Expected outcomes are a measurable loss baseline within one year, a rising share of household income from wildlife-compatible sources at pilot sites, and fewer preventable fatalities at the reserves. All four sit within existing departmental heads for wildlife habitat improvement, forest protection works and eco-development, and run through EDCs and SHGs already constituted at most reserves.

Implementation Considerations

Institutional architecture and capacity: Delivery rests on four sets of actors, a single coordinating body and a corresponding training effort.

1. State Forest Departments (Range and Beat-level officers) are the primary implementers of conflict-loss assessment, tourism permissions and revenue-share compliance, drawing on existing wildlife habitat improvement, forest protection and eco-development heads.
2. EDCs and SHGs are the village-level delivery platform for assisted conflict-filing, enterprise groups and revolving funds, supported by the committee's member-secretary who holds the readiness and beneficiary records between quarterly sittings.
3. Gram Sabhas and tribal councils set site selection and benefit-sharing terms.
4. The district administration and line departments, under a named nodal officer, drive scheme convergence.

The framework operates alongside the existing compensation regime, which continues to meet the state's humanitarian obligation while the framework works on the exposure that generates the claims. A single reserve-level coordination committee, chaired by the Field Director/Chief Conservator of Forests with EDC, SHG and line-department representation, should own the monitoring baseline and review the committee readiness and

convergence beneficiary lists each quarter, the former already a work-plan item for Range officers and the latter held by the district nodal officer, so that the committee's reporting burden stays proportionate to a body that sits four times a year. The committee should be serviced by a named member-secretary of Deputy Director or Assistant Conservator rank, designated by the Field Director, who maintains the three lists between sittings, so that a deferred meeting does not stall the record. Where the annual reconciliation certificate is not signed at reserve level, the reserve should report by exception to the Chief Wildlife Warden, and Phase 2 activities gated on the Phase 1 baseline should not be certified until it is completed. Each tier needs skills it does not currently hold. Loss assessment, GPS-tagged case recording and valuation are new at beat level and require structured training rather than a circular. Committee governance is a second gap: book-keeping, fund rotation, record maintenance and meeting discipline determine whether an EDC can hold a revolving fund or a beneficiary list at all. On the livelihood side, guiding, hospitality, food safety, accounting and enterprise management are the binding constraints on eco-tourism participation, given how recent and seasonal current participation is.

Resources and data prerequisites: The framework needs modest reallocation of existing spending and one standardisation step completed before the rest can work. A decade of compensation expenditure provides the cost-avoidance case for reallocating a share of existing departmental spending toward loss monitoring, committee strengthening and tourism-linked livelihood infrastructure. Assessor training, simplified filing and record standardisation are low-cost relative to a single year of payout, and year-round buffer tourism requires capital for modest infrastructural development (signages, fencing, bush clearing, etc.) and permit administration. Revolving-fund capitalization is the one item that must be provided upfront, since committees need working capital before any income arrives. Standardising the reporting fields is the first implementation step, not a parallel one, because it determines whether any of that spending can be targeted. Until the records capture the circumstance of the incident, as Section 2 shows they rarely do, and value crop and property damage rather than livestock death alone, targeting cannot be evidence-based. A single reporting format, mandatory zone, range and activity fields, a valuation field for crop and property damage, and an annual reconciliation certificate signed at reserve level are the minimum requirements.

Suggested timeline: Implementation runs over three years in three phases, each gated by the milestone of the one before it: a six-month baseline and standardisation phase concentrated in conflict hotspot beats, a twelve-month delivery and convergence phase, and a final scaling and evaluation phase measured against the Phase 1 baseline.

Table 3: Implementation timeline

Phase	Timing	Key activities	Milestone	Monitoring indicators
1. Baseline & standardisation	Months 1–6	Standardise reporting fields; train staff in loss assessment; assess committee readiness; capitalise revolving funds; NTFP collection-safety measures at named beats; reporting incentives	Loss baseline set; zone and activity recorded for every case; crop loss valued; committees at readiness standard; reserve-level reconciliation certificate signed	% cases with complete zone/range/species/activity; % crop claims valued; median days to disbursal

Phase	Timing	Key activities	Milestone	Monitoring indicators
2. Delivery & convergence	Months 7–18	SHG-EDC eco-tourism pilots on a year-round buffer calendar; converge three or more line-department schemes onto the EDC beneficiary list	Pilot households earning eco-tourism income; converged beneficiary list per EDC	Committees at readiness standard with funds rotating; households with any and with year-round eco-tourism income; converged schemes per EDC
3. Scaling & evaluation	Months 19–36	Evaluate against Phase 1 baseline; revise benefit-sharing terms; extend to remaining ranges	Framework operational across all ranges	Deaths and injuries at pilot beats vs Phase 1 baseline

Conclusion

Conflict in these landscapes is concentrated, measurable and livelihood-driven, with data gaps in departmental records facilitating efficacy issues in the post-facto ex-gratia compensation. Most deaths occur outside core areas on buffer and revenue land, ranges account for a disproportionate share of victims, and a decade of ex-gratia expenditure has only provided temporary relief, leaving the conflict-symptoms untouched. 72% of households gather from the forest as an ancestral practice, 77% have never earned from eco-tourism and only 18% earn from it year-round.[1] The opportunity for State Forest Departments is therefore to strengthen the mitigation measure along the three phases: measure the loss and incentivise its reporting; strengthen SHGs, EDCs and village committees to deliver a year-round income that does not require entering the forest; and converge existing rural, tribal, cultural and eco-tourism schemes onto those committees. Convergence also improves the schemes themselves. The burden of conflict falls hardest on landless and marginal households, tribal families dependent on farming, livestock rearing and forest gathering, and the women who collect fuelwood, fodder and minor forest produce, yet only 22% of households cite any scheme or SHG participation behind their livelihood change.[1] A shared loss register makes conflict exposure a targeting criterion, so rural, tribal welfare, skilling and cultural-heritage programmes can identify and precisely reach these habitations through legitimate channels, instead of relying on general area coverage. Each pillar sits within existing budget heads and is grounded in departmental data, offering a fiscally sustainable route to fewer preventable casualties, better scheme reach among the most vulnerable, a stronger community stake in conservation and long-term coexistence built on livelihood security, advancing the Viksit Bharat@2047 vision of green growth.

References

1. **Primary Data:** Household surveys, focus group discussions and key informant interviews conducted by the author across six wildlife reserves, 2025-26. In each reserve, one homogenous tribal hamlet was selected, where 30 household surveys were conducted (180 households in total), alongside one to two village-level focus group discussions (eight FGDs in total) and 10-15 key informant interviews (68 KIIs in total) with local representatives and State Forest Department officials at administrative and field level.
2. **Secondary Data:** Man-Animal Conflict records, Land Use / Land Cover (LULC) maps, wildlife census data, wildlife mortality records and voluntary village relocation records obtained from the State Forest Departments of Uttar Pradesh, Madhya Pradesh, Maharashtra and Rajasthan for Dudhwa Tiger Reserve (Uttar Pradesh), Pilibhit Tiger Reserve (Uttar Pradesh), Pench Tiger Reserve (Madhya Pradesh), Tadoba-

Andhari Tiger Reserve (Maharashtra), Ranthambore Tiger Reserve (Rajasthan) and Jawai Bandh Leopard Conservation Area (Rajasthan). Records were obtained directly from reserve and divisional offices and cover the ten-year period referenced in this brief.

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Annexure: Data Indicators

Annexure 1: Secondary data on conflict and compensation patterns (six reserves)

Indicator	Value
Human deaths, injuries recorded	128 deaths, 114 injuries
Zonal classification of human deaths	84 buffer, 2 core, 42 unclassified
Gender classification	Women 27% of deaths, 17% of injuries
Species responsible	Tiger 99 deaths; bear 37 and wild boar 34 injuries
Conflict hotspot ranges	Mul (19), Mohurli (11), Shivani (7), Sawai Madhopur (7), Palasgaon (6), Kumbhpani (5), Khandar (5)
Livestock predation	8,196 incidents from 2015-16 onward: Tadoba-Andhari 6,422 (the reserve's return records incidents only, so each incident is taken as one animal, i.e. at least 6,422 head); Ranthambore and Jawai 1,774 records, 2,469 head; leopard 1,491
Compensation paid	Approx. Rs. 22.2 crore (deaths 13.34 cr, injuries 0.53 cr, livestock 8.66 cr)
Escalation trend	Ranthambore livestock nil to 222/yr (livestock records begin only in 2019-20); Jawai 1 to 42/yr; Tadoba 15 deaths in 2025-26 (Can be a data gap.)
Data completeness	Zone recorded for 43.8% of cases; age for 7.4%

Annexure 2: Primary data from the household questionnaire (n = 180, six reserves)

Indicator	Value
Ancestral forest dependence	Gathering 130/180; livestock 127/180 as inherited occupations
Discontinued traditional livelihoods	Gathering 48; livestock 45
Direction of diversification	Daily wage 103 (10-20 yrs) + 19 (0-10 yrs); Fixed income job: 17
Eco-tourism participation	139/180 never; 41 (0-10 yrs) only; 33 year-round
Drivers of livelihood change and support received	Wildlife conflict and cash need 149/180; government schemes or SHG support received by only 40/180 (140 receive none)
Conflict exposure	Crop damage monthly or weekly near harvest season 79/180; livestock loss 53/180
Tolerance for loss	149/180 accept some loss (84 unconditional, 65 within a limit)
Encounter location	Forest boundary, fields and pasture dominate; 25 name buffer only
Change in own mitigation over 20 years	180 added modern tools; 99 traditional deterrents weakening; 94 rely on physical barriers; 60 wait for Forest Department interventions

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Editorial Notes

Reviewers valued the depth of research, presentation and use of community voices, while noting that the material could be more tightly focused. The link between the drivers of human-wildlife conflict and the proposed interventions should be made more explicit; alternative livelihoods alone may not ensure coexistence. Further work could integrate community awareness, local ecological knowledge, behavioural change, conflict prevention and livelihood security into a clearer evidence-to-intervention framework.

Connecting What Already Exists: Priority Linkages for India's Welfare and Statistical Systems

Submitted by: Mehakk Bhardwaaj

Executive Summary

What to Link, and Why

India's welfare and statistical programmes generate credible evidence but often cannot see each other's data. This brief identifies crucial ready-to-implement data linkages, that close specific, documented policy gaps using data the Government of India already holds. Each requires a single administrative action: an MoU or an API protocol extension. None requires new legislation, a new database, or new data collection.

The seven linkages and the failures each closes:

NSAP ↔ Civil Registration System — Pension payments continue for months after a beneficiary dies because PFMS cannot read CRS death events. CAG (2023) documented ₹2 crore disbursed to ghost beneficiaries across NSAP-implementing states. A PFMS beneficiary-status field updated from CRS ends this by design. *NSAP's monitoring framework tracks Aadhaar seeding and payment timeliness — but has no indicator that detects when a payment continues after a beneficiary has died.*

POSHAN Tracker ↔ NRC admissions — Children flagged as severely malnourished by Anganwadi workers are not automatically referred to Nutritional Rehabilitation Centres, the referral is discretionary and frequently missed. A facility-code API match between POSHAN Tracker and NRC records closes the gap without sharing individual identifiers. *POSHAN's outcome targets track wasting prevalence nationally — but no indicator measures what proportion of SAM-flagged children actually reached an NRC.*

PM-KUSUM ↔ DISCOM feeder metering — Solar pump subsidies are disbursed on installation certificates; whether the pump is energised and in use is never verified against electricity metering data. A feeder-code join between MNRE installation records and DISCOM metering data provides verification without transferring any personal data. *The scheme's diesel-saving target is calculated from installation counts, not measured from actual generation data — a pump that was never switched on counts identically to one in daily use.*

PM SETU ↔ EPFO payroll — Government skilling programmes report placement rates without payroll verification. An authenticated UAN yes/no check via API Setu, confirming whether a placed trainee appears in EPFO records 90 and 180 days post-placement — creates a verifiable national skilling-to-formal-employment conversion rate. *Placement rates and salary increments are drawn from ITI placement records, not independent payroll data; an ITI records a placement when an offer is made, not when a candidate joins formal employment.*

PMMVY ↔ RCH/HMIS — Maternity benefits under PMMVY are disbursed on self-declared institutional delivery without verification against health facility records. A yes/no delivery confirmation from the RCH portal closes the verification gap and ensures benefits reach women who actually delivered at a facility. *The current mechanism also misses women who completed antenatal care at a health facility but were not enrolled in PMMVY by their Anganwadi worker — eligible but receiving nothing.*

Swadesh Darshan ↔ GSTN by district — Cultural tourism infrastructure investment is reported in silos from economic activity data. A district-code join between Ministry of Tourism expenditure records and GSTN turnover data provides the first evidence base for whether tourism investment generates measurable economic spillovers.

The scheme's primary outcome target — increase in tourist footfall measures arrivals, not spending; whether visitors generate taxable economic activity in the district's hotels, restaurants, and transport services is not tracked against any revenue data.

SBM-Urban ↔ IDSP disease surveillance — Sanitation investment is tracked separately from disease burden data. Linking ward-level sanitation progress under SBM-Urban to outbreak records in the Integrated Disease Surveillance Programme enables causal attribution of public health outcomes to sanitation spending, closing the evidence gap that has prevented outcome-based budgeting for urban sanitation. *A city can receive ODF+ certification — awarded on compliance surveys — without any corresponding reduction in diarrhoea or cholera; the OOMF has no health-outcome indicator linked to sanitation investment.*

Introduction and Background

1.1 MoSPI's Mandate and the Existing Policy Framework

MoSPI is the nodal ministry for India's National Statistical System under the Statistics Act, 2008.[83] Its mandate expressly includes coordination across the statistical activities of Central ministries, States, and Union Territories — which is precisely the convening function that administrative data harmonisation requires. MoSPI is not being asked to act outside its remit; it is being asked to use that remit for the specific purpose the Cabinet Secretariat has already directed it toward through the April 2026 Summit process.[84]

The recommended option builds directly on instruments that MoSPI has already created or that Central policy has already established.[85] The **e-Sankhyiki portal** launched in 2024, now hosting 18+ statistical products[86] provides the digital infrastructure for federated data exchange. The **India Data Accessibility and Use Policy 2022** sets a policy direction toward open, interoperable government data. The **API Setu** inter-agency exchange provides the transport layer. The **DPDP Act 2023** provides the legal basis. The **UIDAI authentication framework** provides the individual-tier matching mechanism. All four layers of what is needed already exist in policy or infrastructure. The recommended option organises them into a governed sequence.

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[83] Government of India. (2008). *Collection of Statistics Act* (Act No. 7 of 2008, s. 3). Ministry of Law and Justice. Section 3 designates MoSPI as the nodal authority for the National Statistical System, with an express mandate to coordinate the statistical activities of Central ministries, State governments, and Union Territory administrations. https://www.mospi.gov.in/sites/default/files/publication_reports/CollectionofStatisticsAct2008_7_2009.pdf

[84] Ministry of Statistics and Programme Implementation. (2026, March). *Directions on the April 2026 Summit on harmonising administrative data at the State/UT level* [Internal report]. Government of India. The April 2026 Summit was convened at the direction of the Cabinet Secretariat as a formal inter-ministerial process, establishing administrative data harmonisation as a whole-of-government priority within MoSPI's existing statutory mandate. https://www.mospi.gov.in/uploads/announcements/announcements_1776852884237_2790a90e-d136-4a4e-be41-0aa4b626408a_Final_Note_WS_2104.pdf

[85] The existing instruments are: (i) Ministry of Statistics and Programme Implementation. (2024). *e-Sankhyiki portal* [Digital platform]. Hosts 18+ statistical products with API-based access. https://esankhyiki.mospi.gov.in/ (ii) Ministry of Electronics and Information Technology. (2022, February). *India data accessibility and use policy*. Government of India. (iii) Digital India Corporation & Ministry of Electronics and Information Technology. (n.d.). *API Setu* [Inter-agency exchange platform]. https://apisetu.gov.in/ (iv) Government of India. (2023). *Digital Personal Data Protection Act* (Act No. 22 of 2023, s. 7). Ministry of Law and Justice. (v) Unique Identification Authority of India under the *Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016*, s. 7. Government of India.

[86] Ministry of Statistics and Programme Implementation. (2025, December 17). Operational status of e-Sankhyiki portal. Press Information Bureau. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2205157

The March 2026 consultative workshops, which MoSPI convened, produced exactly the evidence base this recommendation rests on: documented barriers from 157 departments, working models from states, and a data maturity assessment that provides the baseline against which progress can be measured.[87] The July 2026 discussion on Transformational Reforms in India's National Statistical System including the rebasing of GDP, CPI, and IIP; the monthly PLFS; and the DILab's 12 AI use cases demonstrates that MoSPI has the technical infrastructure to support the analytical functions that administrative data linkage enables.[88]

1.2 Scope of the Brief: What This Policy Brief Adds

MoSPI's national harmonisation roadmap is building the general readiness infrastructure that administrative data linkage requires: common data standards, quality thresholds, and integration-readiness targets running through March 2031. This brief complements that roadmap rather than duplicating it. It identifies specific, ready-to-implement linkages that can begin now, ahead of full national readiness. It applies a verify-the-claim-only design — each linkage confirms a single yes/no fact without transferring full personal records — so no new legislation is required. And it sequences the linkages by how many governance layers (legal basis, matching mechanism, transport, mandate) are already resolved, rather than by sector or political salience. In short: the national roadmap builds the conditions for harmonisation at scale. This brief operationalises that agenda by naming the linkages that are ready today, and the sequence in which MoSPI and line ministries could execute them.

Problem Statement

In 2023, the Comptroller and Auditor General of India audited the National Social Assistance Programme (NSAP) the Central government's primary cash-transfer programme for elderly, widowed, and disabled persons below the poverty line. The audit found that pension payments had continued for 2,103 beneficiaries **after their deaths**, amounting to roughly ₹2 crore in ghost disbursements. The cause identified by the CAG was precise: "deaths were not being reported by Gram Panchayats/municipalities on time" to the payment system.[89]

Read narrowly, this is an NSAP administration failure. Read structurally, it is the most visible symptom of a larger dysfunction: India's administrative databases -welfare records, civil registration, health data, labour data, revenue data often do not talk to each other. A citizen's death, registered in a civil registration system operated by a

[87] Ministry of Statistics and Programme Implementation. (2026, March). *Collective insights from state-level internal consultative workshops: Administrative data harmonisation at the state level* [Internal report]. Government of India. The consultations documented structural barriers across 157 departments and identified operational working models from three states (Haryana PPP, Nagaland PIMS, Tripura WCD–NSAP linkage), along with a baseline data maturity assessment providing the measurement framework against which progress toward March 2031 targets can be tracked.

[88] Ministry of Statistics and Programme Implementation. (2026, July 7). *Transformational reforms in India's National Statistical System* [Presentation]. Government of India. Covered: (i) rebasing of GDP, CPI, and IIP indices; (ii) transition to a monthly Periodic Labour Force Survey (PLFS); and (iii) twelve AI use cases under development by MoSPI's Data Innovation Lab (DILab).

[89] Comptroller and Auditor General of India. (2023). *Report on performance audit of National Social Assistance Programme* (Report No. 10 of 2023, para. 6.7, p. 63). CAG of India. The report documents ₹2 crore in pension payments made to 2,103 deceased beneficiaries across 26 States/UTs, attributing the failure to deaths 'not being reported by Gram Panchayats/municipalities in a timely manner.' https://cag.gov.in/webroot/uploads/download_audit_report/2023/Report-No.-10-of-2023_NSAP_English_PDF-A-064d229f832dad7.55068084.pdf

municipality or panchayat, does not automatically update the beneficiary list in PFMS, the government's payment platform. The gap between the two is not technological; the Civil Registration System and PFMS both exist and both function. The gap is **institutional**: no authority has the mandate to require the information to flow.[90]

This structural disconnection recurs across scheme pairs throughout the welfare system. The POSHAN Tracker records child nutrition data at Anganwadi centres; Nutrition Rehabilitation Centre admission records sit in a separate system with no automatic link to the nutrition data that should be triggering the admission. PMMVY cash transfers for maternity benefits are disbursed without any connection to the antenatal care records those transfers are designed to incentivise. PM-KUSUM subsidises solar pump installation without any verification of whether the pump is generating power.

In each case, the data that would enable verification already exists in some government system. What is missing is the governed, authorised, technically secure pathway that allows one system's record to inform another. This policy brief addresses that specific gap: not "should India build better databases" — it should, and is — but "what should the government do, right now, with the data it already has." MoSPI's July 2026 Transformational Reforms programme — which identifies twelve priority data-integration and AI use cases under the DILab initiative — confirms that the department is building the analytical infrastructure alongside which these specific linkages can now be executed.

Evidence and Key Findings

3.1 Findings from State Consultations

Between February and March 2026, MoSPI conducted internal consultative workshops across seven states and union territories — Kerala, Bihar, Himachal Pradesh, Sikkim, Nagaland, Tripura, and Ladakh, as part of the process leading to the April 2026 Summit on Harmonising Administrative Data at the State/UT Level, convened under the directions of the Cabinet Secretariat.[91] Across 157 participating departments, a convergent diagnosis emerged.[92]

[90] The Civil Registration System operates under the *Registration of Births and Deaths Act, 1969*; the Public Financial Management System (PFMS) is operated by the Controller General of Accounts, Ministry of Finance. No existing statutory or executive instrument imposes a cross-system reporting obligation between them. On the legal basis for inter-departmental data processing: Government of India. (2023). *Digital Personal Data Protection Act* (Act No. 22 of 2023, s. 7). Ministry of Law and Justice. (Section 7 permits data processing for specified State functions without individual consent.)

[91] Ministry of Statistics and Programme Implementation. (2026, March). *Directions on the April 2026 Summit on harmonising administrative data at the State/UT level* [Internal report]. Government of India. Issued under the direction of the Cabinet Secretariat; convened state and central government departments to align on a shared framework for administrative data harmonisation.

[92] Ministry of Statistics and Programme Implementation. (2026, March). *Collective insights from state-level internal consultative workshops: Administrative data harmonisation at the state level* [Internal report]. Government of India. The workshops engaged 157 departments across seven states and union territories (Kerala, Bihar, Himachal Pradesh, Sikkim, Nagaland, Tripura, and Ladakh) between February and March 2026.

Structural Barrier	What States Reported
Siloed systems	Kerala: "information kept in independent silos with no coordination." The same citizen appears in five separate databases — ration card, pension register, health record, voter roll, employment card with no mechanism to detect when one becomes outdated.
No common identifier	Sikkim: "list of unique identifiers not available." Nagaland: only employee IDs work as shared keys. Five states have created household registries (Haryana PPP, MP Samagra, Rajasthan Jan Aadhaar, UP Family ID, Uttarakhand Devbhoomi) but they are not interoperable with each other or with Central scheme databases.
Poor data quality	Bihar: "inaccurate, incomplete, not validated, duplicate records." Tripura: "missing values and delays in updating." Nagaland: no data validation mechanism exists. A technically correct linkage will produce wrong outputs if the inputs are unreliable — data quality is a prerequisite, not a separate problem.
Weak field infrastructure	Ladakh: "limited digital infrastructure and real-time data sharing mechanisms." Nagaland: "internet connectivity problems." Bihar: "inadequate IT infrastructure at district, block and field level." Field recording on paper makes real-time verification impossible.
Legal uncertainty	All seven states cited privacy and security concerns as barriers to inter-departmental sharing even where no legal prohibition applies. Section 7 of the Digital Personal Data Protection Act 2023 already permits data processing without individual consent for specified state functions —officers are often unaware of its application to their use cases. Default behaviour is inaction.

Integration readiness is crucial for interlinking of data. However, Maturity assessments conducted at the March 2026 workshops showed that **no participating state has reached full integration readiness** on any of the three assessed dimensions (data catalogue, data standards, or integration readiness). The shared target — Level 5 (full integration) is set for March 2031.[93]

3.2 Evidence from State Innovations

Alongside the structural barriers, the consultations surfaced working models. **Haryana's Parivar Pehchan Patra (PPP)** functions as a unified family registry in which births, deaths, and marriages trigger automatic updates to beneficiary status across linked schemes[94]. A death registered in PPP removes the beneficiary from pension and ration rolls without manual intervention.[95] This is precisely the architecture the CAG identified as absent from NSAP. **Karnataka's Kutumba** social registry integrates individual records to support welfare eligibility and beneficiary management. Its Farmer Registration and Unified Beneficiary Information System (FRUITS)[96] links

[93] Ministry of Statistics and Programme Implementation. (2026, March). *Collective insights from state-level internal consultative workshops: Administrative data harmonisation at the state level* [Internal report]. Government of India. The workshops included a data maturity assessment across three dimensions: data catalogue, data standards, and integration readiness. No participating state reached Level 5 (full integration); the shared target is set for March 2031.

[94] Haryana Legislative Assembly. (2023). Starred Assembly Question No. 71 [PDF]. https://haryanaassembly.gov.in/wp-content/uploads/2023/04/q-71.pdf

[95] Government of Haryana. (n.d.). *Parivar Pehchan Patra (Family ID)* [State scheme]. Under PPP, births, deaths, and marriages trigger automatic updates to beneficiary status across linked welfare schemes including Old Age Samman Allowance, Disability Pension, and Widow Pension. https://services.india.gov.in/service/detail/parivar-pehchan-patra-yojna-haryana Also cited in: Ministry of Statistics and Programme Implementation. (2026, March). *Collective insights from state-level internal consultative workshops* [Internal report]. Government of India.

[96] National Informatics Centre. (2024a). Farmer Registration and Unified Beneficiary Information System. https://www.nic.gov.in/project/fruits/

farmer data with land records and other agricultural information systems to facilitate beneficiary identification and benefit delivery[97].What these systems share is a deterministic matching key, a clear governance mandate, and a single, well-defined use case.

3.3 International Precedents: Evidence by Linkage

The governance-architecture comparators in Section 3.2 establish the framework. Each of the seven proposed linkages also has a specific international precedent, a country that has already closed the same measurement gap, using the same data architecture India already holds.

NSAP ↔ Civil Registration System: The UK's "Tell Us Once" service is the closest operational analogue, though it is consent-based rather than automatic. When a death is registered, the registrar either completes the service with the informant or issues a unique reference number, which must be used within 28 days.[98] A single report notifies HMRC, the DWP (to cancel benefits such as Universal Credit or State Pension), the Passport Office, the DVLA, the local council and several public sector pension schemes. Families who do not use it must inform each organisation themselves. In Shropshire's first weeks after launch in December 2011, 58% of people registering a death opted to use it.[99] Separately, the Registrar General shares death registration information with the DWP under an active data-sharing agreement. The lesson for India is the trigger point: the benefit-stopping signal originates at civil registration, not at field verification. India's CRS and PFMS already hold the equivalent data India's Civil Registration System and PFMS already hold the equivalent data pieces; the governance decision to link them is what remains.[100]

POSHAN Tracker ↔ NRC admissions: Nigeria's national CMAM guidelines provide a documented precedent for individual-level SAM case tracking across outpatient and inpatient services. They prescribe a unique identifier for each child and its use across treatment records and referral forms to support continuity of care and avoid duplicate registration.[101] The NITI Aayog's 2023 CMAM report documents the similar structural gap for India: SAM identification at Anganwadi level exists; NRC admission tracking does not.[102]

PM-KUSUM ↔ DISCOM feeder metering: Germany's Core Energy Market Data Register (*Marktstammdatenregister — MaStR*), operated by the Federal Network Agency, mandates that every solar installation be registered and independently validated by the relevant Distribution System Operator. Actual

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[97] National Informatics Centre. (2024b). Kutumba. In Karnataka. https://informatics.nic.in/files/websites/july-2024/karnataka.php
[98] Government Digital Service. (2024, December 2). What to do after someone dies: Tell Us Once. GOV.UK. https://www.gov.uk/after-a-death/organisations-you-need-to-contact-and-tell-us-once
[99] Shropshire Council. (2011, December). Positive take up for new Tell Us Once service [Press release]. https://newsroom.shropshire.gov.uk/?p=8587
[100] Gov.uk. (n.d.). *Tell Us Once: organisations you need to contact*. HM Government. https://www.gov.uk/after-a-death/organisations-you-need-to-contact-and-tell-us-once

[101] Federal Ministry of Health, Nigeria. (2010). National operational guidelines for community management of acute malnutrition. Family Health Department, Nutrition Division. https://resources.acutemalnutrition.org/Final%20CMAM%20for%20printing%2020-7-2010.pdf
[102] NITI Aayog. (2023). *Transforming child nutrition: State-level approaches and practices for community-based comprehensive care and management of acute malnutrition*. Government of India. https://niti.gov.in/sites/default/files/2023-12/CMAM-report-NITI-Aayog.pdf

generation is then tracked through the grid operator reporting network creating a verified chain from installation to output. PM-KUSUM currently assumes this chain from installation counts alone.[103]

PM SETU ↔ EPFO payroll : Germany's Federal Institute for Vocational Education and Training (BIBB)[104] links apprenticeship completion records to the Federal Employment Agency's employment registration database using a common social insurance identifier. This produces verified employment outcomes post-training by trade, region, and employer type without relying on institution self-reporting. The agency's employment records are a by-product of mandatory social insurance contributions, making them independent of the training institution's interests. India's EPFO payroll records play the identical role.[105]

PMMVY ↔ RCH/HMIS : Brazil's *Bolsa Família* resolved the conditionality-verification problem through interministerial data exchange: the Ministry of Health sends antenatal check-up completion records to the Ministry of Social Development on a regular cycle. Conditionality is machine-verified against clinical records, not self-reported by field workers. India's RCH Portal already holds the antenatal check-up records that would make PMMVY's conditionality equally verifiable.[106]

Swadesh Darshan ↔ GSTN : New Zealand measures tourism spending at the district level from transaction data. MBIE's Monthly Regional Tourism Estimates combine large-scale anonymised card transaction data with official statistics, assigning spending to business locations at the territorial authority level.[107] India's GSTN already collects returns disaggregated by district and Services Accounting Code- hotel accommodation, food and beverage, tour operators and has never been linked to Swadesh Darshan project completion records.[108]

SBM-Urban ↔ IDSP disease surveillance: Indonesia's *Sanitasi Total Berbasis Masyarakat* (STBM) programme resolved the ODF-to-health-outcome measurement gap by placing both ODF status monitoring and disease incidence tracking within a single Ministry of Health system. In Indonesia, sanitation certification and its health outcome sit within one ministry. STBM is a Ministry of Health programme governed by Regulation No. 3 of 2014. Because ODF status and diarrhoea records are both held within the health system, they can be analysed together.

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[103] Bundesnetzagentur. (n.d.). *Marktstammdatenregister (MaStR)* [Core Energy Market Data Register]. Federal Network Agency. https://www.marktstammdatenregister.de/MaStR

[104] [1] Federal Institute for Vocational Education and Training (BIBB). (2022). VET Data Report Germany 2019: Facts and analyses to accompany the Federal Government Report on Vocational Education and Training — Selected findings. BIBB, Bonn. ISBN: 978-3-96208-330-4. https://www.bibb.de/datenreport/en/index.php

[105] Bundesinstitut für Berufsbildung (BIBB). (n.d.). *Federal Institute for Vocational Education and Training*. https://www.bibb.de/en/

[106] Hellmann, A. G. (2015). *How does Bolsa Família work? Best practices in the implementation of conditional cash transfer programmes in Latin America and the Caribbean* (Technical Note No. IDB-TN-856). Inter-American Development Bank. https://publications.iadb.org/en/how-does-bolsa-familia-work-best-practices-implementation-conditional-cash-transfer-programs-latin

[107] Ministry of Business, Innovation and Employment. (n.d.-a). Monthly Regional Tourism Estimates user guidance. Retrieved October 10, 2026, from https://www.mbie.govt.nz/immigration-and-tourism/tourism-research-and-data/tourism-data-releases/monthly-regional-tourism-estimates/monthly-regional-tourism-estimates-user-guidance

[108] Stats NZ. (2025). *Tourism satellite account: Year ended March 2024*. Statistics New Zealand. https://www.stats.govt.nz/information-releases/tourism-satellite-account-year-ended-march-2024/

Using survey data and puskesmas (primary health centre) records, one 2025 study found that all sub-districts in its area had reached ODF status, but diarrhoea cases clustered where household wastewater management was weak. It concluded that ODF status alone was not enough to reduce diarrhoea. India cannot currently replicate this because ODF certification sits with MoHUA and disease surveillance with MoHFW but a data-sharing agreement between the two ministries is the only step required.[109]

Policy Options Analysis

Based on research, three broad policy directions are available to the Government of India to address the administrative data disconnection problem. They differ substantially in their resource requirements, legislative timelines, risk profiles, and proximity to existing mandates. The following analysis compares them on the dimensions that matter most to a decision-maker: actionability, risk, and alignment with existing legal and institutional frameworks.

Criterion	Option A: New Legislation	Option B: Centralised Platform	Option C: Governance-Led Incremental Linkage
Core approach	Enact a Data Sharing Act or amend existing statutes to create a universal mandate for inter-departmental exchange.	Build a national unified citizen "golden record" or central data warehouse (comparable to Telangana's Samagra Vedika[110] at scale).	Use existing legal authority (DPDP , Aadhaar Act), deterministic matching, API Setu transport, and MoSPI/NITI Aayog as conveners sequenced by linkage tier.
Legislative need	High. Requires new primary legislation or significant amendment. Welfare administration is a State List subject — Central mandate will face Constitutional scrutiny.	Medium. No new legislation strictly required, but the scale and privacy profile will invite judicial and Parliamentary challenge.	Low. DPDP S 7 already covers most welfare-verification use cases. MoU framework for geographic-tier linkages requires no legislation at all.
Timeline to first outcome	3–5 years minimum from drafting to enforcement, assuming no Parliamentary delays.	2–4 years to build and test at scale. High probability of mid-course redesign as quality issues emerge.	6–12 months for Priority 1 and 2 linkages using existing systems. Immediate value without waiting for system completion.
Risk profile	Risk of stalling on jurisdictional disputes. States may resist a Central mandate on state subjects. Outcome uncertain.	HIGH. Telangana's Samagra Vedika documents wrongful welfare exclusions at scale from exactly this architecture. Central deployment without proven safeguards replicates documented harm.	Managed. Deterministic matching and field-level API exchange are proven safe. Risk is incremental progress rather than systemic failure.
Resource requirement	Primarily legislative and legal. Moderate direct expenditure but high political capital.	VERY HIGH. Requires building and operating a national-scale data warehouse,	MODERATE. Primarily institutional coordination. Engineering extensions

[109] World Bank. (2017). *Indonesia — scaling up rural sanitation: Improving service levels and impact on the poor*. World Bank Group. https://documents1.worldbank.org/curated/en/796661468253523036/pdf/ACS18642-WP-P132007-PUBLIC-has-been-approved-P132007.pdf

[110] Dharmakumar, R. (2020, September 15). Telangana offered its own 360 degree citizen tracking system to Modi govt. HuffPost India. https://www.huffpost.com/archive/in/entry/telangana-samagram-system-social-registry_in_5e721e19c5b63c3b64881b30

Criterion	Option A: New Legislation	Option B: Centralised Platform	Option C: Governance-Led Incremental Linkage
		which is technically complex and fiscally expensive.	to PFMS and API Setu are incremental, not greenfield.
Alignment with existing policy	Weak. No existing Central data-sharing statute to build on. DPDP Act 2023 moves in the opposite direction (consent-first).	Weak. Contradicts the field-level, privacy-preserving design intent of API Setu. Creates exactly the architecture DPDP Rules 2025 are designed to prevent.	Strong. Directly aligned with DPDP S7, Aadhaar Act S7, India Data Accessibility and Use Policy 2022, e-Sankhyiki portal, and MoSPI's Statistics Act mandate.

Recommendations

Option C is recommended — not as a compromise, but as the only option that is simultaneously feasible, safe, and aligned with what the Government of India has already decided to build. This section sets out its theory of change and the priority sequence in which the linkages should be executed; Section 6 addresses implementation, error correction and expected outcomes.

5.1 Theory of Change: Harmonise First, Then Link

The recommended option rests on a specific causal logic: data linkage can only produce reliable outcomes if the data being linked is itself reliable and consistently formatted. This is not a technical observation — it is the central governance lesson running through all the evidence in Section 3. The theory of change has four steps: **harmonise the inputs, govern the linkage, verify the claim, and improve the outcome.** Each step has a documented failure mode if it is skipped.

Step 1 — Harmonise the data before linking it

The MoSPI state consultations found that no participating state has reached full integration readiness on any of the three assessed dimensions: data catalogue, data standards, or integration readiness. Bihar reported records that are "inaccurate, incomplete, not validated, duplicate." Nagaland confirmed that no data validation mechanism exists. Tripura reported missing values and delayed updates. A linkage built on data like this does not eliminate ghost beneficiaries, it generates ghost matches instead. Data quality is a precondition, not a separate problem to solve later.

Harmonisation, in this context, means three things. First, **common data standards**: each system must use the same field definitions for names, dates, locations, and identifiers so that one system's record is legible to another. Second, **a minimum data quality threshold**: records must be validated and deduplicated before they are connected to other systems. Third, **a shared matching key** whether a geographic unit (district code, feeder code), a household identifier (Parivar Pehchan Patra, Family ID), or an individually authenticated identifier (Aadhaar-verified UAN) that allows one system's record to be reliably matched to another's without transferring all underlying personal data. The five Family ID states (Haryana, Madhya Pradesh, Rajasthan, Uttar Pradesh,

Uttarakhand) have already demonstrated this architecture at state level. Making them interoperable with Central scheme databases is the first harmonisation task.

Step 2 — Link using a governed, tiered pathway

Once data is harmonised at the relevant level, a linkage is both technically feasible and legally grounded. The recommended option structures linkages in three tiers because each tier has a different harmonisation prerequisite. **Geographic-tier linkages** — PM-KUSUM ↔ DISCOM, Swadesh Darshan ↔ GSTN, SBM-Urban ↔ IDSP — require only a common district or feeder code. They carry no individual data risk and can be activated immediately by MoU. **Household-tier linkages** — NSAP ↔ Civil Registration System — require a shared family identifier and state coordination across the five Family ID states: a six-month task. **Individual-tier linkages** — PM SETU ↔ EPFO, PMMVY ↔ RCH — require authenticated individual identifiers and carry the highest harmonisation prerequisites: a twelve-month task. The sequencing in Section 5.2 is not arbitrary — it reflects the harmonisation readiness that each tier actually requires.

Step 3 — Verify the claim, not the full record

Each linkage is designed to produce a single binary output: a confirmed match or a flagged discrepancy. No clinical data moves from the RCH portal to PMMVY — only a yes/no institutional delivery confirmation. No payroll data moves from EPFO to a skilling ministry — only a yes/no UAN presence check 90 days after placement. No personal identifier crosses from the Civil Registration System to PFMS — only a death-event signal that updates a beneficiary-status field. This design principle — **verify the claim without transferring the full record** — is what makes each linkage compliant with Section 7 of the Digital Personal Data Protection Act 2023 without requiring new legislation. It is also what distinguishes this approach from the architecture that failed in Telangana, where full record matching across thirty databases produced errors that were invisible to the families they affected.

Step 4 — Improve outcomes through evidence, not assumption

The final step is what the linkages produce at programme level. A PFMS payment is blocked when a death is registered — the outcome is fiscal integrity. A child flagged as severely malnourished in Anganwadi data is automatically referred to an NRC — the outcome is a prevented death. A skilling programme's placement rate is counted only when a UAN appears in EPFO 90 days later — the outcome is an evidence base that has never existed at national scale before. In each case, the improvement flows from verified information, not self-reported or assumed compliance. That is the operational meaning of evidence-based governance.

The causal chain is therefore: **harmonise the inputs → govern the linkage → verify the claim → improve the outcome.** Two international failure modes show what happens when this sequence is broken. Brazil's Cadastro Único[111] harmonised and linked without completing the governance layer, and lost the ability to track

[111] Grosh, M. (2005). Reforming Brazil's Cadastro Único to improve the targeting of the Bolsa Família program. World Bank Social Protection Discussion Paper Series, No. 0545.
https://documents1.worldbank.org/curated/en/566041468770480720/pdf/327560ENGLISH0SP0526.pdf

what beneficiaries receive across programmes. Telangana's Samagra Vedika illustrates the risks of linking administrative datasets without adequately addressing inconsistencies in the underlying records and validating the resulting matches. An investigation by Al Jazeera, corroborated by Amnesty International's technical analysis, documented cases in which erroneous data matching contributed to wrongful welfare exclusions. The case underscores why data harmonisation and validation must precede the use of linked records for eligibility decisions.[112] The recommended option avoids both failure modes by completing each step before the next begins. Section 5.2 operationalises that commitment.

5.2 The Priority Sequence

The recommended option is not a single action but a sequenced programme. Linkages are ranked by how many of the four governance layers (legal basis, matching mechanism, transport, governance mandate) are already resolved — not by sector or political salience.

Scheme Pair	Tier	When	Single Action Required	What Gets Verified	Monitoring
PM-KUSUM ↔ DISCOM feeder metering	Geographic	Now	MoU: MNRE + state DISCOMs. No personal data; deterministic feeder-code join.	Pump generating power (yes/no)	MNRE, with State DISCOMs
Swadesh Darshan ↔ GSTN by district	Geographic	Now	MoU: Ministry of Tourism + GSTN. District-code join.	Tourism spend reflected in district GST returns	Ministry of Tourism
SBM-Urban ↔ IDSP surveillance	Geographic	Now	MoU: MoHUA + MoHFW. Links sanitation investment to disease burden.	Sanitation status linked to disease incidence	Joint MoHUA–MoHFW coordination cell
NSAP ↔ Civil Registration System	Household	6 months	MoSPI convenes 5 Family ID states; CGA extends PFMS beneficiary-status field.	Beneficiary deceased status (yes/no)	CGA, with the 5 Family ID states
POSHAN Tracker ↔ NRC admissions	Institutional	12 months	MeitY builds API Setu endpoint on Anganwadi/NRC facility code (no individual identifier).	SAM-flagged child reached NRC (yes/no)	Ministry of WCD
PM SETU ↔ EPFO payroll	Individual	12 months	MeitY enables authenticated UAN check (yes/no only — no raw data transfer).	Trainee present in formal payroll (yes/no)	Ministry of Skill Development
PMMVY ↔ RCH/HMIS	Individual	12 months	MoHFW maps PMMVY beneficiary ID to RCH portal facility delivery record; verification limited to yes/no institutional delivery confirmation (no clinical data transferred).	Institutional delivery confirmed (yes/no)	MoHFW

Monitoring responsibility is indicative and subject to confirmation through inter-ministerial consultation. For household- and individual-tier linkages in particular, states and local bodies remain the primary data owners even

[112] Al Jazeera. (2024, January 24). How an algorithm denied food to thousands of poor in India's Telangana. https://www.aljazeera.com/economy/2024/1/24/how-an-algorithm-denied-food-to-thousands-of-poor-in-indias-telangana

where a Central agency monitors the linkage, consistent with welfare administration's status as a State List subject (Section 4).

Implementation Considerations

6.1 Error Correction and Grievance Redress

Verification is only as trustworthy as its ability to be challenged. An automated match can occasionally be wrong — a living person flagged as deceased, or a genuine match missed — and the design must assume this will happen rather than treat it as an edge case.

Each linkage therefore separates detection from action: a flagged discrepancy never triggers an automatic consequence (a stopped payment, a denied benefit) on its own. It first passes through a fixed correction sequence:

Automated match → discrepancy flagged → departmental verification (within a defined turnaround) → correction → citizen grievance/appeal, if the affected person disputes the outcome.

Two design choices make this workable without adding institutional weight. First, verification and correction sit with the same department already responsible for the underlying record — no new adjudicating body is created. Second, appeals route through each scheme's existing grievance redress channel (for instance, NSAP's mechanism under the Department of Rural Development, or the PMMVY portal's complaint system), with a new category added specifically for "disputed automated match." The linkage adds a category of complaint, not a new complaints infrastructure.

This safeguard is not precautionary. It is what Telangana's Samagra Vedika lacked, and its absence is why that architecture produced wrongful welfare exclusions at scale rather than isolated errors. Building it in from the outset is also what allows this design to operate under Section 7 of the Digital Personal Data Protection Act 2023 without new legislation — the safeguard functions as a substitute for the due-process protections a new law would otherwise need to specify.

6.2 Expected Outcomes

Implementation of the recommended option, sequenced as described, is expected to produce the following measurable outcomes.

Linkage	Immediate Outcome	Medium-Term Outcome
NSAP ↔ CRS	Ghost-beneficiary payments eliminated in Haryana-model states; ₹2 crore CAG-identified leakage structurally closed.	Scalable to all NSAP-implementing states once common schema is agreed. Fiscal savings proportional to scale.
POSHAN ↔ NRC	Children flagged as severely malnourished in Anganwadi data automatically trigger NRC referral; post-discharge follow-up automated.	Reduction in severe acute malnutrition prevalence measurable against NFHS baseline. Supports Himachal Pradesh's stated IMR/MMR targets.
PM-KUSUM ↔ DISCOM	Real utilisation of subsidised solar pumps verified at feeder level; non-performing assets identified without field inspection.	MNRE subsidy allocation better targeted. Potential to redirect savings to higher-utilisation regions.

Linkage	Immediate Outcome	Medium-Term Outcome
PM SETU ↔ EPFO	Skilling programme outcomes verified against formal payroll entry. First India-wide skilling-to-employment conversion rate available.	Evidence base for skilling programme design. Enables targeting of districts where formalisation ratio is lagging.
PMMVY ↔ RCH/HMIS	Maternity benefit disbursed only on confirmed institutional delivery; eliminates unverified cash transfer claims and identifies districts where delivery verification gaps are largest.	First national dataset on institutional delivery uptake by PMMVY beneficiary category. Enables evidence-based targeting of safe motherhood investments and Birth Companion programme scale-up.

6.3 Portfolio-Level KPIs and Year-1 Targets (Indicative)

KPI	Baseline	Year-1 Target (Indicative)
Geographic-tier linkages with signed, operational MoUs	0 of 3	At least 2 of 3 operational, in the states that took part in the March 2026 consultations
Flagged discrepancies resolved within defined SLA	Not currently tracked	90% resolved within 30 days, in pilot linkages
Time taken for data refresh/update	Manual, delayed (varies by scheme)	Real-time or within 24 hours, for linkages using API Setu
Ghost/duplicate beneficiary payments identified and stopped, per quarter	Not currently tracked	Baseline established in pilot states; tracked quarterly thereafter
Household- and individual-tier linkages (NSAP–CRS, PM SETU–EPFO, PMMVY–RCH) with scoping/MoU or API design complete	0 of 3	Scoping complete for all three; piloting begun in at least one state each
Departments/ministries with signed MoUs or API Setu integration for these linkages	0	At least 3 (covering the three geographic-tier linkages)

These targets are indicative, intended to give MoSPI and the concerned line ministries a starting basis for calibration.

Conclusion

Beyond scheme-specific outcomes, the recommended option, by establishing a reusable governance framework rather than a bespoke solution for each pair, produces a durable institutional asset: a proven method for resolving the four governance layers (legal, matching, transport, mandate) that any future linkage will face. Every linkage built under this framework makes the next one faster and safer. This cumulative effect is what distinguishes an incremental governance approach from a one-time technology project. Viksit Bharat 2047 rests on two interlocking commitments that administrative data harmonisation directly enables: universalising welfare delivery, and building an evidence base for governance that can be held accountable against its own targets. Every ghost-beneficiary pension payment closed through a CRS–PFMS linkage redirects a rupee to a living person who qualifies; every skilling outcome verified against EPFO payroll data makes the annual skilling budget measurably accountable for the first time; every child flagged in POSHAN data and automatically referred for NRC treatment converts a nutrition statistic into a prevented death. India has already built the infrastructure this requires. Aadhaar, PFMS, API Setu, the Civil Registration System — these are among the most capable digital public systems in the world. What they currently cannot do is tell one arm of government what another arm has already recorded. Administrative data harmonisation is the governance decision that closes that gap. That is how Viksit Bharat 2047 becomes measurable and how this brief's recommendations connect to it.

Glossary of Abbreviations

The following abbreviations are used in this policy brief.

API	Application Programming Interface
BPL	Below Poverty Line
CAG	Comptroller and Auditor General of India
CGA	Controller General of Accounts
CPI	Consumer Price Index
CRS	Civil Registration System
DILab	Data and Innovation Lab
DISCOM	Distribution Company (electricity)
DPDP Act	Digital Personal Data Protection Act 2023
EPFO	Employees' Provident Fund Organisation
GDP	Gross Domestic Product
GSTN	Goods and Services Tax Network
HMIS	Health Management Information System
ICDS	Integrated Child Development Services
IDSP	Integrated Disease Surveillance Programme
IIP	Index of Industrial Production
IMR	Infant Mortality Rate
MeitY	Ministry of Electronics and Information Technology
MMR	Maternal Mortality Rate
MNRE	Ministry of New and Renewable Energy
MoHFW	Ministry of Health and Family Welfare
MoHUA	Ministry of Housing and Urban Affairs
MoSPI	Ministry of Statistics and Programme Implementation
MoU	Memorandum of Understanding
NFHS	National Family Health Survey
NITI Aayog	National Institution for Transforming India Aayog
NRC	Nutrition Rehabilitation Centre
NSAP	National Social Assistance Programme
PDS	Public Distribution System
PFMS	Public Financial Management System
PIMS	Personnel Information Management System
PLFS	Periodic Labour Force Survey
PM-KUSUM	Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan
PMMVY	Pradhan Mantri Matru Vandana Yojana
PM SETU	Pradhan Mantri Skilling and Employability Transformation through Upgraded Industrial Training Institutes
POSHAN	PM Poshan Shakti Nirman (formerly ICDS nutrition component)
PPP	Parivar Pehchan Patra (Haryana Family Identity Card)
RCH	Reproductive and Child Health (portal)
SBM-Urban	Swachh Bharat Mission (Urban)
UAN	Universal Account Number (EPFO)
UIDAI	Unique Identification Authority of India
WCD	Women and Child Development (Ministry of)
ODF	Open Defecation Free

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Editorial Notes

Reviewers encouraged a clearer explanation of the research objective and the specific problem the proposed linkages are intended to address. The analysis would benefit from a more structured model showing how existing systems, data and processes connect, as well as what practical value the proposed integration would add. Future work should strengthen the evidence base, clarify the implementation pathway and ensure that the policy questions raised are answered by the analysis.

Realigning Academic and Administrative Governance to Enable Faculty-Led Research and Innovation in Higher Education Institutions

Prakyath Shetty
Embark India Development Fellow

Executive Summary

India has set itself the objective of raising gross expenditure on research and development from 0.84 per cent of gross domestic product to about 2 per cent, and of becoming an innovation-led economy by 2047.[113] That objective cannot be met by the top of the higher education system alone. Of the 1,289 universities, 48,246 colleges and 15,221 standalone institutions recorded in the latest All India Survey on Higher Education(AISHE), the great majority carry out very little research.[114] Widening the base of the research system is therefore a matter of arithmetic before it is a matter of equity.

This brief asks how institutional academic and administrative governance influences faculty-led research engagement and outcomes in higher education institutions (HEIs) located in India's Tier 2 and Tier 3 cities, and what governance direction the Government of India should take in response. Throughout, "Tier 2 and Tier 3" refers to the city in which an institution is located, not to its quality, ranking or maturity.

The central finding is that institutional governance is a critical and often under-recognised constraint on research in these institutions. Faculty capability, resources and access to external networks also matter, but governance largely determines whether any of them can be put to use. Three sets of internal rules strongly shape whether a national research mandate ever becomes a faculty member's working week. **Academic governance** allocates teaching hours, examination duty, and administrative charges first, and in affiliated colleges research supervision frequently earns no workload credit at all. **Administrative governance** routes approvals, procurement and fund release through several desks without published turnaround times, so research cannot be planned around them. **Incentive and evaluation governance** continues to reward teaching and length of service, while research rewards remain small, are paid late, and are counted by number of papers rather than by quality or use. National instruments only partly compensate, because their eligibility rules often favour prior research performance, which many institutions in this segment have not yet built.

Institutions in this segment require research of their faculty while structuring no time in which to produce it. Senior academics consulted for this brief reported that no formal allocation of research time exists in their weekly schedule. The enabling structures that national policy already prescribes are unevenly present. Four years after the

[113] Department of Science and Technology. (2026). Research and development statistics 2025-26. National Science and Technology Management Information System; figures placed before Parliament and reported in Business Standard, 30 July 2026. Gross expenditure on research and development rose from ₹1.33 lakh crore in 2019-20 to ₹2.45 lakh crore in 2023-24, and from 0.66 to 0.84 per cent of gross domestic product. https://www.business-standard.com/economy/news/r-d-spending-in-india-only-0-84-of-gdp-in-fy24-govt-tells-parliament-126073001491_1.html

[114] Ministry of Education. (2025). All India survey on higher education 2023-24. Department of Highe,proposesfunctionindustry-facingr Education, Statistics Bureau. https://www.dohe-education.gov.in/documents/reports/aishe-report-MzN1EjMtQWa?pageTitle=AISHE-Report

University Grants Commission required every institution to establish a Research and Development Cell, 65 per cent of responding universities report having done so, 47 per cent report an Institutional Development Plan and 41 per cent an internship cell. Support systems fail at upkeep rather than at purchase, with instrumentation reported lying unusable because maintenance and technical staffing were never funded. Industry linkage remains thin: universities reported 24,887 government-sponsored research projects against 13,897 industry-sponsored ones.[115]

Recommended direction

Of the three policy options examined, this brief recommends the second: **a governance compact under which national and state research support for HEIs in Tier 2 and Tier 3 cities is accompanied by, and progressively conditioned on, verified reform of the internal rules that govern research.** The compact rests on four commitments: protected research time, a functioning Research and Development Cell with external membership, credible and timely incentives, and published administrative service standards. UTTHAN, which already operates a national research and innovation maturity framework across seven governance dimensions, provides both the instrument for verifying institutional readiness and the pathway for upscaling institutions from foundational capability toward industry facing innovation capacity.

Expected impact: Faculty capacity released within a single academic cycle, research support structures that functions, and a measurable widening of the base of India's research system. The principal input is the reallocation of time and authority that institutions already control, which makes the proposal inexpensive relative to its reach.

1. Introduction and Background

India operates the world's third largest higher education system, enrolling approximately 4.46 crore students, of whom 76.8 per cent are at the undergraduate level, and employing 17.3 lakh teaching faculty.[116] In aggregate it is productive, ranking fourth in the world by volume of research output. Its weakness lies in impact, where it ranks ninth by citations generated over the same period.[117] The distance between those two positions reflects the policy problem in miniature. The system produces volume without proportionate quality, and it does so from a narrow institutional base.

The current policy landscape

[115] Ministry of Education. (2025). *All India survey on higher education 2023-24*, Box 8, status of research publications, patents and signed memoranda of understanding with industry as reported by universities. https://www.dohe-education.gov.in/documents/reports/aishe-report-MzN1EjMtQWa?pageTitle=AISHE-Report

[116] Ministry of Education. (2025). All India survey on higher education 2023-24, Key Results. Gross Enrolment Ratio stands at 30.0; the pupil teacher ratio in universities and colleges is 23 in regular mode. https://www.dohe-education.gov.in/documents/reports/aishe-report-MzN1EjMtQWa?pageTitle=AISHE-Report

[117] Times of India. (2023, March 27). India is world's 4th in research output, but ranks 9th in citations, citing SciVal data for 2017 to 2022. https://timesofindia.indiatimes.com/india/india-is-worlds-4th-in-research-output-but-ranks-9th-in-citations/articleshow/98924312.cms

The architecture built over the past five years is substantial. The National Education Policy 2020 set the direction and acknowledged that a large proportion of higher education institutions remain teaching focused and lack a research culture.[118] The Anusandhan National Research Foundation Act 2023 created an apex funding and coordination body in which the Principal Scientific Adviser serves as Member Secretary of the Governing Board. The University Grants Commission issued guidelines in 2022 requiring every institution to establish a Research and Development Cell, and the National Innovation and Startup Policy 2019 already provides for reduced teaching loads, sabbatical arrangements and laboratory space for faculty pursuing innovation.[119]

Two features of the resourcing picture bear directly on this brief. First, private industry contributed 51.8 per cent of national research expenditure in 2023-24, overtaking the government for the first time, yet the entire higher education sector accounts for only 12.6 per cent of that expenditure.[120] Private capital exists in the system, but the conduit carrying it into academic institutions is narrow. Second, public research funding has arrived more slowly than announced. Against ₹50,000 crore announced over five years for the national research foundation, the 2024-25 Budget allocated ₹2,000 crore, and reported expenditure in the preceding year was ₹258 crore.[121] When the pool is smaller than intended, how institutions are enabled to use it matters more, not less.

The Office of the Principal Scientific Adviser is mandated to synergise science and technology research across central and state stakeholders and to build regional innovation capacity. Its Strategic Alliance Division operates UTTHAN, which stands for Upscaling Tier 2 and Tier 3 Colleges for the Holistic Advancement of Nation, and which exists to bring precisely this segment of institutions into the national research and innovation ecosystem.[122] This brief is therefore addressed to a department that already holds the instrument on which its recommendation depends.

Scope of the brief

The brief examines the academic and administrative governance conditions that enable or constrain faculty-led research in HEIs in Tier 2 and Tier 3 cities, compares three policy directions, and recommends one with implementation considerations. It is confined to governance levers within the reach of the Union Government, state higher education departments and institutional leadership.

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[118] Ministry of Education. (2020). National education policy 2020. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

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[120] Business Standard. (2026, July 30). R&D spending in India only 0.84% of GDP in FY24, govt tells Parliament. Higher education research spending rose from ₹9,942 crore in 2019-20 to ₹30,909 crore in 2023-24. https://www.business-standard.com/economy/news/r-d-spending-in-india-only-0-84-of-gdp-in-fy24-govt-tells-parliament-126073001491_1.html

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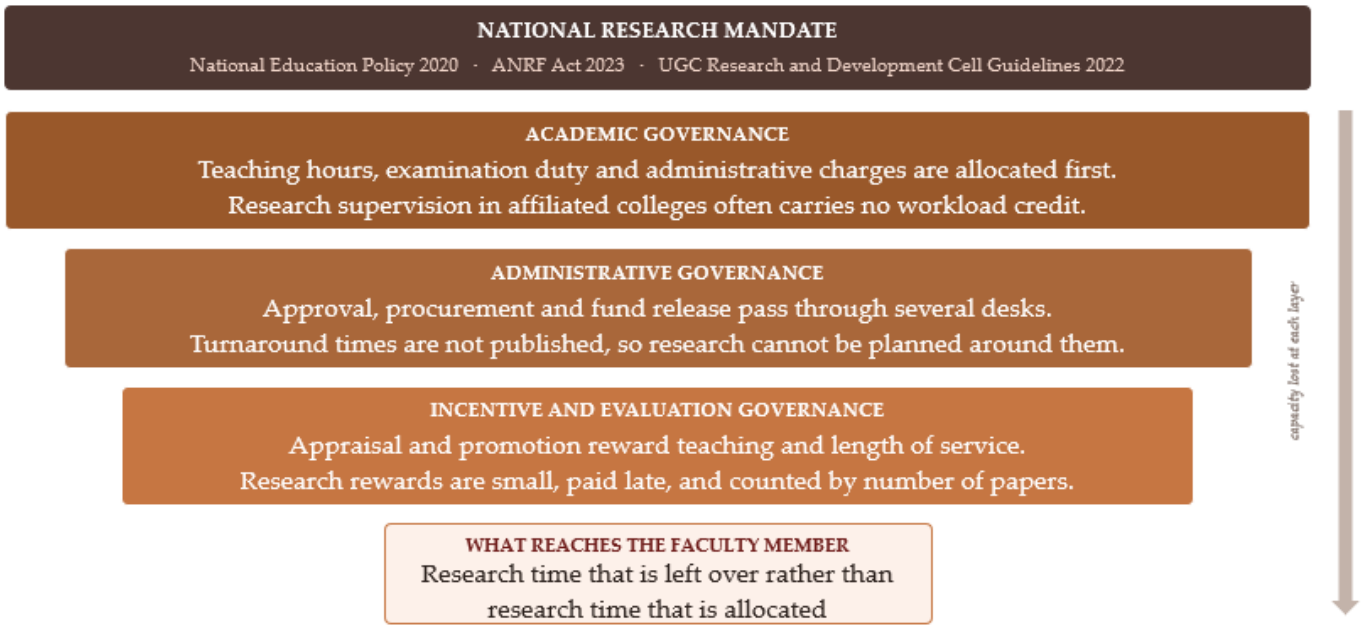
2. Problem Statement

Indian research policy assumes that institutions instructed to produce research, and given access to schemes, will do so. In Tier 2 and Tier 3 institutions that assumption often does not hold, because the institution has no internal mechanism through which a national mandate can become a working week. The National Education Policy describes this as a deficit of research culture. The evidence suggests something more precise and more tractable: culture is what remains after rules have been set, and in these institutions three sets of rules systematically displace research before culture is ever reached.

Figure 1. How three layers of institutional governance narrow national research intent before it reaches the faculty member



- **Academic governance.** Workload norms, timetabling and examination duty are built around instructional delivery. Teaching hours are allocated first, administrative charges are added to them, and examination work is treated as an unavoidable overhead. Where doctoral supervision is carried out in an affiliated college it commonly attracts no workload adjustment, although in a university department it does.
- **Administrative governance.** Approval, procurement and fund utilisation processes pass through several layers and are driven by compliance rather than facilitation. Their friction depends on the size of the sanction, so small internal proposals move while significant financial approvals stall. More damaging than the delay itself is its unpredictability, because a process without a published turnaround time cannot be planned around.
- **Incentive and evaluation governance.** Appraisal and promotion remain weighted toward teaching and length of service. Where research incentives exist they are modest, irregular and frequently delayed. Where they are volume based, they reward the count of papers rather than their quality, and in resource constrained settings that design reliably produces volume alone.

Who is affected and why this requires attention now

The burden falls on 17.3 lakh faculty and, through them, on the majority of India's students. It falls hardest on the affiliated college segment, in which 37.9 per cent of colleges enrol fewer than 200 students and 44.9 per cent between 200 and 1,000. These are small institutions with thin administrative capacity and little research infrastructure of their own.[123] Three pressures make the issue urgent rather than merely important.

- The national research intensity target cannot be met from the top of the system. Approximately 1.5 per cent of India's educational institutions are research oriented. Raising the national figure while the base remains inert is an arithmetic impossibility.
- Unsupported research mandates are producing distortion rather than output. India now ranks third globally in retractions, and the retraction rate rose from 1.5 to 3.5 for every 1,000 papers between 2012 and 2022. The decline in research quality is reported to be steepest in Tier 2 and Tier 3 institutions and state universities, where publication in low standard journals is most common.[124] When institutions are required to produce research they are not equipped to produce, they produce its appearance.
- The graduate outcome gap compounds year on year. Graduates of HEIs in Tier 2 and Tier 3 institutions already face documented disadvantages in industry relevant skills, exposure and mentorship.[125] An institution with no live research and no industry linkage cannot supply what its students most lack.

Consequence of inaction. The likely outcome of leaving governance unchanged is not stagnation but compliance without capability. Institutions will continue to constitute cells, adopt policies and report publication counts in order to satisfy accreditation and ranking requirements, while faculty time, incentives and infrastructure remain untouched. That is the most expensive failure mode available, because it consumes public funds and institutional attention while producing measurement rather than research.

3. Evidence and Key Findings

Evidence for this brief was drawn from three sources: national datasets and policy instruments; the research and higher education literature, including industry assessments of the Indian research ecosystem; and consultations with senior faculty and academic leaders of HEIs in Tier 2 and Tier 3 cities. Consultation findings are reported only where corroborated by independent national or documentary evidence, and are treated as illustrative of mechanism rather than as a basis for measurement.

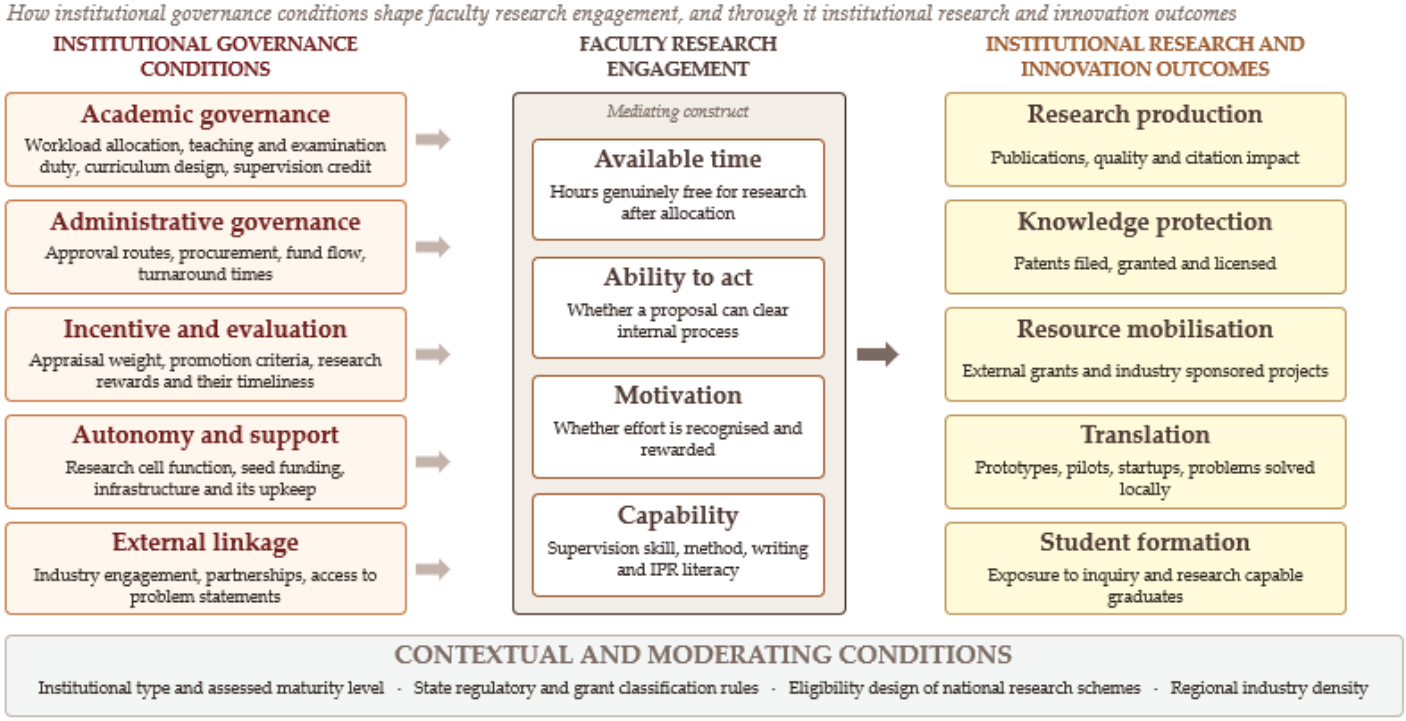
Conceptual framework for the analysis

[123] Ministry of Education. (2025). All India survey on higher education 2023-24, Section 2.1.2.5, Size of Colleges. https://www.dohe-education.gov.in/documents/reports/aishe-report-MzN1EjMtQWa?pageTitle=AISHE-Report
[124] Shekhar, L. (2025, August 6). As India's retractions surge, NIRF rankings only now begin penalising tainted research. The Hindu. https://www.thehindu.com/education/as-indias-retractions-surge-nirf-rankings-only-now-begin-penalising-tainted-research/article69901252.ece
[125] Ahmed, M. (2025, May 16). Why engineering graduates from tier-2, tier-3 colleges struggle: The skill gap that few talk about. The Hindu. https://www.thehindu.com/education/why-engineering-graduates-from-tier-3-colleges-struggle-the-skill-gap-that-few-talk-about/article69584730.ece

The framework below sets out the analytical logic on which this brief rests. It treats institutional governance as the independent set of conditions, faculty research engagement as the mediating construct through which those conditions operate, and institutional research and innovation outcomes as the dependent result. It is consistent with the wider literature on institutional research capacity, which treats capacity as a property of the institution rather than of the individual researcher.[126]

Figure 2. Conceptual Research Framework

How institutional governance conditions shape faculty research engagement, and through it institutional research and innovation outcomes



How the framework should be read

The left column contains the governance conditions that institutions and state governments control. These are not treated as background context but as the active variables of the analysis. The brief argues that they are the point at which national research intent is either transmitted to the faculty member or lost.

The centre column identifies the mediating construct, namely faculty research engagement, and disaggregates it into four components that the evidence suggests operate independently of one another. *Available time* is the number of hours genuinely free for research once teaching, examination and administrative duty have been allocated. *Ability to act* is whether a research proposal can clear internal approval, procurement and fund release within a period that makes the research viable. *Motivation* is whether effort is recognised and rewarded in a manner the faculty member finds credible. *Capability* is the presence of supervision skill, methodological training, writing proficiency and intellectual property literacy. The distinction matters for policy design, because an intervention

[126] Žydžiūnaitė, V., Jurgilė, V., & Daugėla, M. (2023). Research capacity in higher education: Theoretical considerations. Pedagogika, 151(3), 70-89. https://doi.org/10.15823/p.2023.151.4

that raises capability without releasing time will not produce research, and an intervention that releases time without addressing process will not either.

The right column contains the outcomes by which institutional research performance is conventionally judged, extending beyond publication and patent counts to translation and to the formation of research capable graduates. The dashed feedback path indicates that these outcomes in turn shape an institution's reputation, its access to funding and its capacity to govern research, which is the mechanism by which initial advantage compounds over time and by which institutions at the base of the system remain there.

The band across the base contains the contextual and moderating conditions. Institutional type and assessed maturity level determine which interventions are appropriate. State regulatory and grant classification rules determine whether certain reforms are available to an institution at all. The eligibility design of national research schemes determines whether external support can be accessed. Regional industry density determines whether demand for applied research exists nearby. These conditions do not cause the outcomes directly, but they alter the strength of the relationships shown, and they explain why identical interventions produce different results across apparently similar institutions.

Propositions arising from the framework

- Governance conditions act on research outcomes indirectly, through faculty research engagement, rather than directly. Policies that target outcomes without altering the conditions will produce reported compliance rather than research.
- The four components of engagement are complementary rather than substitutable. Improvement in one, in the absence of the others, produces little change in outcomes.
- Because moderating conditions differ systematically across institutional types, uniform national interventions will produce uneven results, which is an argument for differentiation by assessed maturity rather than for uniform programme design.

3.1 Research time is residual rather than allocated

Consultations indicate that direct teaching loads in these institutions typically fall between ten and twenty hours a week, with professors and associate professors at the lower end of that range and assistant professors at the upper. Teaching alone, however, is not what removes research time. What removes it is the accumulation of teaching with concurrent administrative charges such as timetable coordination, policy implementation roles and departmental administration, together with examination duty. Senior academics described examination work, comprising invigilation, question setting, evaluation and result processing, as the single largest consumer of their time, running to several dozen hours in a semester before any teaching preparation is counted.

Asked whether their institutions formally recognise or allocate research time within the weekly schedule, senior academics answered in the negative without qualification. The pattern described is an institution that requires

research of its faculty while structuring no time in which to produce it. This is corroborated in the industry assessment of the Indian research ecosystem, which finds that faculty are left with little or no time for research and that motivation is driven largely by institutional targets for numbers of papers, with attention to quality or relevance generally low.[127] The peer reviewed literature on institutional research capacity concurs, identifying heavy teaching workload, weak mentorship and unsupportive institutional environments among the principal limiting factors.[128]

One structural anomaly deserves separate attention because it is invisible at national level. In a university department a professor's workload is adjusted to reflect doctoral supervision. In an affiliated college it generally is not: the full teaching load is carried and research students are supervised in addition to it. Related state level anomalies compound this, including differing central and state workload norms, and grant classifications under which undergraduate teaching is aided while postgraduate and doctoral positions are not, leaving partially aided institutions governed by rules that do not contemplate their actual structure. These are state administrative rules. Neither the University Grants Commission's research guidelines nor the national research foundation's programmes reach them, and each directly suppresses the supervision that produces research.

3.2 The enabling structures exist in policy and only partly in practice

India does not lack prescriptions. The University Grants Commission guidelines of 2022 require a Research and Development Cell headed by a Research Advisory Council, a single window operational system for administration, enabling provisions for recruitment and procurement, adequate financial autonomy for principal investigators, a research career ladder and incentives for quality publications and patents.[129] The National Innovation and Startup Policy 2019 goes further, providing for reduced teaching loads, sabbatical and leave arrangements, and office and laboratory space for faculty pursuing entrepreneurial activity. The instruments that faculty in these institutions most need already exist on paper.

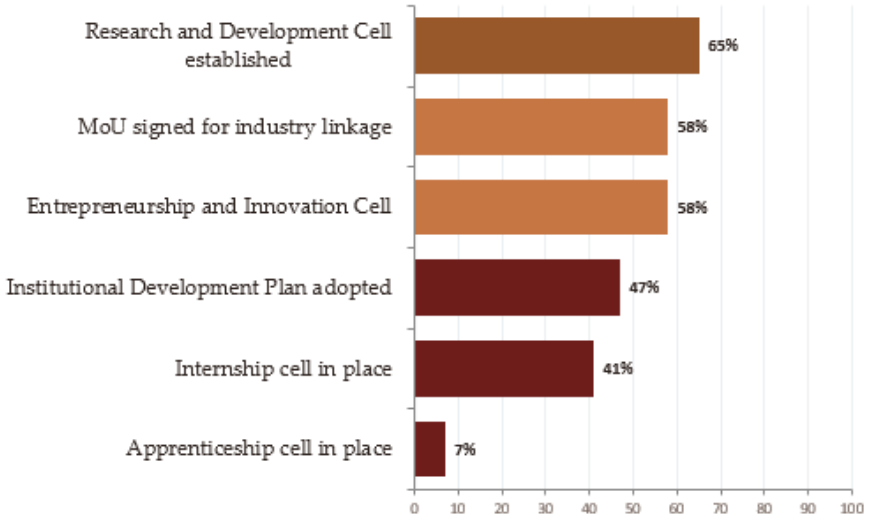
[127] FICCI & EY-Parthenon. (2024). Research ecosystem within Indian higher education sector: Strategic pillars of reform across academic and industry research, chapter on academic research.
[128] Žydžiūnaitė, V., Jurgilė, V., & Daugėla, M. (2023). Research capacity in higher education: Theoretical considerations. Pedagogika, 151(3), 70-89. https://doi.org/10.15823/p.2023.151.4
[129] University Grants Commission. (2022). Guidelines for establishment of research and development cell in higher education institutions, Objectives 1 and 2, Functions 1, 2 and 6. https://www.ugc.gov.in/pdfnews/6347789_RDC-Guideline.pdf

Figure 3. The implementation gap: national policy prescribes the enabling structures, institutions report them unevenly

WHAT POLICY ALREADY REQUIRES

UGC Guidelines, 2022
Every higher education institution shall establish a Research and Development Cell, with a Research Advisory Council, single window administration, financial autonomy for principal investigators, and incentives for quality research.

National Innovation and Startup Policy, 2019
Institutions should provide reduced teaching loads, sabbatical and leave provisions, and laboratory space for faculty pursuing innovation.



Reported by 1,278 responding universities in AISHE 2023-24. Universities are the better resourced tier of the system and employ dedicated administrative staff. Affiliated colleges are not reported separately at this level of detail.

The All India Survey on Higher Education quantifies how far these prescriptions have travelled. Four years after the guidelines were issued, 65 per cent of responding universities report having established a Research and Development Cell, which means roughly one in three has not. Only 47 per cent have adopted and published an Institutional Development Plan, 58 per cent report a memorandum of understanding for industry linkage, 41 per cent an internship cell and 7 per cent an apprenticeship cell.[130] These figures describe universities, which are the better resourced tier and employ dedicated administrative staff. The gap between India's research policy and its research practice is therefore not a gap of intent or of drafting. It is a gap in the capacity of institutions to absorb what policy prescribes.

3.3 Support systems fail at upkeep rather than at purchase

Consultations pointed consistently to a pattern that capital budgeting does not anticipate. Instrumentation procured at considerable cost was reported lying unusable, in one account for a period of years, because the recurring provision that makes equipment productive, namely maintenance contracts, calibration and trained technical staff, had never been funded. Faculty in such institutions depend instead on external laboratories for characterisation work, where turnaround can extend to weeks and samples degrade in the interval, and where access is sometimes accompanied by expectations of authorship. The finding is specific and useful for policy. The constraint is not the absence of capital but the absence of the operating conditions that convert capital into capability.

3.4 Industry linkage is thin, and national instruments do not compensate

Universities reported 24,887 government sponsored research projects in 2023-24 against 13,897 industry sponsored ones, alongside 24,306 active research collaboration agreements and 16,827 agreements signed with

[130] Ministry of Education. (2025). All India survey on higher education 2023-24, Page 44 - Box 7, based on 1,278 responding universities. https://www.dohe-education.gov.in/static/uploads/2026/07/426440f1daac445265cdea027ae6a00d.pdf

industry.[131] Industry sponsorship therefore runs at barely half of government sponsorship in the tier of the system best placed to attract it. The industry assessment states the position plainly: private funding reaches top tier institutes with established industry relationships, while Tier 2 and Tier 3 institutes remain largely reliant on government funding and face protocol and approval barriers to corporate funds. Senior academics consulted for this brief described the same asymmetry from the other side, reporting that industry consultancy demand does not reach regional colleges even where the relevant industry is located nearby.

National instruments have been designed to remedy this, but their eligibility rules limit how far they can. The flagship partnership programme of the national research foundation pairs research intensive institutions with emerging ones, and in its first phase admits partner institutions on the basis of national ranking position.[132] Because 45 per cent of universities do not participate in national ranking at all, and because affiliated colleges are not universities, a large part of the system sits outside the eligibility frame before institutional merit is assessed. This is a contributing factor rather than the root cause: even where such institutions do gain access, the governance conditions described in sections 3.1 to 3.3 would still determine whether access could be used.

4. Policy Options Analysis

Three directions are available to the Government. They rest on different theories of why research capacity in these institutions remains low, and they compete for the same fiscal and administrative bandwidth.

Criterion	Option A. Extend existing national programmes	Option B. Institutional governance compact	Option C. Infrastructure and seed funding first
Theory of the problem	Institutions lack access to research networks and funds. Extend the reach of programmes that already work.	Institutions lack the internal governance conditions in which faculty can conduct research. Reform those conditions and tie support to them.	Institutions lack laboratories, equipment and start up capital. Supply these directly.
Core action	Expand eligibility and budget of national partnership programmes, add hub and spoke networks, extend to college clusters.	Condition national and state research support on verified reform of workload allocation, research cell function, incentives and administrative service standards.	Capital grants for instrumentation and laboratories, and seed money for newly appointed faculty.
Advantages	Institutional machinery exists and is operational. No new legislation required. Politically straightforward and consistent with the research foundation's mandate.	Addresses the constraint the evidence identifies as binding. Reaches colleges as well as ranked universities. Uses frameworks already issued. Principal input is reallocation rather than new expenditure.	Addresses a genuine and visible deficit. Immediately legible to institutions and to the public. Quick to announce and to disburse.

[131] Ministry of Education. (2025). All India survey on higher education 2023-24, Box 8, status of research publications, patents and signed memoranda of understanding with industry as reported by universities. https://www.dohe-education.gov.in/documents/reports/aishe-report-MzN1EjMtQWa?pageTitle=AISHE-Report

[132] Department of Science and Technology. (n.d.). ANRF's PAIR programme to transform research and innovation in Indian universities; and phase one eligibility criteria, November 2024. https://dst.gov.in/anrfs-pair-programme-transform-research-and-innovation-indian-universities

Criterion	Option A. Extend existing national programmes	Option B. Institutional governance compact	Option C. Infrastructure and seed funding first
Limitations	Eligibility rules that require prior performance exclude much of the segment. Mentorship models can create dependence on the partner institution. Funding concentrates in relatively few networks.	Requires state cooperation, since several binding rules are state level. Carries a real risk of compliance on paper. Verification imposes an administrative burden.	Capital without recurring maintenance, technical staffing and protected time becomes a stranded asset, a pattern already evident in the field. Does not release faculty time or change incentives.
Economic feasibility	Low at system scale. Extending large network grants across 48,246 colleges is fiscally implausible, and diluting them produces grants too small to change institutional behaviour.	High. The principal inputs are time, authority and process redesign, which institutions already control. Incremental cost is concentrated in assessment and capacity building.	Low. Capital and recurring costs at system scale are very large, and recurring costs are typically the ones not budgeted for.
Administrative feasibility	High. The selection and disbursement machinery is proven and operational.	Moderate to high. Requires coordination across the Office of the Principal Scientific Adviser, the research foundation, the regulator and state departments, but the assessment instrument and institutional cohorts already exist.	Moderate. Procurement systems function. Maintenance, calibration and technical staffing are the recurring points of failure.
Political and social acceptability	High. Expanding a flagship programme is uncontroversial.	Moderate. Workload reform touches state service rules and faculty associations. Conditionality must be paired with entitlement to avoid being read as an unfunded mandate.	High. Visible, tangible and popular with institutions and constituencies alike.

Table 1. Comparative assessment of the three policy options.

The comparison turns on a single question: what is actually binding. If access were binding, Option A would be sufficient, but the evidence shows faculty unable to use the access they already hold because the time, the functioning support structure and the predictable process are absent. If capital were binding, Option C would be sufficient, but capital already delivered is lying idle for want of the governance and recurring provision that would make it usable. Option B is recommended because it addresses the constraint that the other two options assume away, and because it is the only one whose principal cost is reallocation rather than expenditure.

5. Recommendations

The Government of India should establish a **Research Governance Compact for HEIs in Tier 2 and Tier 3 cities**, under which access to national and state research support is accompanied by, and progressively conditioned on, verified reform of the institutional rules that govern research. Four commitments follow, each of which addresses one of the governance layers identified in section 2, and each of which is matched by an entitlement so that the compact is reciprocal rather than extractive.

R1. Establish protected research time as a governance norm

- Participating institutions should adopt an annual faculty workload allocation, agreed at the start of the academic year across teaching, administration and research, and reviewed against at the year end. This converts research from a residual activity into a planned one and creates accountability in both directions.
- Research supervision in affiliated colleges should attract workload credit, as it already does in university departments. This single change would remove a significant structural disincentive at negligible cost.
- Examination and administrative duty should be distributed so that faculty actively supervising research are not simultaneously carrying multiple concurrent administrative charges.

Seed funding for newly appointed faculty, benchmarked to established practice at national institutes, together with access to shared instrumentation.

R2. Make the Research and Development Cell function, and open its advisory council

India does not need a new structure for institutional research governance. It needs the structure it has already mandated to work. Three modifications are recommended for this segment.

- Research Advisory Councils should be constituted with external and industry membership rather than internal members alone, so that small institutions gain expertise and independent challenge they cannot generate internally.
- Council members should be remunerated rather than appointed in an honorary capacity. An honorary member bears no consequence for non delivery while the institution bears the full cost of it, whereas a remunerated member can be held to defined deliverables. The argument is accountability rather than generosity.
- Professors of Practice should be inducted as a standing bridge to regional industry, supplying applied and technical expertise and a durable channel through which local problem statements can reach faculty.

Capacity building support for institutional leadership and administrative staff, and public service standards for approvals, procurement and fund release, so that the obligation to reform process is accompanied by help in doing so.

R3. Make incentives credible, and fund upkeep alongside capital

- Research incentives should be predictable and paid within a defined window. A modest incentive paid reliably is a stronger behavioural signal than a larger one paid unpredictably, and it costs no more.
- Appraisal weight should shift from publication counts toward research quality, translation and local relevance, including consultancy delivered and problems solved for regional industry. Existing academic integrity regulations should be applied consistently, since selective enforcement demoralises exactly the faculty the system depends on.

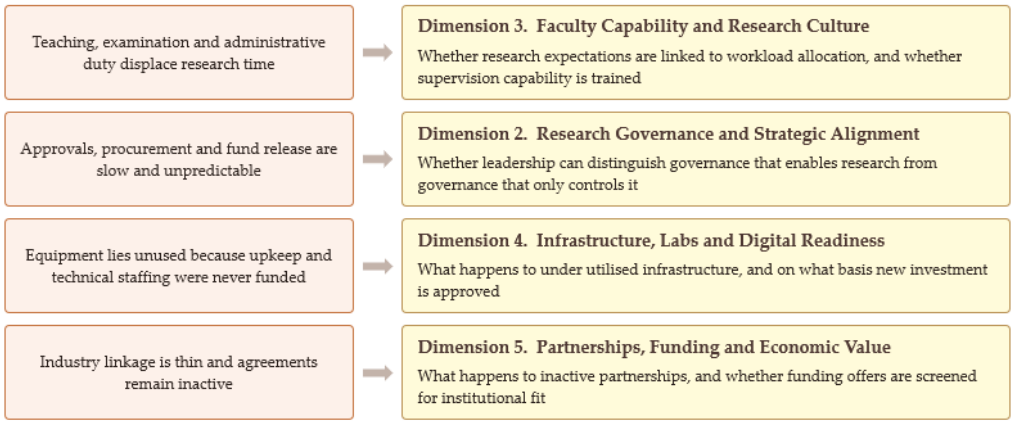
- Maintenance, calibration and technical staffing should be budgeted as recurring lines at the point at which capital equipment is sanctioned, and regional shared instrumentation should operate under published access protocols and turnaround commitments.

R4. Use UTTHAN to verify readiness and to upscale institutions

A compact of this kind requires an instrument capable of distinguishing between institutions at very different stages, because HEIs in Tier 2 and Tier 3 are not a single segment. An autonomous technical institution with an incubation centre and an affiliated rural degree college face different constraints and warrant different expectations. That instrument already exists. UTTHAN LEAP, which stands for Learn, Engage, Accelerate and Perform, is a national research and innovation maturity framework developed under the Office of the Principal Scientific Adviser, assessing institutions across seven weighted dimensions and five maturity levels through a rapid dimension scan, an evidence based diagnostic and targeted interventions.[133]

Its significance for this brief is that it assesses governance rather than counting outputs alone. It asks whether research expectations are linked to workload allocation, whether leadership can distinguish governance that enables research from governance that only controls it, what becomes of under utilised infrastructure, and whether inactive partnerships are reviewed or simply left in place. These are the questions this brief has found to be decisive.

Figure 3. The assessment instrument already measures the governance problem: UTTHAN LEAP dimensions against the constraints identified



Two recommendations follow. First, the LEAP dimension scan should be recognised as a valid readiness signal across national and state research schemes, so that institutions which do not hold a national ranking are able to demonstrate capability by another route, and so that assessed maturity determines the form of support an institution receives rather than whether it receives support at all. Second, and more importantly for the segment, UTTHAN's intervention pathway should be resourced as the route by which institutions are upscaled from foundational capability toward industry facing innovation capacity.

[133] Office of the Principal Scientific Adviser to the Government of India. (2025). UTTHAN LEAP: National research and innovation maturity framework. The framework was designed in response to the finding that uniform programme delivery produced limited outcomes across institutions of widely differing capability. https://manthan.gov.in/utthan

Assessed maturity	What UTTHAN provides at this level	What the institution is upscaled toward
Nascent and Emerging	Orientation to research culture, research methodology and literature review skills, grant writing, support for filing intellectual property, research cell setup, supervision protocols and ethics grounding.	An institution with a functioning research cell, trained supervisors and a first grant pipeline.
Developing	Peer review mechanisms, evidence based governance and departmental dashboards, workload alignment, supervision quality frameworks, audit and activation of dormant agreements, and industry problem mapping.	An institution converting activity into reliable and measurable output, and taking on problem statements from local enterprise.
Advanced and Exemplary	Deep diagnostic assessment, translation and intellectual property strategy, commercialisation and technology readiness acceleration, industry challenge briefs, and design of translational innovation hubs.	A regional innovation anchor hosting industry pilots and spinoffs, and a domain specific centre of excellence.

Table 2. The UTTHAN upscaling pathway by assessed institutional maturity.

Three design features of UTTHAN deserve particular policy attention, because they address problems that funding alone does not solve.

- **The cascade model addresses scale.** UTTHAN Champions are faculty trained by external experts who then train colleagues within their own institution, converting a workshop into institutional capability. This is the only mechanism in the current landscape capable of reaching tens of thousands of institutions without a proportionate expansion of central delivery capacity.
- **Demand side matching addresses linkage.** UTTHAN routes problem statements from micro, small and medium enterprises to institutions matched on assessed capability, and the Manthan platform already carries industry problem statements for academic institutions to take up. The constraint here is awareness rather than availability. Senior academics consulted for this brief were unaware of national platforms built expressly for institutions such as theirs, which indicates that the delivery interface, and not the supply of opportunities, is what requires investment.
- **The maturity framework addresses differentiation.** Five graded levels provide the categorisation that uniform national schemes currently lack, allowing expectations, indicators and support packages to be calibrated to institutional reality rather than applied identically across a highly varied segment.

R5. Measure outcomes, and reconcile the state level rules that block implementation

Two enabling actions are required. First, a small outcome indicator set should be defined before the compact is introduced, covering faculty time actually released, proposals reaching submission, administrative turnaround times, industry sponsored project value and quality weighted output. The research capacity literature is unambiguous about the risk of neglecting this. A systematic review of 668 research capacity indicators found that 40 per cent measured outputs and only 0.5 per cent measured impact, with just 1 per cent of outcome indicators

meeting all four quality criteria applied.[134] A compact measured by cells constituted and workshops delivered will produce cells and workshops.

Second, the Union Government should convene a working group with state higher education departments to reconcile the workload and grant classification rules identified in section 3.1. Because education is a concurrent subject, several of the rules that most directly suppress research supervision are not within the Union Government's unilateral reach. This is consistent with international practice, in which governments have moved away from direct control toward steering at a distance, using performance and negotiated funding agreements that specify expectations without prescribing institutional operations.[135]

6. Implementation Considerations

Key stakeholders and institutional arrangements. The Office of the Principal Scientific Adviser, through its Strategic Alliance Division, is the natural convener, since it holds both the maturity framework and the institutional cohorts. The Anusandhan National Research Foundation is the essential partner for admitting readiness assessed institutions to appropriate programme tiers. The University Grants Commission and the All India Council for Technical Education, and in due course the single higher education regulator approved by the Union Cabinet in December 2025 and awaiting parliamentary passage, hold the levers on workload norms, appraisal criteria and research cell compliance.[136] State higher education departments and affiliating universities are indispensable, because the workload, supervision credit and grant classification rules are theirs to change. Regional industry associations and enterprise bodies complete the arrangement on the demand side.

Resource requirements. The compact is inexpensive relative to its reach. The material costs are assessment and verification capacity, remuneration for external advisory council members and Professors of Practice, seed funding for newly appointed faculty in participating institutions, and recurring maintenance and technical staffing for shared instrumentation. The largest single input, faculty time, is a reallocation of a resource institutions already hold rather than a new appropriation.

Capacity building needs. Three groups require support, and only one of them is faculty. Institutional leadership, meaning principals, deans and registrars, needs orientation in research governance and workload planning, because the compact asks them to exercise authority they have not previously used in this way. Administrative staff handling approvals, procurement and fund utilisation need process training and clear service standards, since much

[134] Pulford, J., Price, N., Amegee Quach, J., & Bates, I. (2020). Measuring the outcome and impact of research capacity strengthening initiatives: A review of indicators used or described in the published and grey literature. F1000Research, 9, 517. https://doi.org/10.12688/f1000research.24144.1

[135] OECD. (2020). Resourcing higher education: Challenges, choices and consequences. OECD Publishing, chapters 1 and 4 on institutional autonomy, accountability mechanisms and the allocation of public funding. https://doi.org/10.1787/735e1f44-en

[136] The Higher Education Commission of India Bill, subsequently renamed the Viksit Bharat Shiksha Adhikshan Bill, was approved by the Union Cabinet on 12 December 2025 and is expected to be taken up in the 2026 Budget Session. Because education is a concurrent subject, implementation will require the cooperation of state governments.

of the friction identified in this brief sits at those desks. Faculty need support in proposal writing, research ethics and integrity, intellectual property and translation, which UTTHAN's capacity building pillar already provides.

Principal risks and their mitigation. Three risks warrant standing attention. Compliance on paper is the most likely, and the mitigation is verification through evidence based diagnostic assessment rather than institutional self-declaration. Unreconciled state rules could render workload reform unimplementable in affiliated colleges, and the mitigation is to begin in states where cooperation is already in place while the working group proceeds. Conditionality may be read as an unfunded mandate, and the mitigation is the reciprocal design described in section 5, in which every obligation carries a matching entitlement.

7. Conclusion

India's research reforms of the past five years are serious and, in institutional terms, genuinely ambitious. Their limitation is not design but reach. The instruments built to raise research capacity generally require institutions to demonstrate research capacity in order to qualify for them, which means that the institutions furthest from the frontier are furthest from the help. Beneath that eligibility question lies a more fundamental one. Even where such institutions gain access, the internal rules that govern academic time, administrative process and professional reward would still determine whether that access could be converted into research.

The evidence assembled here indicates that what limits research of HEIs in Tier 2 and Tier 3 institutions is not indifference, and not in the first instance money. Faculty in these institutions sustain research records without laboratories, without seed funding and without protected time. What they lack is time that is allocated rather than left over, support structures that function rather than merely exist, incentives that arrive when promised, and administrative processes whose timelines can be planned around. Each of these is a governance variable, and each lies within the authority of decisions that the Union Government, state departments and institutional leadership already hold.

The importance of acting now is arithmetic before it is anything else. Moving national research intensity from 0.84 per cent of gross domestic product toward 2 per cent cannot be achieved by deepening research where it is already deep. It requires widening the base, and the base is tens of thousands of colleges and the faculty who staff them. The change this brief proposes is correspondingly modest in machinery and significant in consequence. It requires no new programme, no new fund and no new authority, but a decision that support should follow verified readiness and demonstrated governance reform, assessed through an instrument the Government has already built.

The expected long term impact is a research system whose geography matches the country's own, in which a manufacturer in a district town can find a research partner in the college nearby, and a graduate's exposure to inquiry does not depend on having cleared an entrance examination at eighteen. UTTHAN was created on that premise. Positioning it as the mechanism through which governance reform is verified and institutions are

upscaled would convert it from a capacity building programme into the route by which India's research system finally reaches its own base.

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Primary consultations. Semi structured consultations with senior faculty, VC, Incubation Managers, Admin Departments and academic leaders at HEIs in Tier 2 and Tier 3 cities, conducted in August 2026. Participation was voluntary and anonymised at the request of respondents.

Editorial Notes

Reviewers encouraged stronger comparative analysis, including clearer distinctions between public and private institutions. The paper could more explicitly connect institutional rules and administrative processes with faculty research outcomes, drawing on individual experiences or other systematic evidence. Further refinement should strengthen the policy recommendations and ensure that the proposed changes respond to the specific constraints faced by institutions in Tier 2 and Tier 3 cities.

Strengthening India's Brain Health Response: Policy Pathways to Address Rising Neurological Burden

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Executive Summary

Neurological disorders are a growing public health and development challenge in India, contributing substantially to disease burden, disability, premature mortality and economic costs. Despite their scale, brain health remains relatively under-recognised in national health policy, with services constrained by limited specialist access, low public awareness and fragmented data systems. The National Task Force on Brain Health, constituted by NITI Aayog in 2024, marked an important step towards addressing this need. Building on this effort, the Brain Health Initiative (BHI) was launched in September 2025 under the Aspirational Districts Programme (ADP) and Aspirational Blocks Programme (ABP), piloting district-level brain health services across 12 districts in 10 states. Drawing on a review of policy and programme documents, BHI monitoring data, fieldwork in Siddharthnagar, Uttar Pradesh, and consultations with stakeholders across pilot districts, this brief examines early implementation experiences and identifies priorities for strengthening the initiative and India's wider brain health response. The analysis highlights three areas requiring focused policy attention: strengthening the neurological healthcare workforce and referral pathways; improving public awareness and reducing stigma; and building robust monitoring and evidence systems. Strengthening these areas can help consolidate BHI's early progress and establish a scalable approach to brain health within India's public health system, contributing to broader health and development priorities under Viksit Bharat@2047.

1. Introduction and Background

Neurological disorders are becoming the leading cause of disease burden globally, more than cardiovascular disease. India also faces this challenge, with non-communicable brain disorders accounting for 82.8% of its total neurological burden. As elderly population reaches 347 million by 2050, the burden of neurological disease is likely to intensify as well. NITI Aayog's Brain Health Initiative (BHI) is an effort to address this public health challenge and to bring brain health services to the most underdeveloped areas in India. This brief analyses how this pilot provides an opportunity to test approaches suited to diverse contexts and strengthen the foundations for wider brain health implementation across India.

The Current Policy and Programme Architecture

Over the past few decades, India has built foundational blocks for brain health – spanning mental health, ageing and non-communicable diseases. The National Mental Health Programme (NMHP), launched in 1982, has made basic mental healthcare available and accessible, particularly to India's most vulnerable and underprivileged groups (Directorate General of Health Services, n.d.-a). Its decentralised, community-based model – the District Mental

Health Programme (started subsequently in 1996) – further brings mental health services closer to people, into district hospitals, community clinics, and PHCs, and integrates diagnosis and treatment support for some of the neurological disorders by adding MNS disorders (Mental, Neurological and Substance Use) package to the primary healthcare services. Strengthened further by Tele-MANAS (MoHFW, 2026) and Ayushman Bharat referral pathways, DMHP and NMHP provide a promising opportunity for convergence with brain health.

The National Programme for Health Care of the Elderly (NPHCE) is another important milestone. Operational under National Policy on Older Persons, NPHCE adopts community-based geriatric care approach with domiciliary visits, PHC/CHC services, district hospital facilities, expanding network of Regional Geriatric Centres, staff training, and IEC (Directorate General of Health Services, n.d.-b) – relevant given India's rising neurological burden linked to changing ageing patterns.

However, perhaps the most important one is the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) launched in 2010 to prevent, control and screen for stroke alongside other NCDs including Diabetes, Hypertension, common cancers (Oral, Breast and Cervical), etc. and reduce their burden subsequently.

At the state level, several initiatives demonstrate emerging approaches to neurological care (Table 1).

Table 1: State-level Interventions in Brain Health

State	Intervention
Kerala	Kerala State Initiative on Dementia (KSID) launched in 2014 (STRiDE, n.d.), and subsequently the Ormathoni project announced in 2023 to advance a dementia-friendly state (Express News Service, 2023).
Maharashtra	Has integrated dementia services into its District Mental Health Programme since 2018, including outpatient and memory-clinic services (National Health Mission Maharashtra, 2025).
Karnataka	Established the Karnataka Brain Health Initiative (KaBHI) in 2022, covering multiple neurological conditions including stroke, dementia, epilepsy and migraine, and beginning with a three-district pilot (Mailankody et al., 2024).
Punjab	Launched NeuroSakhi in 2026 to strengthen diagnosis and treatment support for women living with multiple sclerosis (BW Healthcare World, 2026b).
Tamil Nadu	The Health and Family Welfare Department of Tamil Nadu has recently in 2026 signed an MOU with Dementia India Alliance to strengthen early screening and intervention for older adults and build the capacity of caregivers and health and support personnel (The Hindu, 2026).

Source: Information presented in the table is compiled from existing literature (see References)

These existing initiatives present an important entry point for a more comprehensive brain health agenda. They also show that brain and mental health are converging and research evidence backs this. Migraine and depression exhibit a bidirectional relationship, with each potentially exacerbating the other (Duan et al., 2023). Shared neurodevelopmental and genetic pathways exist across psychiatric and neurological disorders and common social

determinants influence both brain and mental health[137]. These overlaps call for greater synergy between the two domains and suggest that a more integrated and multidisciplinary approach is needed to achieve better patient outcomes.

World Health Organisation's 'Intersectoral global action plan on epilepsy and other neurological disorders 2022–2031' – adopted by Member States (including India) – has brought new momentum to brain health, including growing interest among national governments, funders, the public, and brain health experts worldwide (Daly, 2025, p. 148). Yet brain health has not attained the same status as mental health, which WHO recognises as a "basic human right for all people". Daly (2025) further argues that providing brain health with comparable status could inspire important downstream actions such as stronger advocacy, investment, and public awareness, as well as unified action where brain health promotion is pursued alongside mental health.

Scope of the brief

The policy brief is structured as follows:

- **Section 2** sets out the problem statement, highlighting the scale of India's neurological burden, who is most affected, and why brain health matters.
- **Section 3** brings key evidence into light, sheds light on Brain Health Initiative's first year of implementation, and synthesises lessons emerging from its 12 pilot districts.
- **Section 4** sets out three priority areas for strengthening India's brain health response further, including policy options and implementation considerations.
- **Section 5** suggests actionable recommendations under each priority area.
- **Section 6** concludes with the key implications for strengthening and scaling India's brain health response.

2. Problem Statement

2.1. A High and Rising Burden of Neurological Disease and Disability

A landmark analysis from the GBD 2021 Nervous System Disorders Collaborators (2024, p. 348) shows that in 2021, about 3.4 billion people were living with a neurological condition, making brain-related disorders the leading contributor to global disease burden, surpassing cardiovascular diseases. The study also shows that their associated health loss in terms of death and disability is significantly greater than previously known (Table 2).

Table 2: Scale of the Global Neurological Burden

[137] Early-life events may increase the risk of mental health conditions like depression and anxiety & neurological disorders. Genetic overlaps have also been identified between CACNA1C gene and schizophrenia, bipolar disorder, depression, and focal epilepsy, and between deletion of 22q11.2 (segment of chromosome 22 in a DNA) and risk of schizophrenia, ADHD and Parkinson's disease. Social determinants – including poor nutrition, socioeconomic disadvantage, social isolation, discrimination and limited access to healthcare increase the risk of both brain and mental health disorders.

Indicator	Global Burden, 2021
People living with a neurological condition	3.4 billion (43.1% of world's population)
Deaths attributable to neurological disorders	11.1 million
Years Lived with Disability (YLDs)	168 million
Years of Life Lost (YLLs)	275 million
Disability-Adjusted Life Years (DALYs)	443 million

Source: Data presented in the table is compiled by the author(s) from the Global Burden of Disease Study 2021 (GBD 2021).

India mirrors this global trend. In 2019, non-communicable neurological disorders accounted for 82.8% of all neurological DALYs in the country[138] (India State-Level Disease Burden Initiative Neurological Disorders Collaborators, 2021). This burden is likely to intensify as the share of older persons rises from 10.5% of the country's population to an estimated 20.8% by 2050 (UNFPA India, 2023, p. 2). This burden is compounded by significant unmet need (90% for dementia, 50 to 90% for epilepsy, and 30% for stroke), driven primarily "due to low awareness, limited accessibility to neurological services, especially in remote areas, and unaffordability of specialist services" (Mailankody et al., 2024, p. 3720).

2.2. Who is Most Affected

Neurological burden is not distributed uniformly across all age groups and the leading contributors to DALYs vary by age (India State-Level Disease Burden Initiative Neurological Disorders Collaborators, 2021). See Table 3 below.

Table 3: Age-Specific Patterns of Neurological DALY Burden in India

Age Group	Leading Noncommunicable Cause(s) of DALYs
Children under 5 years	Epilepsy, cerebral palsy – far surpassed by communicable neurological disorders (accounting for 63.7% of neurological DALYs in this age group)
Children and adolescents aged 5-19 years	Migraine and other headache disorders, followed by epilepsy
Adults aged 20-59 years	Migraine and other headache disorders, stroke
Older adults aged 60-79 years	Stroke, Parkinson's disease, Alzheimer's disease and other dementias
Older adults aged 80+ years	Stroke, Alzheimer's disease and other dementias

Source: Data presented in the table is compiled by the author(s) from the Global Burden of Disease Study 1990-2019, as reported by the India State-Level Disease Burden Initiative Neurological Disorders Collaborators (2021).

[138] The non-communicable neurological disorders used in the study include stroke, headache disorders, epilepsy, cerebral palsy, Alzheimer's disease and other dementias, brain and central nervous system cancers, Parkinson's disease, multiple sclerosis, motor neuron diseases, among others.

Importantly, Srikanth (2026) reports that conditions traditionally associated with older age are now appearing earlier (e.g., Young-Onset Parkinson's), indicating the need for a life-course approach to brain health. Socio-economic status and sex also play a determining role. Migraine, for instance, is more prevalent in people with lower socio-economic status, and their inability to access treatment only worsens the condition (Saha et al., 2025, p. 7). Similarly, women carry a disproportionate share of the burden for disorders such as migraine and multiple sclerosis which is 50% and 67% higher respectively among women than men (India State-Level Disease Burden Initiative Neurological Disorders Collaborators, 2021).

2.3. Why Brain Health Matters

Brain damage occurring due to a neurological condition can have lasting effects with recovery pathways limited to "adaptive plasticity than repair" (Daly, 2025). Protecting brain health is therefore critical to preserving functioning across the life course. Beyond health, brain disorders have social implications. Stigma and discrimination restrict people, their families, and caregivers from fully participating in family and community life. The four-year STRiDE project illustrates this in the Indian context (Evans-Lacko et al., 2022, p. 10)[139].

> *"Initially we used to avoid social gatherings and not take my mother out... we realised that somewhere we ourselves were harming her and contributing to stigma by hiding our mother and not disclosing that she has dementia" – Caregiver, Hyderabad*

Neurological diseases also incur economic costs. An early study conducted in 1998 put the economic burden of epilepsy at USD 1.72 billion, equivalent to 0.5% of GNP of India (Thomas et al., 2001, p. 1052). More recent estimates put annual productivity losses from migraine at USD 22.2 billion (Saha et al., 2025). Similarly, dementia-related household costs were estimated at USD 6.29 billion, equivalent to 0.24% of India's 2020 GDP (Angrisani et al., 2024). These losses are increasingly being captured by the emerging concept of 'brain economy', which places brain capital – brain health and cognitive skills taken together – at the centre of productivity and growth. Optimising brain health is vital to driving India's Viksit Bharat@2047 vision. Emerging evidence also indicates a bidirectional relationship between brain capital and progress towards United Nations 17 Sustainable Development Goals (Eyre et al., 2024, p. 234).

3. Evidence and Key Findings: Brain Health Initiative

3.1. Introduction to Data Collection and Analysis

Evidence for this brief was drawn from secondary and primary data sources. Secondary data included a review of global and Indian literature; BHI programme materials such as concept note, operational guidelines, and data collected on monitoring indicators for the period September 2025 to August 2026. Descriptive statistics were applied to indicators such as IEC/awareness activities and disease-wise diagnoses (Figures 2–4). The diagnosis-

[139] STRiDE (Strengthening Responses to Dementia in Developing Countries) built dementia research capacity across seven countries including India, Brazil, Indonesia, Kenya, Jamaica, Mexico, and South Africa.

level analysis spanned the non-communicable and infectious neurological disorders and mental health disorders (see Annexure I for the full disorder classification).

Primary evidence included a field visit to Siddharthnagar district of Uttar Pradesh and multi-stakeholder consultations conducted virtually across all 12 pilot districts. The discussions were held with BHI Coordinators, district administration (District Magistrates, Deputy Commissioners, Chief Development Officer), district health team (Chief Medical Officer, Chief Medical Superintendent, neurologist, hospital administrator), Block Medical Officers-in-Charge, Community Health Officers (CHOs), nurses, Multipurpose Workers, frontline workers (ASHAs, ANMs, and AWWs), and Block Education Officers. Additionally, internal consultations took place with NITI Aayog's ADP/ABP Division and Health Division and IHBAS (Institute of Human Behaviour and Allied Sciences). Field notes and consultation records were reviewed and thematically analysed to identify recurring patterns, informing the six emerging themes synthesised in Table 4 and the illustrative first-person accounts cited throughout Section 4.

3.2. National Task Force on Brain Health and the Brain Health Initiative

In 2024, NITI Aayog constituted the National Task Force on Brain Health, comprising technical experts in neurological care and science, alongside relevant ministries, to review existing gaps, make recommendations, and provide strategic direction to the brain health agenda (NITI Aayog, 2026, p. 21). This led to the launch of the Brain Health Initiative (BHI) in September 2025 under the Aspirational Districts Programme (ADP) and the Aspirational Blocks Programme (ABP), which aim to transform the country's most underdeveloped districts and blocks (NITI Aayog, 2025). BHI seeks to strengthen brain health service delivery in these underserved regions, beginning with a 12-district pilot across 10 states (Figure 1). By leveraging the ADP/ABP platform, the initiative provides a potential opportunity to test locally adaptable models to build the foundations for a scalable national approach to public brain health in India.

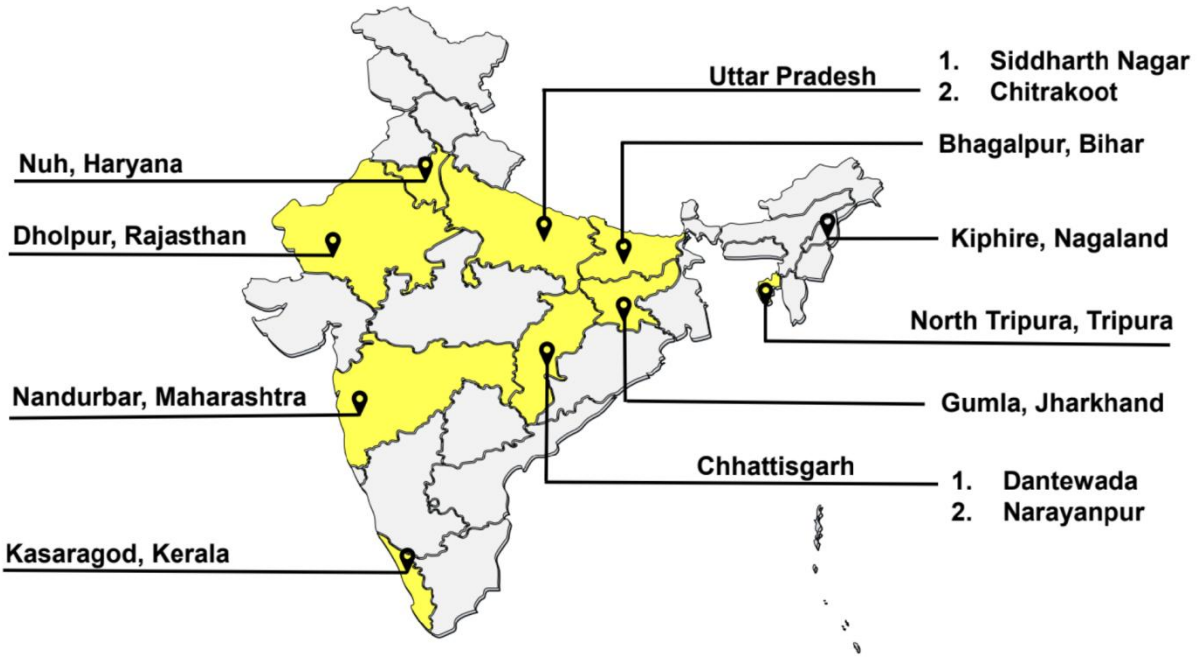

Figure 1: Twelve Pilot Districts Selected Under the Brain Health Initiative

3.3. Progress of the Brain Health Initiative and Key Findings

One year into implementation, Brain Health Clinics have been established at district hospitals to provide specialist diagnostic, treatment, and rehabilitative services. Foundational training has reached medical officers on major brain disorders (e.g., stroke, epilepsy, migraine, dementia, Parkinson's), history-taking, management of neurological emergencies (e.g., coma, neuroinfections, seizures), neurorehabilitation, and high-risk behaviours among youth and adolescents.

Additionally, consultations with stakeholders from pilot districts and information collated from field experiences suggest six emerging themes that characterise how BHI is enabling districts to adapt brain health delivery to local contexts. (Table 4).

Table 4: Emerging District-Level Themes for Brain Health Delivery under BHI

Theme	What It Looks Like
Brain Health at the Last Mile	Using multiple last-mile delivery platforms, districts are taking brain health closer to communities. Some examples of work in action include capacity-building sessions for ASHA workers; awareness workshops with women's Self-Help Groups; targeted screening of tribal population (e.g., Narmada-displaced groups); multidisciplinary outreach camps; and the use of awareness days and community events such as local melas, World Suicide Prevention Day, Safer Internet Day, International Women's Day, World Brain Day, and the International Day of Persons with Disabilities.
Brain Health Through Convergence	The reach of brain health services is expanding through convergence with existing programmes and departments. For instance: joint screening of neurological and developmental disorders with District Early Intervention Centre (DEIC) health camps; convergence with DMHP to raise awareness of mental and brain health; collaboration with the Social Welfare Department's Nasha Mukt Bharat Abhiyan to address substance-use prevention and its links with mental/neurological complications; and inter-departmental convergence with Department of Women and Child Development's Mission Shakti to integrate mental wellbeing into gender-based violence (GBV) responses.
Brain Health Beyond Hospital Settings	Beyond clinical settings, districts are introducing brain and mental health interventions in schools, military and paramilitary settings, prisons, and other community institutions.
Brain Health Across the Life Course	BHI implementation indicates early attempts at introducing a life-course approach through targeted activities for different age and population groups, including, students, adolescents, youth, women and girls, SHGs, the disabled, army personnel and prisoners.
Brain Health Through Collaboration	Districts are building cross-sectoral linkages between local administrations, public health facilities, community organisations, other government departments, and the private sector. This work is being reflected in partnerships with local NGOs to prevent loss to follow-up and engaging private hospitals to explore public-private partnerships that can help address unmet needs in neurological care.
Multidisciplinary Brain Health Care	Districts are bringing together multidisciplinary teams comprising specialists, social workers, and community health workers to support outreach, screening, treatment, rehabilitation and referral.

Source: Primary research (discussions with stakeholders and information collated from field experiences)

Furthermore, secondary analysis of monitoring data[140] indicates progress in community outreach with 97 Information, Education, and Communication (IEC) sessions and activities conducted by pilot districts in a year (Figure 2) and Nandurbar leading significantly. This is complemented by 204 tele-neurology linkages established to connect patients with remote specialists.

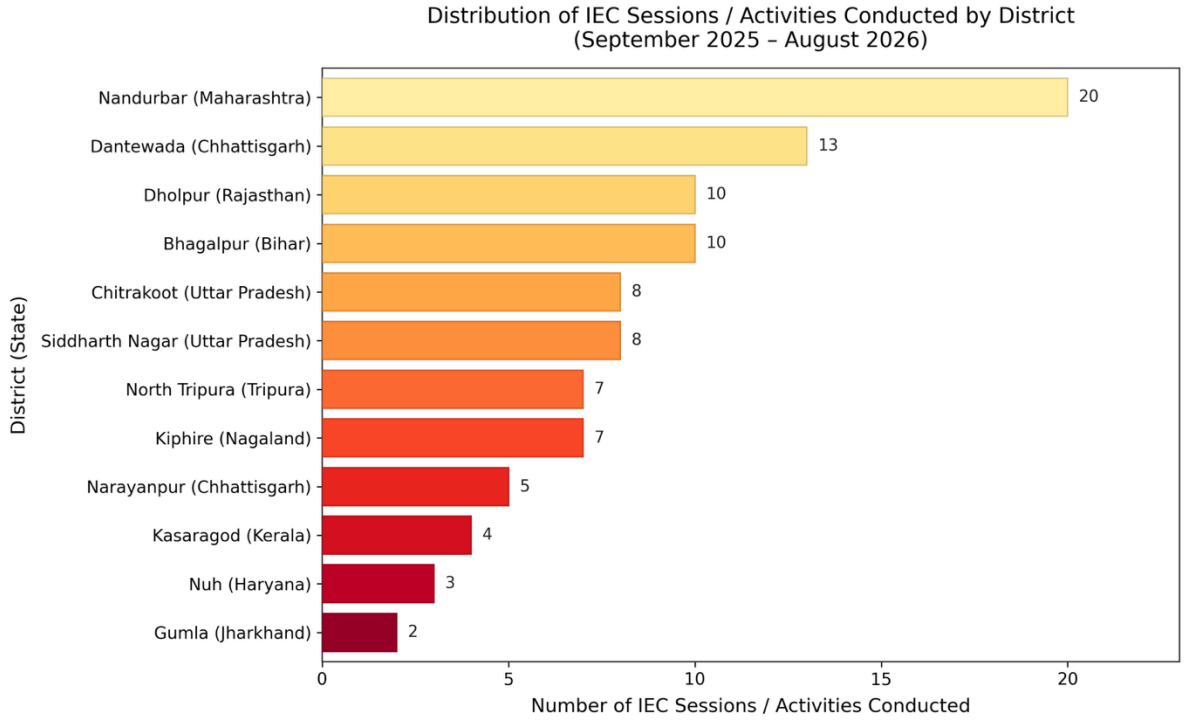

Figure 2: District-Wise Distribution of IEC Sessions / Activities Conducted

Figure 3 shows the district-level profile of all recorded neurological and mental health cases. Dholpur and Bhagalpur record the highest case volumes, and are the only two districts where neurological diagnoses clearly outnumber mental health diagnoses. In the other ten districts, mental health disorders account for the larger share, most markedly in Kasaragod and Narayanpur. Despite these regional variations, the recording of both neurological and mental health conditions across all districts highlights the relevance of addressing both domains within the brain health initiative. Neurological diagnoses captured in Figure 3 include both non-communicable and infectious/communicable neurological disorders monitored under BHI (see Annexure I for the full disorder classification).

[140] The data presented is for the period of September 2025 to August 2026.

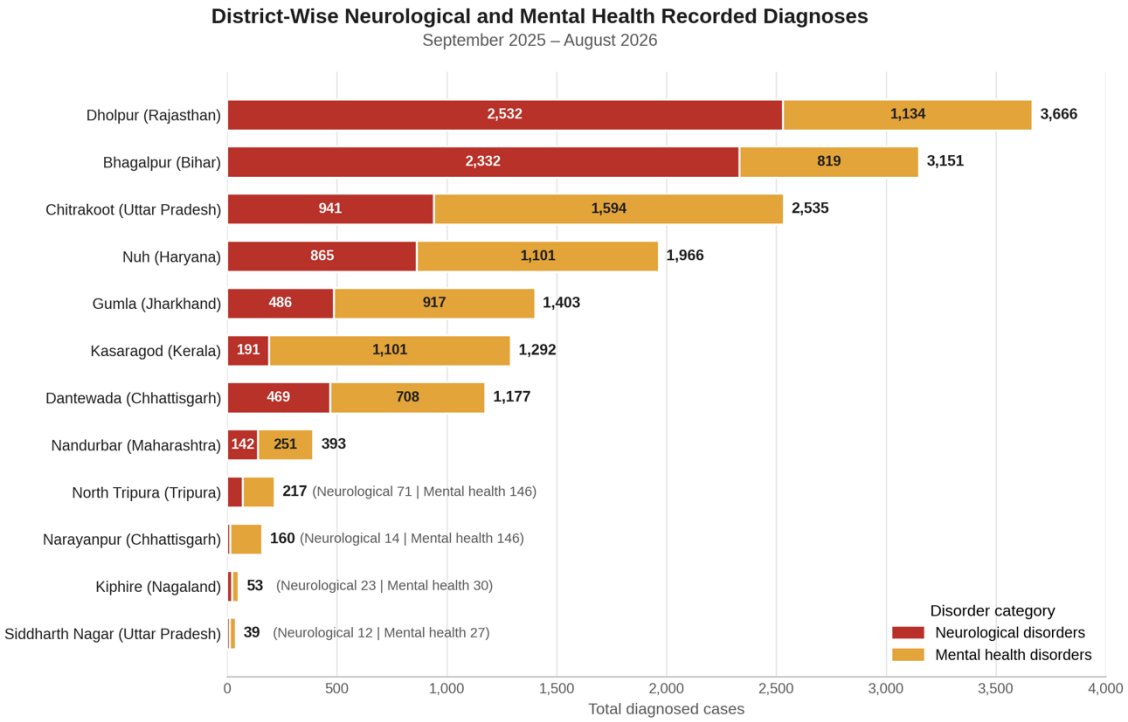

Figure 3: District-Wise Neurological and Mental Health Recorded Diagnoses

For five priority non-communicable neurological conditions[141], the analysis illustrates significant variations in recorded cases across the 12 districts. Cases of migraine and headache disorders account for the largest share in eleven out of twelve districts, while Gumla is a clear outlier with epilepsy comprising 97.5% of recorded diagnoses. Apart from Gumla, stroke accounts for a notable share of recorded diagnoses [in two districts – Nandurbar (26.9%) and Kasaragod (22%)] and epilepsy as well [in four districts – Chitrakoot (32.9%), Nandurbar (23.1%), Kasaragod (22%), and Nuh (21.8%)]. Nandurbar has the most balanced profile. Alzheimer's disease and other dementias and Parkinson's disease show a smaller fraction of recorded cases.

[141] Given the high burden of stroke, epilepsy, Alzheimer's disease and dementias, migraine and headache disorders, and Parkinson's disease in India, these have been identified as priority non-communicable brain disorders under BHI.

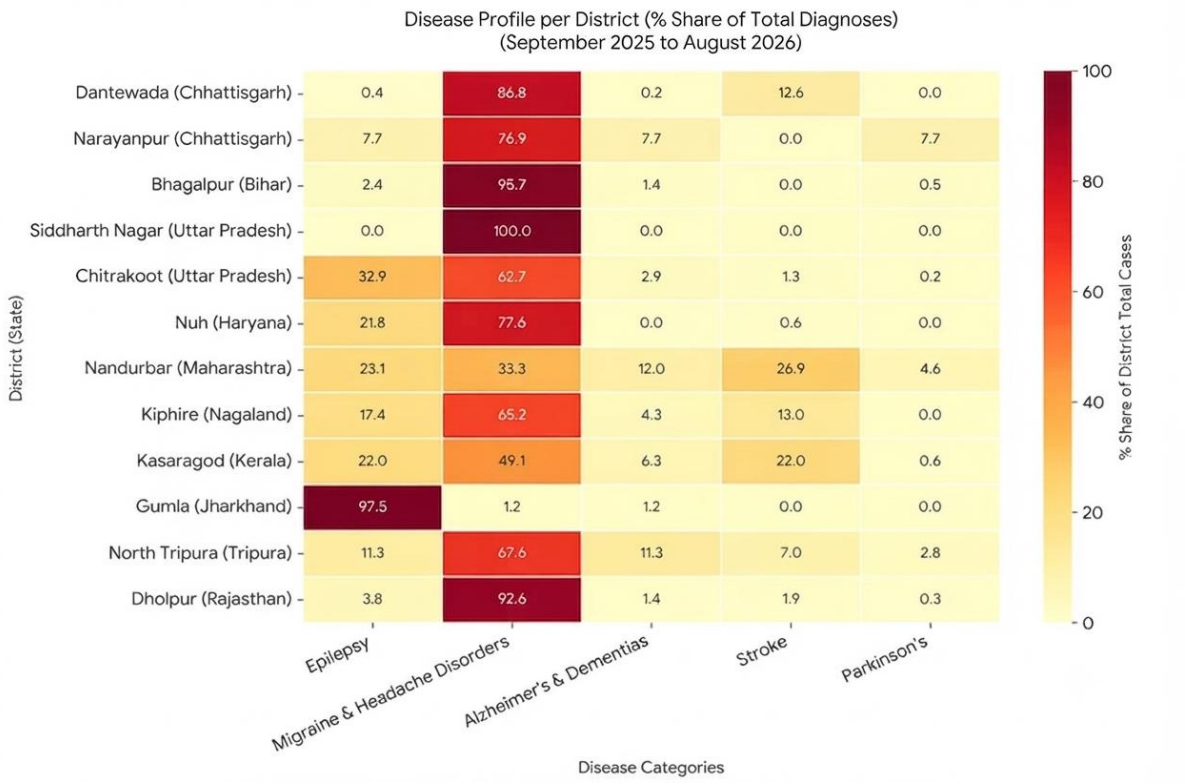

Figure 4: District-Wise Share of Diagnoses for Priority Non-Communicable Neurological Disorders

It is important to note that this data should be interpreted as early intelligence rather than epidemiological estimates, as it merely indicates recorded case volumes without establishing the determinants of observed variation. Differences in case volumes may reflect population size and characteristics, health-seeking behaviour and health literacy, IEC and screening intensity, diagnostic capacity, availability of trained personnel and equipment, and access to specialist services. As BHI implementation matures, a deeper investigation is warranted into what parameters are driving high screening volume and subsequent disease diagnoses. A rigorous impact evaluation may estimate the treatment effect of BHI interventions and establish causal relationships, using an appropriate counterfactual and accounting for key confounding factors, complemented by qualitative enquiry.

4. Policy Options Analysis and Implementation Considerations

Strengthening India's brain health response further requires addressing three core challenges: shortage of neurologists, stigma surrounding brain health, and limited data availability to guide investment and scale-up decisions.

4.1. Focus Area 1: Strengthening Neurology Workforce and Expanding Access

Evidence: Discussions with BHI Coordinators and Nodal Officers from the Health Department of the pilot districts reveal that recruitment and availability of neurologists remain a key challenge under BHI:

> *"We have been able to fill other positions, but hiring a neurologist remains a challenge. We are using tele-consultation to provide specialist support to people for now, but having a specialist physically present makes people feel that they're being heard."*

Wider research demonstrates this issue to be prevalent more generally across India. According to *The Hindu* (2019), India had 2,500 neurologists in 2019 (1 neurologist per 0.5 million people). This shortage was attributed to increase in patient load, growing demand, and limited teaching infrastructure and faculty for providing training for neurologists (MoHFW, 2023). Shortage of specialists is compounded by their uneven distribution, with most concentrated in urban areas, leaving smaller cities and rural areas underserved. Stakeholders in the pilot districts attribute this disparity to geographic and terrain challenges, lower pay and standards of living, and limited occupational amenities than in bigger cities. The Government of India has taken important measures to address these challenges, including increase in postgraduate neurology seats, creation of new AIIMS-like institutions, and upgradation of State Medical Colleges for specialist training in Neurology (Lok Sabha, 2016). The below-mentioned short-, medium-, and long-term policy options can complement these measures while the workforce pipeline expands.

Table 5: Policy Options Analysis for Focus Area 1

Policy Options	Implementation Considerations
1. Strengthening District-Specialist Networks (short-term, medium-term, long-term option) Formal linkages can be established between district Brain Health Clinics and government medical colleges, centrally funded apex institutes, and autonomous postgraduate institutes for tele-consultation, fixed day clinics, case review, and referrals. Existing digital health platforms (e.g., e-Sanjeevani) could be strengthened to facilitate specialist consultation remotely. CSR-supported partnerships with private hospitals could complement public-sector capacity[142]. Emerging CSR initiatives, such as Healthcare on Wheels, Mobile Vans, etc., demonstrate the potential to bring services into remote, hard-to-reach areas (BW Healthcare World, 2026a).	• Consider geographic proximity and specialist availability when establishing linkages. • Determine appropriate schedules for tele-consultations, case reviews and fixed-day clinics based on patient caseload and specialist availability. • Structure CSR partnerships around identified gaps to complement rather than duplicate public-sector provision. • Consider formal partnership models (e.g., 'Adopt a District' model) where medical colleges, centres of excellence and private hospitals can adopt a district for a defined period.
2. Building District-Level Capacity (short-term, medium-term option) Greater use could be made of the general physician workforce that is already positioned within district hospitals. Engagement of MBBS/MD (Medicine) doctors could be explored to recognise, assess, and manage common neurological presentations under clearly defined protocols, with specialist referral for conditions requiring higher-level assessment.	• Roll out certified training packages, modelled on those offered by NIMHANS (NIMHANS Digital Academy, 2026). • Provide expanded capacity-building through refresher training programmes and cross-learning with specialists. • Develop standardised clinical protocols for management of common neurological conditions by MBBS/MD (Medicine) doctors, with clear referral criteria for specialist care.
3. Incentivising Specialist Deployment in Underserved Districts (short-term, medium-term, and long-term option) For districts with poor internet connectivity, in-person visiting-specialist arrangements can be explored in the form of weekly/biweekly clinics, brain health camps, and screening sessions. This could draw on nearby medical colleges, government specialists and private providers, and include convergence with the NHM. Alternatively, longer-term engagements can be incentivised appropriately.	• Develop a standardised remuneration framework (e.g., per-visit fee) for visiting neurologists, including appropriate provisions for travel and other local costs. • For longer-term engagements in difficult terrain areas, incentivise rural postings by offering a Hard Area Allowance or offering a 'Family Support Package' (e.g., a rural allowance in addition to the base salary, educational support for children, healthcare benefits, and a tenure completion incentive).

[142] A medical officer noted, "Identification of a patient does not necessarily translate into access to treatment. Repeated follow-up visits are required for continuity of care, which is currently difficult due to terrain challenges. We are exploring partnerships with NGOs for support with follow-up visits."

4.2. Focus Area 2: Advocacy, Awareness, and Stigma Reduction

Evidence: Consultation with stakeholders from BHI districts revealed that stigma, discrimination, and low awareness remain among significant barriers to health-seeking behaviour. This was most evident during the field visit in one of the districts, where the neurologist noted that epilepsy is often attributed to supernatural causes:

> *"Anyone diagnosed with epilepsy and getting seizures is thought to have contracted a ghost. Epilepsy is treatable, but people's awareness is very low and stigma prevents them from seeking help".*

A Community Health Officer similarly observed that people sometimes reject a diagnosis because they fear societal judgement:

> *"They do not want to accept that they have a brain condition because they think people in the community will know and treat them differently."*

An ANM highlighted that dementia is often normalised as ageing:

> *"People think they are forgetting things because they are getting old."*

Raising public awareness is thus an important component of brain health promotion to encourage timely diagnosis and treatment.

Table 6: Policy Options Analysis for Focus Area 2

Policy Options	Implementation Considerations
1. Establishing a Lived-Experience and Community Champion Model (short-term, medium-term option) People living with or recovered from neurological conditions, caregivers and community members could be trained as Brain Health Champions, drawing on the National Tuberculosis Elimination Programme's TB Vijeta model (MoHFW, 2023). Champions could use powerful first-person accounts to challenge stigma, promote early care-seeking, and connect communities to services. They can also be embedded across schools, colleges, workplaces, and community organisations, extending brain health awareness beyond the health system.	• Provide appropriate expert-led brain health and soft skills training to Champions. • Define the roles and boundaries of Brain Health Champions to distinguish awareness, stigma reduction and service-linkage responsibilities from clinical screening, diagnosis or medical advice where specialists may be better equipped. • Create channels for community feedback where Champions can report recurring misconceptions, stigma and barriers to accessing services. • Explore partnerships with civil-society organisations and CSR initiatives to sustain the champion network.
2. Launching a National Brain Health Awareness and Behaviour-Change Campaign (long-term, scale-up option) A government-led, nationally coordinated campaign could be developed, particularly when planning to scale-up BHI. Drawing on the Pulse Polio campaign and Swachh Bharat Abhiyan, Brain Health campaign could use memorable messaging, mass media and community mobilisation to promote early recognition of neurological symptoms, timely care-seeking and stigma reduction[143]. Multiple channels such as television, radio, print, digital media, and frontline/community platforms could be deployed.	• Establish a common national campaign identity and core messages with flexibility for states and districts to adapt content to local languages. • Consider the credibility, reach and appropriateness of public figures, health professionals, people with lived experience, and community leaders for different target audiences. • Coordinate mass-media campaigns with referrals to specialists so increased awareness translates into care-seeking. • Build on lessons from large-scale public campaigns.

[143] The Pulse Polio Campaign and Swachh Bharat Mission used memorable slogans ("Do Boond Zindagi Ki") and anthems ("Swachh Bharat" anthem), celebrities (Amitabh Bachchan), visible political leadership (PM Narendra Modi picking up a broom in cleanliness drive to bring positive change), village-led initiatives and campaigns such as "#MyCleanIndia", and strong community mobilisation.

Policy Options	Implementation Considerations
3. Integrating Brain Health Messaging into Existing Platforms (short-term, medium-term option) Brain health could be embedded within platforms that already have regular community engagement, providing a continuous and potentially lower-cost mechanism for awareness and early identification. E.g.: Jan Arogya Samitis (JAS), Jan Arogya Divas, NCD and elderly-care programmes, Ayushman Arogya Mandirs, PHCs, CHCs, schools, SHGs, village meetings and health camps. Further, brain health education, recognition of warning signs and referral could be integrated into the Ayushman Bharat School Health and Wellness Programme. For disaster-prone districts, integration of brain health awareness into disaster-preparedness education is a promising area of convergence (Etienne & Alessi, 2013)[144].	• Districts to ensure that community awareness and early identification efforts are linked to clear referral pathways (e.g., Brain Health Clinic). • Make brain health a standing agenda item in JAS meetings. • Keep messages simple for frontline workers and equip them with essential tools (e.g., screening, awareness raising materials, etc.) • CHOs, health educators and school teachers should raise awareness among students. Screening should be undertaken by personnel trained to administer an age-appropriate, validated tool, with appropriate consent and referral arrangements. • Include a dedicated Brain Health module in the NCERT's Training and Resource Material: Health and Wellness of School-Going Children (NCERT, 2020).

4.3. Focus Area 3: Strengthening Evidence and Data-Driven Governance

Evidence: Prior studies establish that the epidemiological burden of neurological illness in India is larger than previously known. Yet, comprehensive national estimates of the total economic loss of non-communicable neurological disorders remain unavailable. Economic evidence largely covers individual brain disorders including stroke, migraine, and dementia, while estimates for others such as epilepsy and Parkinson's disease are outdated and require updated studies. These data limitations are compounded by the role of private hospitals in handling a substantial share of tertiary and specialist care in India, meaning that data from government service delivery alone risks under-representing the true national economic burden and obscuring where unmet need is greatest. Robust data is therefore essential to building the investment case for brain health, informing public health decision-making, and guiding priority-setting and the scale-up of interventions. Three opportunities stand out in this regard (Table 7):

Table 7: Policy Options Analysis for Focus Area 3

Policy Options	Implementation Considerations
1. Strengthening BHI's monitoring for improved data capture (short-term, medium-term option) With implementation underway across 12 pilot districts in 10 states, including geographically and demographically diverse settings such as the North-East, BHI provides a valuable microcosm of India's varied health-system. Strengthening BHI's monitoring system can help build a progressively richer evidence base on recorded neurological cases across districts, patterns of diagnosis and service utilisation among different population groups, implementation challenges and programme outcomes. A stronger monitoring system can provide data for a separately designed evaluation of programme effectiveness; estimating	• Capture data that is disaggregated by age and sex to identify variations in disease patterns and service utilisation. • Record implementation learning beyond performance (e.g., reasons for missed targets, bottlenecks, and contextual challenges)[145]. • Begin with input, process, and output indicators to confirm foundational systems are in place, with a planned transition towards outcome indicators as implementation matures. • Revise the monitoring system to support causal evaluation.

[144] Certain neurological disorders such as epilepsy, migraine, dementia and stroke get exacerbated during disasters.
[145] Based on discussions with stakeholders from the pilot districts, it was felt that capturing implementation challenges would be useful in the early phase of the initiative to evaluate where improvements were needed. A 'Remarks' section has thus been added to each indicator to capture the reasons where an indicator is not being met.

Policy Options	Implementation Considerations
causal effects would require an appropriate comparison and methods to address confounding. This evidence can inform programme adaptation, scale-up and future brain health policy.	• Gradually shift towards a digital reporting system that enables real-time data capture with AI being used to identify trends, gaps, and successes.
2. Establishing a national neurological surveillance and reporting system (long-term, scale-up option) A national mechanism to capture neurological cases and service utilisation across both public and private providers could be developed. TB surveillance already sets a precedent, mandating all clinical establishments, private healthcare providers and pharmacists to report every diagnosed or treated TB case through the Nikshay Portal (Babu et al., 2020).	• Explore a phased model beginning with select priority brain conditions and private providers. • Initially pursue voluntary or incentivised reporting by private providers, with formal mandates considered at a later stage. • Build interoperability with existing digital health and health-information systems, and in compliance with the Digital Personal Data Protection Act, 2023.
3. Building the national economic evidence base for brain health (long-term, scale-up option) A nationally representative study that captures cost-of-illness (direct, indirect and household costs), productivity and GDP losses, and potential returns from priority interventions could be commissioned. Worldwide, direct spending on 24 brain disorders exceeded US$1.7 trillion in 2019, 1.6% of global GDP (Mitchell et al., 2025). Similarly, every US$1 invested in stroke and cardiovascular disease prevention is estimated to generate US$10 in return (Abebe et al., 2024). Developing comparable evidence would help prioritise investments in prevention, early detection, treatment, and rehabilitative care.	• Draw on established investment-case methods, adapted to the selected neurological conditions and the Indian context. • Account for informal caregiving to capture the full societal burden. • Partner with a consortium of experts – economists, epidemiologists, public-health researchers, relevant ministries (e.g., MoHFW), health economics research centres, and centres of excellence – to bring in diverse expertise.

5. Recommendations

R1: Strengthening Neurology Workforce and Expanding Access

- Map and formalise linkages of Brain Health Clinics with nearby government medical colleges, centrally funded apex institutes, and autonomous postgraduate institutes, with defined schedules for tele-consultation, fixed day clinics, and case review.
- Roll out formal partnership structures such as 'Adopt a District' model for CSR and NGO partners, backed by predictable outreach calendars.
- Train existing MBBS/MD (Medicine) doctors using certified training packages to manage basic neurological cases and issue guidelines covering scope of practice, screening tools, red-flag criteria, and referral pathways so all districts are working to a common clinical standard.
- Introduce visiting-specialist arrangements and long-term rural postings for neurologists with appropriate incentives (e.g., a standard per-visit fee remuneration framework, Hard Area Allowance, 'Family Support Package').

R2: Advocacy, Awareness and Stigma Reduction

- Pilot a Brain Health Champion programme, training people with lived experience, caregivers and community members, with clearly defined roles to raise awareness and reduce stigma.

- For scale-up, launch a national brain health awareness campaign with evidence-based communication toolkit and core messages adaptable to local languages and contexts.
- Integrate brain health messaging into existing government and community platforms and equip community health workers with awareness raising materials, simple screening tools, and decision-support checklists for identification of high-risk people and referrals.
- NCERT's Training and Resource Material: Health and Wellness of School-going Children already covers mental health, NCD prevention, substance-use prevention, health and nutrition, and HIV prevention. Develop and integrate a dedicated brain health module into this training material under the Ayushman Bharat School Health and Wellness Programme.
- With disaster neurology as an emerging concept, an opportunity exists to integrate brain health awareness into disaster-preparedness education for disaster-prone districts.

R3: Strengthening Evidence and Data-Driven Governance

- Strengthen BHI's M&E framework to capture age- and sex-disaggregated data on screening, recorded cases and service utilisation, alongside implementation learning, gradually transitioning from output- to outcome-based indicators and from manual to digital and AI-enabled reporting.
- Introduce denominator-based indicators by reporting screening and diagnosis relative to the population served, alongside measures of outreach intensity, diagnostic capacity and specialist availability.
- For scale-up, design a phased national neurological surveillance system – beginning with select priority conditions and providers, and voluntary or incentivised private-sector reporting – built for interoperability with existing digital health systems.
- Commission a national economic burden and investment study for priority neurological conditions, using established investment-case methods, accounting for informal caregiving, and drawing on multidisciplinary expertise.

6. Conclusion

India's Brain Health Initiative has, in its first year, moved brain health from policy intent to functioning service delivery across 12 pilot districts. Sustaining this momentum will require addressing the challenges of workforce shortage, low public awareness and high stigma, and limited data evidence identified in this brief. As India works towards the goal of Viksit Bharat@2047, embedding brain health within its ADP/ABP architecture offers a practical, replicable pathway to reducing the neurological unmet need and realising the promise of brain capital for the country's development.

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Annexure I: Classification of Neurological and Mental Health Disorders

The disorders tracked in BHI's monitoring data and analysed for this brief fall into four categories, set out below.

Category	Disorders
Priority Non-Communicable Neurological Disorders	1. Stroke 2. Migraine and Other Headache Disorders 3. Epilepsy 4. Alzheimer's Disease and Other Dementias 5. Parkinson's Disease
Other Non-Communicable Neurological Disorders	1. Cerebral Palsy 2. Bell's Palsy 3. Chorea 4. Peripheral Neuropathy 5. Guillain-Barré syndrome 6. Paraplegia (non-traumatic) 7. Genetic/Hereditary Ataxia
Infectious/Communicable Neurological Disorders	1. Meningitis
Mental Health Disorders	1. Anxiety 2. Depression 3. Other Mental and Psychiatric Disorders

Editorial Notes

Reviewers encouraged a sharper problem definition and clearer explanation of the proposed policy response. The analysis could more explicitly identify the populations and service gaps being prioritised, while strengthening the evidence connecting the identified burden to the recommended interventions. Future work should make the pathway from evidence to implementation clearer and identify the institutions, resources and measures needed to assess progress.

PART II

SOLUTION PAPERS

Ideas into Action. Evidence into Impact.

Beyond Accommodation: The Legal and Regulatory Framework Governing Youth Hostels in India

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Executive Summary

India's network of 85 Youth Hostels constitutes an important component of the country's youth-development infrastructure. Operating through a joint Central–State framework, the network provides affordable accommodation to travelling youth while also supporting youth mobility, cultural exchange and community development. The Centre supports construction and funding, State Governments provide land and coordination, and Hostel Management Committees oversee local operations. Of the 85 hostels, 49 are currently functional and 11 of the remaining hostels have been transferred to other agencies. The ISO 9001:2015 certification obtained by 15 hostels demonstrates the feasibility of structured quality-management systems within the network.

Youth Hostels operate within a composite legal and regulatory framework, rather than under a single legislation governing their entire operation. The Youth Hostel Manual constitutes the principal administrative framework for management, admissions, maintenance and functioning. These operate alongside central legislations, state laws and local regulatory requirements covering specific aspects of hostel operations. The regulatory framework examined in this paper spans accessibility, child protection, workplace sexual harassment, food safety, building and fire safety, environmental and sanitation requirements, labour and employment, digital personal data, transparency, grievance redressal, and State and municipal compliance.

The analysis highlights that compliance is not limited to obtaining licences or statutory approvals. Several requirements have to be translated into continuing operational practices. Fire and building safety require maintained infrastructure, inspections and emergency preparedness; food safety requires appropriate systems for procurement, storage and preparation; and water, sanitation and waste requirements require regular monitoring. Similarly, accessibility must extend beyond physical infrastructure to the delivery of hostel services, while child protection and gender-sensitive measures are essential to maintaining a safe environment for residents. The regulatory matrix and governance checklist in the paper identify the principal compliance questions and records that should support implementation.

The analysis also highlights the importance of institutional clarity. Responsibilities are distributed across the Department of Youth Affairs, MY Bharat, State Governments, Hostel Management Committees and District Youth Officers, while several regulatory obligations are determined by State and local authorities. This makes clear allocation of responsibility, maintenance of statutory records, monitoring of approvals and documentation of compliance particularly important. Digital operations also introduce additional responsibilities relating to the collection and handling of resident information, including information concerning minors.

Overall, an effective compliance framework should integrate legal obligations with everyday hostel governance. Standardised checklists, appropriate records, regular monitoring, staff awareness and accessible grievance

mechanisms can help translate regulatory requirements into consistent practice across the network. Compliance should ultimately serve the larger objective of ensuring that Youth Hostels remain safe, accessible, hygienic, inclusive and well-governed spaces, thereby strengthening resident welfare, institutional accountability and the ability of the Scheme to fulfil its broader objectives of youth mobility, cultural exchange and development.

Background

India has 85 Youth Hostels spread across States and Union Territories, from the mountains of Himachal Pradesh to the coasts of Kerala. Youth Hostels under the Department of Youth Affairs, Ministry of Youth Affairs and Sports operate through a joint Central-State framework. Land is provided by the State, construction is funded by the Centre and day-to-day operations are managed by Hostel Management Committees (HMCs). Tariff rates are determined by HMCs on a no-profit-no-loss basis, since revenue is incidental to the purpose of the Scheme rather than an objective in itself.

Youth aged 15-29 years receive priority in relation to hostel bookings, although the facilities are open to persons of all ages. Local residents of the city in which a hostel is situated are not permitted to stay, as the facilities are intended for travellers. The primary objective of providing affordable accommodation is consequently embedded within a broader institutional mandate encompassing youth mobility, cultural exchange and community development.

Of the 85 Youth Hostels, 11 have been transferred to other agencies, including the Sports Authority of India for sportspersons and MY Bharat for broader youth-development activities. Of the remaining hostels, 49 are currently functional. The ISO 9001:2015 certification of 15 hostels demonstrates that structured quality-management systems can be implemented within the network.

The combination of a dispersed network, shared institutional responsibility and multiple regulatory requirements makes compliance a significant component of hostel governance.

Institutional Structure	Role Within the Framework
MY Bharat	Oversight of the scheme
Department of Youth Affairs, Ministry of Youth Affairs and Sports	Policy, funding, construction, national oversight
State Government	Provide fully developed land free of cost, with water supply, electricity and approach road.
Hostel Management Committee	Local oversight, admissions, maintenance, coordination
District Youth Officer	Ground-level implementation, hostel operations coordination

1. Legal and Regulatory Landscape (The Challenge)

Youth Hostels operate within a composite legal and regulatory framework. In the absence of a dedicated statute or statutory rules governing Youth Hostels, the Youth Hostel Manual provides the principal administrative framework; and various general central and state legislations and local regulatory requirements apply to specific

aspects of the function of the same. The table below is a consolidated matrix of compliance standards, which are explained in detail further in the section.

REGULATORY DOMAIN	PRINCIPAL FRAMEWORK / REQUIREMENT	KEY COMPLIANCE AREAS	INSTITUTIONAL RELEVANCE
Youth Hostel administration	Youth Hostel Manual and Scheme Guidelines	Management, admissions, maintenance, functioning, tariff and administrative procedures	Core administrative framework for implementation
Accessibility	Rights of Persons with Disabilities Act, 2016; Harmonised Guidelines and Standards for Universal Accessibility	Ramps, accessible toilets, lifts, Braille signage, barrier-free access and accessibility of existing premises	Ensures equitable access to public-facing hostel facilities
Child protection	Protection of Children from Sexual Offences Act, 2012	Mandatory reporting, staff awareness and safeguarding where minors are admitted	Protects minors and establishes duties for personnel dealing with them
Workplace sexual harassment	Applicable sexual-harassment-at-workplace framework	Internal Complaints Committee where statutory threshold is met; workplace complaint mechanisms	Protects employees and supports a safe institutional environment
Food safety	Food Safety and Standards Act, 2006 and applicable FSSAI regulations	Licensing/registration, hygiene, sanitation, storage, pest control, inspection and food sampling	Protects residents from food-related health and safety risks
Building and fire safety	National Building Code and State/local requirements	Building approvals, fire NOC / Fire Safety Certificate, structural safety, evacuation and firefighting infrastructure	Ensures safe physical infrastructure and emergency preparedness
Environment, water and waste	Water (Prevention and Control of Pollution) Act, 1974; Solid Waste Management Rules, 2016; local requirements	Sewage, wastewater, waste segregation, groundwater permissions, potable water and sanitation	Supports environmental compliance and basic habitability
Labour and employment	Applicable State and central labour laws	Wages, employment conditions, contract labour, EPFO, ESIC, maternity benefits and gratuity, as applicable	Protects workers and supports reliable hostel operations
Digital personal data	Digital Personal Data Protection Act, 2023; applicable IT/cybersecurity requirements	Collection and processing of resident information, access controls, security and incident reporting, as applicable	Protects personal information processed through digital systems
Transparency	Right to Information Act, 2005	Public-authority obligations and proactive disclosure under Section 4	Supports institutional transparency and accountability
Grievance redressal	Internal mechanisms and appropriate external authorities	Complaint registration, escalation and access to competent authorities	Provides residents with routes to raise concerns and seek remedies
State/local regulation	State and municipal laws and requirements	Occupancy certificates, municipal/trade licences, sanitation, water/sewage, groundwater and environmental permissions, as applicable	Creates location-specific compliance obligations

1.1. Youth Hostel Manual

The Youth Hostel Manual provides the operational framework for management, admissions, maintenance and functioning. In the absence of a dedicated legislation specifically governing Youth Hostels, it functions as the principal administrative instrument for implementing officers, State nodal authorities and management agencies.

Its legal character is, however, that of an administrative instruction. It is not independently enforceable against third parties unless its requirements are incorporated into a contractual arrangement. This distinction is important

because administrative requirements contained in the Manual have a different legal basis and enforceability from statutory obligations arising under central, State or local law.

1.2. Accessibility Standards

The Rights of Persons with Disabilities Act, 2016 requires public buildings and establishments to comply with accessibility requirements. This has direct relevance to Youth Hostels as public-facing facilities. The Harmonised Guidelines and Standards for Universal Accessibility provide the practical design framework for implementing accessibility requirements, including ramps, accessible toilets, lifts, Braille signage and other barrier-free features.

The statutory framework also requires existing premises to be made accessible within stipulated timeframes. Accessibility must therefore be considered both at the level of physical infrastructure and in relation to the manner in which hostel services are delivered.

1.3. Child Protection and Prevention of Sexual Harassment

The target age group of Youth Hostels includes persons below the age of 18. The Protection of Children from Sexual Offences Act, 2012 is consequently relevant wherever minors are admitted. The Act creates mandatory reporting obligations for persons who become aware of sexual offences against children and prescribes penalties for failure to report. Hostel managers, wardens and other staff dealing with minors must therefore be familiar with their reporting obligations.

Hostels employing 10 or more employees are required to constitute an Internal Complaints Committee under the applicable workplace sexual-harassment framework. The statutory mechanism primarily protects employees rather than hostel residents. Nevertheless, the hostel environment also warrants appropriate mechanisms for addressing harassment and complaints raised by residents.

1.4. Food Safety and Hygiene

Youth Hostels that provide meals through in-house kitchens or other food-service arrangements may fall within the Food Safety and Standards Act, 2006 and applicable FSSAI regulations. Requirements relating to licensing or registration, food hygiene, sanitation, storage, pest control and inspection are particularly relevant.

Kitchens may also be subject to inspection and food sampling by competent Food Safety authorities. Food compliance therefore concerns both formal regulatory requirements and the everyday systems through which food is procured, stored, prepared and served.

1.5. Building, Fire and Life Safety

The National Building Code of India provides the broader technical framework for building safety, including structural and fire-safety considerations. Depending on the State and local jurisdiction, Fire NOCs and Fire Safety Certificates may be required before a hostel becomes operational and may require periodic renewal or inspection.

Hostels must also comply with applicable requirements relating to land use, building plans, setbacks, height, floor-area ratio, ventilation, parking, structural safety and other building standards. State-specific laws establish requirements concerning fire-safety approvals and firefighting infrastructure.

1.6. Environmental, Water, Sanitation and Waste Management

Environmental clearance may become relevant where construction or expansion crosses applicable thresholds or is located in environmentally sensitive areas. Wastewater and sewage-management requirements are particularly relevant where hostel operations involve significant discharge or require treatment infrastructure, bringing the Water (Prevention and Control of Pollution) Act, 1974 into consideration.

Hostels must appropriately segregate and dispose of waste and, where applicable, comply with requirements concerning bulk waste generation under the Solid Waste Management Rules, 2016. Where borewells or groundwater extraction are used, permissions from the competent groundwater authority may be required.

Municipal and local authorities may regulate potable water, sewage connections, sanitation and rainwater harvesting. Applicable building and public-health requirements also address toilet provision, including adequacy, gender segregation, privacy and regular cleaning. Local requirements may additionally prescribe drinking-water testing and measures such as chlorination of water tanks.

1.7. Labour and Employment

Youth Hostels employ cooks, cleaners, wardens, security personnel, maintenance staff and other workers. Applicable wage, employment, social-security and workplace requirements therefore apply depending on the nature and scale of employment. These may include State shops and establishments legislation, contract-labour requirements, minimum wages, EPFO, ESIC, maternity benefits and gratuity.

1.8. Digital Personal Data and Cybersecurity

While many Youth Hostels handle bookings offline, certain hostels have developed digital booking-management systems. Such systems may process names, contact details, demographic information and Aadhaar-linked verification information, including information relating to minors. The Digital Personal Data Protection Act, 2023 is therefore relevant to such operations.

The Information Technology Act, 2000, the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 and applicable CERT-In incident-reporting requirements[146] are also relevant to the digital environment, subject to their applicability.

[146] CERT-In (Indian Computer Emergency Response Team) regulations and guidelines require service providers, intermediaries, data centers, and corporate bodies to report cyber incidents within six hours of noticing them.

1.9. Transparency and Grievance Redressal

The Department and other bodies/authorities that fall within the definition of 'public authority' under the Right to Information Act, 2005 are subject to the provisions of the Act, including the applicable obligations relating to furnishing information and proactive disclosure under Section 4.

At the hostel level, complaints may be addressed through the Hostel Management Committee or an internal grievance mechanism. Depending on the nature of the complaint, escalation may be available through CPGRAMS[147], SHE-Box[148], police authorities or other competent mechanisms.

1.10. State and Local Regulatory Framework

Youth Hostels operate within the jurisdiction of State and local authorities. Applicable requirements may therefore include building approvals, fire NOCs, occupancy certificates, municipal or trade licences, sanitation requirements, water and sewage permissions, groundwater permissions and State-specific environmental clearances.

The exact requirements vary across States and municipalities. Their applicability depends upon factors including the location of the hostel, its physical characteristics and the manner in which it is operated.

2. Implementation Standards: Safety, Security and Welfare (The Proposed Solution)

The regulatory framework establishes minimum obligations, but effective hostel governance also depends upon how those obligations are translated into everyday practice. The following standards address key dimensions of resident safety, security and welfare.

2.1. Child Protection Standards

Beyond POCSO reporting obligations, hostels should adopt appropriate safeguarding measures, including staff screening and police verification and measures to prevent the entry of unauthorised adults. Safe-space policies should align with applicable guidance issued by the Ministry of Women and Child Development and other relevant authorities. Where hostel arrangements involve minors, parental contact should be facilitated and applicable guidelines followed.

2.2. Gender Sensitivity

Hostels may require gender-segregated accommodation. Women's hostels should incorporate appropriate safety measures, including female wardens or guards, secure locks, CCTV in common areas and restrictions on entry of strangers. Gender-sensitisation training for staff can further support a safe institutional environment. The National Policy for Women and State Women's Commissions may guide grievance redressal for female guests.

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[147] CPGRAMS stands for the Centralised Public Grievance Redress and Monitoring System, which is an online 24/7 digital platform developed by the Government of India for citizens to lodge complaints and grievances regarding public service delivery.

[148] SHe-Box (Sexual Harassment electronic Box) is an online portal launched by the Government of India's Ministry of Women and Child Development to let women file and track workplace sexual harassment complaints.

2.3. Fire and Disaster Preparedness

Fire safety requires continuing preparedness in addition to formal approvals. Fire drills should be conducted periodically and recorded in log-books. Early-warning systems, including smoke detectors, may not be legally mandated for every hostel but can strengthen emergency preparedness. Hostels should maintain emergency evacuation plans and consider the geography and potential hazards of the location in their disaster-preparedness arrangements.

2.4. Accessibility in Operation

Accessibility extends beyond built infrastructure to the day-to-day delivery of hostel services. Measures may include priority assistance for wheelchair users, Braille labels for room numbers and accessible grievance redressal. A designated grievance-redressal responsibility for persons with disabilities and maintenance of accessibility-related records can support implementation.

2.5. Anti-Discrimination Obligations

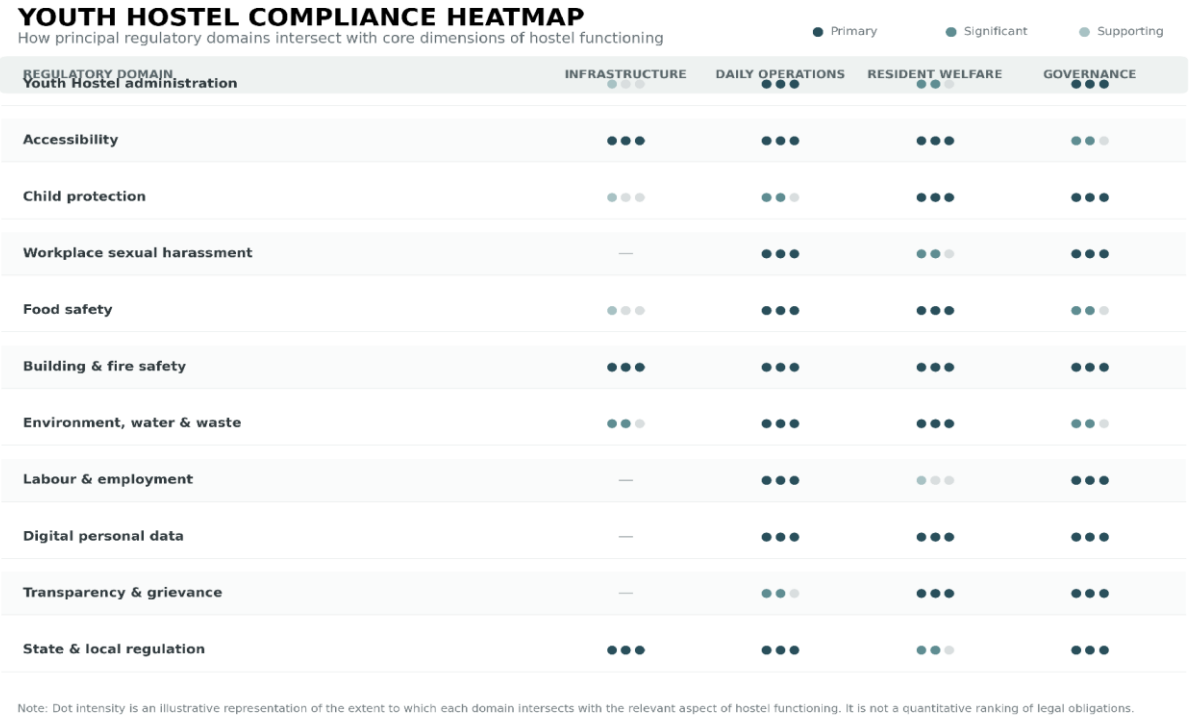
Youth Hostels should not discriminate in admissions or services on grounds such as caste, religion, gender identity or disability. Although there is no single general Anti-Discrimination Act governing all such situations, constitutional equality provisions, including Article 15, and the Transgender Persons (Protection of Rights) Act, 2019 inform the broader policy framework.

Inclusive accommodation and service arrangements for transgender and non-binary youth may therefore form part of the broader objective of ensuring non-discriminatory access to hostel facilities.

2.6. Certifications and Quality Management

Some Youth Hostels have obtained voluntary certifications such as ISO 9001 and green-building ratings. While these certifications are not mandatory, they can demonstrate the feasibility of structured quality-management systems and signal institutional attention to operational quality.

The following heatmap illustrates the extent to which the identified regulatory domains intersect with four core dimensions of Youth Hostel functioning physical infrastructure, daily operations, resident welfare and institutional governance. The heatmap provides a consolidated overview of the regulatory landscape, while a detailed explanation of each domain and its intersections is provided in the Annexures.



3. Integrated Compliance and Governance Framework (Solution Architecture and Components)

The breadth of the regulatory framework demonstrates that Youth Hostel compliance cannot be reduced to a single licence or approval. Requirements arise at different stages of the hostel lifecycle and may involve different institutional actors. A consolidated governance approach can therefore help connect individual legal obligations with operational responsibility.

GOVERNANCE AREA	PRINCIPAL COMPLIANCE QUESTIONS	ILLUSTRATIVE RECORDS / EVIDENCE
Administrative governance	Is the hostel operating in accordance with the Youth Hostel Manual, Scheme Guidelines and applicable management arrangements?	Management records; HMC decisions; admissions and tariff records
Building and fire safety	Are approvals secured and are safety systems maintained and tested?	Building approvals; Fire NOC/Certificate; inspection reports; drill logs; maintenance records
Food safety	Are applicable food-safety requirements met and documented?	FSSAI registration/licence where applicable; inspection records; hygiene and storage records
Water, sanitation and waste	Are water, sewage, sanitation and waste systems functioning and compliant?	Water testing; cleaning schedules; waste records; sewage/water permissions
Accessibility	Can persons with disabilities access and use the facility and raise complaints?	Accessibility assessment; maintenance records; grievance records
Safeguarding	Are minors and vulnerable residents protected through appropriate procedures?	Staff verification; safeguarding protocols; incident/reporting records
Gender safety	Are gender-sensitive accommodation and safety measures operational?	Security arrangements; CCTV/entry protocols; staff training records

GOVERNANCE AREA	PRINCIPAL COMPLIANCE QUESTIONS	ILLUSTRATIVE RECORDS / EVIDENCE
Labour compliance	Are staff and workers engaged under applicable employment and social-security requirements?	Employment records; wage records; EPFO/ESIC records where applicable
Digital data	Is personal information collected and handled responsibly where digital systems are used?	Data-processing records; access controls; privacy/security documentation
Grievance redressal	Can residents raise complaints and access escalation mechanisms?	Complaint register; action taken; closure and escalation records
Quality management	Is there a mechanism to identify recurring operational gaps and correct them?	Internal reviews; audit records; quality-management documentation

Key Findings (Expected Impact and Implementation Recommendations)

The analysis of the regulatory framework yields several findings relevant to the governance of Youth Hostels.

- Youth Hostels are subject to a substantial body of regulation despite the absence of a single dedicated legislation governing their entire operation.
- The Youth Hostel Manual functions as the principal administrative framework, but its legal character must be distinguished from statutory obligations imposed by central, State and local laws.
- The regulatory environment is inherently multi-level. The applicability of building, fire, sanitation, water, environmental and municipal requirements varies according to State and local jurisdiction.
- Resident safety and welfare are affected by multiple compliance domains simultaneously. Fire safety, accessibility, food safety, child protection, gender sensitivity, sanitation and grievance redressal therefore need to be viewed as interconnected components of hostel governance.
- The Centre–State–HMC arrangement distributes institutional responsibility. Clear allocation of responsibility and documentation is consequently essential to effective implementation.
- The existence of ISO 9001:2015 certification in 15 hostels demonstrates that structured quality-management systems can operate within the Youth Hostel network and provides an example of a formalised approach to institutional quality.
- Compliance should not be understood solely as obtaining approvals. Continuing monitoring, record-keeping, staff awareness, maintenance and accessible grievance mechanisms are necessary to translate regulatory requirements into operational practice.

Conclusion (Next Steps and Conclusion)

Youth Hostels occupy a distinctive position within India's youth-development architecture. They are not merely accommodation facilities, but spaces intended to promote youth travel, cultural exchange, social interaction and broader youth development. This wider mandate places them within a composite legal and regulatory framework encompassing the Youth Hostel Scheme and administrative guidelines alongside requirements relating to building

and fire safety, food safety, sanitation and waste management, accessibility, child protection, labour, data protection, transparency and State and local regulation.

The analysis demonstrates that compliance is an integral component of effective hostel governance. The responsibilities of the Department, State Governments, Hostel Management Committees and other implementing entities intersect across multiple regulatory domains. This makes clear allocation of responsibilities, systematic record-keeping and consistent implementation particularly important, especially across a geographically dispersed network operating under different State and local requirements.

The existing framework does not operate through a single dedicated legislation governing Youth Hostels. Instead, the Youth Hostel Manual and Scheme Guidelines provide the principal administrative framework, while general laws and regulations govern specific aspects of hostel operations. The Manual functions as an administrative instruction for implementing authorities, while statutory obligations derive from the applicable central, State and local laws. Recognising this distinction is important for understanding the scope and enforceability of different requirements.

A practical compliance approach should therefore focus on clear institutional responsibility, standardised checklists, proper documentation and regular monitoring. Hostels should maintain records of statutory approvals, inspections, licences and renewals, while management authorities should ensure compliance with applicable requirements relating to fire and building safety, food, sanitation, waste, accessibility, child protection, labour and data management. Clear grievance-redressal mechanisms are equally important to ensure that residents can raise concerns and access appropriate remedies.

Ultimately, effective compliance should serve a broader objective: ensuring that Youth Hostels remain safe, accessible, hygienic, inclusive and well-governed spaces for young travellers and other users. A robust compliance framework can reduce operational and safety risks, protect the rights and welfare of residents, improve accountability and strengthen public confidence in the Youth Hostel Scheme. Legal and regulatory compliance is therefore not merely an administrative obligation; it is an essential foundation for enabling Youth Hostels to fulfil their larger purpose of youth mobility, cultural exchange and development.

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Editorial Notes

Reviewers suggested that the paper could better explain how compliance can strengthen youth hostels as spaces for learning, participation and development. Further work should connect the legal framework with practical implementation and youth outcomes, while taking account of departmental constraints that may limit the scope of available recommendations.

Annexures

ANNEXURE 1 – DETAILED EXPLANATION OF THE YOUTH HOSTEL COMPLIANCE HEATMAP

Regulatory domain	Infrastructure	Daily operations	Resident welfare	Governance	Explanation / significance
Youth Hostel administration	Supporting	Primary	Significant	Primary	The Youth Hostel Manual and Scheme Guidelines form the core administrative framework. They strongly influence admissions, tariffs, maintenance, management procedures and day-to-day administration. Effective administration also affects resident experience and requires clear institutional responsibility, management records and HMC oversight.
Accessibility	Primary	Primary	Primary	Significant	Accessibility is both a physical and operational obligation. Infrastructure must incorporate ramps, accessible toilets, lifts and Braille signage, while hostel services must also be accessible in practice. Its strongest relevance is to resident welfare. Governance must support accessibility assessment, maintenance and grievance redressal.
Child protection	Supporting	Significant	Primary	Primary	Youth Hostels may accommodate persons below 18. Staff must understand safeguarding and mandatory reporting obligations under POCSO. The strongest relevance is resident welfare, while governance should ensure staff verification, safeguarding procedures, incident reporting and appropriate institutional responses.
Workplace sexual harassment	—	Primary	Significant	Primary	The workplace sexual-harassment framework primarily concerns the hostel as an employment environment. Compliance depends on operational mechanisms, including an Internal Complaints Committee where the statutory threshold is met and appropriate complaint procedures. A safe institutional culture also supports broader safety.
Food safety	Supporting	Primary	Primary	Significant	Food safety is principally operational: procurement, storage, preparation, hygiene, pest control, sanitation and inspection. It directly affects resident health and welfare. Governance must ensure applicable FSSAI registration/licensing and supporting inspection, hygiene and storage records.

Regulatory domain	Infrastructure	Daily operations	Resident welfare	Governance	Explanation / significance
Building & fire safety	Primary	Primary	Primary	Primary	This is the most comprehensively interconnected domain. Infrastructure must meet applicable building and fire-safety requirements, while operations require maintenance, inspections, drills, evacuation preparedness and firefighting systems. These directly protect residents and require continuous oversight and documentation.
Environment, water & waste	Significant	Primary	Primary	Significant	This domain has an important infrastructure component involving sewage, wastewater, water supply and waste systems. Its strongest practical expression is in daily operations through waste segregation, cleaning, water management, sanitation and testing. These directly affect habitability and resident health.
Labour & employment	—	Primary	Supporting	Primary	Labour compliance is embedded in daily operations because cooks, cleaners, wardens, security personnel and maintenance workers are essential to hostel functioning. Wage, employment and social-security compliance supports reliable operations and indirectly supports resident welfare through continuity of services.
Digital personal data	—	Primary	Primary	Primary	Digital data protection is relevant where booking or management systems process names, contact details, demographic information or Aadhaar-linked verification information, including information concerning minors. Compliance requires responsible collection, access controls, security, documentation and incident response.
Transparency & grievance	—	Significant	Primary	Primary	Transparency and grievance mechanisms are primarily administrative rather than infrastructural. Residents need accessible routes to register complaints, obtain responses and escalate concerns. Governance should maintain complaint registers, action-taken records and escalation/closure documentation.

Regulatory domain	Infrastructure	Daily operations	Resident welfare	Governance	Explanation / significance
State & local regulation	Primary	Primary	Significant	Primary	State and municipal requirements strongly affect infrastructure through building approvals, Fire NOCs, occupancy certificates, sanitation and water/sewage permissions. They also affect operations because requirements vary by jurisdiction. Governance therefore requires systematic tracking of approvals, renewals and local requirements.

Index for the Heatmap:

●●● **Primary:** Strong / direct intersection – high-priority attention in that dimension.

●● **Significant:** Important / material intersection – should be addressed through procedures, controls and documentation.

● **Supporting:** Indirect / enabling intersection – relevant but not the principal focus of that dimension.

—: Limited or no direct intersection – does not mean the domain is unimportant overall

From Data to Action: The MY Bharat Engagement Insights Framework for Strengthening Youth Engagement

An analytical and decision-support mechanism based on the Reach → Opportunity → Engagement pathway

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Executive Summary

MY Bharat has emerged as a large-scale national platform for youth engagement, with approximately **2.62 crore youth registrations** (as on 14.08.2026), supported by an expanding ecosystem of **Experiential Learning Programmes (ELPs)**, **Volunteer Opportunities (VOs),** and **community activities**. This creates a strong foundation for connecting young people with opportunities for learning, participation, and nation-building. However, the analysis undertaken for this solution paper indicates that the pathway from **Reach → Opportunity → Engagement** varies considerably across States and Union Territories. A large registered youth base does not necessarily correspond with proportionately high opportunity availability or recorded engagement, while smaller ecosystems may demonstrate high levels of activity relative to their registered base.

The analysis therefore highlights the need to move beyond reviewing registrations, opportunities and engagement as separate aggregate indicators. The proposed solution, the **MY Bharat Engagement Insights Framework**, provides a structured, data-informed mechanism for connecting these indicators and translating observed patterns into analytical questions and targeted follow-up.

The framework uses existing State/UT-level data on youth registrations, ELPs, VOs, ELP applications, and VO participation. Two standardised indicators – **Opportunity Intensity** and **Engagement Intensity**, measured relative to the registered youth base – are used to enable comparison across ecosystems of different sizes. Dataset-derived median reference thresholds are then applied to classify States and UTs into four broad patterns: **Higher Opportunity-Higher Engagement, Higher Opportunity-Lower Engagement, Lower Opportunity-Higher Engagement, and Lower Opportunity-Lower Engagement**. This classification is further interpreted through contextual overlays, including the scale of the registered youth base and the dominant pathway of engagement.

Importantly, the framework does not treat these patterns as performance rankings or causal conclusions. Instead, each pattern acts as a **diagnostic signal**. For example, a State with lower opportunity and engagement intensity may trigger examination of the broader Reach → Opportunity → Engagement pathway, while a State displaying distinctive high engagement may be examined as a potential learning case. The framework therefore creates an explicit pathway from **data → pattern → diagnostic question → contextual examination → follow-up → learning**.

Implementation can begin as a **phased analytical mechanism** embedded within existing MY Bharat and Department of Youth Affairs processes. A designated data or monitoring team can periodically consolidate the available data, calculate the indicators, and update State/UT engagement profiles. Only distinctive, persistent, strategically significant, or potentially instructive patterns would require detailed contextual examination, limiting additional reporting burden.

The framework should initially be piloted across a small and diverse set of States and UTs, refined based on implementation experience and subsequently integrated into periodic review processes. Over time, it can be strengthened through additional dimensions such as district-level analysis, opportunity categories and time trends.

Ultimately, the **MY Bharat Engagement Insights Framework** offers a practical and scalable approach to strengthening the use of MY Bharat's existing data ecosystem. By connecting **Reach, Opportunity and**

Engagement into a common analytical pathway, it can help MY Bharat identify where further attention may be required, understand distinctive engagement patterns and build a continuous system of **evidence, action and institutional learning**.

1. The Challenge

MY Bharat has established substantial national reach, with approximately **2.62 crore youth registrations** across States and UTs, supported by an expanding ecosystem of **Experiential Learning Programmes (ELPs), Volunteer Opportunities (VOs) and community activities**. Together, these provide young people with opportunities for learning, participation and contribution. However, state-level analysis indicates considerable variation in the relationship between **youth reach, opportunity availability and recorded engagement**.

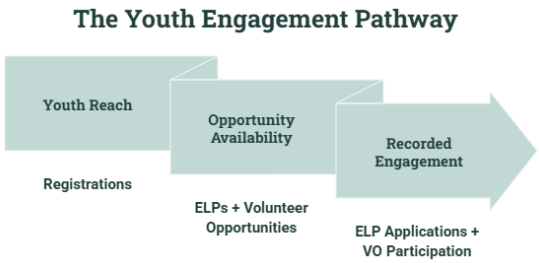

Fig.1 Youth Engagement Pathway

A large registered youth base does not necessarily translate into proportionate opportunity availability or engagement, while a high volume of opportunities may not always correspond with equally high applications or participation. Viewed separately, these variations can remain less visible. The analysis highlights several distinct State/UT-level patterns:

State/UT	Key Pattern	Analytical Insight
Maharashtra	Large youth base with high opportunity availability and engagement	Scale can coexist with strong opportunity and engagement intensity
Uttar Pradesh	Large youth base with comparatively lower opportunity and engagement intensity[149]	Scope to examine and strengthen the downstream engagement pathway
Chandigarh	Compact ecosystem with high opportunity and engagement intensity	Smaller ecosystems can demonstrate high-intensity engagement
Jammu & Kashmir	Distinctively high engagement intensity, largely driven by volunteer participation.	Engagement can follow different pathways beyond aggregate measures.

Table 1 State/UT-Level Patterns

The analysis further indicates that these variations can be systematically identified by examining **opportunity and engagement intensity relative to the registered youth base**, providing a basis for distinguishing broad State and UT-level patterns. These patterns demonstrate that there is **no single pathway through which registration translates into active engagement**.

As MY Bharat continues to grow, a uniform interpretation of registrations, opportunities and participation may not fully reveal where further examination, strengthening or learning is required. The opportunity, therefore, is to build on MY Bharat's existing scale and data ecosystem by examining the youth engagement journey through a more integrated lens: **Reach → Opportunity → Engagement**.

Bringing these dimensions together can make different ecosystem patterns more visible and provide a stronger basis for context-responsive follow-up. This forms the basis for the proposed solution: a structured, data-informed

[149] Recorded engagement activity should not be interpreted as the proportion of unique registered youth who participated.

approach that connects existing indicators, identifies meaningful engagement patterns, and supports more targeted ecosystem strengthening.

2. The Proposed Solution

The proposed solution is the **MY Bharat Engagement Insights Framework**, a structured, data-informed decision-support approach that connects existing data on youth registrations, opportunities, and engagement. Built around the Reach → Opportunity → Engagement pathway, it enables MY Bharat to move beyond isolated metrics, identify broad State and UT-level patterns, and generate insights for further examination and follow-up.

The framework operationalises this pathway through a simple analytical process. Existing State and UT-level data is used to calculate **Opportunity Intensity and Engagement Intensity (Annexure 1),** which are compared against dataset-derived reference thresholds to identify broad patterns. These patterns are then interpreted alongside contextual factors, including the scale of the registered youth base and the dominant engagement pathway, to generate diagnostic questions and guide context-responsive follow-up.

The framework seeks to strengthen the use of existing MY Bharat data for more informed and differentiated decision-making. Its key objectives are to:

- provide an integrated view of the relationship between youth reach, opportunity availability and recorded engagement;
- identify broad State and UT-level engagement patterns using standardised indicators;
- guide context-responsive follow-up by highlighting areas requiring further examination;
- identify distinctive patterns and potential learning cases across the ecosystem; and
- create a continuous learning mechanism through which insights and follow-up inform future engagement strategies.

This solution responds to the central finding that the pathway from registration to engagement varies across States and UTs. Rather than prescribing a uniform response, the framework connects separate data points through a common analytical pathway, enabling MY Bharat to first identify the pattern and then determine the most relevant area for further examination. The analysis is structured around three dimensions:

Dimension	Illustrative Indicators	Analytical Purpose
Reach	Youth registrations; share of total registrations	Understand the scale and distribution of the youth base
Opportunity	ELPs; VOs; opportunities per 1,000 registered youth	Examine opportunity availability relative to the registered base
Engagement	ELP applications; VO participation; engagement records per 1,000 registered youth	Understand how youth engage with available opportunities

Table 2. Analysis Indicators

Examining these dimensions together enables the identification of broad ecosystem patterns and guides subsequent examination. For example, a large registered youth base alongside comparatively lower opportunity intensity may warrant examination of opportunity availability or distribution, while relatively high opportunity intensity alongside lower recorded engagement may prompt examination of the youth-to-opportunity engagement

pathway. Distinctive patterns can similarly be identified as potential learning cases. These indicators are therefore intended as analytical signals for further examination, rather than measures of State or UT performance.

The framework is guided by five key principles:

- **Build on existing systems and data:** The framework does not replace the MY Bharat Portal or create a new data system; it adds an analytical and decision-support layer to existing information.
- **Prioritise context over ranking:** State and UT-level patterns serve as analytical signals rather than performance judgments, recognising diverse demographic, institutional and geographic contexts.
- **Connect insights with follow-up:** Each identified pattern generates relevant questions or areas for further examination, enabling data to inform subsequent action.
- **Remain scalable and adaptive:** The framework can begin with available State and UT-level indicators and progressively incorporate district-level data, opportunity categories and time trends.
- **Strengthen continuous learning:** Alongside identifying areas for further examination, the framework surfaces distinctive patterns and potential learning cases to build evidence on youth engagement across contexts.

3. Solution Architecture and Components

The **MY Bharat Engagement Insights Framework** functions as a structured pathway from existing data to diagnostic insight and context-responsive follow-up. It does not create a separate data system; instead, it builds on information already generated through the MY Bharat ecosystem and applies a common analytical process to identify broad State and UT-level patterns.

3.1 Core Components of the Framework

The framework consists of five interconnected components:

Component	Purpose	Contribution
Data Integration & Standardisation	Consolidates key data into standardised indicators	Creates a common analytical base
Reach–Opportunity–Engagement Analysis	Organises data across three connected dimensions	Provides an integrated view of the engagement pathway
Pattern Identification	Identifies broad and distinctive patterns	Converts data variation into analytical signals
Diagnostic Insights & Follow-up	Links patterns to questions for further examination	Connects analysis with context-responsive action
Learning & Refinement	Captures insights, learning cases and changes over time	Supports continuous learning and future analysis

Table 3. Core Components of the Framework

Together, these components create a modular mechanism that can begin with available State and UT-level data and progressively incorporate additional dimensions, including district-level patterns, opportunity categories and time trends.

3.2 Pattern Identification and Contextual Profiling

The framework identifies patterns using two standardised indicators: **Opportunity Intensity and Engagement Intensity**, calculated relative to the registered youth base. Based on the current dataset, median values of **11.91 opportunities per 1,000 registered youth** and **40.64 engagement records per 1,000 registered youth** are used as analytical reference thresholds. These are not targets or performance benchmarks; they provide dataset-derived reference points for distinguishing broad patterns.

	Lower Engagement Intensity	Higher Engagement Intensity
Higher Opportunity Intensity	Higher Opportunity–Lower Engagement	Higher Opportunity–Higher Engagement
Lower Opportunity Intensity	Lower Opportunity–Lower Engagement	Lower Opportunity–Higher Engagement

Table 4: Opportunity–Engagement Pattern Identification[150]

Each State or UT is first positioned within this Opportunity–Engagement pattern. The pattern is then interpreted alongside two contextual overlays:

- **Reach Category**, based on the size of the registered youth base; and
- **Engagement Pathway**, based on the relative contribution of ELP applications and VO participation.

Together, these layers create a more contextual **State/UT engagement profile (Annexure 3)** and help ensure that similar patterns are not interpreted uniformly. This is important because two States or UTs may occupy the same quadrant while differing significantly in the scale of their youth base or the pathway through which engagement occurs.

3.3 Pattern-to-Action Mechanism

The identification of a pattern is not treated as a conclusion or performance judgment. Instead, it generates a diagnostic question that guides further examination. An illustrative application of the mechanism is presented in Annexure 3.

Pattern	Diagnostic Question	Follow-up Direction
Lower Opportunity–Lower Engagement	Where in the engagement pathway may further examination be required?	Examine opportunity availability and the broader engagement journey.
Lower Opportunity–Higher Engagement	What may be supporting relatively high engagement?	Examine the pattern as a potential learning case.
Higher Opportunity–Lower Engagement	Why are opportunities not translating proportionately into recorded engagement?	Examine the opportunity-to-engagement pathway.
Higher Opportunity–Higher Engagement	What ecosystem conditions or practices may be associated with this pattern?	Examine the context as a potential learning case.

Table 5: Pattern to Action Mechanism

[150]Reference thresholds: Opportunity Intensity = 11.91; Engagement Intensity = 40.64. These thresholds are analytical reference points derived from the current dataset and are not targets or performance rankings.

4. Implementation Recommendations

The **MY Bharat Engagement Insights Framework** can be implemented as a phased, light-touch mechanism, starting with available State/UT-level data and expanding over time. Anchored within the **Department of Youth Affairs/MY Bharat**, a designated analytical or monitoring team can consolidate data, generate insights, and coordinate follow-up, supported by State/UT stakeholders and ELP/VO partners. The framework should build on existing review processes rather than create an additional reporting mechanism.

4.1 Operating Cycle

The framework should operate as a periodic analytical cycle integrated into existing MY Bharat review processes. Rather than requiring detailed examination of every State or UT, the analysis would identify distinctive, persistent, or strategically relevant patterns for focused follow-up. This creates a clear operational pathway from **data to analysis, diagnostic examination, targeted follow-up, and continuous learning**.

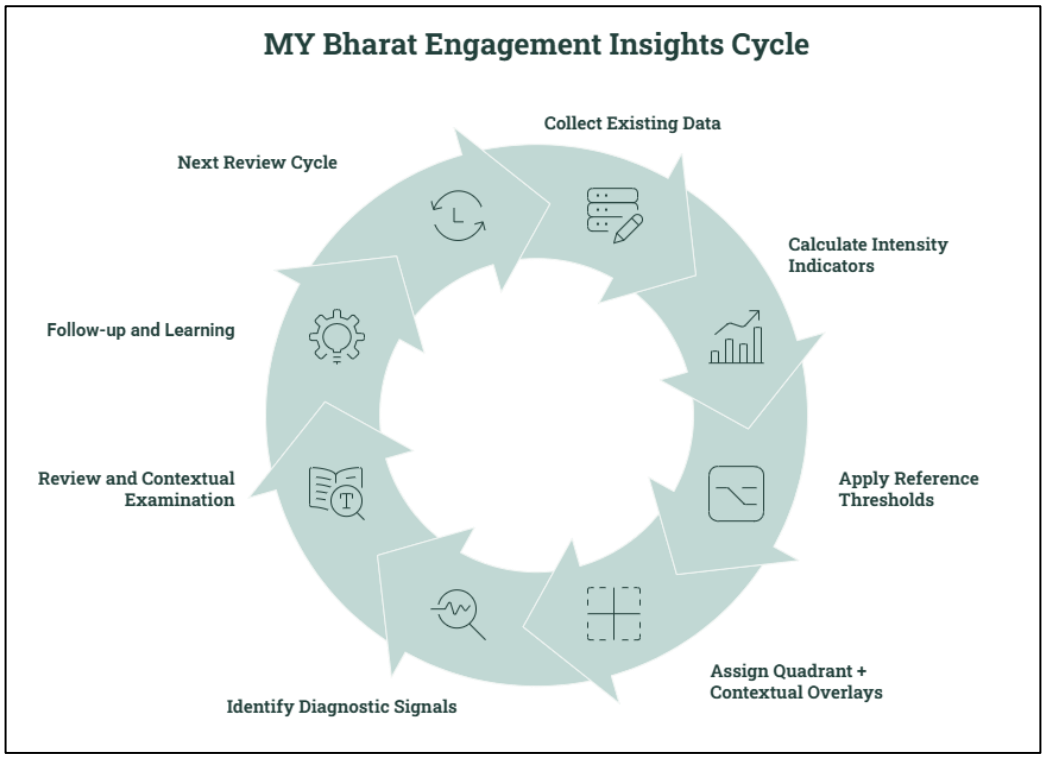

Figure 2. Operating Cycle

4.2 Recommended Implementation Pathway

Implementation can follow three stages:

a. **Establish the Baseline:** Consolidate existing data, standardise key indicators and develop initial Reach → Opportunity → Engagement profiles.

b. **Pilot and Refine:** Test the framework across a small and diverse set of States/UTs using the process: Pattern → Diagnostic Question → Contextual Examination → Follow-up. Refine indicators, diagnostic questions, and review processes based on implementation experience.

c. **Institutionalise and Scale:** Integrate the framework into periodic review mechanisms and progressively incorporate additional dimensions, including district-level patterns, opportunity categories and time trends.

4.3 Triggers for Follow-up

Not every State or UT would require detailed examination during each review cycle. Cases may be prioritised where a pattern:

- **persists** across multiple review cycles;
- **changes significantly**, including movement across quadrants;
- is **distinctive** relative to the broader distribution;
- has **strategic relevance**, particularly due to the scale of the registered youth base; or
- presents a potential **learning case**.

This selective approach helps ensure that the framework remains a **phased analytical mechanism rather than an additional reporting exercise**.

4.4 Key Requirements and Considerations

Initial implementation can rely largely on existing analytical and monitoring capacity, supplemented where necessary by technical support. The focus should be on strengthening analytical capacity and coordination, rather than developing a new technology platform.

Implementation should also ensure that:

- patterns are treated as analytical signals, not performance rankings;
- contextual examination precedes causal conclusions;
- common definitions and validation processes support data quality;
- responsibility for follow-up is clearly assigned; and
- the framework begins with a limited set of indicators to avoid unnecessary complexity.

Overall, implementation should follow a "start small, test, refine and scale" approach. By integrating the framework into existing data and review processes, the Department can introduce a practical mechanism for converting analytical patterns into focused examination, follow-up, and continuous learning.

5. Expected Impact

The proposed framework would strengthen the use of existing MY Bharat data by converting separate indicators into a structured process for **pattern identification, diagnostic examination and context-responsive follow-up**.

By standardising Opportunity and Engagement Intensity relative to the registered youth base, the framework would complement absolute measures of scale with a clearer understanding of variation across States and UTs. The use of reference thresholds and contextual overlays would further enable MY Bharat to identify broad patterns, distinguish distinctive cases and prioritise areas for focused examination.

The framework could also improve the efficiency of review processes. Rather than requiring detailed examination of every State or UT, periodic analysis can be used to identify **persistent, changing, distinctive or strategically relevant patterns** for further attention. This would help focus analytical and coordination efforts where they may be most useful.

For the **Department of Youth Affairs and MY Bharat**, the framework would provide a more structured basis for review and decision-making. **State and UT stakeholders** could contribute contextual understanding to identified patterns, while **ELP and VO partners** could support examination of the opportunity and engagement pathways. Over time, the framework could also help systematically capture positive or distinctive patterns as potential learning cases.

Overall, the framework would create a continuous cycle of:

Measurement → Pattern Identification → Diagnostic Question → Contextual Examination → Follow-up → Learning

This would enable MY Bharat to move beyond simply monitoring individual indicators towards a more structured mechanism for determining **where further attention may be required, what questions should be examined, and what learning can inform future ecosystem strengthening**.

Time Horizon	Expected Impact
Short Term	Establish a common analytical baseline, calculate intensity indicators and identify broad State/UT engagement patterns.
Medium Term	Strengthen prioritisation and context-responsive follow-up by examining persistent, changing or distinctive patterns and capturing emerging learning cases.
Long Term	Develop a sustained decision-support and learning mechanism capable of incorporating greater granularity, including district-level patterns, opportunity categories and time trends.

Table 6: Expected Impact Over Time

6. Next Steps and Conclusion

Immediate implementation can begin by consolidating the five core datasets, operationalising the two intensity indicators, applying the initial analytical reference thresholds, and developing State and UT-level engagement profiles. The framework can then be piloted across a small and diverse set of contexts to test the quadrant-based diagnostic process and refine the approach based on implementation experience. The proposed framework offers a practical mechanism for strengthening the use of MY Bharat's growing data ecosystem. A designated nodal team can oversee the initial analytical process and integrate relevant insights into existing monitoring and review mechanisms, without creating a parallel reporting or technology system. Following the pilot, the framework can be progressively strengthened by incorporating additional dimensions, such as district-level analysis, opportunity categories, and trends over time. This would enable MY Bharat to develop an increasingly granular understanding of youth engagement while retaining the framework's core principle of using data as a basis for **diagnostic inquiry, context-responsive follow-up, and continuous learning**. Ultimately, the value of the proposed approach lies in creating a clearer connection between **data and action**. By systematically identifying patterns, generating relevant questions, examining contextual factors and capturing learning, the framework can support a more evidence-informed and context-responsive understanding of youth engagement.

The proposed pathway can therefore be summarised as: **Establish the Baseline → Pilot the Framework → Refine the Approach → Integrate into Existing Reviews → Scale and Strengthen**

This phased approach enables MY Bharat to build on its existing scale and data ecosystem while progressively strengthening analytical capability, institutional learning and evidence-informed decision-making.

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Annexures

ANNEXURE I: Data, Indicators and Analytical Methodology

A. Data Used

The analysis uses five State and UT-level datasets covering:

- Youth registrations;
- Share of State/UT registrations in total MY Bharat registrations;
- Experiential Learning Programmes (ELPs);
- Volunteer Opportunities (VOs); and
- Recorded engagement through ELP applications and VO participation.

To enable comparison across States and UTs of different sizes, absolute figures were supplemented with standardised measures relative to the registered youth base.

B. Analytical Framework

Table A1: Core Indicators and Calculations

Indicator	Calculation	Analytical Purpose
Reach	Total youth registrations	Understand the scale of the registered youth base
Total Opportunities	ELPs + VOs	Measure the volume of recorded opportunities
Opportunity Intensity	(Total Opportunities ÷ Registered Youth) × 1,000	Compare opportunity availability relative to the youth base
Total Engagement	ELP Applications + VO Participation	Measure recorded downstream engagement

[151] The dashboard is under testing phase and will be rolled out on the website for public viewing shortly.

Indicator	Calculation	Analytical Purpose
Engagement Intensity	(Total Engagement ÷ Registered Youth) × 1,000	Compare engagement activity relative to the youth base

C. Pattern Identification Method

Analytical Classification Method: Opportunity and Engagement Intensity are calculated for each State and UT relative to its registered youth base. The resulting values are compared with dataset-derived median reference thresholds[152]:

- **Opportunity Intensity:** 11.91 opportunities per 1,000 registered youth
- **Engagement Intensity:** 40.64 engagement records per 1,000 registered youth

These thresholds are used to classify States and UTs into four broad Opportunity–Engagement patterns (Section 3.2).

D. Contextual Overlays

Quadrant classification is supplemented by two contextual overlays:

- **Reach Category:** based on the size of the registered youth base; and
    - Smaller Reach: **≤ 88,341 registrations**
    - Medium Reach: **88,342–716,518 registrations**
    - Larger Reach: **> 716,518 registrations**
- **Engagement Pathway: based on the relative contribution of ELP applications and VO participation to recorded engagement**
    - ELP-dominant: **ELP applications >55%**
    - Mixed/Balanced: **ELP applications between 45–55%**
    - VO-dominant: **VO participation >55%**

The resulting analytical logic is: Opportunity–Engagement Pattern + Reach Category + Engagement Pathway = State/UT Engagement Profile

E. Limitations of the Analysis

The analysis is based on administrative data available through the MY Bharat ecosystem and reflects recorded activity rather than the full universe of youth participation. Engagement records should not be interpreted as the number or proportion of unique registered youth participating.

The indicators are intended to identify patterns for further examination and should not be interpreted as measures of programme quality, State/UT performance or causal relationships. Differences in opportunity characteristics, data capture, local context and youth demographics may influence observed patterns. Future analysis using time-series, district-level and opportunity-level data can strengthen interpretation.

[152] These thresholds are analytical reference points derived from the current dataset and do not represent performance targets or rankings.

Annexure II: State and UT-Level Reach, Opportunity and Engagement Indicators

Table A2: Reach, Opportunity and Engagement Indicators

State/UT	Registrations (Crore)	Share of Total Registrations	ELPs	VOs	Total Opportunities	Opportunity Intensity[153]	ELP Applications	VO Participation	Total Engagement	Engagement Intensity
Andaman and Nicobar Islands	29,515	0.11%	21	382	403	13.65	86	1,332	1,418.00	48.04
Andhra Pradesh	8,44,243	3.22%	251	6,118	6,369	7.54	1,465	14,660	16,125.00	19.10
Arunachal Pradesh	47,809	0.18%	38	1,208	1,246	26.06	215	3,216	3,431.00	71.76
Assam	6,80,408	2.60%	283	5,790	6,073	8.93	2,863	19,505	22,368.00	32.87
Bihar	7,11,358	2.72%	948	4,792	5,740	8.07	2,358	18,816	21,174.00	29.77
Chandigarh	84,447	0.32%	84	1,771	1,855	21.97	1,144	5,198	6,342.00	75.10
Chhattisgarh	6,60,363	2.52%	233	5,778	6,011	9.10	2,280	23,905	26,185.00	39.65
Delhi	7,26,837	2.78%	205	3,098	3,303	4.54	2,457	49,372	51,829.00	71.31
Goa	56,722	0.22%	163	763	926	16.33	1,016	1,009	2,025.00	35.70
Gujarat	10,03,336	3.83%	482	10,857	11,339	11.30	2,866	17,320	20,186.00	20.12
Haryana	7,95,657	3.04%	1,205	5,306	6,511	8.18	7,427	26,915	34,342.00	43.16
Himachal Pradesh	3,19,729	1.22%	531	5,452	5,983	18.71	1,574	10,456	12,030.00	37.63
Jammu And	10,75,157	4.11%	199	8,973	9,172	8.53	1,014	2,65,069	2,66,083.00	247.48

[153] The opportunity indicators are based on the number of recorded ELPs and VOs and do not, by themselves, measure seat capacity, duration, geographic accessibility or quality of individual opportunities.

State/UT	Registrations (Crore)	Share of Total Registrations	ELPs	VOs	Total Opportunities	Opportunity Intensity[153]	ELP Applications	VO Participation	Total Engagement	Engagement Intensity
Kashmir										
Jharkhand	3,56,515	1.36%	240	3,613	3,853	10.81	1,430	10,345	11,775.00	33.03
Karnataka	8,72,965	3.33%	587	10,341	10,928	12.52	3,641	33,214	36,855.00	42.22
Kerala	6,25,858	2.39%	711	4,288	4,999	7.99	2,669	9,249	11,918.00	19.04
Ladakh	40,653	0.16%	13	169	182	4.48	123	695	818.00	20.12
Lakshadweep	6,511	0.02%	13	83	96	14.74	63	22	85.00	13.05
Madhya Pradesh	14,87,842	5.68%	446	12,709	13,155	8.84	3,020	63,270	66,290.00	44.55
Maharashtra	15,70,721	6.00%	9,595	13,094	22,689	14.44	24,137	41,255	65,392.00	41.63
Manipur	44,763	0.17%	27	836	863	19.28	236	2,777	3,013.00	67.31
Meghalaya	55,622	0.21%	50	1,109	1,159	20.84	259	2,522	2,781.00	50.00
Mizoram	77,375	0.30%	20	950	970	12.54	104	1,695	1,799.00	23.25
Nagaland	46,445	0.18%	38	1,238	1,276	27.47	236	1,741	1,977.00	42.57
Odisha	6,30,121	2.41%	432	3,402	3,834	6.08	2,399	13,202	15,601.00	24.76
Puducherry	90,288	0.34%	82	623	705	7.81	460	1,351	1,811.00	20.06
Punjab	6,68,351	2.55%	460	9,027	9,487	14.19	2,490	14,112	16,602.00	24.84
Rajasthan	21,61,767	8.26%	1,076	13,235	14,311	6.62	11,183	45,421	56,604.00	26.18
Sikkim	48,984	0.19%	28	818	846	17.27	174	2,181	2,355.00	48.08

State/UT	Registrations (Crore)	Share of Total Registrations	ELPs	VOs	Total Opportunities	Opportunity Intensity[153]	ELP Applications	VO Participation	Total Engagement	Engagement Intensity
Tamil Nadu	17,88,389	6.83%	1,003	17,730	18,733	10.47	6,891	34,900	41,791.00	23.37
Telangana	4,26,356	1.63%	157	5,633	5,790	13.58	1,090	16,719	17,809.00	41.77
The Dadra and Nagar Haveli and Daman and Diu	24,381	0.09%	13	307	320	13.12	73	3,679	3,752.00	153.89
Tripura	1,28,762	0.49%	224	1,711	1,935	15.03	1,759	5,688	7,447.00	57.84
Uttar Pradesh	26,55,101	10.14%	3,476	17,426	20,902	7.87	21,866	44,573	66,439.00	25.02
Uttarakhand	3,24,616	1.24%	327	2,689	3,016	9.29	1,161	16,061	17,222.00	53.05
West Bengal	8,85,066	3.38%	1,547	12,425	13,972	15.79	7,618	41,320	48,938.00	55.29

Figure A1: Top 10 States in terms of Youth Registrations

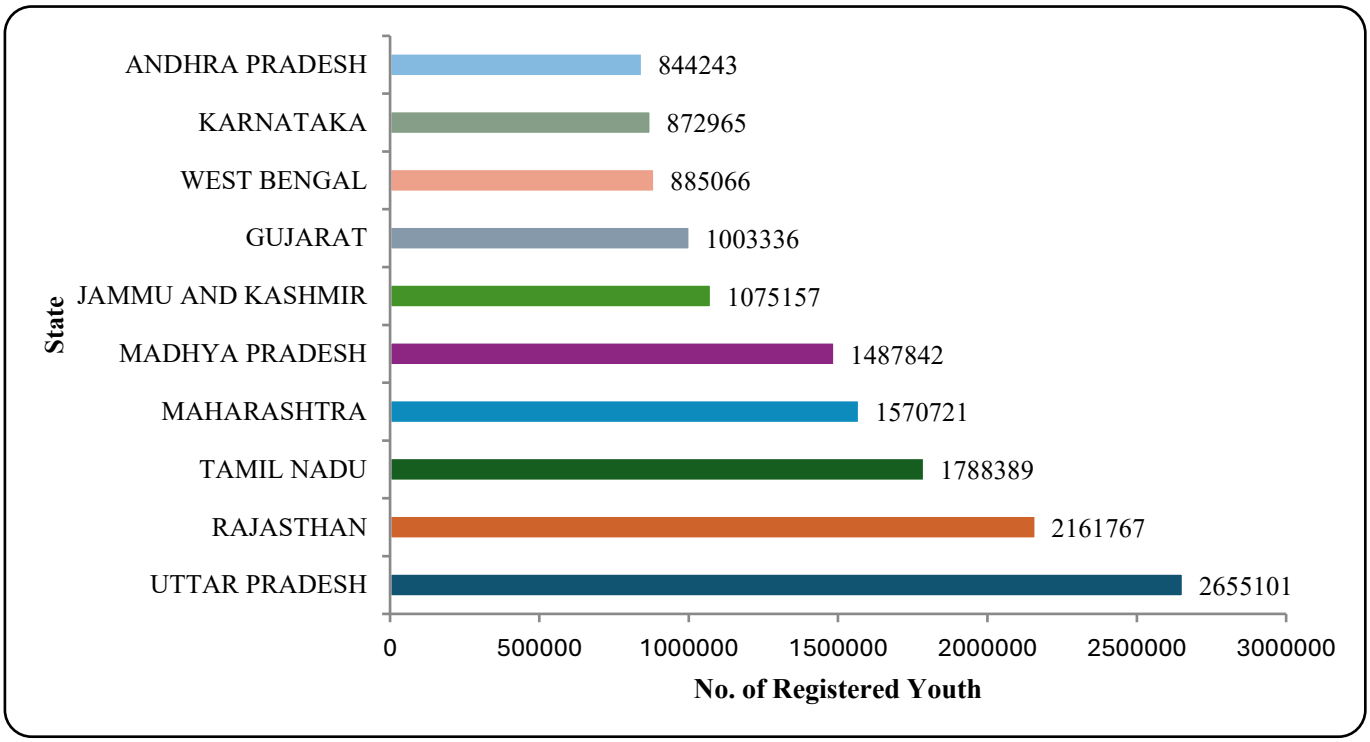
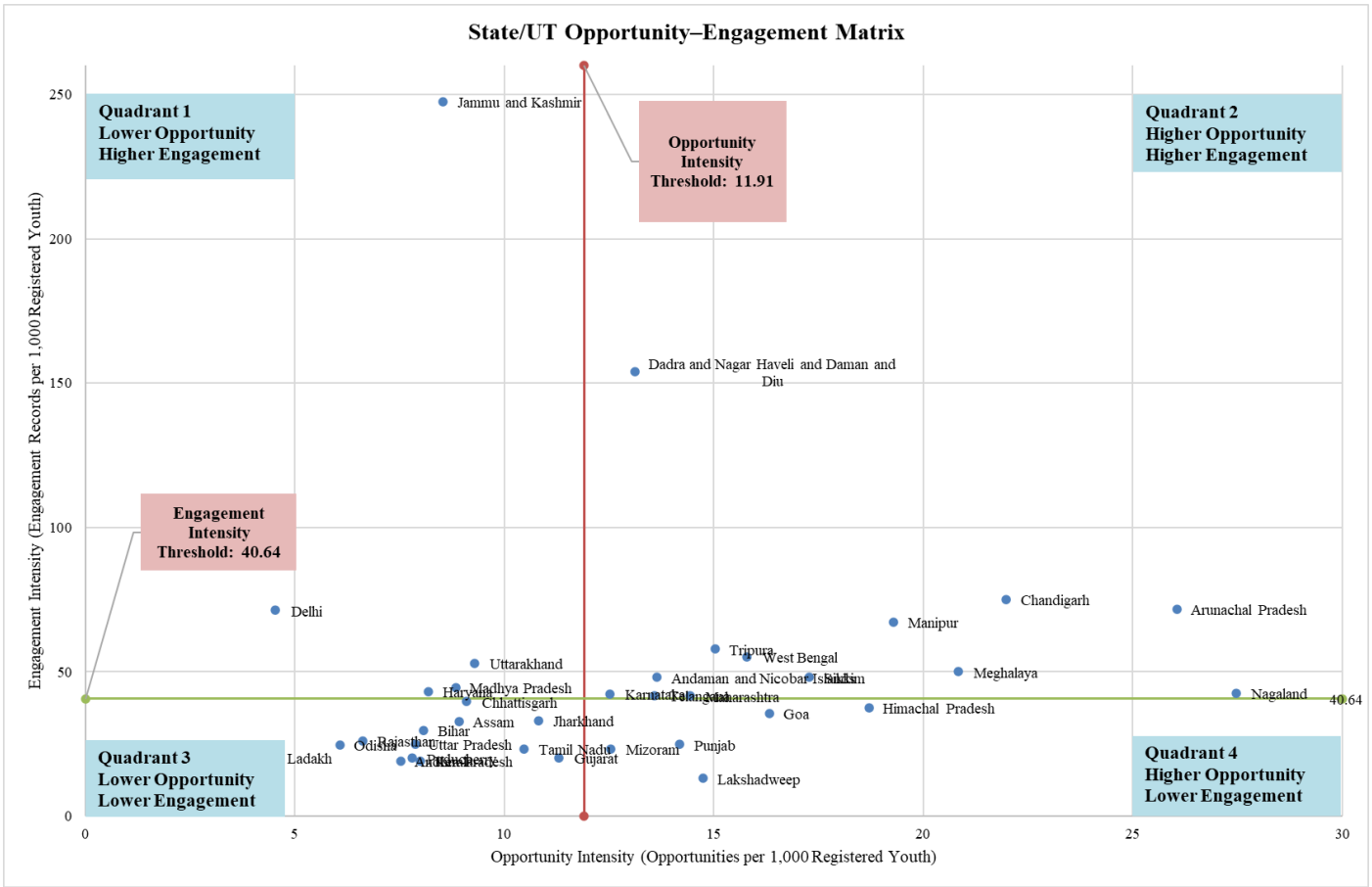


Figure A2: Distribution of Opportunity and Engagement Intensity Across States and UTs



ANNEXURE III: State and UT Engagement Profiles and Pattern Classification

Table A2: Classification of States and UTs by Opportunity–Engagement Pattern[154][155]

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
Andaman & Nicobar Islands	13.65	48.04	Higher Opportunity–Higher Engagement	Small	6.1%	93.9%	VO-led	High intensity relative to a small youth base
Andhra Pradesh	7.54	19.10	Lower Opportunity–Lower Engagement	Large	9.1%	90.9%	VO-led	Opportunity and engagement pathway may require further examination
Arunachal Pradesh	26.06	71.76	Higher Opportunity–Higher Engagement	Small	6.3%	93.7%	VO-led	Strong opportunity and engagement intensity
Assam	8.93	32.87	Lower Opportunity–Lower Engagement	Large	12.8%	87.2%	VO-led	Scope to examine opportunity availability and engagement pathway
Bihar	8.07	29.77	Lower Opportunity–Lower	Large	11.1%	88.9%	VO-led	Opportunity and downstrea

[154] Profiles are analytical descriptions derived from the current dataset and are intended to support contextual examination. They do not represent performance rankings or causal conclusions.

[155] Engagement Intensity represents recorded engagement activity relative to registrations and should not be interpreted as the proportion of unique registered youth who participated. The dominant engagement pathway reflects the relative contribution of ELP applications and VO participation to total recorded engagement

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
			Engagement					m engagement may require examination
Chandigarh	21.97	75.10	Higher Opportunity–Higher Engagement	Small	18.0%	82.0%	VO-led	Compact ecosystem with high opportunity and engagement intensity
Chhattisgarh	9.10	39.65	Lower Opportunity–Lower Engagement	Large	8.7%	91.3%	VO-led	Engagement intensity remains below the reference threshold
Delhi	4.54	71.31	Lower Opportunity–Higher Engagement	Large	4.7%	95.3%	VO-led	High engagement despite comparatively low opportunity intensity
Goa	16.33	35.70	Higher Opportunity–Lower Engagement	Small	50.2%	49.8%	Balanced	Opportunities may not be translating proportionately into engagement
Gujarat	11.30	20.12	Lower Opportunity–Lower Engagement	Large	14.2%	85.8%	VO-led	Opportunity and engagement intensity both below

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
								reference levels
Haryana	8.18	43.16	Lower Opportunity–Higher Engagement	Large	21.6%	78.4%	VO-led	Relatively strong engagement despite lower opportunity intensity
Himachal Pradesh	18.71	37.63	Higher Opportunity–Lower Engagement	Medium	13.1%	86.9%	VO-led	Scope to examine the opportunity-to-engagement pathway
Jammu & Kashmir	8.53	247.48	Lower Opportunity–Higher Engagement	Large	0.4%	99.6%	Strongly VO-led	Distinctive engagement pattern warranting examination as a learning case
Jharkhand	10.81	33.03	Lower Opportunity–Lower Engagement	Medium	12.1%	87.9%	VO-led	Opportunity and engagement pathway may require further examination
Karnataka	12.52	42.22	Higher Opportunity–Higher Engagement	Large	9.9%	90.1%	VO-led	Opportunity availability is accompanied by

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
								relatively strong engagement
Kerala	7.99	19.04	Lower Opportunity–Lower Engagement	Large	22.4%	77.6%	VO-led	Scope to examine both opportunity intensity and engagement pathway
Ladakh	4.48	20.12	Lower Opportunity–Lower Engagement	Small	15.0%	85.0%	VO-led	Low opportunity and engagement intensity relative to registrations
Lakshadweep	14.74	13.05	Higher Opportunity–Lower Engagement	Small	74.1%	25.9%	ELP-led	Opportunity intensity does not translate into proportionate engagement
Madhya Pradesh	8.84	44.55	Lower Opportunity–Higher Engagement	Large	4.6%	95.4%	VO-led	Relatively high engagement despite lower opportunity intensity
Maharashtra	14.44	41.63	Higher Opportunity–	Large	36.9%	63.1%	VO-led	Scale accompanied by

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
			Higher Engagement					strong opportunity and engagement intensity
Manipur	19.28	67.31	Higher Opportunity–Higher Engagement	Small	7.8%	92.2%	VO-led	High-intensity opportunity and engagement ecosystem
Meghalaya	20.84	50.00	Higher Opportunity–Higher Engagement	Small	9.3%	90.7%	VO-led	Strong opportunity and engagement intensity
Mizoram	12.54	23.25	Higher Opportunity–Lower Engagement	Small	5.8%	94.2%	VO-led	Scope to examine opportunity-to-engagement conversion
Nagaland	27.47	42.57	Higher Opportunity–Higher Engagement	Small	11.9%	88.1%	VO-led	Very high opportunity intensity with above-threshold engagement
Odisha	6.08	24.76	Lower Opportunity–Lower Engagement	Large	15.4%	84.6%	VO-led	Opportunity and engagement intensity both remain

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
								comparatively low
Puducherry	7.81	20.06	Lower Opportunity–Lower Engagement	Small	25.4%	74.6%	VO-led	Scope to examine the broader engagement pathway
Punjab	14.19	24.84	Higher Opportunity–Lower Engagement	Large	15.0%	85.0%	VO-led	Opportunity availability may warrant examination alongside lower engagement intensity
Rajasthan	6.62	26.18	Lower Opportunity–Lower Engagement	Very Large	19.8%	80.2%	VO-led	Large youth base with scope to deepen opportunity and engagement intensity
Sikkim	17.27	48.08	Higher Opportunity–Higher Engagement	Small	7.4%	92.6%	VO-led	Strong engagement relative to the registered base
Tamil Nadu	10.47	23.37	Lower Opportunity–Lower Engagement	Very Large	16.5%	83.5%	VO-led	Large youth base with comparatively lower opportunity and

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
								engagement intensity
Telangana	13.58	41.77	Higher Opportunity–Higher Engagement	Medium	6.1%	93.9%	VO-led	Above-threshold opportunity and engagement intensity
Dadra & Nagar Haveli and Daman & Diu	13.12	153.89	Higher Opportunity–Higher Engagement	Small	1.9%	98.1%	Strongly VO-led	Distinctively high engagement intensity driven primarily by VO participation
Tripura	15.03	57.84	Higher Opportunity–Higher Engagement	Small	23.6%	76.4%	VO-led	Strong opportunity and engagement intensity
Uttar Pradesh	7.87	25.02	Lower Opportunity–Lower Engagement	Very Large	32.9%	67.1%	VO-led	Large youth base with scope to deepen opportunity and engagement intensity
Uttarakhand	9.29	53.05	Lower Opportunity–Higher Engagement	Medium	6.7%	93.3%	VO-led	Strong engagement despite comparatively lower opportunity intensity

State/UT	Opportunity Intensity	Engagement Intensity	Quadrant / Pattern	Reach Category*	ELP Share of Engagement	VO Share of Engagement	Dominant Engagement Pathway	Analytical Interpretation
West Bengal	15.79	55.29	Higher Opportunity–Higher Engagement	Large	15.6%	84.4%	VO-led	Strong opportunity and engagement intensity relative to the registered base

ANNEXURE IV: Pattern Identification and Diagnostic Framework

The framework translates observed data patterns into analytical questions rather than predetermined interventions.

A. Pattern-to-Action Matrix

Table A3: From Pattern Identification to Follow-up

Opportunity–Engagement Pattern	Illustrative Diagnostic Question	Potential Area for Examination	Illustrative Follow-up Direction
Lower Opportunity–Lower Engagement	Where in the engagement pathway may further examination be required?	Opportunity availability and engagement journey	Examine the Reach → Opportunity → Engagement pathway
Lower Opportunity–Higher Engagement	What may be supporting relatively high engagement?	Conditions or practices associated with engagement	Examine as a potential learning case
Higher Opportunity–Lower Engagement	Why are opportunities not translating proportionately into engagement?	Opportunity discovery, application, and participation pathway	Examine barriers or gaps between opportunity availability and engagement
Higher Opportunity–Higher Engagement	What ecosystem conditions may be associated with this pattern?	Opportunity and engagement ecosystem	Examine as a potential learning case

B. Illustrative Application of the Framework

Table A4: Illustrative State/UT Use Cases

State/UT	Opportunity Intensity	Engagement Intensity	Pattern Identified	Contextual Observation	Diagnostic Question	Illustrative Follow-up
Uttar Pradesh	7.87	25.02	Lower Opportunity–Lower Engagement	Large registered youth base	Where in the downstream pathway may further examination be required?	Examine opportunity availability, distribution, and youth engagement pathway
Jammu & Kashmir	8.53	247.48	Lower Opportunity–Higher Engagement	Strongly VO-led engagement	What may be supporting this distinctive engagement pattern?	Examine as a learning case
Goa	16.33	35.70	Higher Opportunity–Lower Engagement	Higher opportunity intensity with comparatively lower engagement intensity	Why are opportunities not translating proportionately into recorded engagement?	Examine discovery, application and participation pathways
Maharashtra	14.44	41.63	Higher Opportunity–Higher Engagement	Large youth base with relatively high opportunity and engagement intensity	What ecosystem conditions may be associated with this pattern?	Examine practices and conditions as a potential.

Annexure V: Illustrative Operating Model and Use Cases

Table A5. Detailed Operating Cycle

Stage	What Happens	Primary Output	Responsibility
Consolidate Data	Compile registrations, ELPs, VOs, ELP applications, and VO participation.	State/UT analytical dataset	Designated MY Bharat data/monitoring team
Calculate Indicators	Calculate Opportunity and Engagement Intensity and compare them with analytical reference thresholds.	Updated indicator table	Data/monitoring team
Identify Patterns	Assign each State/UT to a quadrant and apply Reach and Engagement Pathway overlays.	State/UT engagement profile	Data/monitoring team

Stage	What Happens	Primary Output	Responsibility
Review Diagnostic Signals	Review distinctive, persistent, changing, or strategically relevant patterns.	Shortlist of cases for examination	MY Bharat/DoYA review team
Conduct Contextual Examination	Engage relevant State stakeholders and ELP/VO partners to understand selected patterns.	Diagnostic note	Relevant programme and State stakeholders
Determine Follow-up and Capture Learning	Identify appropriate action, document insights and feed learning into future reviews.	Action/learning note	MY Bharat/DoYA

Part A: Follow-up Triggers

Table A6. Follow-up Triggers

Trigger	What It Indicates	Recommended Response
Persistent pattern	Pattern remains across multiple review cycles	Conduct focused examination of the engagement pathway
Significant movement	State/UT changes quadrant	Examine factors associated with the change
Distinctive pattern	Indicators differ substantially from the wider distribution	Conduct focused diagnostic review
Strategic relevance	Large youth base displays a notable pattern	Prioritise contextual examination
Learning case	Sustained or distinctive positive pattern	Document practices and transferable insights

Part B: Illustrative Use Case – Uttar Pradesh

Observed Pattern: Lower Opportunity–Lower Engagement

- **Opportunity Intensity:** 7.87 per 1,000 registered youth
- **Engagement Intensity:** 25.02 per 1,000 registered youth

Potential Trigger: Strategic relevance due to the large registered youth base; persistent pattern across review cycles, where applicable.

Diagnostic Questions:

- How are opportunities distributed across the State?
- Are opportunities aligned with the scale of the registered youth base?
- Are young people discovering and accessing available opportunities?

- Where in the Reach → Opportunity → Engagement pathway may further examination be required?

Follow-up Direction: Conduct contextual examination before determining the appropriate intervention.

Part C: Illustrative Use Case – Jammu & Kashmir

Observed Pattern: Lower Opportunity–Higher Engagement

- **Opportunity Intensity:** 8.53 per 1,000 registered youth
- **Engagement Intensity:** 247.48 per 1,000 registered youth

Engagement Pathway: Strongly VO-led.

Potential Trigger: Distinctive engagement pattern.

Diagnostic Questions:

- **What factors may be supporting high volunteer participation?**
- **Are particular types of volunteer opportunities contributing disproportionately?**
- **Are there ecosystem practices that may offer useful learning?**

Follow-up Direction: Conduct a learning-oriented examination and document potentially transferable insights.

Acknowledgement

I would like to express my sincere gratitude to the Department of Youth Affairs and MY Bharat for the opportunity to work on this assignment and gain valuable exposure to India's youth development and governance ecosystem. I am especially thankful to my mentors and colleagues for their guidance and support throughout the project. I also extend my sincere appreciation to GRAAM, MBRDI, and the Embark India Development Fellowship for providing the platform, mentorship, and learning environment that made this work possible.

Editorial Notes

Reviewers recommended clarifying the target group and priority area, and developing a more systematic analytical framework for segmenting data and translating it into actionable insights. Future refinement could show how dashboard outputs and decision-support tools would guide specific youth-engagement interventions.

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Planning Around Fragmentation Collective Infrastructure for Champaran's Agrarian Economyin India's Tier 2 and Tier 3 Cities

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Executive Summary

India's rural development models have long assumed that agricultural surplus will naturally catalyse village-level economies. Bihar's East & West Champaran districts are a testament to the fact that this logic has been fractured for a long time. With a geography that creates highly supportive agro-climatic conditions, the region's per capita income is roughly a quarter of the national average. This is not entirely an outcome of low agricultural productivity, but also of the economic value that leaves the region unprocessed and uncaptured.

Two structural conditions help explain Champaran's underperforming economy and high population density. First, forward linkages are nearly absent: much of what is produced in the region leaves without substantive value addition, while weak backward linkages continue to constrain farm productivity as well. Second, the region is characterised by highly fragmented and informal land-tenure arrangements, with many households dependent on holdings that barely meet subsistence needs.

Existing and past rural development policies have failed to solve these issues. From the Green Revolution to IRDP and SPMRM, India's major interventions have either remained siloed within departmental limits or addressed rural and agrarian development in a piecemeal manner. This paper proposes a nested agrarian network across the Farm, Village, Gram Panchayat, Sub-Block, Block, District, and Regional levels that redistributes essential infrastructure across the rural landscape. These infrastructures are organised in six thematic systems (Knowledge, Resource, Aggregation, Processing, Market and Diversification), each connected to and framed around the needs of a marginal farm. The placement of these functions into a networked hierarchy is primarily based on reviewing existing schemes, while the gaps are filled using the field evidence from Champaran. For such a distributed network, the governance architecture is deliberately plural, where collective organisations like cooperatives, SHGs, PACS and FPOs anchor the majority of the functions while public, private, and civil-society actors enable and complete the network.

Much of what the framework is built around already exists in fragments across the rural-agro-industrial landscape. Grounded in field and desk analysis of four value chains - sugarcane, maize, litchi, and mango - this framework is offered as an architecture for integrating fragmented rural development efforts, adaptable to comparable agrarian regions across India. In doing so, the study intends to convert Champaran's population density into a local economic strength and shape rural regions that are already urbanising without corresponding economic diversification.

1. Introduction

India is home to the largest rural population in the world. According to World Bank estimates for 2024, around 916 million Indians live in rural areas, roughly 63% of the country's total population. This concentration is particularly evident in the eastern Indo-Gangetic plains, which host some of the most densely settled rural landscapes. In states such as Bihar, population densities are nearly three times the national average[156]. At the same time, these regions also exhibit some of the lowest urbanisation levels in the country, with a majority still employed within the primary sector[157]. Paradoxically, the same Gangetic plains of Bihar and Uttar Pradesh are endowed with better natural resources and agroclimatic conditions than most other Indian states. Irrigated by numerous monsoon rivers that merge into the Ganga, these predominantly rural landscapes support intensive agricultural systems and densely settled populations. As India pursues the *Viksit Bharat* 2047 agenda, such densely populated agrarian frontiers, characterised by low social development indicators, persistent demographic pressures and incipient urbanisation, remain trapped in a policy vacuum. Rigid urban-rural classifications and fragmented rural development frameworks constrain the capacity of these hinterlands, limiting agricultural productivity, economic diversification and regional development.

2. Problem Statement: Champaran – A dense agrarian landscape

The Champaran region, split into East and West districts in north-western Bihar, exemplifies this situation. Champaran's geography gives it a genuine agricultural and locational endowment. Natural irrigation systems combine with extensive canal and lake networks, followed by low-lying *chaurs* and marshland belts to the south. The hydrological conditions enrich various textures of alluvial soil to create a productive and diverse base for agriculture across the two districts. East Champaran (EC) is one of the largest producers of wheat, rice and maize in Bihar, while West Champaran (WC) leads in sugarcane. Both the districts are also significant producers of horticulture, with fruits like litchi, mango and banana, along with vegetables like carrot, potato and cauliflower (Annexure 1).

However, this agronomic advantage has failed to translate into economic prosperity. Champaran's per capita Gross District Domestic Product (GDDP) is almost one-fourth of the national average (Annexure 2). This implies that while agriculture is a major source of income, Champaran largely operates as an extraction landscape in the absence of any local value addition. Except for sugarcane, raw commodities like paddy, wheat and maize, along with fruits and vegetables, are exported out of the region without any processing, sorting or preservation. As a consequence, the economic value created along the agriculture value chain is captured by external markets. With the Agricultural Produce Market Committee (APMC) also abolished since 2006, farmers in Bihar are largely dependent on private traders and intermediaries for the sale of produce. This creates a situation where weak handling, storage and processing infrastructure at the rural and regional levels combine with informal market and procurement networks. As a result, local producers remain vulnerable to middlemen, seasonal price crashes and post-harvest perishability, often leading to distress sales.

While the agrarian economy struggles, limited urbanisation exacerbates the situation. With under 10% of the population in urban areas, labour and the economy in East and West Champaran are not sufficiently diversified. Agriculture remains the dominant economic activity, employing the majority of the workforce. This creates a situation where over-reliance on agriculture and limited capture of agrarian value combine to starve the economy across the two districts. A self-reinforcing cycle is created where the inability to capture value locally suppresses non-farm employment, which in turn forces successive generations to remain tied to agriculture for basic subsistence. Labour density on the fields keeps increasing without a corresponding increase in income, leading to

[156] As per 2011 Census, Bihar's population density is 1,106 persons/km² while national average is 382 persons/km².

[157] 11.3% of Bihar's population is 'urban' while the national average is 31.2% (Census 2011). Parallelly, Bihar Economic Survey (2024-25) indicates that 54.2% of the state population is employed in the primary sector.

farm fragmentation over successive generations. At the heart of it, two major factors underpin Champaran's complex situation:

2.1 Limited Farm Linkages

Economic linkages are the transactions that connect one economic activity to another, where the output of one sector becomes the input of another. Theoretically, they are split into two directions: backward linkages (a sector's demand for inputs) and forward linkages (a sector's output feeding into something downstream). Within agriculture, backward linkages determine what grows and how productively, by providing inputs, credit, mechanization, and agronomic support until harvest, while forward linkages, through storage, processing, logistics, and market access, determine what happens to the produce once it leaves the farm.

In the context of Champaran, this can best be understood using the sugarcane and maize value chains. West Champaran is Bihar's principal producer of sugarcane, and five active mills in the district process about 35000 tonnes of sugarcane daily during the crushing season. When compared to the annual sugarcane produced across the district, this is just 47%[158]. Thus, in the sugarcane value chain, there is significant demand for forward linkages. Parallelly, in the year 2023-24, average sugarcane yields in the district were around 66 t/ha while states like Maharashtra and Tamil Nadu recorded 94 t/ha and 102 t/ha respectively[159]. While yield is dependent on multiple factors like seed quality, agronomic practices, and post-harvest scenario, this suggests that the backward linkages with respect to sugarcane cultivation are also weak in West Champaran. With maize, primarily a Kharif crop, the situation is a bit different. Recently developed hybrid varieties have increased resilience and suitability for the Rabi season as well, allowing East Champaran and Bihar to rapidly emerge as a major maize producer. Here, some aspects of backward linkages show positive trends. On the other hand, the absence of storage and processing forces around 80% of this maize to exit the state as a raw commodity[160]. This indicates a major drawback in terms of forward linkages.

Not just maize and sugarcane, forward linkages across all crops remain relatively limited beyond the farm gate. Weak storage infrastructure (warehouses/cold storage) and scarce processing facilities (primary/secondary/tertiary) force the farmers to sell their produce immediately after harvest. Fluctuating weather patterns, recurrent floods and declining soil health highlight the need for investments in agricultural research and development, mechanisation, timely input distribution, irrigation and farmer capacity-building. Despite Champaran's favourable agro-climatic and natural-resource conditions described above, weak backward linkages alsoconstrainfarm productivity.

2.2 Fragmented Land and Insecure Tenure

The condition of the land itself presents another structural challenge in Champaran. India has experienced one of the highest global declines in average landholding size[161], with states like Bihar and Uttar Pradesh representing the densest and most fragmented agrarian landscapes. Farm sizes in Champaran, much like rest of the Bihar, are overwhelmingly small and marginal[162]. Over 91% of all agriculture in Bihar is practiced on marginal and small farms, with an average farm holding of just 0.4 hectares[163]. Cultivating on small and fragmented lands brings serious disadvantages, and it is a major factor in the agrarian distress and rural poverty in India. Farmers with low land endowments have limited access to credit, which in turn constrains timely access to inputs, extension services, technology and mechanisation. With limited land producing limited crop volumes, farmers cannot retain bargaining power and are often forced to sell at extremely low prices. Limited productivity also limits surplus

[158] Source: Sugarcane Industries Department, Bihar. The average crushing season is considered to be 130 days.

[159] Source: Ministry of Agriculture and Farmers Welfare, India. t/ha is tonnes/hectare.

[160] An ICAR report highlights that owing to limited processing capacity, more than 80% of Bihar's maize was transported to other states, while only 8–10% was processed within Bihar. Source: Singh, Kasana, and Singh (2018)

[161] As per Abraham & Pingali (2020), average farm size in India reduced by over 50% between 1971 and 2011, from 2.3 hectare to 1.1 hectare.

[162] The Ministry of Agriculture and Farmers Welfare classifies a farmer as marginal if he/she operates less than 1 hectare, while small farmers operate between 1 and 2 hectares.

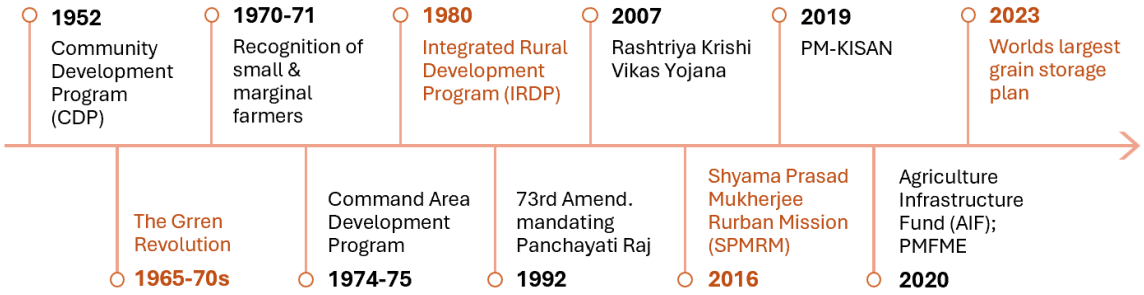
[163] Bihar Economic Survey, 2024-25

creation and eventual commercialization of farm activities. Only with commercialization can agricultural surpluses be channeled into processing, trade, logistics and other downstream activities, creating non-farm employment and enabling a gradual shift towards a more diversified regional economy.

While land size and condition limit the transformation of the rural economy, informal tenure structures further complicate the process of commercialization. In agrarian landscapes of Bihar, owner-cultivators, tenant cultivators and sharecroppers (locally known as *bataidars)* coexist. Not all farmers own the land that they cultivate on. Many operate leased land through cash-rent or crop-sharing arrangements with landowners. Such conditions can create barriers to accessing land-based welfare schemes, formal credit and institutional support, as eligibility often depends on ownership records. The result is a cultivator base that is simultaneously too fragmented to achieve scale individually and too precarious to access the support needed to overcome that fragmentation.

3. Policy Analysis: From Silos to Convergence

Over the years, multiple policies and government programs have attempted to shape agrarian development in India. However, the overwhelming reality facing many rural areas today, along with the perpetual agrarian stress, suggests that the results of these efforts have been limited.



Most prominent among them have been the input-centric approaches of the 1960s, culminating in the Green Revolution, which focused on enhancing farm productivity through high-yield varieties, chemical fertilizers, and irrigation. While yields improved across much of northern India, the program treated farms as an isolated production site, with very limited focus on post-harvest value chains and market integration. The Integrated Rural Development Programme (IRDP) of the 1980s was India's earliest attempt at holistic rural planning. IRDP pursued asset-based self-employment through agriculture and allied sectors by combining credit, asset building, and technical training to create a self-sustaining rural ecosystem. Here too, the results were limited due to inter-departmental fragmentation and insufficient market linkages. Since 2016, Shyama Prasad Mukherjee Rurban Mission (SPMRM) has focused on developing clusters of rural settlements around an identified economic driver, with agriculture as one of the many possible drivers. Field studies in multiple states indicate that limited participation, weak monitoring, and poor maintenance have restricted SPMRM's impact to creating selected infrastructure[164].

At present, a range of policies across the agricultural, infrastructure, industrial and livelihood sectors target distinct segments of India's agricultural value chain. Programs like Agriculture Infrastructure Fund (AIF) and Formalisation of Micro Food Processing Enterprises (PMFME) are shifting the focus to decentralized storage and processing infrastructure. World's Largest Grain Storage Plan, launched in 2023, seeks to converge such programs and policies in order to expand the storage and distribution network at the grassroots level[165]. Within Bihar, successive versions of *7-Nishchay* and Krishi Road Maps have evolved from a focus on agricultural productivity and connectivity to diversification of farm activity and departmental convergence, with the recent version also stressing organic farming and processing infrastructure.

[164] Illakiya and Sobana Prasad 2025; Ministry of Rural Development 2026; Ramesh 2022

[165] In 2023, the Ministry of Cooperation launched the World's Largest Grain Storage Plan in the Cooperative Sector. It creates various types of agri-infrastructure through convergence of multiple existing schemes.

Agricultural-development policies are increasingly seeking to move beyond departmental silos by converging interventions across multiple sectors. However, these efforts often remain confined to discrete stages of the agricultural value chain and do not address it as an integrated system. Consequently, agriculture continues to be approached in isolation, rather than as the foundation of wider rural development. For geographies like Champaran, rural development must be anchored in agriculture while extending beyond it. Only by connecting farm productivity and value addition to agro-industry, logistics, trade and services can such regions address agrarian distress, expand employment and achieve equitable rural transformation.

4. Proposed Solution: Marginal Farm as a Primary & Integrated Unit of Production

Field observations and Key Informant Interviews (KIIs) indicate that the effectiveness of many existing programmes and policies is constrained by the small and fragmented nature of farm holdings (Annexure 3). The commercialisation and scaling of smallholder agriculture are therefore central to a broader development strategy for Champaran. In the absence of such mechanisms that link individual farms to the wider agricultural value chain, much of rural Bihar is progressing without meaningful economic diversification, lacking productive and locally anchored growth[166].

Champaran demonstrates the need for a rural-development framework that treats fragmented holdings as foundational planning units and aggregates them functionally without altering land ownership. Rather than viewing them as isolated units of production, each marginal/small farm should be embedded within a multi-level hierarchy of infrastructure, institutions and value chains.

Based on a detailed value chain analysis (sugarcane, maize, mango and litchi) and literature review of farm practices, this paper argues that a farm can function as a primary unit of the rural economy only when it is integrated with six interdependent systems (Diagram 1). The Knowledge and Resource systems strengthen the backward linkages of agriculture, while Aggregation, Processing and Market systems provide the necessary forward linkages that add value and connect buyers. The Diversification system expands household income through complementary allied and non-farm activities, reducing dependence on crop cultivation alone.

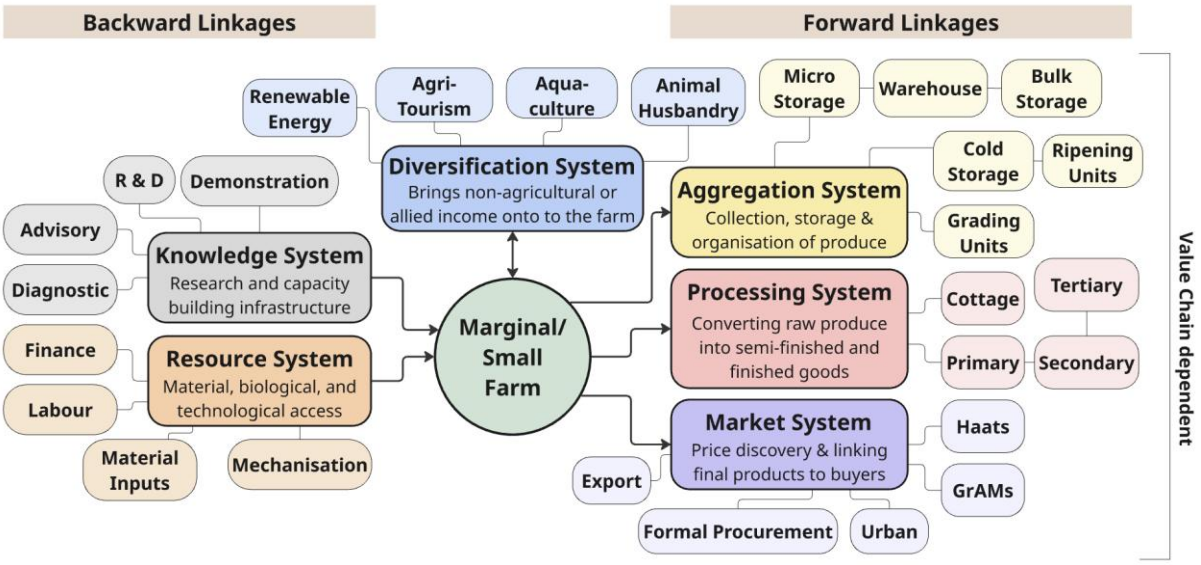


Figure 1: Thematic systems associated with a farm

Together, these six systems can strengthen the entire agricultural economy while linking the primary sector with secondary and tertiary economic activities. It is also worth noting that the listed functions within each system are

[166] In his field visits across Begusarai (Bihar), Randolph (2025) observes that poorly capitalized non-farm enterprises are rapidly emerging in rural areas, creating a new rural economy that is fragile and makeshift.

indicative and not exhaustive. Based on specific crops and their value chains, there is a possibility of an overlap, addition, or omission of certain functions.

4.1 Distribution of thematic systems

Logically, all functions within the six systems cannot converge at the level of an individual farm. Principles of spatial economics suggest that the effectiveness of any infrastructure depends, among other factors, on the alignment of scale and location with threshold and range. Threshold refers to the minimum population or demand required to sustain a facility, while range refers to the maximum distance from which users are willing or able to access it[167]. For example, functions tied to farm-level decisions such as sowing and machinery access require frequent and low-threshold delivery. Aggregation, by contrast, requires sufficient volume of produce to justify the infrastructure. Such variations in threshold and range necessitate a spatial hierarchy of infrastructure rather than a single scale of intervention.

The scale and hierarchy of infrastructure also depend on capital requirements and the organisational logic of the value chain itself. Harvested sugarcane needs to be processed as soon as possible, while sugar mills themselves are highly capital intensive[168]. Hence, you can't have them at a local scale, so the procurement network needs to be efficient. The harvesting window for litchi is very short (15-20 days) as the fruit is highly perishable. Thus, it either needs to reach consumers immediately, get into cold storage, or get processed into pulp or juice for longer shelf life. Mangoes and bananas, by contrast, are harvested early and undergo controlled ripening before reaching consumers. Thus, while supply–demand logic may provide a straightforward guide for some functions within the Knowledge and Market systems, Processing and Aggregation require a thorough understanding of value-chain dynamics, while Resource and Diversification systems depend on institutional frameworks.

5. Solution Architecture: A Nested Agrarian Network

Since agricultural value chains are complex and crop-specific, infrastructure must be differentiated and adaptable. The hierarchy should respond to variations in production, processing, storage, and market requirements while maintaining an integrated and functional network.

5.1 Hierarchy of Nodes

As discussed before, the absence of essential infrastructure at the farm gate is particularly constraining for small and marginal farmers. It limits their ability to reduce costs, manage climatic and market risks, delay distress sales, and capture higher value. While their individual scale cannot justify such infrastructure at the level of a singlholding, a collective of approximately 10-20 farmers can certainly meet the threshold requirements. This extremely local pooling of resources, shapes a Farm Node, the base unit of this hierarchical network.

Immediate functions that exceed the Farm Node's threshold requirements form the Village Node. These functions may draw a wider catchment than 10-20 farmers but remain viable to a single village's aggregate output. Beyond this, every functional hierarchy within the six systems can be organised in reference to the existing governance levels, creating a hierarchical network as seen in Figure 2.

[167] Christaller (1966) framed the concept of "threshold" and "range" in his Central Place Theory.

[168] Harvested sugarcane undergoes 'sucrose inversion', reducing the amount and quality of sugar that can be recovered during milling.

Specific functions can be assigned to a node based on parameters like catchment threshold, capital intensity and institutional capacity, while the value chain guides the technical specificity. Where needed, a cold storage can replace a simple warehouse, provided the volume and handling requirements are justified. The underlying principle that infrastructure should be located at an appropriate scale and threshold remains unchanged. The idea is to imagine a decentralised network that connects remote rural landscapes to institutional buyers, processors, and consumers, while diversifying local economies and allowing the benefits to trickle along the entire value chain.

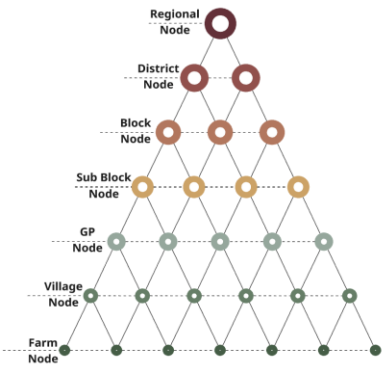


Figure 2: Seven Node Hierarchy

5.2 Spatial Distribution of Infrastructure

The node distribution logic draws first on existing national and state programs around agriculture, agro-industries, logistics, and marketing (Annexure 4). However, as noted earlier, these programs remain fragmented and siloed within departmental limits, and clear norms for several functions do not exist. Where this gap exists, field observations from Champaran, value chain analysis, and comparative literature are used instead to determine the appropriate scale. The collective network of infrastructure can be imagined as seen in Figure 3. Having said that, the nodes and the infrastructure within them are contingent. What the model prescribes is that each function be fulfilled at whichever scale local conditions make viable, not that it occupies a predetermined position. If the conditions demand, successive nodes can also merge or replace each other.

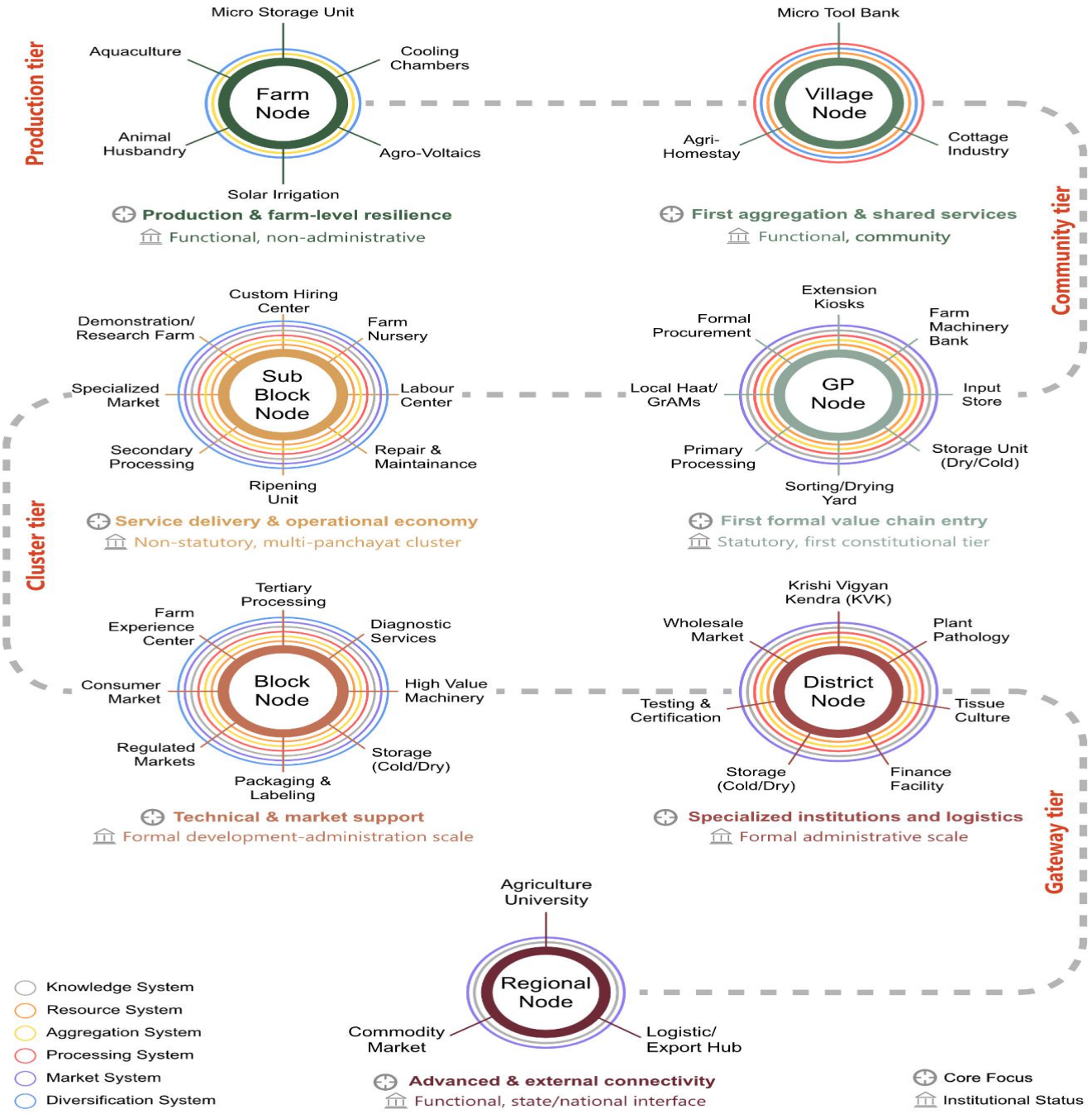


Figure 3: Architecture of the Nested Agrarian Network

6. Institutional framework

Land consolidation efforts have yielded limited results in Bihar. On the other hand, fragmented holdings are unable to achieve economies of scale individually. In such a situation, cooperation among smallholders offers a practical pathway to collective scale. Collective institutions can pool economic functions such as aggregation, processing, credit, and market access, without altering land ownership. If these institutions are designed around actual cultivation and participation rather than land ownership alone, they can also include *bataidars* and tenant farmers, who lack formal land titles.

Rural collectives, especially through cooperative organisations, have had a long history in India. The dairy cooperative systems, such as Gujarat Cooperative Milk Marketing Federation Ltd (GCMMF), popularly known as Amul, demonstrate how village-level producer institutions can be linked to higher markets along the value chain. More recently, the National Cooperation Policy 2025 has sought to promote and strengthen the cooperative sector

by facilitating farmer- and rural-based collectives as instruments of grassroots development and participatory governance. Bihar too has a diverse landscape of collective institutions in rural areas. Each of them serves differentiated functions, operates at varying spatial scales, and involves distinct demographic segments.

Self Help Groups (SHGs) - JEEViKA
- Most extensive grassroots network in Bihar.
- Women's Self-Help Groups (SHGs) at the hamlet level form federations called Village Organizations (VOs), further aggregating into Cluster Level Federations (CLFs) at the sub-block or block level.
- Initial focused on micro-finance and social inclusion, role has expanded into allied livelihoods.

Primary Agricultural Credit Societies (PACS)
- Panchayat level cooperatives that provide credit and are governed by an elected body of local producers.
- With APMC abolished in Bihar, PACS act as a primary agency for grain procurement at Minimum Support Price (MSP).
- Being reformed to serving as micro-aggregation hubs with state-supported infrastructure for storage and primary sorting.

Farmer Producer Organizations (FPOs)
- Business-oriented producer collectives, registered as companies.
- Members share processing and market access.
- Cooperative in function as they are a federated ownership by member-producers.
- Operate across various scales, from Gram Panchayat to District federations.

Primary Vegetable Cooperative Societies (PVCS)
- Established under the Bihar State Vegetable Processing and Marketing Cooperative Federation (VEGFED).
- Aggregates horticultural produce, operate localized cold rooms, and bypass market intermediaries.
- Limited presence in Bihar and lacks consistent integration with vegetable value chains.

While farmer collectives can be relevant for forward linkages (aggregation, processing, market access) and some aspects of backward linkages (input procurement, mechanisation, etc.), farm value chains also require external knowledge, governance, and input. Agriculture research and extension remain a publicly supported function in India, with Krishi Vikas Kendras (KVKs) serving as district-level institutions embedded under the Indian Council of Agricultural Research (ICAR). Civil organisations working in rural areas also build farmer capacities and support them in diversifying their production and livelihood strategies. Small-scale entrepreneurs and private organisations invest in agri-processing, logistics and value-chain management, while emerging agritech start-ups increasingly connect farmers to digital advisories, input markets, finance, buyers and supply-chain services. Central and state governments also run extensive programs within rural development ecosystems, where direct and indirect support influence farm practices and agricultural value chains.

It is therefore essential to connect the diverse actors that provide knowledge, technology, capital, and market coordination, while keeping collective institutions and local self-governments as the core institutional structures.

Institutional roles across thematic sectors				
	Collective Institutions	**Public Institutions**	**Private Sector**	**Civil Soceity**
	SHGs, PACS, FPO, PVCS, Cooperatives	Union, State, District & Local Self Governments	Suppliers, Entrepreneurs, Industries, Transport, Start-ups	NGOs, Associations, Advocacy Groups
Knowledge	Channels extension & research demands	Agriculture University, KVKs, Demonstration farms, Satellite Stations	Market-linked, technology driven	Dissemination (Community capacity & field literacy)
Resource	Managing resources, PACS linked input & credit	SMAM, AIF Subsidiy	Supplying machinery, seeds & services	Promoting ecological practices and credit access
Aggregation	SHGs, PACS Infrastructure	AIF, Largest Grain Storage Plan	Commercial logistics and bulk freight	Facilitating tenure blind intake
Processing	FPO linked federations, mills	Enforcing quality standards and processing grants.	Operating industrial processing and capital intensive plants.	Training community members in value addition
Market	Enabling formal procurement	Regulating market yards and e-NAM trade.	Bulk off-take and commercial buying.	Fair trade and collective bargaining
Diversification	Operating allied livestock and homestead enterprises	Funding livelihood schemes and renewable energy	Supporting Tourism & Renewing Energy	Mobilizing group for non-farm income

Primary actor/lead Facilitator/advisor Enabler/funder Regulator

7. Expected Impact

The nodes can extend the agro-industrial value chain by more closely organising primary, secondary and tertiary economic activities, potentially enabling more coordinated development. While rural development frameworks exist across the country, they often remain fragmented and may be difficult for small farmers to access. The nested network is intended to bridge gaps between farms, industries and markets by providing a pathway for bringing infrastructure and governance closer to the smallest units of the rural economy. Through a spatially hierarchical structure, the model is expected to support a transition from subsistence farming towards collective commercialisation, with the potential to improve farm-gate productivity and enable greater value retention.

7.1 Farm incomes

Shortage of infrastructure at the farm level is a key factor limiting productivity and value realisation. By decoupling access to critical inputs and infrastructure from individual ownership, farm nodes can potentially improve access for small and marginal farmers and support productivity gains. By enabling greater decentralisation of the agricultural value chain, the network may also strengthen farmer collectives' ability to make decisions regarding value addition and price realisation.

The node hierarchy also extends the proposed organisation of the rural economy beyond a single village or Gram Panchayat, creating larger and more specialised nodes capable of accommodating capital-intensive infrastructure at the regional scale. In doing so, it can potentially enable marginal farmers and their collectives to participate in and benefit from wider regional economic activity. Collectively, the network is expected to strengthen access to agricultural services, potentially supporting greater professionalisation of farming and strengthening the foundations of the primary sector.

7.2 Rural Development

Beyond direct agricultural outcomes, the nested hierarchy has the potential to contribute to broader rural revitalisation by supporting greater decentralisation of economic activity and strengthening opportunities for marginalised groups to participate in local value chains. Collective ownership of agrarian assets may enable benefits from value addition to be shared more directly with primary producers, depending on the governance and benefit-

sharing arrangements adopted. The multi-tiered system may also generate demand for non-farm employment within rural areas, including machinery operators, logistics specialists, managers, technicians and mechanics. Such employment opportunities could potentially reduce some of the economic pressures contributing to rural–urban migration. Similarly, integrating livelihood diversification opportunities, including agro-tourism, at appropriate nodes may provide additional income opportunities for rural households and strengthen rural–urban economic linkages. Taken together, the seven-node framework has the potential to leverage Champaran's high population density by building greater local economic depth across production, processing, services and markets.

7.3 Scalability

Although rural India is marked by considerable regional diversity, Champaran exemplifies the agrarian and rural crisis across the country. Conditions such as high land fragmentation, weak value chain infrastructure, and struggling farm yields also impact regions such as Uttar Pradesh, Madhya Pradesh, West Bengal, Jharkhand, Odisha, etc. Furthermore, the model builds on the existing national missions and programmes such as the National Rural Livelihoods Mission (NRLM), Agriculture Infrastructure Fund (AIF), e-NAM, and National Cooperation Policy 2025. It provides an integrated spatial blueprint for the convergence of multiple schemes at the farm gate.

With rural India under persistent demographic and growth pressures, the country needs to develop an integrated rural development strategy that not just guides economic and spatial growth, but also empowers the most marginalized. The nested model is an attempt to influence the pattern and extent of urbanisation by strengthening economic activity within rural areas. By bringing questions of production and distribution within the same framework, the nested hierarchy seeks to locate a greater share of development activity closer to where rural populations live. By strengthening and better organising rural productive systems, the nodes may enable villages to develop and urbanise from 'within', rather than becoming increasingly dependent on or subsumed within surrounding urban growth.

8. Limitations & Way ahead

Agriculture and rural development are complex, multidimensional issues. Within the six-month study period, it was not possible to examine all the agricultural value chains that the framework seeks to address. The findings that emerge from value chain analysis of sugarcane, maize, litchi and mango in the Champaran region (East & West) are thus supported by desk-based analysis. Furthermore, the functions listed within each thematic system are non-exhaustive and subject to a deeper and wider analysis of the agrarian economy.

The model recommends that collective institutions, such as cooperatives, PACS, SHGs, etc., are the functional starting points. However, Champaran mimics the national situation where a substantial share of existing collectives are dormant or barely active. The nodes are indicative, considering the limitations of this research. It would be worthwhile to define them more accurately in terms of governance frameworks and population metrics, using primary data analysis and in-depth research. Since the networked model integrates fragmented policies and programme efforts, these too need a wider review. This framework describes an architecture to combine them, not a complete model that integrates all aspects of rural governance. Such a task would require inputs from multiple professionals and development experts.

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Annexure

Annexure 1: Champaran's Agricultural Production (2023–24)				
Crop Category	**Crop**	**West Champaran's contribution to Bihar (%)**	**East Champaran's contribution to Bihar (%)**	**Bihar's contribution to India (%)**
Cereals & Pulses	Rice	3.1 %	3.9 %	5.73 % (7th)
	Wheat	3.2 %	4.9 %	6.33 % (6th)
	Maize	0.2 %	2.6 %	**15.16 % (1st)**
	Pulses	2.3 %	3.6 %	6.35 % (4th)
Commercial Crop	Sugarcane	**71.8** %	9.7 %	2.67 % (6th)
Fruits	Guava	5.7 %	4.4 %	4.84 % (6th)
	Litchi	5.3 %	**12.1** %	**23.46 % (1st)**
	Mango	5.0 %	7.4 %	7.05 % (3rd)
Vegetables	Brinjal	4.0 %	3.8 %	8.67 % (5th)
	Cauliflower	4.7 %	4.9 %	11.42 % (2nd)
	Onion	5.1 %	2.1 %	6 % (6th)
	Potato	3.7 %	4.0 %	14 % (3rd)

Note: *Figures in parenthesis denote rank. [Source: Ministry of Agriculture and Farmers Welfare, GoI]*

Annexure 2: Per Capita GDDP vs NNI in 2022-23			
	East Champaran	**West Champaran**	**National average**
Per Capita Gross District Domestic Product in INR	22,698	25,799	98,374

Note: *Normal figures are in INR. National average denotes India's per capita Net National Income at constant (2011-12) prices for 2022-23. [Source: Directorate of Economics and Statistics, GoB; National Statistical Office (NSO)]*

Annexure 3: A summary of field interviews			
No.	**Stakeholder Organization**	**Key Findings**	**Constraint or opportunity identified**
1	Farmer, Narkatiaganj, WC	The small holding barely sustains the household and supports mainly wheat, rice, and limited vegetables for subsistence. Despite recognising farming's weak economic viability, he left a job and returned to cultivation because of his attachment to the land. Farming is therefore sustained by cultural and emotional value.	The viability of smallholder farming needs to be improved. At the same time, rural development strategies should recognise farming as a cultural and social asset, while enabling education, professional mobility, and diversified household livelihoods.
2	HPCL Sugar Mill, Lauriya, WC	The mill crushes 3,500 tonnes of sugarcane per day, with a 60 Kilo litre distillery and 20 MW co-generation plant. It draws cane from 160 villages through a structured, quality-based procurement system. Ideally cane crushed within 24 hours. Output includes sugar, ethanol, power and fertilizers.	Processing lasts about 5 months, leaving assets idle for 7 months. The mill remains loss-making and 25% of cane is lost to jaggery markets. One of the smallest mills in WC, has capacity to scale but supply is limited.

3	Directorate of Horticulture, Department of Agriculture, WC	Horticulture is prioritised under 7 Nischay and Krishi Vision 2030. WC lacks quality planting material, cold-chain capacity and coordinated value-chain planning. Turmeric, mango, lemon and other fruits offer potential, supported by local horticultural skills and suitable agro-climatic conditions.	With only 5 cold storages in WC and existing assets operating below capacity, weak post-harvest infrastructure and market linkages constrain horticultural growth. The region needs crop-specific processing, nurseries, quality planting material & improved infrastructure utilisation.
4	District Industrial Centre (DIC), Bettiah, WC	WC has a broad base of agro-processing, textiles, crafts, and small manufacturing, supported by PMFME, ODOP and other incentives. Opportunities include Marcha Chura, maize snacks, spices, khadi and packaging.	Activities remain fragmented and small-scale, with limited processing, branding, and value-chain integration. A coordinated strategy could build stronger regional production ecosystems.
5	Krishi Vigyan Kendra, Madhopur, WC	KVK supports productivity, diversification, demonstrations, scheme delivery, and advisory services. It reaches 25,000–30,000 farmers annually. Sugarcane covers around 60% of cultivated area, while maize, banana, and vegetables indicate opportunities for diversification and value addition.	Fragmented landholdings limit mechanisation and farm-level investment. Maize is largely sold outside the district for poultry or processing, while local storage and cold-chain infrastructure is inadequate. Aggregation, crop-specific processing and stronger extension could retain value locally.
6	Krishi Vigyan Kendra, Piprakothi, EC	EC has significant mango and litchi production, alongside paddy, wheat and maize. Traders capture much of the fruit value because farms are pre-purchased and the district lacks processing/storage facilities.	Floods, drought and labour shortages intensify production risk. Existing cold stores largely serve potato while warehouses and fruit-specific storage are inadequate. Processing, cold-chain expansion, CHCs and improved marketing could raise farmer returns.
7	Bihar Agriculture Management & Extension Training Institute (BAMETI), Patna	BAMETI provides farmer and official training along with technology transfer through KVKs, universities and NGOs. Training infrastructure can support producer skills, enterprise development and crop diversification.	Fragmented holdings, weak FPOs, grain-focused PACS, poor storage, unreliable seed systems and limited market knowledge produce value leakage. Untargeted policies lack monitoring. Market-led extension, aggregation, branding and buyer linkages can shift farmers towards context-specific, higher-value commercial crops.
8	Indian Council of Agriculture Research (ICAR) Eastern Region Complex, Patna	ICAR's crop-diversification programme in Champaran seeks to reduce dependence on water-intensive rice by promoting diverse crops. Despite high maize productivity and sugarcane potential, smallholders remain subsistence-oriented because production is weakly connected to procurement and processing.	Fragmented cultivation constrains investment and market participation. Timely inputs, assured purchase, irrigation and processing-linked production could improve diversification, bargaining power and farm incomes.

Annexure 4: Policy Alignment for Thematic Clusters		
Thematic Cluster	**Schemes**	**Level**
Knowledge	Sub-Mission on Agricultural Extension (SMAE); Krishi Vigyan Kendra (KVK); Sub-Mission on Seeds and Planting Material (SMSP)	India
	BAMETI Extension Initiatives; Jal-Jeevan-Hariyali Mission	Bihar
Resource	Sub-Mission on Agricultural Mechanisation (SMAM)	India
	Krishi Input Anudan Yojana; Bihar Agri-Investment Promotion Policy (BAIPP); Sanrikshit Kheti Yojana; Bihar Rajya Beej Nigam; Bihar Micro-Irrigation Scheme	Bihar
Aggregation	Agriculture Infrastructure Fund (AIF); Agricultural Marketing Infrastructure (AMI);	India
	Bihar Logistics Policy 2023; Primary Agricultural Credit Society (PACS) network	Bihar
Processing	PM Kisan SAMPADA Yojana (PMKSY); PM Formalisation of Micro Food Processing Enterprises (PMFME); Production Linked Incentive Scheme for Food Processing Industry (PLISFPI)	India
	Mukhyamantri Udyami Yojana; Bihar Biofuel Production Promotion Policy 2023; Bihar Industrial Investment Promotion Policy (BIIPP)	Bihar
Market	e-NAM (National Agriculture Market); Gramin Agricultural Markets (GrAM);	India
	Bihar Agri-Investment Promotion Policy (BAIPP); Bihar Logistics Policy 2023; State Procurement Framework	Bihar
Diversification	Rashtriya Gokul Mission; National Livestock Mission (NLM); Pradhan Mantri Matsya Sampada Yojana (PMMSY); PM-KUSUM	India
	Samagra Gavya Vikas Yojana; Madhu Kranti Yojna; Mukhyamantri Homestay Protsahan Yojana; Jal-Jeevan-Hariyali Abhiyan	Bihar

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Editorial Notes

Reviewers encouraged a more practical and implementable solution. The paper could explain more clearly how collective infrastructure would respond to the needs of the agrarian economy and how the proposed model could operate on the ground. Further work should distinguish the roles of relevant stakeholders, address implementation constraints and use evidence to demonstrate how the proposed approach could improve coordination and outcomes.

Planning the Rural to Urban Transition

A Framework for Identifying Peri-Urban Settlements in Small Cities

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Embark India Development Fellowship 2026, GRAAM

Executive Summary

India's contemporary urban transition extends far beyond official municipal boundaries. Yet the country's Census-based 'urban' definition is able to capture only a portion of this process, thereby underestimating the true extent of urbanization in the country. The Census recorded the urban share of population at 31% in 2011. Current estimates by the European Union's satellite-based Degree of Urbanisation (DEGURBA) framework reveals that approximately 40% (589 million people) of India's population lived in cities and 44% (641 million) in towns in 2025 (World Urbanization Prospects 2025). A large part of this gap stems from the rapid, often invisible growth of Census Towns (CTs) and other settlements located beyond municipal boundaries that have acquired urban characteristics without corresponding municipal status.

This creates a critical governance gap. Settlements that are neither notified as statutory towns nor rural based on census definition, termed as 'peri-urban settlements' in this study including CTs, by default are governed as villages. Gram Panchayats govern them with limited fiscal and planning capacities with access to rural schemes (e.g. PMAY-G, Jal Jeevan Mission) unsuited for dense, urban-like requirements, and no eligibility for urban programmes (PMAY-U, AMRUT, Smart Cities). The 16th Finance Commission's Urbanisation Premium grant seeks to address this by providing states a financing pathway conditional on establishing a rule-based Rural to Urban Transition Policy. However, Odisha is the only state to have formulated and notified a Rural-Urban Transition Policy (2023), which furnishes an indicator-based template for identifying villages or Census Towns for municipalization.

Drawing from global urbanization measurement approaches as well as from the Odisha exercise, this study develops an indicator framework spanning demographic (population, density), spatial (built-up change, proximity to the nearest Urban Local Body (ULB), land use, periphery-core growth ratio), economic (proximity to industrial/transit corridors, presence of economic clusters), and employment (non-agricultural workforce share) dimensions to identify peri-urban settlements for municipal governance. A five-step methodology comprising anchor ULB selection, peri-urban zone delineation, peri-urban settlement screening, governance-status validation, and shortlisting, is applied to Panipat, Haryana, as a case study. The Panipat analysis shows that the built-up area in the peri-urban buffer nearly doubled from 9.9% in 2000 to 17.5% in 2020. During 2010–2020, growth in the peripheral areas was 2.5–3.2 times faster than in the municipal core, compared with just 1.1–1.7 times faster in the previous decade. Based on Census 2011, 60 large villages were identified within the peri-urban buffer which met a minimum population threshold of 3000 and population density of 400 persons per sq.km. Out of them, at least 4 villages are projected to cross an urban population threshold of 5000 people and also have more than 60% of their population engaged in the non-farm economy. Yet none of these villages have been formally notified as urban, illustrating how economic and spatial growth has surpassed administrative recognition.

Accordingly, the study recommends institutionalizing a comprehensive indicator framework by prescribing core indicators while allowing states threshold flexibility; followed by a timely updation of the databases for the review cycle. Further, anchoring the methodology to a shared geospatial and administrative database is recommended alongside building GIS and technical capacity at district and ULB levels. Subsequently, the framework is suggested to be piloted across different urbanization typologies before scaling. Additionally, states governments can supplement the Urbanisation Premium by proposing a dedicated, state-funded Transition Grant, channeled through the existing State Finance Commission (SFC) / Finance Commission (FC) devolution, paired with an incremental property tax model so that peri-urban settlements are not burdened with full urban taxation before infrastructure catches up.

1. India's Urban Transition

How 'urban' is defined and classified has a substantial bearing on how the scale of contemporary urbanization in India is understood and measured. The World Urbanization Prospects 2025, adopting the DEGURBA (Degree of Urbanisation) framework, establishes that using the conventional Census-based urban definition, India's urban population increased from 292.5 million in 2000 to 522.4 million in 2025, and is projected to reach 723.2 million by 2050. Over the same period, the urban share of the population rose from 27.6% to 35.7% and is expected to reach 43.1% by 2050, an increase of nearly 200 million urban residents between 2025 and 2050.

India is among the only 28 countries globally that combine administrative, demographic, and economic criteria to define 'urban', while most other countries use a single criterion such as population size or density (United Nations, 2019).

The Census of India defines two categories of urban settlement:

a) **Census Towns (CTs)** are identified purely on uniform demographic and economic grounds: a population of at least 5,000, a density of at least 400 persons per sq. km, and at least 75% of the male main working population engaged in non-agricultural activity. CT status does not entail municipal recognition

b) **Statutory Towns (STs)** are declared through legislative notification by state governments under municipal law, as a Municipal Corporation, Municipality, Nagar/Town Panchayat, or Notified Area Committee, without uniform thresholds for population, employment, or other economic indicators classifying them as urban.

In corollary, settlements not meeting either definition are classified as rural.

Using more flexible census thresholds produces a markedly different picture of India's urbanization. The Indian Institute for Human Settlements (Jana et al., 2016; Dubey et al., 2025) estimates that, based on population alone, 47% of India's population would have been classified as urban in 2011, compared with the official statistics of 31%; using density alone raises the estimate to 73%. Definitional sensitivity is also evident in how alternative measurement approaches yield different estimates of India's 2011 urbanization level. The Geopolis approach (Denis and Marius-Gnanou, 2009) places it at 37%, while the World Bank's Agglomeration Index (2010) estimates it to be 55%.

1.1. Peri-urbanization Beyond Municipal Boundaries

The DEGURBA framework provides a more granular picture of India's urban settlement structure. Under this framework, approximately 40% (589 million people) of India's population lived in cities[169] and 44% (641 million) in towns[170] in 2025. Together, these categories accounted for approximately 1.23 billion people. By 2050, the combined population of cities and towns is projected to reach approximately 1.4 billion, comprising around 735 million people in cities and 710 million in towns (World Urbanization Prospects 2025). Additionally, a geospatial analysis by the National Institute of Urban Affairs, NIUA, (Kundu et al., 2026) of India's 20 largest metropolitan regions revealed that peripheral areas within a 50-km buffer of the metropolitan core or primary city were expanding significantly faster than the core. The study confirmed that contemporary urbanization is increasingly

[169] These are areas with a high density (at least 1,500 inhabitants per km²) and a large population (at least 50,000 inhabitants)

[170] These are urban clusters outside of cities with a moderate density (at least 300 inhabitants per km²) and a population of at least 5,000 inhabitants. This category includes dense towns, semi-dense towns and suburban or peri-urban areas

driven by outward expansion and dispersed growth beyond traditional metropolitan centres, with medium-sized cities expanding more rapidly and, in many cases, outpacing the largest metros.

This form of urbanization which challenges the conventional metropolitan-centric growth narrative is not new. Earlier research using Census 2011 data had already identified it through the reclassification of villages into CTs, growth independent of large cities, and rural areas absorbing non-farm activities.

1.2. The Growth of Census Towns

The 2001–2011 intercensal decade marked a defining phase in India's urban transition. This period recorded a substantial increase in both the number and population of CTs, alongside continued growth of metropolitan cities, indicating that a significant share of the urban population was living beyond formal municipal boundaries (Denis et al.,2012; Pradhan, 2013). The number of CTs increased from 1362 in 2001 to 3892 in 2011. This reclassification alone accounted for roughly a third of India's urban growth in that decade, exceeding that by migration itself (Denis et al.,2012). Such growth is closely linked to changes in rural livelihoods, with the shift into non-farm work being often unstable and fluctuating across census periods, even as CTs tend to have relatively better household amenities than comparable villages (Roy and Pradhan, 2018). Scholars have described this phenomenon as 'in situ urbanisation' (ibid.). Denis, Mukhopadhyay and Zérah (2012, 2021) advance the related but wider concept of 'subaltern urbanisation' described as the emergence of vibrant smaller settlements, outside the shadow of the metropolis, collectively producing a dispersed form of urban expansion. Their perspective argues that a substantial part of India's urbanization is relatively autonomous: it is shaped by market processes, local economic and historical forces, rather than being planned by the state such as through industrial townships. Such urbanization does not merely occur on the periphery of large cities; it also unfolds independently across smaller settlements.

CTs have also reshaped the edges of India's largest urban agglomerations, with new CTs accounting for around 70% of the peripheral growth recorded in million-plus urban agglomerations (Pradhan, 2013; Roy and Pradhan, 2018). This dual process of CTs driving both metropolitan-edge expansion and dispersed, standalone growth, has pushed researchers, practitioners, policymakers towards acknowledging a more diverse and layered peri-urban system prevalent in the country (Denis et al., 2012).

Together, these strands point to the same conclusion: India's urban transition is dispersed and often invisible in official statistics, unfolding simultaneously at the metropolitan edge and far from it.

2. The Challenge

Recent scholarship on urbanization continues to emphasize a major urban data gap: India's latest Census, the country's most comprehensive and reliable source of demographic information, is now too old to capture the scale and pace of urban expansion. The absence of a recent Census and inconsistencies in updating the list of notified and newly established statutory towns hinder the tracking of urbanization patterns and compare trends across states and regions (Janaagraha, 2025).

2.1. The Binary Rural-Urban Classification: Challenges of the Peri-urban Identification

India's contemporary urban transition is unfolding through multiple, overlapping pathways that the official Census definition is unable to fully capture. First, a large number of settlements that are classified as CTs, meeting the demographic and economic thresholds for 'urban', continue to be governed as villages by Gram Panchayats, without municipal status or access to urban schemes. Second, beyond these CTs, there are several villages that are functionally urban in terms of population density, built-up form, non-farm employment, and economic linkages, but remain excluded from the Census urban category and are likewise administered under rural local governments. This is because the Census identifies CTs ex ante on the basis of data from the preceding census. For instance, Roy and Pradhan (2018), analyzing data from two successive Censuses, found that in 2001, 1545 villages, housing a population of 16.8 million, were not designated as CTs despite satisfying all the urban criteria because the classification was based on data from the 1991 Census. Similarly, in 2011, 1380 villages with a combined population

of 14.2 million met the relevant criteria but remained outside the CT classification. Conversely, among the 3892 existing CTs in 2011, 843 villages did not meet the required threshold when assessed using the actual data. Their analysis emphasized the sensitivity of the official count of urban India based on specific thresholds and highlighted the temporal lag embedded in the urban classification process. Third, the urbanization that is occurring through diverse processes such as reclassification of villages, expansion of city boundaries, growth along industrial and transport corridors, real estate developer-led expansion, and organic peri-urban densification fall outside the census definition of urban.

The current research refers to these settlements as peri-urban and proposes a framework to identify and define them, ensuring that they are more accurately recognized in India's urbanization narrative, rather than treating them merely as governance anomalies too complex for existing local governance frameworks to accommodate.

2.2. The Peri-urban Governance Gap in India

India lacks a transition framework to identify peri-urban settlements that function as towns but remain governed as villages. Although the 74th Constitutional Amendment Act lays down the broad framework under which state governments may notify[171] Urban Local Governments (ULGs), the operational criteria for designating statutory towns remain largely at the discretion of the states. In practice, states rely on different combinations of four key parameters, namely, population size, population density, the nature and share of non-agricultural activity, and revenue-generation capacity, to decide which settlements qualify as statutory towns (Janaagraha, 2025). Even when states use the same criteria, the thresholds they apply vary widely[172]. This matters because the process determines whether rapidly densifying, functionally urban villages receive infrastructure and services commensurate with their actual needs.

2.2.1. Overlapping Administrative Jurisdictions and Scheme Implementation

On paper, the 73rd Constitutional Amendment Act authorizes Rural Local Governments (RLGs) such as Gram Panchayats for developing and maintaining local roads, drainage networks, street lighting, and basic water and sanitation and to issue basic occupancy certificates. In practice, especially around city peripheries, much of this work is executed by state line departments and parastatals. For instance, Public Works Departments (PWD) or Rural Works Departments or industrial development boards plan and maintain village roads; state water boards or Public Health Engineering Department (PHED) implement water supply and sewerage schemes, and development authorities or housing boards plan large plotted colonies, industrial areas, or group housing, often with their own internal roads and services, creating fragmented service delivery rather than integrated city systems. As these villages become functionally urban, they still access rural schemes like PMAY-G and Jal Jeevan Mission, built around low-density, plot-based housing but struggle with land prices, vertical construction, and the need for city-scale, networked infrastructure that such schemes do not fully support. Simultaneously, the RLBs are often ineligible or poorly positioned to access urban programmes such as PMAY-U, AMRUT, and Smart Cities, which assume the presence of municipal bodies capable of planning, enforcing building regulations, and managing capital projects. As a result, while legal responsibility may rest with the gram panchayat, operational control and financial resources often remain with state departments. This creates a fragmented institutional landscape in which no single, accountable ULG or RLG is responsible for planning, infrastructure provision, or long-term operation and maintenance.

2.3. Fiscal Challenges

[171]The formal notification process begins with a request from an elected representative, based on local demand. The Urban Development Department then asks the district administration to assess whether the area meets the required criteria. This is followed by a public scrutiny and objection period, after which the district administration prepares and submits a formal proposal to the state government. Once the proposal receives the necessary approvals, the government issues a final notification for boundary delineation, and officially designates the selected areas as ULG (Janagraaha, 2025; Dubey et al., 2025).

[172] For example, minimum population threshold for urban notification to convert a gram panchayat into a town panchayat range from over 12,000 in Bihar to over 15,000 in Madhya Pradesh, with some states such as Himachal Pradesh, Karnataka, Tamil Nadu additionally specifying minimum local revenue thresholds, and others weighing 'economic significance' as a discretionary criterion alongside population size (Dubey et al., 2025). Furthermore, only 17 of 28 states specify these criteria in their municipal laws, while most lack clear procedures for converting rural settlements into statutory towns (Janaagraha, 2025).

Urban infrastructure financing in India remains skewed toward already-notified ULGs. Both the 15th and 16th Finance Commissions (FCs) allocate local body grants using formulas based on a settlement's existing status i.e. whether it's a RLB or ULB. ULB grants are routed only to statutorily notified municipal corporations, municipalities, and Nagar / Town Panchayats listed in the state's municipal laws. The 15th FC split ULB grants between 'Million-Plus' agglomerations and other notified cities and towns based primarily on 2011 Census population. However, by anchoring the entire local body grant allocation to 2011 Census baseline and capping the urban share at roughly one-third of the RLG–ULG pool, it left many post-2011 urban and peri-urban settlements effectively outside the formula. This implies that peri-urban settlements which remain classified as villages can only access the rural pool, even when their service demands resemble that of a town, several times their formal budget.

Therefore, a managed transition to municipal governance, supported by appropriate fiscal instruments and access to urban development schemes, is critical to establish clear institutional accountability and ensure that planning, financing, and service delivery keep pace with the transition of peri-urban settlements.

3. Financing the Peri-Urban Transition in India: The Urbanisation Premium

The 16th Finance Commission's response to this classification gap comes in the form of the Urbanisation Premium component that creates a formal pathway for peri-urban settlements to move from the rural to the urban administrative and fiscal system, while encouraging States to adopt a more predictable and planned approach to urbanization.

URBANISATION PREMIUM	
QUANTUM OF GRANT	**₹ 10,000 CRORES** for a period of 5 years (2026 - 31)
GRANT BENEFICIARIES	Existing **Urban Local Bodies (ULBs)** with **population ≥ 1 lakh**, to which **Peri-urban villages** are to be merged
GRANT CALCULATION	**₹ 2,000 per capita** based on the **2011 Census population**
PRECONDITION	**Rural-Urban Transition Policy**
NATURE OF GRANT	**One-time** incentive
The grant is to be used for augmenting administrative capacities, infrastructures, and the extension of basic services to these newly incorporated areas	

Access to the grant is conditional on the State first establishing a Rural to Urban Transition Policy comprising a rule-based, time-bound framework identifying qualifying settlements at least once every three years, assessing their financial and infrastructure needs, and planning the phased transfer of staff, assets, records, services, taxes and land-use regulations.

Rural Urban Transition Policy in India

Odisha is the only state to have formulated and notified a Rural-Urban Transition Policy (2023), which furnishes an indicator-based template for identifying villages or Census Towns ready to transition to statutory town status. Rather than relying on a single population or density cutoff, it evaluates qualifying settlements across nine parameter groups: population size and density; contiguity to an existing Municipality; presence of social infrastructure (schools, hospitals, banks, police stations); revenue-generating capacity; land structure (government land availability, agricultural land share, land value trends); employment structure (non-agricultural workforce share and its growth); economic importance (industries, markets, tourist spots); mobility (road connectivity and transport corridor proximity); and physical infrastructure coverage (drainage, water, electricity). These are used to rank and prioritize settlements for selection rather than as strict eligibility criteria, with the framework reviewed every five years.

The Urbanisation Premium is best understood as a transition-support mechanism, while the underlying rural–urban allocation framework remains unchanged. Moreover, relying on Census 2011 population data underestimates current population levels and the associated infrastructure needs in peri-urban settlements. Ultimately, its operational success will depend on whether States put in place a well-funded transition process, rather than treating the Premium merely as a way to secure additional grants.

4. Defining and Measuring Urbanization

4.1 Global Approaches

Globally, the concept of 'urban' has expanded beyond administrative criteria, with researchers and international organizations recognizing urbanization as a continuous process. The following table presents key global approaches and their methodologies for identifying and delineating urban areas using functional and geospatial indicators.

Global Approaches	Methodology
Agglomeration Index (Uchida and Nelson, 2009)	Combines population density, proximity to large urban centres, and travel time
Geopolis Project (Denis and Marius-Gnanou, 2009)	Contiguous Built-up Urban Agglomerates with more than 10,000 inhabitants, determined using geospatial data
Natural Cities (Asian Development Bank, 2019)	Uses nighttime light (NTL) satellite imagery and population density
Degree of Urbanization, DEGURBA (Eurostat and the European Commission, 2020)	Uses gridded population data derived from satellite imagery and classifies settlements based on density, contiguity of populated cells, and population size

These approaches suggest that an area may be considered 'functionally urban' when it exhibits measurable characteristics such as high population density, built-up continuity, mobility and economic activity, rather than as a simple rural – urban binary.

4.2 Contextualizing Global Approaches to India's Urban Transition

Current research on India's urban transition is also adopting some of these approaches to capture urbanization beyond cities. The recent NIUA study by Kundu et al. (2026) has recommended a new settlement classification dubbed as 'Functional Urban Settlements', using a modified DEGURBA framework, to capture urbanization patterns beyond cities. Applying the framework in Kerala and Madhya Pradesh, the study identified hundreds of settlements that exhibit functional urban characteristics but remain outside the existing Census urban classification. Similarly, drawing from their earlier work informing the rural to urban transition processes in Rajasthan, Dubey et al. (2025) classified transitioning urban settlements into three types: peripheral, growing due to spillovers from large towns and cities; intentional, driven by planned investments such as industrial estates and transit corridors; and incremental, which grow organically independent of major cities or infrastructure investments. The World Bank (2025) has since applied this typology to spatially map CTs as peripheral and intentional (using 20km buffer zone), or organically growing.

5. The Proposed Solution: Conceptual Framework for Identifying Peri-Urban Settlements for Municipal Governance

The present study aims to understand urban transition[173] through settlement reclassification and the expansion of existing ULB boundaries by incorporating areas governed by Gram Panchayats.[174] In line with the recommendations underlying the Urbanisation Premium, it focuses specifically on defining and identifying peri-urban settlements.

Drawing on alternative approaches to measuring urbanization and Odisha's Rural-Urban Transition Policy, this study identifies peri-urban settlements using the Census criteria, supplemented by three additional indicators: built-up dynamics, proximity to major transit or industrial corridors, and the area's economic significance. These indicators help capture urban expansion that has occurred since the last Census.

Proposed Indicator Framework

Dimension	Indicator	Suggested Threshold	Rationale
DEMOGRAPHIC	Projected Population	≥ 4000	For the ex-ante identification of potential Census Towns, villages with a population of 4000 or more in the preceding Census have historically been considered, on the assumption that they would attain the prescribed population threshold of 5000 during the subsequent intercensal period
	Population Density	≥ 400 persons/km²	Retains the population density benchmark for official urban identification in the Census
SPATIAL	Proximity to the nearest larger ULB	Settlement's built-up area is contiguous with, or within [X] km of the boundary of the nearest larger ULB	Establishes the reference ULB, based on population size and the spatial extent of the peri-urban buffer against which built-up change is measured.
	Built-up Density	[X]% built-up share of land outside the ULB boundary	Identifies settlements that are already compact and urban-like, even without recent growth.

[173] Urban transition measured through trends in urban population and urbanization (Absolute increase in urban population; Percent growth rate of urban population; Level of urbanization; and Percentage growth rate of the urban share of population) is generally understood through four immediate factors: natural increase, rural-to-urban migration, the reclassification of rural settlements into urban, and changes in the physical boundaries of existing urban settlements (Mathur et al.,2021). In India, natural increase has historically been the dominant contributor, accounting for nearly 60 percent of urban growth, with migration and reclassification playing secondary roles. By the 2011 Census, however, the composition had changed significantly: the share of natural increase declined to 43.3 percent, while CT share increased sharply to 31.2 percent. Rural-to-urban migration contributed 22.8 percent, and newly notified statutory towns added a modest 2.8 percent to the overall increase in urban population (ibid.).

[174] Rural areas transition into urban areas either through the creation of new ULB where a single Gram Panchayat (GP) is upgraded or multiple GPs are merged, fully or partially or through the expansion of existing ULB jurisdictions, in which entire GPs or portions of them are incorporated into the boundaries of an established ULB (Janaagraha, 2025).

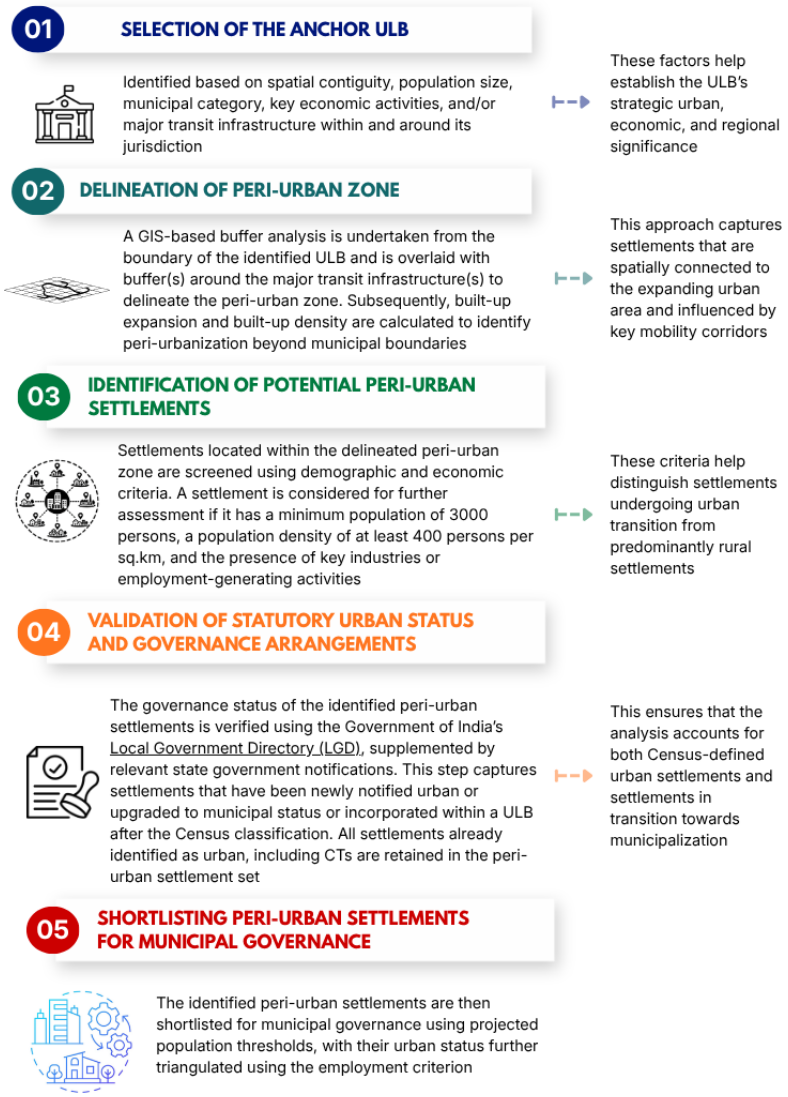
Dimension	Indicator	Suggested Threshold	Rationale
	Periphery - Core Built-up Growth Ratio	>1.0	Indicates that peripheral built-up growth is faster than ULB growth. This is the minimum threshold for identifying peripheralization
ECONOMIC	Proximity to major industrial or transit corridors	Distance from industrial or transit corridors classified into distance band(s), beginning with 5 km	DPIIT's[175] industrial-park criteria use 10 km for a National Highway and 5 km for a State Highway. For transit-oriented development, a built-form and accessibility zone of up to 800 m is recognized in development regulations in India
	Key Economic Activities		Presence of significant industrial, commercial, service, agricultural, market, logistics, or other employment-generating activities, identified through official records, spatial data, and ground verification
EMPLOYMENT	Non-agricultural workforce	≥ 60% of male main workers	A 60% threshold identifies settlements where non-agricultural employment is clearly dominant but where agricultural livelihoods may still remain significant

5.1. Solution Architecture and Components

These indicators can be used for the first stage of identification of peri-urban settlements. Once the eligible settlements are identified, a second-stage multi-criteria assessment, similar to the Odisha approach, can be used to rank and prioritize them. This stage could consider additional factors such as the Own Source Revenue (OSR) capacity of ULBs, availability of basic amenities and social infrastructure. The resulting prioritization can guide the sequencing of phased notification and transition support.

This two-stage approach separates objective identification from policy prioritization. The first stage ensures that only settlements meeting the thresholds are identified as peri-urban, while the second allows the state government to determine which eligible settlements should transition first based on capacity, readiness, and strategic considerations.

[175] Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India



Note: Panipat Municipal Corporation (M.Corp.), formerly the Panipat Municipal Council, was selected as a small city and the anchor ULB. With a population of nearly 3 lakhs in the 2011 Census, Panipat was classified as a "smaller urban area" under the Haryana Municipal Act, 1973. It also meets the Urbanisation Premium eligibility benchmark of a minimum ULB population of 1 lakh, based on the 2011 Census.

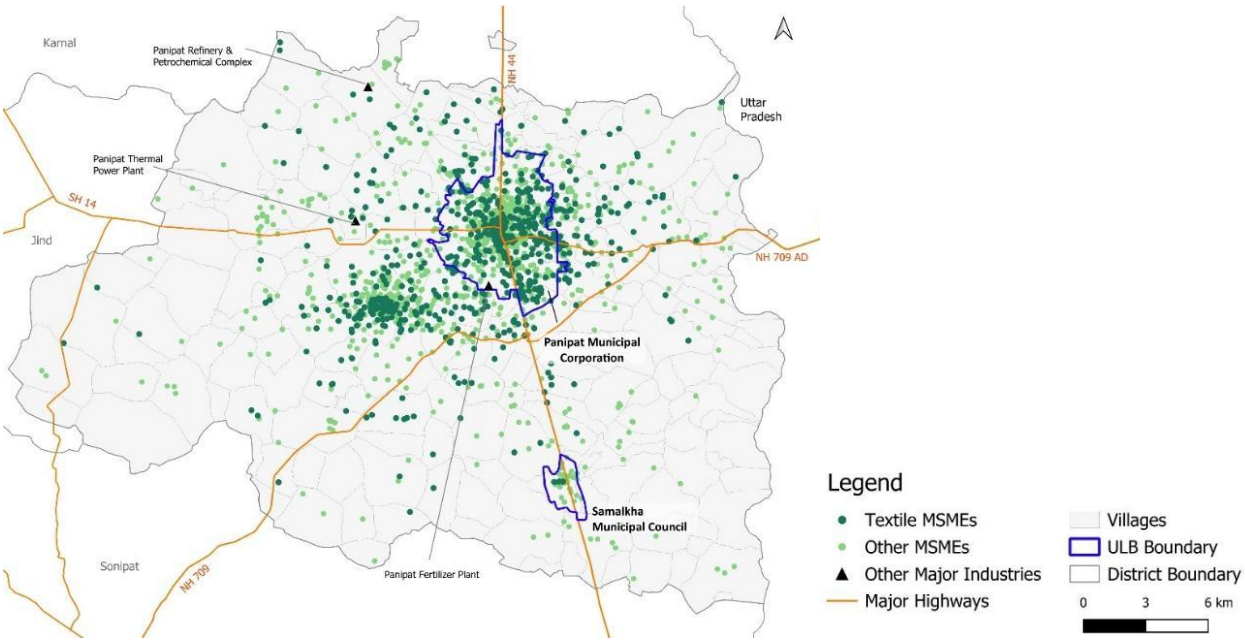
(Local Government Directory)

5.2. Case Study: Panipat Beyond Its Municipal Boundaries

Panipat, Haryana, is a telling example of how India's governance framework has struggled to keep pace with the growth of its small and emerging towns. Located about 90 km from Delhi along NH-44 (formerly NH-1), it lies within the National Capital Region's sphere of influence, with economic flows extending well beyond its municipal boundary.

Much of Panipat's ongoing peri-urbanization without municipal governance has overlapped with the growth of its textile industries[176] which are primarily concentrated in the Panipat Old Industrial Area as well as in the industrial sectors 25 and 29 developed by the Haryana Shahari Vikas Pradhikaran (formerly the Haryana Urban Development Authority). However, they are also dispersed across the 10 CTs and villages that have taken on an urban character not because of a planning decision, but owing to being part of this peri-urban industrial system with factories, warehouses, housing for industrial workers, and transit corridors, collectively driving Panipat's economic growth. This clearly demonstrates that economic integration has preceded administrative integration.

Spatial Distribution of MSMEs in Panipat District



Source: Author Analysis, 2026; District MSME Centre, Panipat, 2026; Survey of India, 2019; Note: Map showing MSMEs employing at least 15 workers

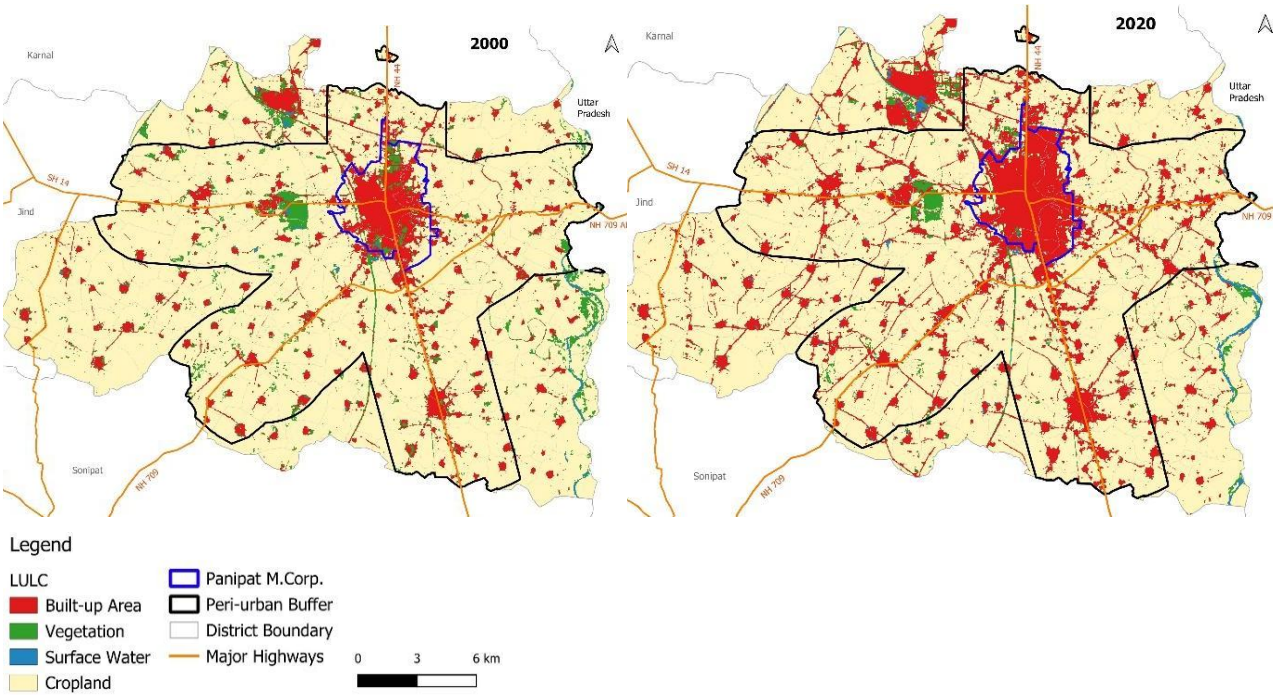
5.2.1. Spatial Growth of Panipat

To understand how far and how fast Panipat expanded over a period of two decades, this study analyzed built-up growth and density by delineating a 20 km buffer[177] from the city's former municipal boundary, extending at successive intervals of 5 kms, and then overlaying it with a 5km buffer from the major highways passing through the district.

[176] FICCI (2023) estimates about 4600 textile units are part of the Panipat textile cluster.

[177]Area drawn around a city's geometric middle, or centroid, using a set radius. The centroid is a point that represents the overall centre of the urban area, rather than the exact city centre. For Panipat, a 20-km buffer was adopted as a screening threshold. This distance follows the buffer size used by the World Bank (2025) to spatially classify peripheral and intentional CTs and is narrower than the 50-km metropolitan buffer used in NIUA's metropolitan-scale analysis. The reduced extent reflects Panipat's smaller urban footprint compared to a metropolitan core. The selection is also corroborated by the study's built-up growth analysis where growth in the 15–20 km band remained high at 2.7 times than the core during 2010–2020, comparable to the 2.5-times growth observed in the 10–15 km band. Therefore, limiting the spatial analysis to a shorter interval would have resulted in an incomplete representation of the observed urban expansion.

Built-up Expansion in Panipat District, Haryana, 2000 - 2020



Source: Author Analysis, 2026; Global Land Analysis and Discovery (GLAD dataset), Potapov et al.,2022; Survey of India, 2019

Area	Class	Area Coverage (%) in 2000	Area Coverage (%) in 2020
Panipat Municipal Corporation	Built-up	62.7	85.4
	Cropland	29.4	13.3
	Surface water	0.2	0.2
	Vegetation	7.7	1.2
Peri-urban Buffer	Built-up	9.9	17.5
	Cropland	86.2	80.4
	Surface water	0.3	0.3
	Vegetation	3.6	1.8

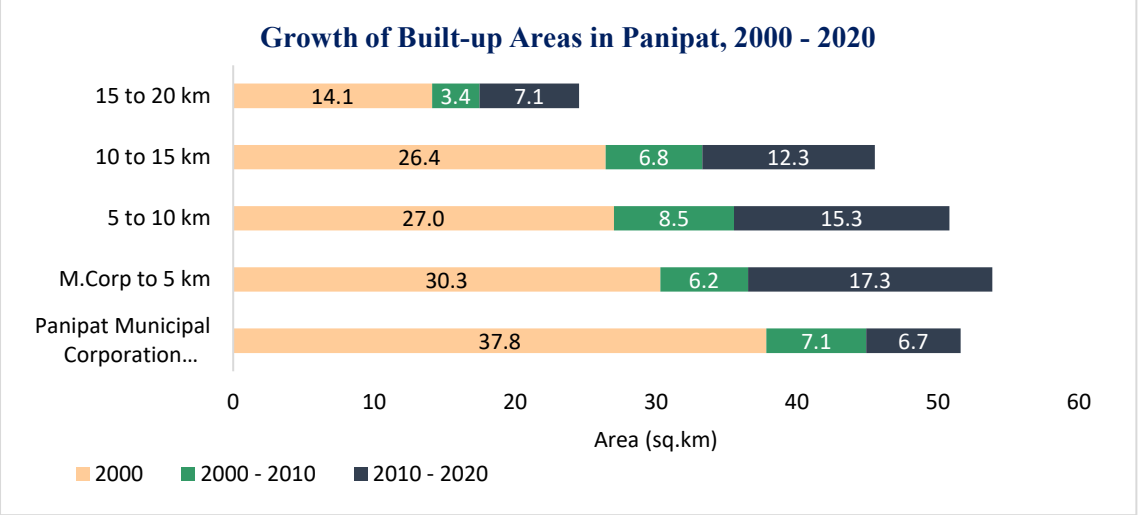
Key Land Use - Land Cover (LULC) Trends (2000–2020)

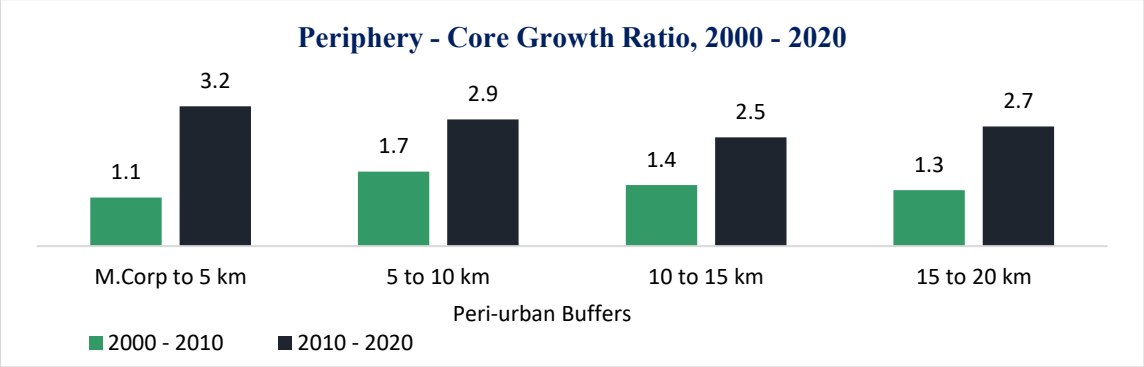
- **Urban expansion:** Built-up area in Panipat Municipal Corporation expanded from 62.7% to 85.4%, while the Peri-urban Buffer nearly doubled from 9.9% to 17.5%.
- **Cropland decline:** Agricultural land was converted to accommodate urban expansion, dropping sharply from 29.4% to 13.3% in Panipat MC and from 86.2% to 80.4% in the Peri-urban Buffer.
- **Loss of green cover:** Vegetation experienced a drastic decline within the municipal core, reducing from 7.7% to 1.2% in Panipat M.Corp. and halving from 3.6% to 1.8% in the Peri-urban Buffer.

The erstwhile Panipat Municipal Council that covered around 20 to 22 sq.km, had nearly exhausted its land available for urban expansion, long before the city was upgraded to a Municipal Corporation[178] in 2010. Built-up

[178] The 2011 Census recorded nearly 3 lakh residents within the corporation with recent official estimates from the Panipat District Environment Plan 2023 reporting that close to 9 lakh people now reside in the city.

density of the Council area climbed from roughly 87% in 2000 to 94% by 2010, reflecting the intensity of infill development in the city. With the municipal core largely saturated, built-up growth predictably shifted beyond the official boundary of about 60 sq.km. The first 5 km fringe alone added nearly 24 sq.km of built-up area over two decades, with an increase of 47% in built-up area between 2010 to 2020. Similarly, 10km away from the corporation boundary, saw an increase of 43% in built-up area during the same period. Further outwards, the continued increase in built-up area indicated that urban expansion was no longer limited to the municipal edge but is also clustered along major highways, while areas between these clusters remain significantly agricultural in nature.





Source: Author Analysis (2026) using GLAD data (Potapov et al.,2022)

Over the two decades (2000–2020), the periphery-core growth ratio, measuring the pace of built-up expansion in Panipat relative to the municipal corporation core, ranged from 1.1 to 1.7 during 2000 – 2010 and increased significantly to between 2.5 and 3.2 in the following decade.

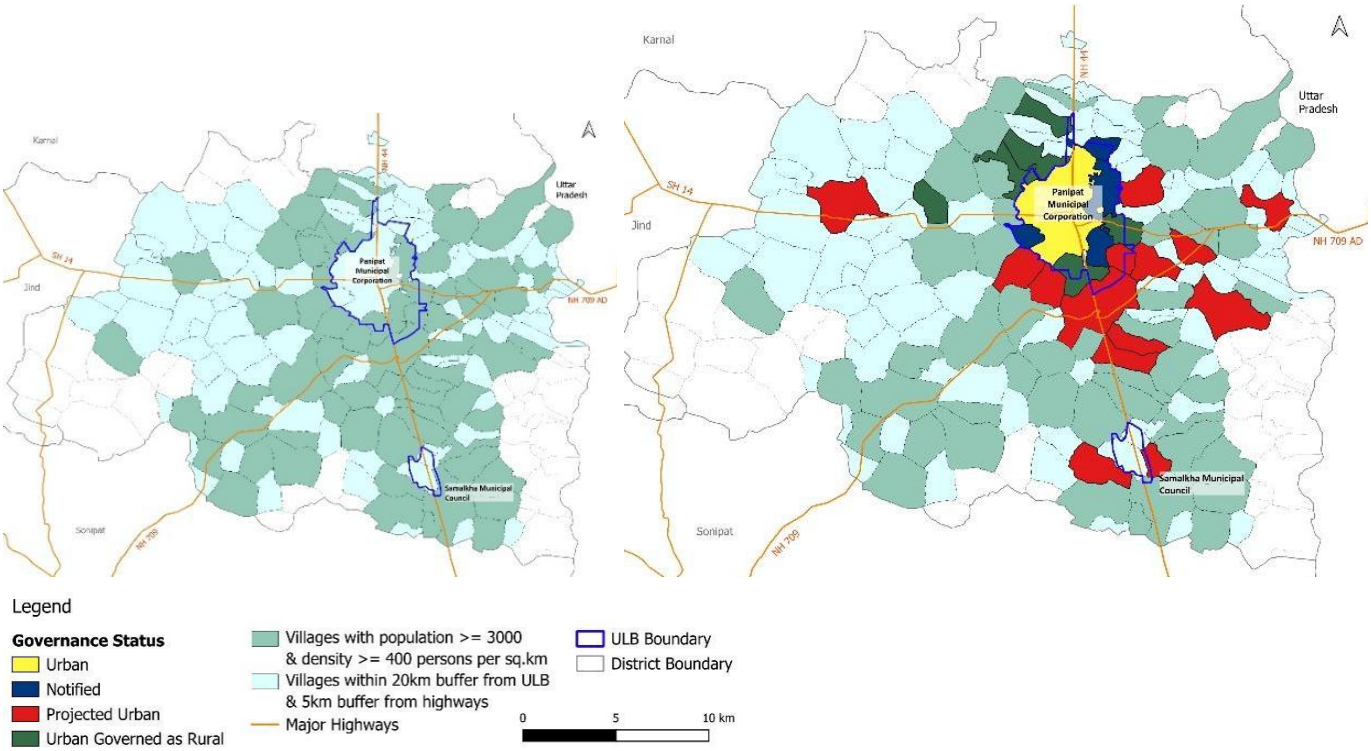
During 2000 – 2010, the 5 – 10 km buffer recorded the highest contrast, with a periphery-core growth ratio of 1.7, while the buffer closest to the core (M.Corp. to 5 km) registered the lowest at 1.1. In the subsequent decade (2010 – 2020), growth intensified across all zones, peaking in the M.Corp. to 5 km buffer where peripheral expansion was 3.2 times faster than the core (up from 1.1 in the previous decade). The outer buffers also showed marked acceleration, reaching growth ratios of 2.9 (5–10 km), 2.5 (10–15 km), and 2.7 (15–20 km).

Thus, early built-up expansion was most concentrated in the peri-urban zone of 5–10 km, whereas the recent decade saw a surge in built-up growth immediately adjacent to the core as well as across the extended periphery. This rapid expansion far beyond administrative boundaries continues to absorb surrounding peri-urban areas, much of which remains unaccounted for by official urban classifications.

5.2.2. Beyond the municipality, where villages function like cities

The spatial analysis undertaken for this study identified 60 villages located on the designated peri-urban buffer, with a population of at least 3000[179] and population densities exceeding 400 persons per sq.km based on the 2011 Census. Population projections (2011-2021) using the geometric growth method indicate that 18 of the 21 peri-urban villages apart from CTs within the Panipat sub-district are on track to cross the ex-ante census population threshold for urban classification, pointing to an accelerating process of suburbanization. In 4 of these villages, at least 60 percent of male main workers were employed in non-farm activities as per the Census 2011. Yet none of them has been officially notified as urban, even as the remaining peri-urban villages continue to grow, making the gap between administrative status and their emerging urban character more pronounced. For example, Sewah village, located directly on the NH-44 beneath Kheri Nangal CT, had 13,680 residents in 2011, and nearly 68 per cent of its male main workers in non-farm jobs, indicating an urban-like economy.

Identified Peri-urban Settlements for Municipal Governance



Source: Author Analysis 2026; Survey of India 2019; Census 2011; Local Government Directory

[179] Given the extended intercensal gap following the delay in the 2021 Census, the population threshold of 4,000 used for ex-ante identification is lowered further

6. Implementation Recommendations

Addressing the identification and governance gap documented in this paper requires action along two related but distinct fronts. The first concerns the absence of a standardized methodology for identifying peri-urban settlements prior to their formal notification, a precondition that existing governance and financing mechanisms, including the Urbanisation Premium, presently assume rather than establish. The second concerns the institutional and fiscal arrangements required to manage the transition once such settlements have been identified, drawing on the interim arrangements adopted by Odisha and proposed by Rajasthan.

6.1. Institutionalizing the Identification Framework

- **Prescribing a core set of indicators for the identification framework**

  State governments can retain flexibility to set thresholds, but the core indicators, decision rules, and justification for inclusion or exclusion are required to be clearly specified. This would ensure consistency while avoiding a rigid, one-size-fits-all approach

- **Updating the evidence base for every review cycle**

  The periodic identification exercise as part of the Rural to Urban Transition Policy should not solely depend solely on 2011 Census figures, particularly because such data may not capture rapid peri-urban population growth, land conversion, industrial expansion, or changes in commuting patterns. Each three-yearly review should then combine the latest available official population projections and administrative records with updated spatial evidence on built-up growth and land-use change

- **Anchoring the methodology to existing geospatial and administrative data infrastructure**

  States can develop a shared settlement-level geospatial database for the identification process instead of commissioning extensive primary surveys for each review cycle. The database can integrate publicly available and routinely updated relevant sources identified as part of the indicator framework

- **Strengthening technical capacity at the district and ULB levels**

  District Urban Development department, district planning cells, and relevant ULB technical teams should be equipped with dedicated GIS and data-management capacity to maintain data, conduct GIS analysis, interpret settlement-level indicators, and translate findings into planning and governance decisions

- **Piloting the methodology across urbanization typologies prior to scaling**

  The indicator framework can be tested across a small set of peri-urban settlements representing distinct urban transition typologies, namely peripheral, intentional, and incremental, as identified in Section 4.2, in order to validate indicator thresholds across varied urban contexts before consideration of broader adoption

6.2. Governance Rearrangements

- **Adapting Odisha's hub-and-spoke approach to the institutional capacity of small cities:** The existing State Urban Development Agency could establish the overall policy framework, with the District Urban Development Agency determining the eligibility criteria, and identification of priority interventions in coordination with RLGs and other relevant state departments. Implementation at the local level could be executed in collaboration with development authorities and relevant parastatals, which can provide the technical and administrative capacity that smaller ULBs often lack. States should also specify the transition pathway for elected Gram Panchayat members, covering their tenure, interim role, and integration into the notified ULB, to ensure administrative continuity during reclassification

6.3. Financial Planning

- **Supplementing the Urbanisation Premium with a dedicated state-funded 'Transition Grant' for small cities**, channeled through the existing SFC/FC devolution route rather than a new fund which small ULBs often struggle to operationalize. This can be paired with Odisha's incremental property tax model so that the peri-urban settlements are not hit with a full urban tax burden before their infrastructure catches up

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Annexures

Panipat Sub-district at a Glance		
	Number	**Population**
Panipat Municipal Council (Statutory Town)	1	295,970
Census Towns	10	219,405
Villages	76	276,259
Total urban population		515,375
Total sub-district population		791,634
Urban population share in sub-district (in %)	65.20	
Area of city (sq.km)	22	
Population Density of city (persons / sq.km)	13,453	
Area of sub-district (sq.km)	536.3	
Population Density of sub-district (persons / sq.km)	1476	

Source: Census 2011

Identified Peri-urban Settlements eligible for the Urbanisation Premium

Settlements	Category as per Census 2011	Category as per Local Government Directory	Governance Status	Total Population	Urbanisation Premium (INR)
Azizulapur	Village	Urban Village	Notified	1190	2380000
Binjhol	Village	Rural Village	Projected Urban	5800	11600000
Kabri	Census Town	Rural Village	Urban Governed as Rural	7049	14098000
Kachrauli	Census Town	Rural Village	Urban Governed as Rural	5400	10800000

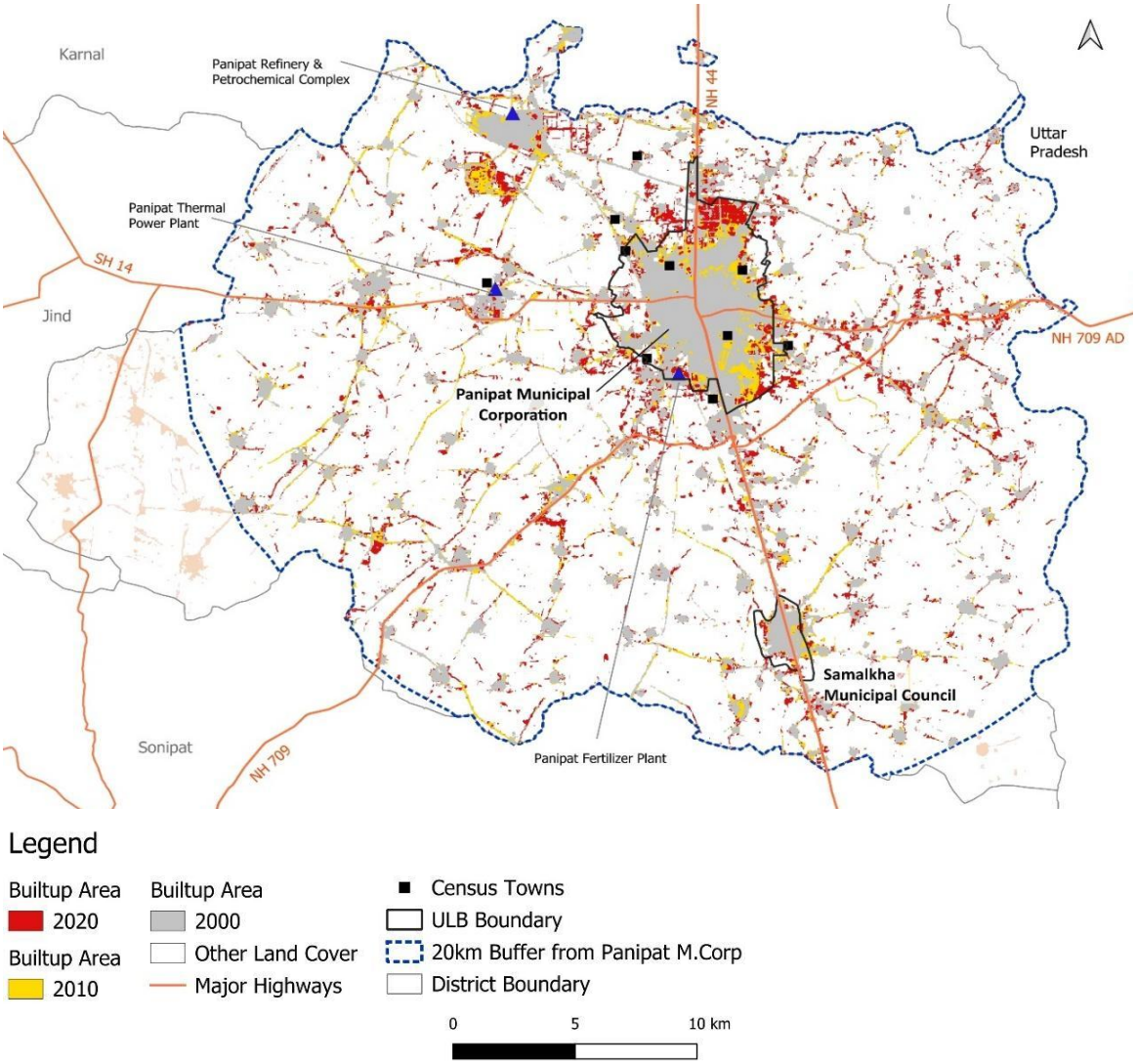
Kheri Nangal	Census Town	Rural Village	Urban Governed as Rural	18195	36390000
Mahrana	Village	Rural Village	Projected Urban	4571	9142000
Milk Ugra Kheri	Village	Rural Village	Notified	3355	6710000
Panipat Taraf Afghan	Census Town	Rural Village	Notified	3205	6410000
Panipat Taraf Ansar	Census Town	Urban Village	Notified	42877	85754000
Panipat Taraf Makhdum Zadgan	Census Town	Urban Village	Notified	67998	135996000
Panipat Taraf Rajputan	Census Town	Urban Village	Notified	28803	57606000
Risalu	Village	Rural Village	Projected Urban	3355	6710000
Sarai Bachra	Village	Urban Village	Notified	263	526000
Sec. 11&12 Part II	Census Town	Rural Village	Urban Governed as Rural	8876	17752000
Sewah	Village	Rural Village	Projected Urban	13680	27360000
Sikanderpur	Census Town	Rural Village	Urban Governed as Rural	8894	17788000
Sondhapur	Village	Urban Village	Notified	7634	15268000
Ugra Kheri	Census Town	Rural Village	Urban Governed as Rural	24440	48880000
				2,55,585	**511,170,000**

Source: Author Analysis 2026; Local Government Directory, Census 2011

Census Towns	Total Population	Population Density (persons / sq.km)	Male Main Workers in Non-farm Sector (%)
Panipat Taraf Makhdum Zadgan	67998	10397.25	96
Panipat Taraf Ansar	42877	5441.244	94.23
Panipat Taraf Rajputan	28803	5647.647	92.29
Ugra Kheri	24440	5313.043	93.66
Kheri Nangal	18195	4332.143	86.62
Sikanderpur	8894	1710.385	92.51
Sec. 11&12 Part II	8876	3427.027	98.98
Kabri	7049	1036.618	85.61
Asan Khurd	6873	1396.951	96.93
Kachrauli	5400	1080	69.77

Source: Census 2011

Built-up Expansion in Panipat District 2000 - 2020



Source: Global Land Analysis and Discovery (GLAD dataset), Potapov et al.,2022; Survey of India, 2019

Editorial Notes

Reviewers encouraged a clearer explanation of why defining the rural-urban interface matters for planning and policy. The paper could strengthen the criteria and evidence used to identify peri-urban settlements, while clarifying how the framework would support local decision-making. Future work should connect the classification approach to practical planning needs and explain how it could be applied across different small-city contexts.

Regional Disparities in CSR Fund Allocation and A Facilitation Framework for Northeast India

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Executive Summary

India's Corporate Social Responsibility (CSR) law has mobilised well over ₹2 lakh crore in social investment since 2014, yet the geography of this spending remains markedly uneven. This is not a one-year snapshot: over FY 2019-20 to FY 2023-24, the North Eastern Region's (NER) share of national CSR spending stayed under 3% in every year, and other low-CSR states outside the Northeast, such as Bihar and West Bengal, show a milder version of the same lag relative to their population. In FY 2023-24, the eight states of the NER together received ₹713.53 crore in CSR funds[180], which works out to roughly ₹133 per person, against ₹469 per person in Maharashtra[181], about 3.5 times higher on a per-person basis. But this paper's question is not primarily whether the NER receives less CSR than an industrialised state like Maharashtra; it is whether CSR allocation nationally tracks documented development needs. On indicators such as multidimensional poverty, child health, and education outcomes, the states receiving comparatively little CSR are frequently among those with the largest development deficits. This paper treats that mismatch as a structural feature of how CSR is currently planned, channelled, and reported, rather than a matter of corporate intent, and proposes a practical, low-cost pathway to narrow the gap.

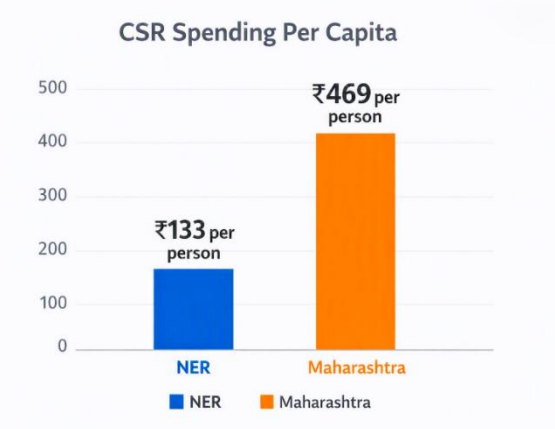

Figure 1: CSR per capita comparison

This gap does not appear to trace back to any single cause. It may be explained in part by three interlocking constraints, considered together in this paper as a Capital-Need-Capacity triangle: corporate operations concentrated outside the Northeast; limited availability of implementing partners meeting companies' eligibility and due-diligence requirements; and district-level need assessment that appears to play a smaller role in CSR planning than it could. These are plausible contributing factors, not proven causes.

Proposed solution: a State CSR Facilitation and Capacity-Building Framework, a generalised, strengthened version of a model Mizoram and Nagaland have begun building: a state-anchored CSR facilitation body paired with a digital matchmaking platform and NGO capacity-building activity[182]. This paper proposes extending that model, with three additions:

1) a shared needs-assessment layer so companies can see verified district-level gaps
2) a way for companies to pool CSR budgets for larger, coordinated projects
3) non-monetary recognition mechanisms that give states a lever beyond subsidy or tax conversations.

[180] CSR Portal (Ministry of Corporate Affairs), state-wise CSR expenditure, FY 2019-20 to FY 2023-24.

[181] Projected Total Population as on 1st March – India, States and Union Territories: 2011–2036, National Health Mission, Government of India (2026 projections). This per-capita calculation combines FY 2023-24 CSR expenditure with the 2026 projected population. These are approximate comparisons rather than per-person estimates for FY 2023–24.

[182] Business Standard (2025, June 27). Mizoram receives one of lowest shares of CSR funds in India: CM Lalduhoma.

Key components:

1) a Needs Assessment and Prioritisation function

2) multi-department coordination within each state's facilitation body

3) a channelisation mechanism combining a digital matchmaking platform, structured dialogue events, and a governed company-coalition option and recognition scheme

4) NGO and implementing-agency capacity building that goes beyond compliance to programme design, budgeting, and monitoring and evaluation.

Expected benefits: The framework is designed to narrow the Northeast's CSR gap by building on facilitation elements already operational in two states, reduce search costs for companies, and create a stronger, shared evidence base for tracking progress over time. These are reasonable expectations of what the framework can contribute to, not outcomes it can guarantee on its own.

Implementation considerations: The framework would encourage voluntary corporate participation and preserve companies' discretion over CSR project selection. Other NER states could adapt the emerging models in Mizoram and Nagaland, building on existing state arrangements and findings from the proposed pilot.

1. The Challenge

Section 135 of the Companies Act, 2013[183] requires eligible companies to spend at least 2% of average net profits on social development. National CSR expenditure has grown steadily, reaching ₹34,909 crore in FY 2023-24, but its current framework has not sufficiently addressed geographic disparities in that spending's allocation.

The North Eastern Region (NER) illustrates this. State-level CSR expenditure data compiled for this study[184] show that the NER's eight states together received ₹713.53 crore in CSR funds in FY 2023-24, against ₹6,065.95 crore received by Maharashtra alone. On a per-person basis, a more reliable measure than land area for comparing where CSR reaches people, this works out to roughly ₹133 per person in the NER against ₹469 per person in Maharashtra[185], a gap of about 3.5 times. The disparity is even sharper by land area (₹27,000 per sq. km in the NER against ₹1.97 lakh per sq. km in Maharashtra, a nearly sevenfold difference), though population is the more defensible way to read this gap. Individual states show this more sharply: Mizoram received ₹18.62 crore, and Tripura ₹112.76 crore in FY 2023-24, and Mizoram's own government has separately put its share of national CSR spending at just 0.06%[186]. Separately, the NER's aspirational districts have recorded among the lowest composite development scores nationally[187].

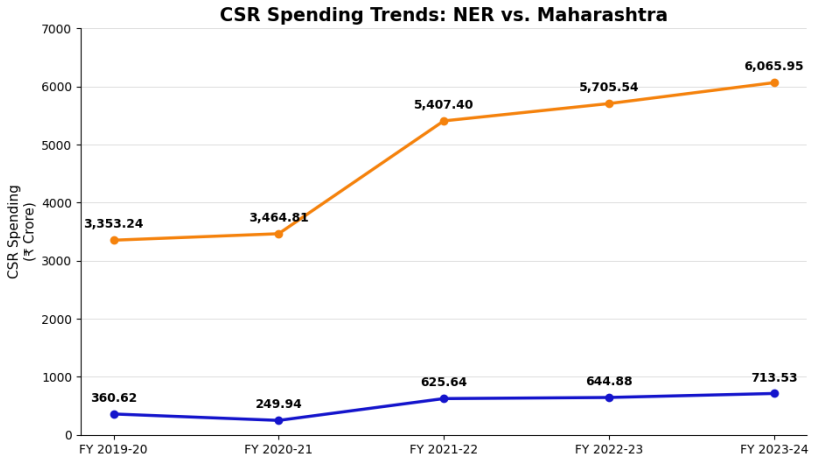

Figure 2: CSR trend over 5 years

[183] Companies Act, 2013, § 135 & Schedule VII, Parliament of India.

[184] CSR Portal (Ministry of Corporate Affairs), state-wise CSR expenditure, FY 2019-20 to FY 2023-24.

[185] Projected Total Population as on 1st March – India, States and Union Territories: 2011–2036, National Health Mission, Government of India (2026 projections). This per-capita calculation combines FY 2023–24 CSR expenditure with projected 2026 population. These are approximate comparisons rather than per-person estimates for FY 2023–24.

[186] Morung Express (2026, January 27), citing Chief Minister Lalduhoma: Mizoram received 0.06% of India's total CSR expenditure in FY 2023-24.

[187] NITI Aayog (2023, August). National Multidimensional Poverty Index: A Progress Review. Government of India.

As Figure 2 shows, this is a persistent pattern rather than a one-year reading: the NER's aggregate CSR receipts rose from ₹360.62 crore in FY 2019-20 to ₹713.53 crore in FY 2023-24, but the region's share of national CSR expenditure stayed under 3% in every one of those five years — dipping to 0.95% in FY 2020–21 and recovering to just 2.04% by FY 2023-24[188]. Bihar shows a similarly low and persistent share (0.44% of the national total in FY 2019-20, rising only to 0.75% by FY 2023-24), even as its CSR receipts more than doubled, from ₹110.48 crore to ₹260.53 crore. West Bengal tells a more mixed story: its receipts grew fastest of the three in absolute terms, from ₹423.85 crore to ₹862.57 crore, taking its national share from 1.70% to 2.47% and overtaking the NER's share by FY 2023-24 — though its per-person figure (roughly ₹86 in FY 2023-24, against Bihar's ₹23, the NER's ₹133, and Maharashtra's ₹469) leaves it below the NER on a per-person basis and well short of an industrialised state like Maharashtra. Table 1 sets out the full five-year series.

Table 1: CSR expenditure, FY 2019-20 to FY 2023-24 (₹ crore)

Year	All-India Total	NER (8 states)	Maharashtra	Bihar	West Bengal
FY 2019-20	24,965.82	360.62	3,353.24	110.48	423.85
FY 2020-21	26,210.95	249.94	3,464.81	89.89	471.48
FY 2021-22	27,141.45	625.64	5,407.40	178.97	571.89
FY 2022-23	30,932.08	644.88	5,705.54	241.41	782.74
FY 2023-24	34,908.75	713.53	6,065.95	260.53	862.57
Growth from FY 2020–21 to FY 2023–24 (%)	+33.2%	+185.5%	+75.1%	+189.8%	+82.9%

Source: [189] [190] [191]

The aggregate NER figure also conceals a second disparity: CSR growth within the region is not broad-based. Table 2 shows each of the eight NER states' share of total NER CSR expenditure in FY 2019-20 and FY 2023-24, together with its growth from FY 2020–21 to FY 2023–24.

Table 2: Each NER state's share of regional CSR and its growth from FY 2020–21 to FY 2023–24

NER State	Share of NER total, FY 2019-20	Share of NER total, FY 2023-24	Growth from FY 2020–21 to FY 2023–24 (%)
Assam	50.6%	49.3%	+177.6%
Tripura	13.0%	15.8%	+223.7%
Meghalaya	11.7%	11.4%	+180.8%
Nagaland	7.9%	8.6%	+213.4%
Manipur	6.0%	5.6%	+181.8%
Arunachal Pradesh	5.2%	4.8%	+183.1%

[188] Ministry of Corporate Affairs, reply to Lok Sabha Unstarred Question No. 2501, answered 4 August 2025, Annexure-I: "State-wise CSR expenditure from FY 2019-20 to FY 2023-24" (data as reported up to 31.03.2025, Source: Corporate Data Management Cell). Reply and annexure accessed via TaxGuru, https://taxguru.in/company-law/csr-spending-details-data-access.html (extract retrieved 1 October 2026); NER-state and comparator-state figures in Tables 1–2 are the authors' compilation from this same annexure.

[189] Ministry of Corporate Affairs, reply to Lok Sabha Unstarred Question No. 2501, answered 4 August 2025, Annexure-I (see note 9).

[190] Growth rates in Table 1 are calculated as the percentage change from FY 2020–21 to FY 2023–24. They are sensitive to the choice of starting year and should be read alongside the full annual expenditure series.

[191] Ministry of Corporate Affairs, reply to Lok Sabha Unstarred Question No. 2501, answered 4 August 2025, Annexure-I (see note 9); eight-state NER breakdown compiled by the authors from the same annexure. The eight state-level FY 2021-22 figures sum to ₹625.64 crore; this total (not ₹624.64 crore, an earlier rounding slip) is used throughout.

Mizoram	3.5%	2.6%	+123.8%
Sikkim	2.1%	1.9%	+157.8%

Source: As stated in footnote [192]

Assam alone has accounted for roughly half of all NER CSR spending throughout the period, and Assam together with Tripura accounted for close to two-thirds of the region's total in both years. Mizoram and Sikkim, by contrast, have each held under 3.5% of the NER total throughout, with little movement over five years. These expenditure trends predate Mizoram's CSR Cell established in June 2024 and Nagaland's 2026 conclave, and therefore cannot establish whether those initiatives influenced CSR allocation. Their contribution would need to be assessed using subsequent expenditure data alongside evidence of corporate engagement and project implementation.

Why the Gap Exists

This disparity does not appear to trace back to any single cause. Based on the data and practitioner observations gathered for this study, three interlocking constraints seem to contribute to it, grouped here as a Capital-Need-Capacity triangle.

First, corporate operations presence. India's largest CSR contributors are concentrated mainly in states with dense industrial and manufacturing activity, mainly Maharashtra, Gujarat, Karnataka, and Delhi NCR, which together host most of the country's industrial corridors, manufacturing clusters, and PSU operational sites[193]. The Northeast, by comparison, has comparatively few large manufacturing units, mines, or industrial corridors, and a limited PSU presence beyond 2-3 major companies. Section 135includes a "local area preference" that directs companies toward the communities surrounding their own operations[194], a provision intended to keep CSR spending accountable and close to where a company is actually active. This preference may contribute to the concentration of CSR spending around company operations, alongside other factors influencing project selection. MCA's own FAQ Circular No. 14/2021 clarifies that this preference is "only directory and not mandatory in nature" and should be "balanced with national priorities"[195], which leaves companies wide discretion over where funds go. What appears to be missing is a stronger institutional mechanism that would translate the circular's stated balance into practice for regions like the Northeast.

Second, capacity to absorb funds. Even companies inclined to invest in the NER encounter a potentially smaller pool of implementing partners able to meet companies' eligibility and due-diligence requirements. Data compiled for this study[196] show roughly 16,000 active NGO Darpan-registered organisations across all eight NER states combined, against over 83,000 in Maharashtra alone. This indicates a smaller civil-society ecosystem, not necessarily lower CSR readiness. Axis Bank's Head of Sustainability and CSR has named identifying credible local partners, not simply finding registered ones, as one of the central difficulties of working in the region[197]. The concern is less about how many organisations exist and more about how many have the governance, financial management, and track record that a company's due diligence process requires.

Third, need assessment as a relatively neglected input. CSR planning in India appears to lean at least as much on precedent, following where similar companies have already spent, as on structured, district-level need assessment, a pattern practitioners describe consistently though it is not a fully quantified claim. Where undertaken, such assessment often receives less attention than compliance and reporting, a gap the same Axis Bank source

[192] Ministry of Corporate Affairs, reply to Lok Sabha Unstarred Question No. 2501, answered 4 August 2025, Annexure-I (see note 9); eight-state NER breakdown compiled by the authors from the same annexure. The eight state-level FY 2021-22 figures sum to ₹625.64 crore; this total (not ₹624.64 crore, an earlier rounding slip) is used throughout.

[193] Department for Promotion of Industry and Internal Trade (DPIIT) & India Data Insights (2024).

[194] Companies Act, 2013, § 135 & Schedule VII, Parliament of India.

[195] Ministry of Corporate Affairs, Government of India. FAQ Circular No. 14/2021 on Corporate Social Responsibility under Section 135 of the Companies Act, 2013.

[196] Author's compilation from the NGO Darpan Portal, Ministry of Corporate Affairs/NITI Aayog (active registered-organisation counts by state).

[197] Agarwal, A. (2026, May 26), Senior Vice President & Head – Sustainability and CSR, Axis Bank, quoted in India CSR, citing an interview with BW Businessworld: identifying credible local partners and conducting genuine needs assessment were named among the biggest challenges of CSR work in remote regions including the Northeast.

pointed to directly, noting that programmes succeed only when they respond to what a community actually needs[198]. This is an important thread for the solution: better-grounded needs assessment is one of the more direct paths toward more equitable CSR allocation.

Taken together, these three factors may help explain why the Northeast continues to receive a comparatively small share of CSR spending, even as national policy increasingly emphasises balanced regional growth. They are best read as constraints worth addressing, whether or not each one is eventually shown to be a direct cause of the disparity.

Development Need: Where the Gaps Are Largest

A fuller picture of this disparity requires looking beyond CSR receipts alone, at whether allocation tracks documented need. Four simple, publicly available indicators are used here for a first look, each drawn from a standard national dataset rather than a custom survey: multidimensional poverty, a child-health outcome, a school-education outcome, and each state's count of NITI Aayog-designated Aspirational Districts, a rough proxy for how many districts the government itself has already flagged as furthest behind.

Table 3: Development need indicators, selected states

Indicator	Selected NER states (Assam / Meghalaya)	Bihar	West Bengal	Maharashtra
Multidimensional poverty, headcount ratio (NFHS-5, 2019-21)	19.35% (Assam) / 27.79% (Meghalaya)	33.76%	n.a.	7.81%
Child stunting, under age 5 (NFHS-5, 2019-21)	n.a.	42.9%	33.8%	35.2%
Secondary-level dropout rate (UDISE+, 2023-24)	25.07% (Assam)	25.63%	n.a.	n.a. (nat'l avg. 14.1%)
NITI Aayog Aspirational Districts (of 112 nationally)	7 (Assam)	13	n.a.	n.a.

Sources: [199]; [200]; [201]; [202] "n.a." marks a figure this paper could not verify from a public source in the time available, not an assumed zero.

The available indicators illustrate development gaps in selected states, although the table does not provide comparable figures for every state and indicator. Assam and Meghalaya have substantially higher multidimensional poverty headcount ratios than Maharashtra, while Bihar's child-stunting rate exceeds those reported for Maharashtra and West Bengal. This does not show CSR planners are deliberately ignoring need; it shows that on indicators a company could reasonably use, the states receiving comparatively little CSR are frequently those with the largest documented deficits. That co-occurrence, not a claim of causation, is the argument this paper builds on, and the basis for Component A's need-scoring approach in Section 3.

One existing state-level attempt is worth introducing here, since it recurs later in this paper. In 2014, Maharashtra's Department of Higher & Technical Education issued one of the earliest state government resolutions aimed at

[198] Agarwal, A. (2026, May 26), Senior Vice President & Head – Sustainability and CSR, Axis Bank, quoted in India CSR, citing an interview with BW Businessworld: identifying credible local partners and conducting genuine needs assessment were named among the biggest challenges of CSR work in remote regions including the Northeast.

[199] Reserve Bank of India, Handbook of Statistics on Indian States 2024-25, Table 10: State-wise Multidimensional Poverty Index, NFHS-4 (2015-16) and NFHS-5 (2019-21).

[200] National Family Health Survey-5 (2019-21), Ministry of Health and Family Welfare, Government of India: Key Indicators fact sheets, children under five who are stunted, by state.

[201] Unified District Information System for Education Plus (UDISE+) 2023-24, Department of School Education and Literacy, Ministry of Education, Government of India: dropout rate, classes 9-10, by state.

[202] NITI Aayog, Aspirational Districts Programme: list of 112 Aspirational Districts by state (2018, as subsequently maintained).

organising CSR facilitation.[203] It was not, however, a single, state-wide mechanism: Maharashtra's School Education and Sports Department issued its own, separate CSR resolutions around the same time and again in 2019[204]. It ran independently of the Higher & Technical Education Department's version. So the model's limitation is not simply that only one department engaged with CSR; it is that different departments each built their own separate channel without a shared coordinating structure connecting them. Both the achievement and the limitation matter for what follows.

2. The Proposed Solution

2.1 Overview

This paper proposes a **State CSR Facilitation and Capacity-Building Framework**: a state-anchored body, paired with a digital matchmaking platform and dedicated NGO capacity-building activity, that helps companies find credible, need-assessed projects in the Northeast. This is not a new invention. Mizoram set up a CSR Cell in its Chief Minister's Office in June 2024[205], which has since launched a CSR matchmaking portal built with UNDP India[206] and run joint capacity-building workshops for NGOs with the Confederation of Indian Industry. Nagaland has built a similar single-window body, the Investment & Development Authority of Nagaland (IDAN)[207], which secured over ₹30 crore in CSR commitments from more than 40 companies at a single conclave in 2026, and separately ran CSR and FCRA compliance training for NGOs with the Ministry of Home Affairs and HCL Foundation[208]. These are real, documented activities, and this paper treats them as useful state-level precedents and early building blocks rather than as proof that either state has already closed its CSR gap.

This paper builds on these emerging state models and proposes strengthening three elements across the region:

1) a shared needs-assessment layer
2) an option for companies to pool CSR budgets on larger joint projects
3) non-monetary recognition mechanisms.

2.2 Objectives

- Extend the state-anchored facilitation and capacity-building approach already emerging in two NER states to the rest of the region.
- Ground CSR facilitation in verified, prioritised, district-level need data, not precedent or informal referral.
- Reduce the search and matching costs that discourage some companies from committing funds to the region.
- Build the implementing capacity of local and regional NGOs, so facilitation efforts have credible partners to route funds through.

[203] Government of Maharashtra, Department of Higher & Technical Education (2014). Government Resolution No. HTED-11036(11)/2/2013-MHT-(TE-2).

[204] School Education and Sports Department, Government of Maharashtra. CSR Government Resolutions dated 9 June 2014 and 27 October 2014, and a further CSR Government Resolution dated October 2019, issued separately from the Higher & Technical Education Department's 2014 resolution.

[205] Business Standard (2025, June 27). Mizoram receives one of lowest shares of CSR funds in India: CM Lalduhoma.

[206] ANI (2026, January 27). "Mizoram CSR Connect": CM Lalduhoma inaugurates CSR matchmaking portal, developed by the Mizoram CSR Cell (Planning & Programme Implementation Department) with UNDP India.

[207] Department of Information & Public Relations, Government of Nagaland (2026, June 23). IDAN Secures ₹30 Cr CSR Commitments at Nagaland Connect 2026–Delhi.

[208] Mokokchung Times (2026, May). Nagaland Eyes Stronger CSR, FCRA Compliance for Development Opportunities — IDAN training programme organised with the Ministry of Home Affairs and HCL Foundation.

2.3 Why This Solution

This approach was chosen for three reasons. First, the proposal builds on facilitation and capacity-building initiatives already emerging in two NER states, while its additional components and their combined operation would be tested through the proposed pilot. Second, it addresses all three legs of the Capital-Need-Capacity triangle in one connected structure, rather than treating operational presence, capacity, and need assessment as separate problems. Third, the proposed facilitation functions are intended to operate within the existing CSR framework without amending Section 135. The pooled-fund option would remain subject to the legal and institutional review specified under Component C.

2.4 Key Design Principles

- **No coercion:** every element works through encouragement, evidence, and incentive — a mechanism a company could reasonably decline without consequence.
- **Build on what already works:** Mizoram's and Nagaland's emerging models are the starting point, not a hypothetical from scratch.
- **Connected, not siloed:** needs assessment, multi-department coordination, channelisation, and NGO capacity building sit inside one body, because Mizoram and Nagaland's experience suggests facilitation and capacity building work best paired together.
- **Evidence-based sequencing:** test corporate engagement, project uptake and implementation feasibility through a limited pilot before wider rollout.

3. Solution Architecture and Components

The framework has four components, housed within a single state-anchored body (referred to here as the **State CSR Facilitation Cell**, following Mizoram's naming). Each is modelled on something Mizoram or Nagaland has already begun building, with specific additions proposed by this paper. At the core of all four is a single coordination function: aligning government, companies, and implementing organisations so that CSR funds move with less duplication, easier participation, stronger implementation capacity, and clearer accountability for follow-through. The components below are best read as that coordination function broken into workable parts, not as four independent activities.

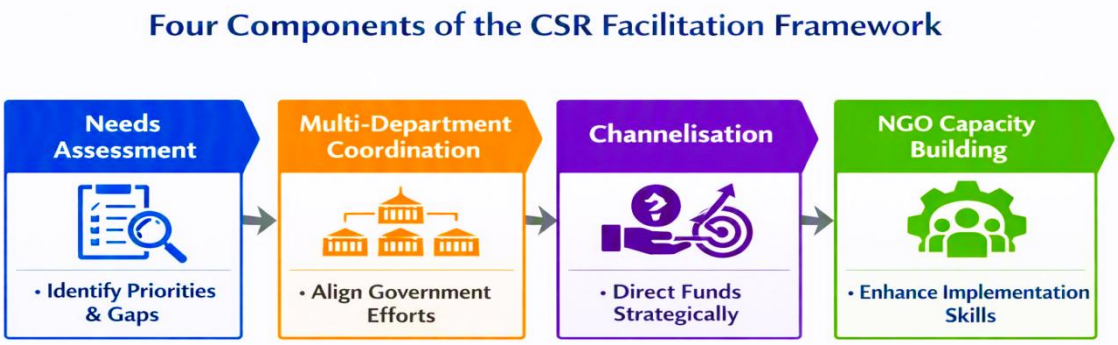

Figure 3: Four Components of the Framework

Component A: Needs Assessment and Prioritisation

Purpose: to ground CSR facilitation in verified, ranked district-level need, rather than precedent or informal referral.

Function: The Cell would compile existing government data (district planning documents, the NITI Aayog MPI[209], and equivalent state indicators, following Section 1's four indicators) into a working shortlist of priority gaps by district and sector, refreshed periodically rather than produced once. With potentially hundreds of identified needs, the Cell also needs to rank them, scoring each on magnitude (people affected), severity, equity (relative to comparable districts), feasibility (credible partner and access), and whether government already addresses it — so companies are pointed toward gaps that are both large and genuinely unaddressed. This draws on existing data sources in its first phase, rather than commissioning new surveys, to keep it quickly achievable. The pilot would define transparent criteria and scoring guidance, with priorities validated by relevant departments and community representatives. Development need would be assessed separately from implementation readiness, so districts with weaker partners or difficult access are identified for additional support rather than automatically assigned lower priority.

Relationship to other components: feeds directly into Component C's project pipeline; companies using the matchmaking platform see need-ranked options, not an undifferentiated list.

Expected contribution: provides a transparent, shared basis for identifying priority needs and selecting suitable CSR projects.

Component B: Multi-Department Coordination

Purpose: to coordinate inputs from departments relevant to identified needs and avoid separate, disconnected channels for CSR facilitation, as was seen in Maharashtra (Refer Section 1).

Function: health, education, and environment departments are identified as most salient for the NER, based on areas consistently raised by practitioners consulted during this research (not a formally published ranking). Each department nominates a named liaison, either a dedicated appointee or a part-time senior official, to represent its priorities during project scoping, feed data into Component A's needs shortlist, and coordinate any departmental permissions or scheme-related approvals required for proposed projects. CSR funding decisions would remain with the company's Board.

Relationship to other components: supplies domain expertise into Component A's need shortlist and Component D's capacity-building priorities.

Expected contribution: avoids the fragmented, department-by-department pattern seen in Maharashtra's early resolutions, while still learning from what those efforts got right.

Component C: Channelisation Mechanism

Purpose: to give companies a practical, low-friction way to find and fund need-assessed, capacity-checked NER projects.

Function: builds on existing matchmaking and dialogue initiatives in Mizoram and Nagaland, and adds a proposed pooling option: a digital matchmaking platform (following Mizoram CSR Connect[210], built in partnership with a development partner such as UNDP); periodic structured dialogue events bringing companies and project proponents together (following Nagaland's CSR conclave model, which alone secured over ₹30 crore in commitments in a single event[211]); an option for companies to pool CSR budgets toward one larger, coordinated project instead of each acting alone.

The proposed state-level platform should complement, not duplicate, national CSR matchmaking infrastructure, adding state-validated district needs, curated local capacity, and active facilitation. State Cells would validate local

[209] NITI Aayog (2023, August). National Multidimensional Poverty Index: A Progress Review. Government of India.

[210] ANI (2026, January 27). "Mizoram CSR Connect": CM Lalduhoma inaugurates CSR matchmaking portal, developed by the Mizoram CSR Cell (Planning & Programme Implementation Department) with UNDP India.

[211] Department of Information & Public Relations, Government of Nagaland (2026, June 23). IDAN Secures ₹30 Cr CSR Commitments at Nagaland Connect 2026–Delhi.

needs, support implementing partners and facilitate projects. The proposed shared regional needs-assessment layer would consolidate state inputs through common templates and linked repositories, avoiding duplication of platforms and functions. **On the pooled-fund option specifically:** this is a proposed option, not a settled design, and should not proceed without legal and institutional review covering three things. First, which entity is actually eligible to receive and hold pooled CSR contributions under the Companies Act: this paper does not assume the Cell itself, as a government office, is automatically eligible, so pooled funds may need to run through a separately registered society or trust, as Mizoram and Nagaland already use for routing CSR funds. Second, how each company's share stays individually attributed for its own CSR-2 reporting, so no contribution disappears into an untraceable common pool. Third, a workable utilisation schedule and audit rhythm, potentially overseen by Component B's multi-department body together with an independent audit, so funds do not sit unspent. Pooled public-purpose funds without this oversight, as recent scrutiny of underused relief funds has shown, can become an easy but unaccountable way for contributors to consider their obligation met — which is exactly why this option needs review, not why it should be shelved.

A further addition: non-monetary recognition of contributing companies at official or cultural events, as a lever that does not require any subsidy or tax discussion.

Relationship to other components: draws its project pipeline from Component A and its implementing-partner list from Component D; without either, the platform is just a directory.

Expected contribution: directly reduces the search and matching cost that discourages some companies from committing to the region, and could help fragmented small grants (often ₹2–3 lakh at a time, as per NER practitioner accounts) become fewer, larger, more consequential projects.

Component D: NGO and Implementing-Agency Capacity Building

Purpose: to make sure the Cell has credible local partners to route funds through, not just a list of project ideas.

Function: structured support for the basic steps CSR eligibility requires (registration, CSR-1 filing, audited accounts, compliance record-keeping) plus visibility support, so a locally credible NGO is not overlooked for being less known outside the region. Beyond compliance, capacity building should also cover programme design, budgeting, and M&E — the substantive skills due diligence actually checks for. This follows Mizoram's CII-partnered workshops and Nagaland's MHA/HCL Foundation-backed CSR and FCRA compliance training[212], both already running in the region, extended to this fuller scope.

Relationship to other components: without this, Component C's matchmaking has nothing credible to match companies to; capacity building is not a side activity but a precondition for the rest of the mechanism working.

Expected contribution: addresses the pattern in which CSR funds directed at the NER often go to organisations based outside the region, by building up locally credible alternatives.

How the Components Work Together

Step	Action	Component
1	Cell compiles, ranks, and refreshes the district-level need shortlist	A, with input from B
2	Cell supports local NGOs on compliance and on programme/budgeting/M&E capacity	D
3	Company browses the platform or attends a facilitation event	C

[212] Mokokchung Times (2026, May). Nagaland Eyes Stronger CSR, FCRA Compliance for Development Opportunities — IDAN training programme organised with the Ministry of Home Affairs and HCL Foundation.

4	Company is matched to a ranked, need-assessed project and a capacitated partner	A + C + D
5	Project is implemented and reported back, with any pooled funds audited on schedule	C

4. Implementation Recommendations

4.1 Phased Approach

- **Phase 1 – Document and pilot (Months 1-6):** formally document Mizoram's and Nagaland's existing models in enough operational detail (governance, staffing, funding source, platform build) that other states can adapt rather than design from scratch, and use that documentation to run a small pilot in one additional state, a lighter-weight version of the Cell (a needs shortlist plus basic facilitation, ahead of a full digital platform), specifically to test whether companies actually engage with it before committing to a wider rollout.
- **Phase 2 –** Refine and extend (Months 7–14): assess the pilot's corporate engagement, project uptake, operating costs and implementation constraints, and refine the model accordingly. Subject to satisfactory pilot findings and state readiness, support phased extension to additional states, prioritising needs assessment and capacity building before a full digital platform**.**
- **Phase 3 – Connect and review (Months 15-24):** link participating State Cells through the shared regional needs-assessment layer. Review corporate engagement, projects matched and funded, implementing-partner readiness, and alignment with identified district needs. Track the region's share of national CSR spending against the baseline as a contextual indicator, without attributing changes to the framework alone.

4.2 Stakeholder Roles

Stakeholder	Role
NER State Governments	Host and fund the Cell, following the Mizoram/Nagaland precedent of anchoring it at the Chief Minister's Office or an equivalent senior level
Line Departments (health, education, environment)	Nominate a named liaison for Component B; supply domain-specific need input
NEDFi / Regional Institutions	Technical and coordination support, drawing on existing regional presence
Development Partners (e.g. UNDP)	Technical/funding support for the digital platform, following Mizoram's existing partnership
NGOs / Implementing Agencies	Participate in capacity-building support; deliver funded projects
Companies	Voluntarily engage the Cell; no company is directed or pressured to participate
MCA	Informed, advisory role only: recognition or guidance, not a binding circular

4.3 Resource Considerations

Because elements of the model already exist in two states, the primary cost for the rest is staffing a small coordination team and building or adapting a digital platform, which Mizoram's experience suggests is feasible in partnership with a development partner rather than through state budget alone. Needs assessment and capacity building can begin with modest resourcing, using data and training formats Mizoram and Nagaland have already piloted. The pilot would estimate staffing, platform maintenance, data updating, stakeholder engagement and capacity-building costs, and identify the funding source for each. Wider extension would depend on confirmed resources and arrangements for meeting recurring costs.

4.4 Risks and Mitigation

Risk	Likelihood	Mitigation
States without an existing model see this as a heavy new institution to build	Medium	Frame as adapting a documented template, not designing from scratch; sequence needs assessment and capacity building ahead of the full platform
NGO capacity-building takes longer than the facilitation side is ready to use	Medium	Run Component D ahead of or alongside Component C's launch, not after it
Needs-assessment data goes stale without a clear owner	Medium	Assign the refresh function explicitly to the Cell rather than leaving it to an external partner
Pooled funds sit unspent or unaccountable, echoing concerns about underused relief funds	Medium-High	Individually attributed reporting, published utilisation schedule, and independent audit, as set out in Component C, and, in any case, not implemented before legal/institutional review confirms who can lawfully hold such funds
Companies do not engage voluntarily in the numbers assumed	Medium	This is a real assumption behind the whole design, not a guarantee; Phase 1 is deliberately a small pilot designed to test it before wider rollout

5. Expected Impact

5.1 Theory of Change

Because this framework has not yet been implemented at the scale proposed here, its impact is best understood as a sequence of linked steps rather than as proven outcomes. Think of it as a chain reaction, starting with the Phase 1 pilot described in Section 4:

1) **Starting Point (Phase 1 pilot):** A State CSR Facilitation Cell begins by compiling and ranking district-level needs, and pairs those priorities with a roster of credible, capacity-built implementing partners. *(Assumption: the Cell can generate trust by using verified data and transparent processes.)*
2) **Immediate Effect:** Companies would gain access to a visible pipeline of screened projects and implementing partners, complementing existing routes for project identification. *(Assumption: visibility and credibility reduce hesitation.)*
3) **Intermediate Change:** With search and due-diligence costs lowered, companies gain both the practical ability and the willingness to fund larger, more need-responsive projects in the region. *(Assumption: firms act when transaction costs are reduced.)*

4) **Longer-Term Outcome:** If the preceding steps hold, the framework could improve alignment between CSR spending and documented need and contribute to increased investment in the Northeast, alongside other influences. *(Assumption: companies continue to use the Cell once it proves effective.)*

This chain rests on real assumptions, most importantly that companies will engage with the Cell once it exists. That is exactly why Phase 1 is designed as a small, observable pilot rather than a full rollout: to test whether the mechanism attracts corporate participation before scaling further.

5.2 Other Expected Benefits

- **Improvement over the current system:** today, as per available knowledge, only two of the NER's eight states have begun building a facilitation body of this kind; the framework gives the rest a documented, low-risk path to build one.
- **Efficiency gains:** a shared, ranked need list and platform could reduce the time between a company's interest in the NER and an actual funded project.
- **Stakeholder benefits:** NER communities gain a more predictable, need-matched project pipeline; companies gain a lower-cost path to credible partners; local NGOs gain a route to visibility and deeper capacity; state governments gain a documented model rather than having to invent one.
- **Scalability:** Existing initiatives in Mizoram and Nagaland provide a starting point for other states, with extension guided by pilot findings and adaptation to local conditions.

Short, Medium and Long-Term Impact

- **Short term (within 12 months):** Mizoram's and Nagaland's models are documented for other states to adapt; the Phase 1 pilot runs in at least one additional state.
- **Medium term (12-24 months):**-subject to pilot findings and state readiness, the model is extended to additional NER states, with participating Cells connected through a shared regional needs-assessment layer.
- **Long term (beyond 24 months):** the framework can reasonably be expected to contribute to improved alignment between CSR funding and documented need, and potentially to increased investment in the region over time, but it cannot, on its own, guarantee or be assumed to cause an increase in the NER's overall share of national CSR spending, which depends on many factors outside this framework's control. Tracking that share over time against the baseline is still worthwhile, as one signal among several.

6. Next Steps and Conclusion

The value of this framework is that it does not start from nothing: elements of a state-anchored facilitation body, a digital platform, and NGO capacity building are already operational or emerging in Mizoram and Nagaland, and Nagaland's own conclave alone secured over ₹30 crore in CSR commitments in a single event[213], suggesting this kind of facilitation approach can generate real interest. What is missing is a documented, replicable version of that approach for the rest of the region, and the connective pieces- ranked needs assessment, multi-department coordination, a properly reviewed approach to fund-pooling, and deeper capacity building- that could make it work even better.

Immediate Actions

- Formally document the governance, staffing, and funding structure of Mizoram's CSR Cell and Nagaland's IDAN in enough detail for another state to adapt them.

[213] Department of Information & Public Relations, Government of Nagaland (2026, June 23). IDAN Secures ₹30 Cr CSR Commitments at Nagaland Connect 2026–Delhi.

- Identify one additional NER state as a candidate for the Phase 1 pilot.
- Begin compiling and ranking the shared district-level needs-assessment shortlist using existing government data sources.

Opportunities for Future Enhancement

- Explore linking the state-level Cells into a shared regional platform once more states have their own operating. This would help companies identify opportunities across states and enable Cells to share project information, implementing-partner networks and lessons from implementation.
- Refer the documented model to MCA as a possible reference point for future guidance, once results from the extension are available.

India's CSR law has proven its ability to mobilise capital at scale over the last decade. Mizoram and Nagaland have begun building the institutional pieces that could help more of that capital reach the Northeast, without needing any change to national law. This paper's contribution is to document that approach clearly enough, and govern its newer elements carefully enough, for the rest of the Northeast to build on it, while being honest that whether it actually shifts the Northeast's share of CSR spending is something to test and track, not assume.

Editorial Notes

Reviewers encouraged a stronger comparative analysis of CSR allocation patterns across regions and clearer identification of the factors contributing to disparities. The paper could further examine how a facilitation framework would address the specific constraints faced by the Northeast and connect companies' CSR priorities with local development needs. Future refinement should make the implementation mechanism, coordination arrangements and expected outcomes more explicit. Some of the feedback has since been incorporated in the paper.

From Compliance to Coherence - Proposing an Institutional Translation Layer for CSR-Development Planning Alignment in India's

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Executive Summary

India's Corporate Social Responsibility (CSR) framework and its public development planning architecture have both evolved significantly over the past decade, yet they continue to operate as parallel systems with limited institutional interaction. In India's North Eastern Region (NER), this disconnect is reflected in measurable patterns: CSR investment is heavily concentrated in Assam (approximately 71 per cent of total NER expenditure for FY 2022–25), sectors prioritised across national and regional planning frameworks do not consistently receive corresponding corporate investment, and companies lack consolidated, decision-ready access to the development intelligence that public institutions continuously generate.

This paper diagnoses the problem not primarily as a failure of intent by government or corporations, but as an institutional gap. Drawing on Policy Coherence for Sustainable Development (PCSD) and principles of knowledge translation[214], it identifies two diagnosed coherence failures at the CSR–planning interface— institutional fragmentation, where development priorities are dispersed across multiple agencies with no integrating mechanism, and information asymmetry, where companies cannot easily access consolidated, district-level development intelligence during CSR planning cycles. It also identifies a potential temporal mismatch: some public policy signals may arrive after corporate CSR annual action plans are being formulated or approved. This timing issue is treated as a plausible sequencing risk to be tested through the ITL pilot, not as a system-wide pattern established by the present evidence.

These failures are compounded by the structural mechanics of how CSR allocation currently works in India. CSR project selection is a board-driven, internally focused process, shaped primarily by company operational presence, implementation partner networks, and institutional inertia. For regions like the NER, geographically peripheral to most corporate headquarters, with limited company presence and uneven local implementation capacity, this creates structural frictions that aggregate spending data alone cannot capture.

To address these gaps, the paper proposes an **Institutional Translation Layer (ITL)**: a dedicated intermediary function, not a new statutory body, designed to translate public development intelligence into decision-ready inputs for corporate CSR planning. The ITL is proposed to operate under the strategic oversight of the Department of Public Enterprises (DPE) and the Ministry of Development of North Eastern Region (MDoNER), with the North Eastern Development Finance Corporation Ltd (NEDFi) as the pilot technical host. Its three core outputs, an Annual NER CSR Priority Brief (maximum 12 pages), district-level Development Profiles and Opportunity Briefs, and a curated CSR-ready Project Repository, correspond to the diagnosed and hypothesised coherence gaps and reduce the information-search and transaction costs companies currently bear when investing in the region. Participation in the ITL does not create any additional mandatory reporting obligations.

Implementation is proposed in three phases: Pilot Design (months 0–6); Pilot (months 6–12), including user-testing the first Priority Brief with Central Public Sector Enterprise (CPSE) CSR teams; and Institutionalisation (months 12–24). A Priority Brief Uptake Assessment Framework, covering reach, relevance, engagement, instrumental use, investment alignment, and product quality, provides a structured basis for evaluating whether

[214] Gurukkal, R. (2022). Knowledge Translation: A Challenge in Research. *Higher Education for the Future*, *9*(2), 129-131. https://doi.org/10.1177/23476311221110342

OECD. (2016). Better policies for sustainable development 2016: A new framework for policy coherence. OECD Publishing. https://doi.org/10.1787/9789264256996-en

the Brief is actually being used, and how. The ITL is not designed to direct or constrain corporate CSR decisions. Its value proposition rests on reducing friction: consolidating what is currently scattered, packaging what is currently inaccessible, and timing delivery to align with corporate CSR planning cycles.

1. The Challenge and Problem Diagnosis

India's CSR framework and its public development planning architecture have both evolved significantly over the past decade. While public institutions generate increasingly sophisticated regional development intelligence, through the NER District SDG Index, Finance Commission recommendations, DPE guidance and State development plans, corporate CSR planning continues to operate through a separate decision-making ecosystem. The analysis undertaken in this paper did not identify a systematic institutional mechanism translating those priorities into actionable inputs for corporate CSR planning in the NER. Public planning and private development finance therefore tend to function as parallel systems rather than complementary ones.[215]

Illustrative timeline: public signals and the CSR planning cycle

1 February 2026 — The Union Budget for FY 2026–27 was presented before the financial year began. 1 April 2026 — FY 2026–27 commenced; under the Companies (CSR Policy) Rules, the CSR Committee recommends an annual action plan to the Board, and the Board may alter it during the financial year. 3 August 2026 — DPE issued its common CSR themes for FY 2026–27 and 2027–28, after the financial year had begun. This sequence illustrates a possible timing friction between annual planning and later policy guidance, but does not prove that companies had already finalised their plans or that all companies experienced a mismatch. The study did not collect company-level approval dates; temporal mismatch is therefore treated as a hypothesis for the ITL pilot to test. (Sources: Ministry of Finance, 2026; Ministry of Corporate Affairs, 2021; Department of Public Enterprises, 2026.)

Across FY 2022–23 to FY 2024–25, the eight NER states accounted for **2.06% of India's total CSR expenditure**, indicating that only a small share of national CSR spending reached the region.

Three persistent patterns further characterise the disconnect. First, CSR investment is geographically concentrated within the Northeast: Assam alone accounts for approximately ₹1,578 crore, around 71 per cent of total NER CSR expenditure for FY 2022–23 to 2024–25 (Figure 1), while the remaining seven states collectively received approximately ₹642 crore; Arunachal Pradesh, the second-highest recipient, received approximately one-tenth of Assam's share. Second, sectors repeatedly identified as development priorities through national and regional planning frameworks do not consistently receive corresponding CSR investment. Third, although multiple institutions generate valuable planning intelligence, expert consultations indicated that this information is not available to companies in a consolidated, decision-ready form during CSR planning and project selection.

[215] NITI Aayog, & Ministry of Development of North Eastern Region. (2025). North Eastern Region District SDG Index 2023–24. Government of India. https://niti.gov.in/node/1708 ; Department of Public Enterprises. (2026, August 3). Alignment of CSR expenditure of CPSEs with national priorities—Common theme for FY 2026–27 and 2027–28 [Office memorandum]. Ministry of Finance, Government of India; Sixteenth Finance Commission of India. (2026). Report of the Sixteenth Finance Commission for 2026–2031. Government of India. https://fincomindia.nic.in

Figure 1 : State-wise Distribution of CSR Expenditure in the North Eastern Region (FY 2022–23 to FY 2024–25)

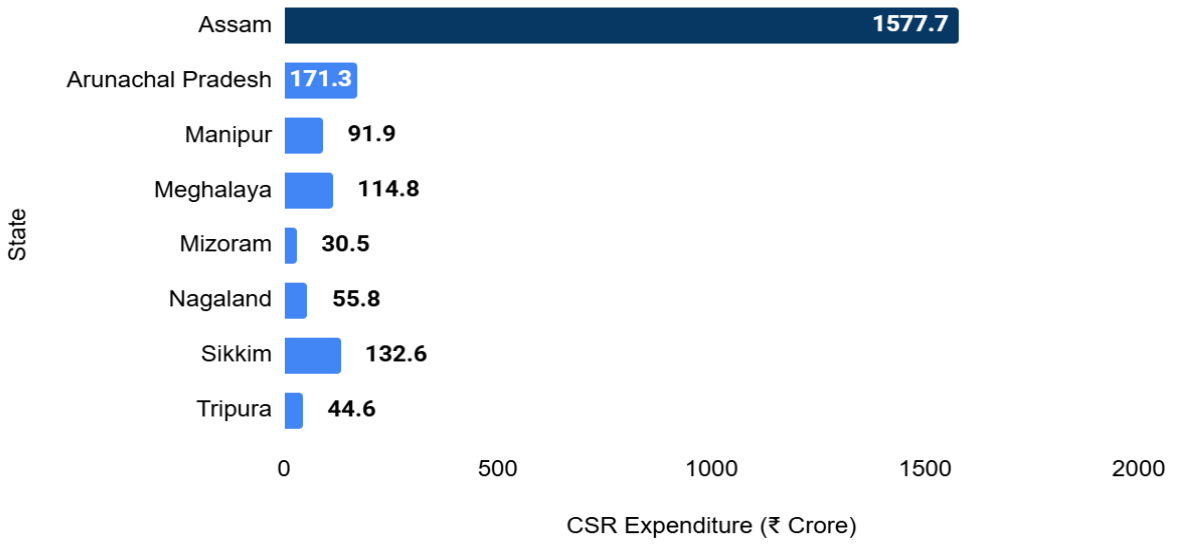


Table 1 compares sector-wise CSR investment (shown in Figure 2) against five key planning frameworks: the NER District SDG Index 2023–24, the Union Budget 2026–27, the 16th Finance Commission (2026–31), the PM Dhan-Dhaanya Krishi Yojana (PMDDKY), and DPE Common CSR Themes. The assessment is qualitative and indicative, examining the relationship between sectoral CSR expenditure shares and policy salience across these frameworks. It does not apply fixed numerical cut-offs or a numerical score, and policy signals are not counted as equivalent units. Policy salience is assessed in terms of each signal's strength, specificity and relevance. Investment is read relative to the distribution observed in the dataset: Health/Nutrition/WASH, Education/Livelihood/Disability and Rural Development together account for about 84 per cent of expenditure (84.3 per cent using the displayed shares), and each exceeds 13 per cent, while no other named sector exceeds 10 per cent; "relatively high or substantial" refers to this group. Direct signals include explicit sectoral priorities, dedicated themes or clearly specified interventions; indirect signals include cross-cutting objectives, documented development gaps or related interventions that overlap with a sector's needs. "Converging" denotes relatively high or substantial investment accompanied by clear, convergent policy priorities. "Significant policy–investment gap" denotes investment that appears modest relative to strong or broad policy salience. "Limited convergence" denotes low investment alongside narrow, indirect or less convergent policy signals, or signals insufficient to establish a significant gap. A short rationale for each classification follows the table. These are qualitative comparisons within the observed dataset, not universal benchmarks; they neither prescribe an optimal sectoral allocation nor establish underfunding against independently assessed needs.

Table 1: Sector-wise CSR Investment and Policy–Investment Patterns in the NER (FY 2022–25)[216]

Sector	CSR Share	NER SDG Index	Union Budget 2026–27	16th FC	PMDDKY[217]	DPE Theme	Indicative Policy–Investment Pattern
Education, Livelihood & Disability	32.3 %	80 districts (66%) Front Runners; learning outcome gaps remain	Strong: skilling, employability	—	Agricultural skilling (limited)	Livelihood Enhancement; PM Internship (indirect)	Converging
Health/Nutrition/WASH	38.5 %	40% Front Runners; 5% Aspirants	Strong: healthcare, nutrition	—	Allied-sector (limited)	TB Mukt Bharat; Anganwadi (explicit)	Converging
Rural Development	13.5 %	76% Front Runners on SDG 9; district variation	Strong: rural infrastructure	—	Irrigation, storage, logistics (core)	Water Conservation; Livelihood (indirect)	Converging
Environment	9.6%	41% Aspirants on SDG 13 (documented climate-action gap)	Green growth; climate resilience (direct policy priorities)	Forest criterion: 10% horizontal weight (fiscal devolution signal; not CSR-specific)	Water conservation; soil health (core scheme interventions; agricultural focus)	Water Conservation (explicit CSR theme; direct signal)	Significant policy–investment gap
Sports	3.2%	Not measured as standalone SDG	Khelo India and related	—	Not a core objective	Sporting Activities (explicit)	Limited convergence

[216] Notes: "—" denotes no explicit sector-specific priority recorded in that framework. CSR shares are from the National CSR Portal (FY 2022–23 to FY 2024–25); policy signals are from NITI Aayog and MDoNER (2025), Ministry of Finance (2026), Sixteenth Finance Commission (2026), Department of Agriculture & Farmers Welfare (2025) and DPE (2026). The Environment row distinguishes direct policy/CSR signals from fiscal, scheme-overlap and development-gap indicators. Classifications are indicative patterns, not normative allocation prescriptions.

[217] *Note on PMDDKY: this is a targeted agricultural productivity scheme, not a region-wide development framework. Its inclusion reflects the fact that several of its component interventions — water conservation, soil health, post-harvest logistics, overlap with documented NER development needs, making it relevant as a partial signal rather than a comprehensive planning reference.*

Sector	CSR Share	NER SDG Index	Union Budget 2026–27	16th FC	PMDDKY[217]	DPE Theme	Indicative Policy–Investment Pattern
Gender Equality	2.3%	93% Front Runners on SDG 5; SDG 10 gaps persist	Women's economic participation	—	Indirect; livelihood interventions	No dedicated theme	Limited convergence
Heritage/Culture	0.5%	Not measured by SDG Index	Buddhist Circuit; heritage tourism (specific, place-bound signal)	—	No priority	No dedicated theme	Limited convergence

Rationale for each classification.

Health/Nutrition/WASH (38.5%) — Converging. Largest share of CSR expenditure, matched by a strong Union Budget healthcare and nutrition signal and explicit DPE themes (TB Mukt Bharat, Anganwadi). Few districts are Aspirants on the SDG Index, so convergence reflects policy priority more than residual need.

Education, Livelihood & Disability (32.3%) — Converging. Second-largest share, matched by a strong Union Budget skilling and employability signal and the DPE Livelihood Enhancement theme, with indirect links through PM Internship and agricultural skilling. Learning-outcome gaps remain in the SDG Index.

Rural Development (13.5%) — Converging. Third-largest share and the only other sector above 10 per cent. Supported by a strong Union Budget rural-infrastructure signal and PMDDKY core objectives (irrigation, storage, logistics), with indirect DPE links.

Environment (9.6%) — Significant policy–investment gap. Environment has the broadest set of relevant policy signals and contextual indicators across the five frameworks, but these are not all direct CSR priorities: the Union Budget identifies green growth and climate resilience; DPE explicitly lists Water Conservation as a CSR theme; the 16th Finance Commission's forest criterion is a fiscal devolution signal rather than a CSR commitment; PMDDKY's water-conservation and soil-health interventions are relevant overlaps within an agricultural productivity scheme; and the SDG Index records a climate-action gap (41 per cent of districts are Aspirants on SDG 13). This mix indicates substantial policy salience, though the signals differ in purpose and specificity. Against that breadth, Environment accounts for 9.6 per cent of observed CSR expenditure, below the three converging sectors. The classification is therefore an indicative policy–investment gap, not a claim that the sector is objectively underfunded.

Sports (3.2%) — Limited convergence. Direct but narrow signals (an explicit DPE theme and Khelo India), with no SDG Index measure, no Finance Commission signal and no PMDDKY link. The low share is consistent with the narrowness of the signals rather than a pronounced gap.

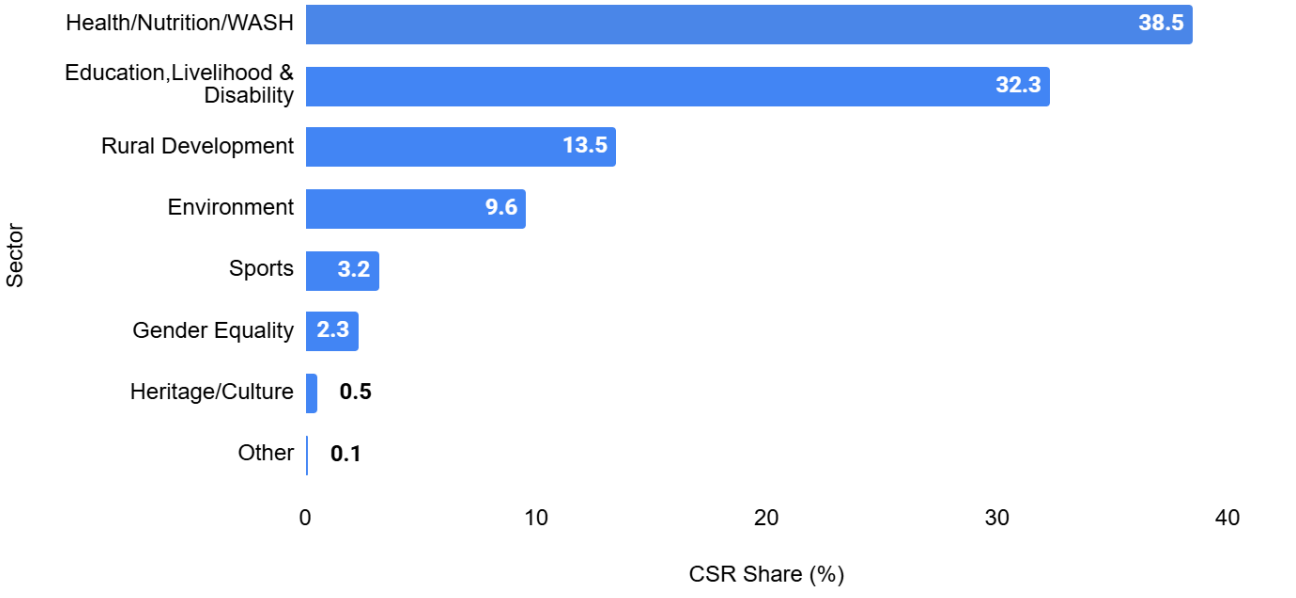
Gender Equality (2.3%) — Limited convergence. A Union Budget signal on women's economic participation and indirect livelihood links, but no dedicated DPE theme; the SDG Index is mixed (93 per cent Front Runners on SDG 5, with SDG 10 gaps persisting), so evidence of unmet need is less clear-cut.

Heritage/Culture (0.5%) — Limited convergence (tentative). The Union Budget's Buddhist Circuit and heritage-tourism reference is a narrow, place-specific signal, not evidence of a broad cultural-sector priority. No corresponding signal is recorded in the other four frameworks. The very low CSR share is notable, but the available evidence is insufficient to infer a significant policy–investment gap from this single signal alone; the classification should be revisited if broader heritage or culture priorities are identified.

Three patterns emerge. First, convergence: Health/Nutrition/WASH, Education/Livelihood/Disability and Rural Development combine relatively high or substantial CSR investment with clear and relevant policy priorities. Second, a significant policy–investment gap is most evident for Environment (9.6 per cent), where a broad set of relevant policy signals and contextual indicators sits alongside a more modest investment share. Sports (3.2 per cent), Gender Equality (2.3 per cent) and Heritage/Culture (0.5 per cent) are classified as showing limited convergence: their investment shares are low, but the recorded policy signals are narrower, indirect, mixed or insufficient to establish a significant gap. Third, geographic concentration persists: even in sectors classified as converging, investment is disproportionately concentrated in Assam, leaving states such as Nagaland, Tripura and Arunachal Pradesh with substantially lower CSR investment relative to Assam. The classifications are indicative and do not establish the optimal level of investment for any sector.

These patterns reflect not a failure of planning or governance in isolation, but an institutional disconnect: development priorities are continuously generated, while CSR decisions are made through separate cycles with limited access to that intelligence in decision-ready form.

Figure 2 : Sectoral Distribution of CSR Investments across the North Eastern Region (FY22–25)



[218]

2. Methodology

This paper combines three evidence streams: (i) a review of five national and regional policy frameworks relevant to NER development priorities and CPSE CSR expectations; (ii) descriptive analysis of National CSR Portal expenditure data for FY 2022–23 to FY 2024–25, disaggregated by state and sector using the thematic classifications used in the underlying dataset; and (iii) two semi-structured expert consultations: one with AK Das, General Manager, NEDFi, and one with an expert who preferred to remain anonymous, informing solution

[218] *Source: National CSR Portal.*

design. Consultation findings are treated as practitioner perspectives rather than representative evidence; the small sample reflects the exploratory and solution-oriented character of this paper. This analysis examines aggregate patterns of CSR expenditure and their relationship with documented development priorities; it does not assess the effectiveness or impact of individual CSR projects. The alignment assessment does not prescribe an optimal sectoral allocation of CSR expenditure.[219] Historical CSR expenditure for FY 2022–23 to FY 2024–25 is compared with more recent policy priorities to identify potential opportunities for future investment. This comparison does not assess past compliance or imply that companies should have aligned earlier expenditure with policies introduced subsequently.

3. Conceptual Foundation

The Institutional Translation Layer (ITL) draws on three complementary bodies of governance and public administration theory: Strategic Development Governance, Policy Coherence for Sustainable Development (PCSD), and Knowledge Translation and Intermediaries. Together, these perspectives position the ITL as an applied mechanism for reducing institutional friction between public planning systems and private development capital.

Strategic Development Governance : CSR has evolved from ad-hoc philanthropy toward a form of strategic development governance[220]. Institutional mechanisms that connect private CSR allocations to public priorities, while preserving corporate autonomy, can help improve the conditions for more coherent development investment.

Policy Coherence for Sustainable Development (PCSD) : The disconnect between public planning and corporate investment can be understood through PCSD. Applied to the NER CSR context, this paper operationalises two diagnosed gaps in this case, institutional fragmentation and information asymmetry—and a third, potential temporal mismatch. The timing issue is treated as a plausible design risk, supported by an illustrative chronology of policy releases and the CSR planning cycle, rather than as an empirically established pattern across companies. These are the paper's own operationalisation of PCSD principles for the CSR–planning interface, not terms the OECD applies to CSR directly.[221]

Knowledge Translation and Intermediaries : Planning documents from NITI Aayog and Finance Commissions are technically rich but not structured for corporate CSR committees operating on different timelines and with different information needs. The ITL applies knowledge brokerage[222] principles to the CSR–planning interface: its function is not to produce new development data, but to consolidate and reframe existing public planning intelligence into forms usable within corporate CSR decision cycles.

4. Proposed Solution: The Institutional Translation Layer (ITL)

The ITL is proposed as a dedicated intermediary function, not a new statutory authority, involving multiple actors under a shared governance arrangement. NEDFi is proposed as the pilot technical host: the entity that would operationally produce ITL outputs and manage the project repository. NEDFi is not the ITL; the ITL is the intermediary function as a whole, with DPE and MDoNER retaining strategic oversight. NEDFi was established in 1995 under MDoNER with an existing mandate covering development finance, advisory services, and investment facilitation across the NER, making it a suitable candidate for consideration as the technical host. This designation remains subject to legal review of mandate scope and a DPE–MDoNER joint office memorandum.

[219] Ministry of Corporate Affairs. (n.d.). National CSR Data Portal. Government of India. https://www.csr.gov.in/

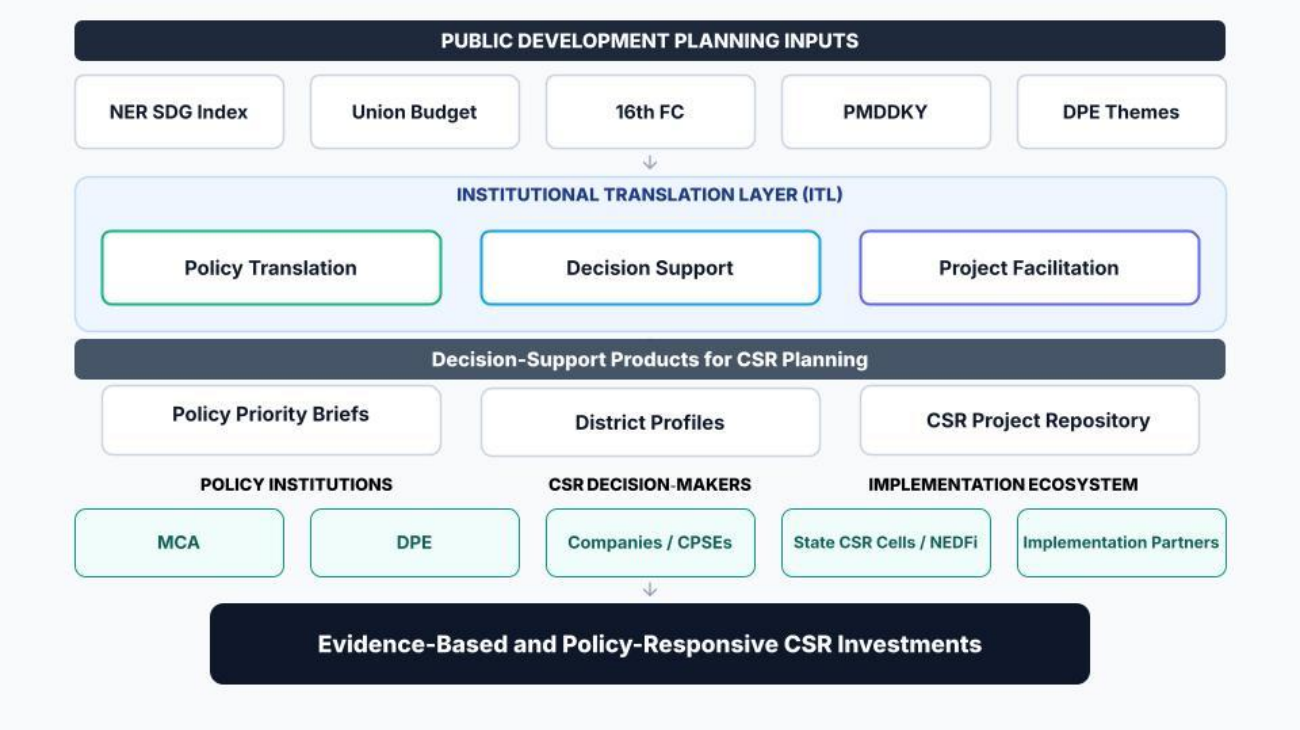
[220] Moon, J. (2014). *Corporate social responsibility: A very short introduction*. Oxford University Press. https://doi.org/10.1093/actrade/9780199671816.001.0001

[221] OECD. (2016). Better policies for sustainable development 2016: A new framework for policy coherence. OECD Publishing. https://doi.org/10.1787/9789264256996-en

[222] Lomas, J. (2007). The in-between world of knowledge brokering. *BMJ, 334*(7585), 129–132. https://doi.org/10.1136/bmj.39038.593380.AE

Companies and CPSEs would be voluntary users with no additional mandatory reporting obligations arising from ITL participation

For companies and CPSEs, the ITL offers a practical value proposition. Currently, identifying credible, investment-ready development opportunities in the NER requires each organisation to independently navigate multiple planning documents, engage multiple government agencies, and develop project concepts without access to consolidated regional development intelligence, generating substantial information-search and transaction costs. The ITL reduces these costs directly: the Annual Priority Brief consolidates priority intelligence into 12 pages; District Profiles translate that intelligence into geography-specific formats ready for CSR committee use; and the Project Repository provides pre-screened project concepts that companies can adopt or adapt. The ITL is intended to complement, not displace, private CSR advisory and research services, by offering a publicly governed, state-validated source specific to the NER.



4.1 Understanding the Current CSR Allocation Mechanism

The case for the ITL becomes clearer when the current CSR allocation process and its structural frictions are examined.

Table 2: Current CSR Allocation Mechanism: Stages and Structural Frictions[223]

Stage	What Happens	Structural Friction
Eligibility and Budget Setting	Qualifies under Section 135 if net worth ≥ ₹500 crore, turnover ≥ ₹1,000 crore, or net profit ≥ ₹5 crore. Mandatory spend is 2% of average net profits over the preceding three years. CPSEs additionally guided by DPE guidelines and annual thematic Office Memoranda.	Budget is profit-linked and backward-looking; companies with declining profits may reduce CSR spend in the same year development needs increase. CPSEs retain board-level discretion within DPE guidance.

[223] *Sources: Companies Act, 2013 (Section 135); DPE Guidelines on CSR for CPSEs (2013); DPE Office Memorandum on Alignment of CSR Expenditure with National Priorities (2026); India CSR Outlook Report 2024 (CSRBOX); IDR Online.*

Stage	What Happens	Structural Friction
CSR Committee and Policy Formulation	Companies required to constitute a CSR Committee must follow the composition prescribed for their company category. Where the CSR spending obligation does not exceed ₹50 lakh, the Board performs the Committee's functions. The committee formulates a CSR Policy and Annual Action Plan for board approval.	The CSR Policy is an internal document with no requirement to respond to external development priorities. Focus areas are shaped by company values, sector experience, and existing implementation partnerships rather than district-level need assessments.
Project Identification and Selection	Companies identify projects through internal scoping, NGO proposals, implementing agency networks, and, for CPSEs, engagement with Aspirational District nodal officers. Section 135(5) directs preference toward local areas of operation, though this is directory rather than mandatory.	Local area preference structurally concentrates CSR in states with high corporate presence. Companies without an NER operational footprint have no statutory incentive to invest in the region regardless of documented need. Project concepts are largely company-driven and network-dependent; no standardised regional intelligence product currently exists.
Implementation	CSR is implemented directly or through registered trusts, Section 8 companies, or implementing agencies with a three-year track record.	Uneven implementation capacity in the NER means companies unfamiliar with the region face higher transaction costs in vetting partners, securing approvals, and maintaining oversight, creating a disincentive to invest beyond existing areas of operation.
Reporting and Compliance	Companies file annual CSR reports in the MCA21 registry disclosing spend, projects, and unspent amounts. Unspent funds for non-ongoing projects must be transferred to a Schedule VII fund within six months.	The compliance architecture is disclosure-based, not outcome-based. There is no requirement to demonstrate alignment with district development priorities. Difficulty identifying suitable projects and partners is a documented but not predominant reported friction; see the evidence note below.

Four structural features of this mechanism are directly relevant to the NER's CSR gap. First, the local area preference under Section 135(5) is directory, not mandatory, but it can contribute to the concentration of CSR in states with high corporate presence, potentially disadvantaging regions such as the NER even where documented development needs are significant. Second, project identification is largely company-driven and network-dependent, with no standardised regional intelligence product available. Third, CSRBOX's India CSR Outlook Report 2024 found that 6 per cent of the 68 surveyed companies reporting unspent CSR funds cited identifying partners and projects as a reason[224]. This indicates a reported friction, but does not establish that it is a predominant cause across all companies. Fourth, the disclosure-based compliance architecture creates no incentive to invest in less familiar, higher-transaction-cost geographies. The NER's relative unfamiliarity amplifies this disincentive. The

[224] CSRBOX Research Desk. (2024). India CSR Outlook Report 2024 (p. 10).

ITL does not alter the Section 135(5) local-area preference or companies' operational footprints; it addresses the information and transaction-cost dimension of these frictions, which is where an advisory mechanism can act.

4.2 ITL Components and Operating Logic

Table 3: ITL Components and Operating Logic

Component	Function	Proposed Actor
Institutional form	Dedicated intermediary function within existing architecture, not a new statutory authority.	NEDFi (pilot technical host, pending mandate review and DPE–MDoNER joint OM)
Strategic oversight	Policy coordination, priority validation, mandate governance.	DPE + MDoNER
State interface	Validate district priorities; nominate investment-ready projects; provide state-level context.	State nodal agencies
Policy Translation	Annual NER CSR Priority Brief (maximum 12 pages): synthesises NER SDG Index, Union Budget, Finance Commission, MDoNER and DPE priorities into one decision-ready document. Published by December ahead of CSR planning cycles (timing refined during pilot).	ITL technical team (NEDFi)
Decision Support	State-specific priority summaries, district development profiles and sector-specific opportunity briefs that translate consolidated planning intelligence into formats usable by CSR committees.	ITL + State agencies
Project Facilitation	Curated CSR-ready Project Repository: project concepts screened for documented need, community validation, feasibility, additionality, and CSR eligibility. Standardised concept notes; implementation partner directory.	ITL + State agencies
Coordination	Periodic multi-stakeholder review: DPE, MDoNER, State agencies and companies update ITL products and review alignment patterns.	DPE + MDoNER + States
Voluntary Incentives	Non-regulatory incentives for policy-aligned CSR: voluntary recognition, structured engagement forums, capacity-building support.	Participating institutions
Users	Voluntary use in CSR planning; no additional mandatory reporting obligations arising from ITL participation.	Companies and CPSEs

The ITL does not currently exist as an operational institution. All functions and actor assignments are proposed for a pilot phase, pending legal and institutional review.

The proposed ITL would complement state CSR facilitation mechanisms by consolidating regional development intelligence and coordinating inputs across states. State CSR cells or designated nodal agencies would validate local priorities, support implementing partners and facilitate projects, while the ITL would draw these inputs together into regional, state-specific and district-level information products. Shared templates and linked project repositories would connect the two levels and avoid duplication of platforms and functions.

The three core functions, Policy Translation, Decision Support and Project Facilitation, map onto the coherence gaps identified in Section 1 (two diagnosed, one hypothesised). Voluntary Incentives address the uptake dimension: voluntary recognition by relevant government institutions, structured engagement forums and capacity-building support provide non-regulatory incentives for policy-aligned CSR alongside the value proposition described above.

4.3 What the Annual Priority Brief Would Contain

The Annual NER CSR Priority Brief is the ITL's primary policy translation output. It follows a fixed six-section structure (maximum 12 pages), reviewed annually based on user feedback:

- **Section 1 (1 page):** NER CSR Snapshot - aggregate spend, state-wise distribution, key sector shares, a brief narrative on key changes since the previous Brief.
- **Section 2 (2 pages):** Policy Priority Synthesis - consolidated reading of the five planning frameworks with explicit note of convergence and divergence.
- **Section 3 (2 pages):** District Alignment Overview - districts grouped into indicative categories based on CSR investment volume and alignment signals. A diagnostic grouping, not a ranking or performance score.
- **Section 4 (4 pages):** Investment Opportunity Areas - three to four thematic areas, each with: documented need and evidence; government scheme landscape and existing programme coverage; current CSR footprint and areas of relative under-coverage; and two to three indicative project archetypes.
- **Section 5 (1 page):** How to Use This Brief - guidance on accessing district profiles, submitting an expression of interest via the matching layer, and contacting the relevant State nodal agency.
- **Data Annex (1–2 pages):** Data sources and vintage statements. All figures carry a clear statement of the data year.

The regional Priority Brief would be supplemented by state-specific priority summaries and district profiles reflecting differences in development needs, geography, existing programme coverage and implementation constraints. This would enable companies to assess locally relevant opportunities while retaining an overview of shared regional priorities.

4.4 The Project Matching Process

A company or CPSE that has read the Annual Priority Brief and identified a sector or state of interest submits a brief Expression of Interest to the ITL nodal team at NEDFi, specifying sector preference, approximate budget range, preferred implementation modality, and geographic constraints. The nodal team in the ITL cross-references this against the Project Repository and returns a shortlist of two to four vetted project concepts within ten working days, each with a standardised concept note covering need, proposed intervention, estimated cost, implementation partner options, and administrative approvals already in place. If the company chooses to proceed, the ITL facilitates an introduction to the relevant State nodal agency and implementation partner. Companies remain free to decide whether to proceed after an introduction. ITL participation creates no additional mandatory reporting requirement; applicable statutory and project-specific reporting obligations continue.

Companies that do not submit an Expression of Interest can still access the full Project Repository through the ITL's digital interface. The matching layer is a convenience service; it is not a gateway that restricts repository access.

4.5 Priority Brief Uptake Assessment Framework

A key challenge for information products is distinguishing distribution from actual use. The ITL builds in a structured uptake assessment from the first publication cycle, across six dimensions. This is a learning tool, not a

compliance mechanism, that tells the ITL team what to improve and provides DPE and MDoNER with evidence on whether the mechanism is functioning as intended.

Table 4: Priority Brief Uptake Assessment Framework

Dimension	What is Being Measured	Indicators	Data Source / Method
Reach	Whether the Brief reaches intended decision-makers	Number of companies/CPSEs that accessed or downloaded the Brief; number of CSR committee members who report receiving it	ITL distribution records; optional registration at point of access
Relevance	Whether users find products useful for CSR planning	Proportion rating products "relevant" or "highly relevant"; qualitative feedback on format and content gaps	Annual user survey (5–7 questions); focus group with 3–5 CPSE CSR heads after pilot year
Engagement	Whether the Brief generated active follow-through	Number of expressions of interest submitted; number of companies requesting district profiles or repository access; number of coordination meetings attended by companies	ITL matching layer records; meeting attendance logs
Instrumental Use	Whether the Brief directly informed a CSR decision	Number and proportion of CSR proposals referencing ITL products; self-reported use in CSR planning	Voluntarily shared CSR proposals or planning documents; user survey; structured debrief interviews with 5–8 companies per year. Public disclosures of CSR projects and expenditure may corroborate subsequent investment but do not establish use of the Brief.
Investment Alignment	Whether Brief use is associated with shifts toward sectors showing policy–investment gaps and priority geographies	Year-on-year change in CSR expenditure share for priority sectors and geographies identified through the pilot, compared with the pre-ITL baseline. Environment is an illustrative candidate for follow-up; other sectors should be selected only after local needs and policy salience are validated..	National CSR Portal data, disaggregated annually; comparison against pre-ITL baseline established in Phase I
Product Quality	Whether the Brief is accurate, timely, and improving	Whether Brief is published before December deadline; proportion of indicators updated with the latest available data;	ITL internal review; user error-reporting mechanism; annual editorial review

Dimension	What is Being Measured	Indicators	Data Source / Method
		number of errors or outdated figures reported by users	

Evidence that the Brief informed decisions will be assessed through voluntarily shared documents and company accounts of its use. Investment shifts towards identified priorities will provide supporting evidence, but will not by themselves demonstrate use of the Brief or establish attribution to the ITL.

Assessment data will be compiled annually and presented at the multi-stakeholder coordination meeting. The results will directly inform which sections of the Brief are to be revised, whether the matching layer requires redesign, and whether specific states or sectors need more targeted outreach. Reaching intended users is the first step; evidence of their engagement with the Brief and its use in planning would provide a stronger basis for assessing whether the mechanism informs CSR decisions. The uptake assessment will be reviewed every two years to ensure that its indicators remain relevant as the ITL matures.

5. Implementation and Feasibility

The expert consultations highlighted three design considerations: the mechanism must remain advisory rather than regulatory; companies require access to credible, investment-ready project opportunities; and the proposed technical host must operate within a clearly defined institutional mandate. These informed the non-regulatory design of the ITL, the curated project repository, and the recommendation for a pilot preceded by legal and institutional review.

Before the pilot begins, the participating institutions would need to agree on staffing and funding arrangements. A small technical and coordination team would require capacity for data analysis, preparation of briefs and profiles, project screening, and liaison with states and companies. Principal costs would include staff time, repository development or adaptation, stakeholder engagement, user-testing and annual updates. The pilot design phase would identify the funding source and distinguish contributions from existing institutional resources from any additional budget required.

Table 5: Phased Implementation, Key Risks and Mitigations

Phase	Timeline	Key Actions	Key Risk	Mitigation
I — Pilot Design	0–6 months	Legal review of NEDFi mandate; confirm institutional roles; issue DPE–MDoNER joint OM; develop Priority Brief methodology and district profile templates. Pilot states selected on: (i) presence of active State-level CSR facilitation mechanisms (Mizoram and Nagaland have existing models) and (ii) concentration of Aspirant districts under NER SDG Index. Pilot companies	Mandate gap — proposed host may lack authority for some ITL functions.	Legal review before designation; no function assigned without confirmed authority.

Phase	Timeline	Key Actions	Key Risk	Mitigation
		drawn from CPSEs with NER operational presence and multi-year CSR commitments.		
II — Pilot	6–12 months	Publish first Annual NER CSR Priority Brief; develop initial district profiles and project pipeline; user-test draft Brief with 3–5 CPSE CSR teams before publication. Apply Uptake Assessment Framework from first publication.	Limited uptake — companies may not engage with a new information product.	Brief capped at 12 pages; products user-tested before release. Publication timing refined based on observed CSR planning cycles.
III — Institutionalisation	12–24 months	Refine products based on feedback; establish annual update cycles; assess alignment change against baseline; explore CSR Portal integration (subject to MCA approval).	Stale data / uneven State capacity.	Annual Portal refresh; biennial data refresh; clear vintage statements in each Brief; targeted NEDFi technical support for states with highest concentration of Aspirant districts.

Integration of selected ITL outputs with the National CSR Portal could be explored in Phase III, subject to MCA mandate, technical architecture and administrative approval.

6. Theory of Change and Expected Results

By reducing institutional fragmentation and information asymmetry, and testing whether better timing can reduce potential temporal mismatch, the ITL is expected to improve the quality of development intelligence available to CSR decision-makers. For this to influence investment decisions, companies must access ITL products, perceive them as credible and useful, and use them to inform project identification, selection or design. Corporate uptake therefore constitutes a critical intermediate step, and assumption, in the results pathway.

Over time, sustained use could contribute to shifts in CSR investment toward documented development priorities and needs identified through the ITL process. Changes in investment patterns would be monitored alongside ITL uptake; they would not, by themselves, establish causal attribution to the ITL. The ITL's contribution would be to improve the conditions under which decisions are made, not to guarantee outcomes. The immediate contribution of the ITL should therefore be assessed through improved coordination and access to development intelligence, rather than aggregate CSR expenditure volumes alone.

Table 6 translates the theory of change into measurable dimensions, illustrative indicators and expected results.

Table 6: Results Framework and Expected Pathway

Results Level	Expected Change	Illustrative Indicator	Short-Term Output (0–1 yr)	Longer-Term Outcome (1–5 yrs)
Institutional coherence	ITL designated; coordination mechanisms active; data-sharing protocols established	Number of active interface points; meeting frequency; joint OM issued	ITL designated; roles confirmed; OM issued	Regular coordination; protocols active
Information coherence	Priority Brief and District Profiles published on schedule; companies access and use them	Number of companies accessing ITL products; proportion of CSR proposals referencing ITL outputs	Brief and profiles published ahead of CSR planning cycle	Growing use of ITL products in CSR planning
Temporal coherence	Brief published before corporate CSR planning deadline	Timeliness of Priority Brief publication relative to CSR planning cycle	Brief published by December in pilot year	Annual update cycle established and aligned with Budget and Commission timelines
Investment alignment	Shift in sectoral and geographic distribution of CSR toward areas showing policy–investment gaps; changes monitored alongside ITL uptake (causation not attributed to ITL alone)	Year-on-year change in CSR expenditure share for priority sectors and geographies identified through the pilot, compared with the pre-ITL baseline. Environment is an illustrative candidate for follow-up; other sectors should be selected only after local needs and policy salience are validated.	Pre-ITL baseline established	Sustained shifts in investment distribution relative to baseline

7. Conclusion

The challenge examined in this paper is not CSR expenditure volume alone, but limited institutional coherence between public development planning and corporate CSR decision-making. The structural mechanics of the current CSR allocation process, profit-linked budgets, board-driven project selection, the local area preference, and disclosure-based compliance, can disadvantage regions like the NER that sit outside the operational footprint of most large companies. The ITL addresses this gap while preserving corporate discretion over project selection and voluntary participation in the ITL by creating an interface through which public priorities can inform corporate decisions, while leaving project selection and participation to companies and offering a practical value proposition to those who choose to use it.

The immediate next step is a legal review of NEDFi's mandate scope, followed by a limited pilot in two to three states with active State-level CSR facilitation mechanisms. The ITL should be assessed by whether it improves the

conditions under which CSR decisions are made, whether relevant planning information reaches decision-makers, whether it is used, as measured through the Priority Brief Uptake Assessment Framework — and whether investment patterns show greater alignment over time.

The proposed pilot therefore offers a practical way to test whether better-timed, better-packaged development intelligence can improve coherence between public planning priorities and corporate CSR decision-making in the NER.

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Editorial Notes

Reviewers recommended clarifying the proposed coordination mechanism and explaining how it would translate CSR commitments into locally relevant development action. The paper could make stronger use of comparative

evidence and demonstrate how the model would work across institutions and sectors. Further work should specify the roles of participating stakeholders, the process for identifying local priorities and the means of assessing whether coordination improves outcomes. Some of the feedback has since been incorporated in the paper.

Strengthening Preventive and Promotive Mental Healthcare through Ayush: An Implementation Framework under the National Ayush

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Executive Summary

India faces a substantial mental-health burden alongside persistent gaps in access to timely, appropriate support. Although mental-health functions are increasingly recognised within primary healthcare, prevention and early intervention remain insufficiently structured across routine community and health-service contacts.

This paper proposes a common, customised preventive and promotive mental-health layer across existing Ayush and community platforms not as a separate programme, but a way of organising existing platforms and workforce around defined functions: structured interventions, cadre-specific competencies, community outreach, early identification, referral and reverse-referral, supervision and outcome monitoring, connecting people from routine community contact to appropriate support, specialist referral where required, and follow-up after specialist care. It focuses on the policy and implementation mechanisms needed to make this model operational: what should be delivered, by whom, where, with what competencies, how it should connect to the wider mental-health system, and how implementation and outcomes should be assessed.

1. The Challenge

1.1 A Large Mental-Health Need Remains Unmet

The National Mental Health Survey (NMHS) 2015-16 estimated a current prevalence of mental morbidity of 10.6% among adults, with roughly 15% requiring active intervention; treatment gaps ranged from 70% to 92% across disorders.[225] The Global Burden of Disease Study 1990-2017 estimated that 197.3 million people in India were living with mental disorders in 2017, accounting for 4.7% of total disability-adjusted life years (DALYs) and 14.5% of years lived with disability (YLDs).[226] Suicide adds a further concern, with an estimated 230,314 suicide deaths in India in 2016.[227] This scale indicates the need for a response extending beyond specialist treatment to promotion, prevention, early identification and timely linkage to care.

1.2 Gaps in Prevention and Early Intervention

The NMHS identified persistent challenges in access to services, availability of trained professionals, and integration of mental healthcare within general health services, and reported that preventive and promotive activities remained inadequate.[228] Mental-health services have since been incorporated into comprehensive primary healthcare: the Ayushman Arogya Mandir package includes screening and basic management of mental-health ailments, alongside counselling, referral and follow-up.[229] Mental health is therefore recognised within primary care, but substantial treatment gaps remain.

1.3 The Potential of the Ayush System as a Delivery Platform

Ayush in India 2024 reports 3,648 Ayush hospitals and 40,269 dispensaries as of 1 April 2024, with facilities co-located at 469 District Hospitals, 3,042 Community Health Centres and 6,628 Primary Health Centres as of 31

[225]National Institute of Mental Health and Neuro Sciences, National Mental Health Survey of India, 2015–16: Prevalence, Patterns and Outcomes (Bengaluru: NIMHANS, 2016).

[226]India State-Level Disease Burden Initiative Mental Disorders Collaborators, "The Burden of Mental Disorders across the States of India: The Global Burden of Disease Study 1990–2017," The Lancet Psychiatry 7, no. 2 (2020): 148–161, https://doi.org/10.1016/S2215-0366(19)30475-4.

[227]India State-Level Disease Burden Initiative Suicide Collaborators, "Gender Differentials and State Variations in Suicide Deaths in India: The Global Burden of Disease Study 1990–2016," The Lancet Public Health 3, no. 10 (2018): e478–e489, https://doi.org/10.1016/S2468-2667(18)30138-5.

[228]National Institute of Mental Health and Neuro Sciences, National Mental Health Survey of India, 2015–16: Mental Health Systems (Bengaluru: NIMHANS, 2016).

[229]Government of India, Ministry of Health and Family Welfare, Ayushman Arogya Mandir: Comprehensive Primary Health Care (New Delhi: Ministry of Health and Family Welfare, n.d.).

March 2024.[230] Ayushman Arogya Mandirs serve as platforms for wellness interventions within comprehensive primary healthcare, and community-facing Ayush activities already operate through Panchayats, Anganwadi centres and schools.[231] NIMHANS experience from the NAMAN and YES programmes indicates that Ayush and yoga-based interventions can be integrated into community and primary-care settings when they are culturally adapted, participatory, linked to existing local stakeholders, and reinforced through regular engagement.[232] The opportunity is therefore to organise existing Ayush wellness and primary-care functions into a structured preventive and early-intervention model.

1.4 Workforce, Continuity and Implementation Gaps

Strengthening prevention requires a broader workforce than mental-health specialists alone. The SMART Mental Health project, for example, involved ASHAs and primary-care doctors in identifying and managing common mental-health conditions,[233] and a subsequent implementation study examined large-scale training of ASHAs to deliver a brief psychological intervention for depression.[234] For Ayush, this means mental-health responsibilities need to be explicitly defined by cadre and linked to training, competency assessment and supervision, with clear escalation pathways for those requiring specialist care. A related challenge is continuity: people encounter the health system through maternal care, schools, chronic-disease services, geriatric care, community programmes or Ayush facilities, and these entry points need to connect to a common pathway. Implementation must also account for wide variation in Ayush infrastructure across States, requiring facility-readiness assessment and phased rollout rather than uniform capacity.[235]

2. The Proposed Solution

2.1 A Common Preventive Mental-Health Layer within Ayush

This paper proposes a common, modular preventive and promotive mental-health layer across existing Ayush and community platforms not as a parallel service or a duplicate of Ayushman Arogya Mandir functions, but a way of connecting existing preventive and early-intervention functions into a coherent pathway. A person may enter through an Ayush facility, maternal-health service, school, community platform or other routine contact, but the underlying pathway remains consistent:

defined need → structured intervention → trained provider → early identification or support → referral where required → follow-up → measurable outcome

2.2 What the Proposed Model Adds

Mental-health screening and basic management are already part of the Ayushman Arogya Mandir package.[236] The proposed model organises this into a common, operational framework, as summarised below.

Existing provision	Current limitation	Proposed addition
Screening/basic management at primary-care level	Does not by itself define a complete preventive pathway	Structured prevention, early-intervention and follow-up pathway
Ayush wellness activities	May not operate through a common framework	Standardised intervention packages

[230]Ministry of Ayush, Ayush in India 2024.

[231]Ministry of Ayush, Ayush in India 2024.

[232]Department of Integrative Medicine, NIMHANS Bengaluru, responses to fellowship questions, personal communication to Kimberley J. Monteiro, 29 August 2026.

[233]Abha Tewari, Sudha Kallakuri, Siddhardha Devarapalli, Vivekanand Jha, Anushka Patel, and Pallab K. Maulik, "Process Evaluation of the Systematic Medical Appraisal, Referral and Treatment (SMART) Mental Health Project in Rural India," BMC Psychiatry 17 (2017): 385, https://doi.org/10.1186/s12888-017-1525-6.

[234]Ravindra Narayan Agrawal et al., "Scaling Up the Task-Sharing of an Evidence-Based Psychological Treatment for Depression in Rural India: An Implementation Study," BMC Primary Care 26 (2025): 267, https://doi.org/10.1186/s12875-025-02943-6.

[235]Ministry of Ayush, Ayush in India 2024.

[236]Ministry of Health and Family Welfare, Ayushman Arogya Mandir.

Existing provision	Current limitation	Proposed addition
Existing Ayush and frontline workforce	Roles require clearer definition	Cadre-specific competencies and task-sharing
Multiple community and health-system entry points	May not connect through a common pathway	Integrated community-to-specialist pathway
Referral to higher-level services	Referral alone does not ensure continuity	Forward and reverse referral with follow-up
Existing programme reporting	May not capture wellbeing	Reach, quality, referral and wellbeing indicators
Variation in facility capacity	Uniform implementation may not be feasible	Readiness assessment and phased implementation

2.3 Core Components of the Proposed Model

The proposed model comprises six interconnected components.

- **Structured intervention packages:** evidence-informed modules addressing emotional regulation, stress, coping, sleep, caregiver support, social connection and mental-health literacy.
- **Population-specific pathways:** adaptations for different life stages and populations with specific needs.
- **Competency-based task-sharing:** defined functions matched to cadre, training, scope and supervision.
- **Community outreach and IEC:** routine community engagement using locally adapted messages and participatory formats.[237]
- **Integrated referral and continuity:** links between community, Ayush, DMHP and specialist services, including reverse referral and follow-up.
- **Monitoring and learning:** indicators covering reach, competency, referral, continuity and wellbeing.

2.4 Why Ayush

The rationale for Ayush as a delivery platform is its existing presence within public healthcare and established engagement with wellness and community activities, providing an institutional base for a preventive mental-health function.[238] The proposal therefore adds functionality to an existing system rather than establishing a new one; its distinct contribution is to organise prevention and early intervention into a model that operates across Ayush facilities and community entry points while remaining connected to mainstream mental-health services. The intervention and delivery mechanisms proposed draw on implementation evidence from the wider Indian health system, including task-sharing and community-based psychosocial support. Their adaptation to Ayush settings has not yet been established at scale and should be tested through structured pilots.

3. Solution Architecture and Pathways

The proposed framework translates the preventive mental-health function described in Section 2 into interconnected service pathways, providing interventions where people already access health, education and community services, while establishing clear mechanisms for identification, referral and continued support.

[237]Department of Integrative Medicine, NIMHANS Bengaluru, personal communication, 29 August 2026.
[238]Ministry of Ayush, Ayush in India 2024.

3.1 Community-to-Specialist Pathway

Community → Primary Ayush platform → Higher-level Ayush facility, where appropriate → Specialist mental-health service → Follow-up

This pathway links community-level promotion and early identification to Ayush-based support, specialist referral where required, and continuing follow-up.

3.2 Life-course Pathway

The model should use a standardised core intervention architecture with defined local adaptation parameters, rather than developing entirely customised packages for each population. Training can follow a cascade model in which subject experts train district- or taluka-level teams, who then train frontline and facility-based personnel, with practical assessment and supervised delivery.

Population	Priority interventions	Delivery agent	Services offered	Training approach	Referral destination
Pregnant & postpartum women	Mental-health literacy, emotional support, early identification, family support, wellbeing practices	**ASHA/ANM:** literacy, basic support, recognition, referral. **Ayush practitioner:** structured wellbeing intervention, early ID, referral	Psychoeducation, stress/mood check-ins, basic emotional support, Ayush wellbeing intervention, referral where required	Existing training + cadre module + supervised practice	DMHP counsellor/MHO at District Hospital; urgent cases to CHC/DH psychiatry
Children & adolescents	Emotional awareness/regulation, coping skills, help-seeking, parent/teacher support, early identification	School counsellors, trained teachers, Ayush/HWC personnel, community volunteers	Group emotional-regulation sessions (4-6 modules), parent briefings, teacher orientation, individual check-ins	School-health/Ayush module + role-play + supervised co-facilitation	School counsellor; DMHP counsellor; Child Guidance Clinic or CHC MHO for persistent/moderate presentations
Adults	Stress management, healthy coping, sleep/lifestyle support, wellbeing activities, early identification	**Ayush practitioners** at AAM/dispensaries, counsellors; **ASHA/ANM:** literacy, basic support, referral	Individual/group wellbeing sessions, psychoeducation, coping-skills support, referral	In-service module + K10 administration + case-based assessment + supervised practice	DMHP counsellor; CHC/DH MHO for moderate–severe; urgent cases to DH psychiatry
Older adults	Social connection, meaningful	Ayush practitioners,	Group wellness activities,	Existing geriatric/commun	DMHP counsellor;

Population	Priority interventions	Delivery agent	Services offered	Training approach	Referral destination
	activity, wellbeing check-ins, caregiver support	frontline workers (ASHA/ANM), geriatric-care workers at Ayush facilities and community platforms	befriending/social-connection sessions, caregiver psychoeducation, functional wellbeing checks	ity-outreach training + practical demonstration + supervised delivery	geriatric outpatient services; CHC/DH psychiatry for depression, cognitive decline or complex presentations

3.3 Populations with Special Needs

Some populations require adaptation because of greater barriers to care or specific needs. Priority groups could include people living with mental illness, persons with disabilities, people experiencing homelessness or institutionalisation, people receiving palliative care, people in correctional settings, and tribal or other culturally distinct communities. The approach should adapt existing services rather than create a separate programme for each group:

Population	Key psychosocial needs	Evidence-informed Ayush intervention	Proposed pathway
People living with mental illness	Depression/anxiety symptoms, sleep disturbance, impaired quality of life[239]; caregivers may experience substantial burden.[240]	**Ayurveda:** RCT of a whole-system Ayurveda protocol in MDD reported improvements in depression, anxiety, sleep and quality of life; RCT of Manasamitra Vataka in GAD with comorbid social phobia.[241][242] **Yoga:** meta-analysis found benefit for depressive symptoms in people with depressive disorders.[243]	DMHP/specialist care → adjunctive Ayush intervention → monitoring of symptoms, sleep, functioning → caregiver support → re-referral where required
Persons with disabilities	Restricted social participation, reduced support, isolation; implications for	Indian clinical study found Rajayapana Basti and Baladi Yoga associated with improved motor function, ADLs, speech/performance and	Disability/rehabilitation contact → adapted Ayush/yoga intervention → caregiver support → identification of distress → referral

[239]Rajesh Sagar et al., "Twelve-Month Prevalence and Treatment Gap for Common Mental Disorders: Findings from a Large-Scale Epidemiological Survey in India," Indian Journal of Psychiatry 59, no. 1 (2017): 46–55, https://doi.org/10.4103/psychiatry.IndianJPsychiatry_333_16.

[240]Sandeep Grover, Siddharth Sarkar, Chandrima Naskar, and Nikhil Kamal, "Caregiver Burden as Perceived by Caregivers of Patients with Schizophrenia: A Meta-Analysis of Indian Studies," Asian Journal of Psychiatry 106 (2025): 104421, https://doi.org/10.1016/j.ajp.2025.104421.

[241]Anjali Punia, Sameeran Chate, Basavaraj R. Tubaki, and Nagula Himaja, "Efficacy of Whole System Ayurveda Management Protocol in Major Depressive Disorder: A Randomized Controlled Clinical Trial," Journal of Ayurveda and Integrative Medicine 15, no. 2 (2024): 100896, https://doi.org/10.1016/j.jaim.2024.100896.

[242]Basavaraj R. Tubaki et al., "Clinical Efficacy of Manasamitra Vataka (an Ayurveda Medication) on Generalized Anxiety Disorder with Comorbid Generalized Social Phobia: A Randomized Controlled Study," Journal of Alternative and Complementary Medicine 18, no. 6 (2012): 612–621, https://doi.org/10.1089/acm.2010.0778.

[243]Alina Moosburner, Holger Cramer, Mirela Bilc, Johanna Triana, and Dennis Anheyer, "Yoga for Depressive Disorder: A Systematic Review and Meta-Analysis," Depression and Anxiety, volume 2024 (2024), article 6071055, https://doi.org/10.1155/da/6071055.

Population	Key psychosocial needs	Evidence-informed Ayush intervention	Proposed pathway
	depression, anxiety, distress and wellbeing.[244]	memory retention in children with cerebral palsy.[245]	
Palliative-care populations	Depression, anxiety and psychological distress are common and may affect quality of life.[246]	Yoga has shown reductions in anxiety/depressive symptoms among people with cancer; Indian RCT found Yoga-Nidra improved psychological distress, functioning, global health and selected symptoms during active treatment.[247]	Palliative-care contact → adapted yoga/breathing/relaxation → wellbeing monitoring → psychosocial/specialist referral where required
Tribal & culturally distinct communities	Depression and anxiety alongside socioeconomic marginalisation and access barriers; evidence remains limited and uneven across regions.[248]	Culturally/geographically accessible approaches matter for acceptability; qualitative evidence from tribal Maharashtra highlights locally trusted providers and community-linked care.[249]	Panchayat/community/Ayush outreach → culturally adapted intervention → local follow-up → referral linkage
Institutional & correctional populations	Substantial mental-health needs; severe mental illness and substance-use disorders occur at high rates in low- and middle-income countries.[250]	Six-month Yoga programme among Tihar Jail inmates was associated with reduced stress/aggression and improved wellbeing; anxiety/depression reductions significant among male but not combined/female groups.[251]	Institutional health service → structured Yoga/relaxation programme → wellbeing monitoring → referral to mental-health services where required

Where a pathway cannot be delivered through an existing Ayush or community platform, it should link to the relevant government or specialist service rather than create a parallel structure.

3.4 Task-sharing and Competency Pathway

Task-sharing should differentiate functions by cadre, training and scope of practice, with clear limits around diagnosis, specialist treatment and high-risk presentations.

[244]Hannah Tough, Johannes Siegrist, and Christine Fekete, "Social Relationships, Mental Health and Wellbeing in Physical Disability: A Systematic Review," BMC Public Health 17 (2017): 414, https://doi.org/10.1186/s12889-017-4308-6.

[245]U. Shailaja et al., "Clinical Study on the Efficacy of Rajayapana Basti and Baladi Yoga in Motor Disabilities of Cerebral Palsy in Children," AYU 35, no. 3 (2014): 294–299, https://doi.org/10.4103/0974-8520.153748.

[246]Amy J. Mitchell et al., "Prevalence of Depression, Anxiety, and Adjustment Disorder in Oncological, Haematological, and Palliative-Care Settings: A Meta-Analysis of 94 Interview-Based Studies," The Lancet Oncology 12, no. 2 (2011): 160–174, https://doi.org/10.1016/S1470-2045(11)70002-X.

[247]Mili Baruah et al., "Yoga-Nidra as a Complementary Therapy for Reducing Psychological Distress and Enhancing Quality of Life in Cancer Patients: A Randomized Controlled Trial," Complementary Therapies in Medicine 96 (2026): 103313, https://doi.org/10.1016/j.ctim.2025.103313.

[248]Ajay Kumar Bakhla et al., "Psychiatry Research and Prevalence of Psychiatric Disorders among Tribal Populations of India: A Systematic Review and Meta-Analysis," Indian Journal of Psychiatry 67, no. 2 (2025): 192–208, https://doi.org/10.4103/indianjpsychiatry.indianjpsychiatry_869_24.

[249]Kalaiselvi Selvaraj et al., "Role of Traditional Healers in Health and Healthcare Access: A Multi Stakeholder Perspective from a Tribal Block of Central India," Discover Health Systems 5, no. 1 (2026): 18, https://doi.org/10.1007/s44250-026-00345-8.

[250]Gergő Baranyi et al., "Severe Mental Illness and Substance Use Disorders in Prisoners in Low-Income and Middle-Income Countries: A Systematic Review and Meta-Analysis of Prevalence Studies," The Lancet Global Health 7, no. 4 (2019): e461–e471, https://doi.org/10.1016/S2214-109X(18)30539-4.

[251]Sadhana Arya et al., "Effect of 6 Month-Yoga Training on Mental Health of Indian Jail Inmates," Yoga Mīmāṃsā 54, no. 2 (2022): 62–69, https://doi.org/10.4103/ym.ym_113_22.

Cadre	What they do	What they do not do
ASHA	Basic mental-health literacy during home/community contact; brief distress/wellbeing questions within training; recognise warning signs; encourage help-seeking; facilitate referral and follow-up	Diagnose, administer complex assessments, provide psychotherapy or manage high-risk cases
Anganwadi worker	Integrate emotional wellbeing messages into child/family contact; recognise behavioural/emotional concerns; support parent information; facilitate referral	Diagnose or treat; conduct clinical screening beyond training
Community volunteer	Conduct locally adapted awareness/wellbeing sessions; encourage participation; recognise basic warning signs; provide referral information	Clinical screening, diagnosis or treatment
Ayush practitioner	Deliver defined preventive/wellbeing modules; administer approved screening tool where trained; provide basic psychoeducation/coping support; initiate referral and coordinate follow-up	Specialist diagnosis/treatment beyond scope; manage high-risk presentations independently
Counsellor	Structured psychosocial support; individual/group sessions; follow-up; reverse-referral coordination	Prescribe or independently manage conditions outside professional scope
Mental-health specialist	Diagnosis, specialist treatment, supervision, technical support and quality oversight	–

Community volunteers would be locally identified adults such as community group members, peer educators or other trusted community representatives who receive a short orientation in mental-health literacy, distress recognition and referral; they would not undertake clinical screening or treatment.

3.5 Referral, Reverse Referral and Convergence

The model should converge with routine primary healthcare rather than create parallel contacts. Three feasible routes are: (1) adding a brief wellbeing or K10 screen to routine Ayush OPD workflows for appropriately trained practitioners; (2) incorporating a structured mood/support check into existing ASHA maternal-health contacts; and (3) linking Ayush wellness and yoga activities conducted through NCD services to defined referral criteria for individuals requiring further assessment. Forward and reverse referral should use the existing DMHP and district referral system, with responsibility for follow-up assigned at facility level.

4. Implementation Recommendations

The proposed model should be introduced through a phased, readiness-based approach, with national standards and State-level adaptation, by first establishing a functional service model, testing it in diverse settings, and using findings to guide scale-up.

4.1 Establish a Defined Service Package

The Ministry of Ayush may consider to develop a minimum preventive and promotive mental-health service package specifying priority populations, intervention modules, delivery platforms, cadre-specific roles, referral criteria, supervision requirements and monitoring indicators into scalable, adaptable modules, so facilities can begin with components appropriate to their readiness and expand progressively. The minimum package

comprises: (1) one competency-verified Ayush practitioner able to deliver a defined preventive/wellbeing module and, where trained, administer an approved screening tool; (2) one standardised intervention module appropriate to the population served; (3) a verified referral and reverse-referral pathway to DMHP/district mental-health services; and (4) basic IEC and a register for delivery, screening, referral and follow-up.

4.2 Develop Competency-Based Task-Sharing

Mental-health functions should be assigned by defined competencies, scope of practice and referral limits, following the sequence:

define role → train → assess competency → supervised practice → refresher training → ongoing supervision

The SMART Mental Health project demonstrated the feasibility of involving ASHAs and primary-care doctors in defined functions with structured support,[252] and a subsequent study trained 1,001 ASHAs, with 458 going on to deliver the Healthy Activity Program for depression, demonstrating feasibility of structured training and supervision at scale.[253] Training completion alone should not be treated as sufficient evidence of readiness; practical competency assessment and supervised delivery should also be required. NIMHANS experience provides a practical cascade model: subject experts train district/taluka teams, which subsequently train frontline and facility-based personnel. Training combines pre/post knowledge assessment with role-play, case discussion and supervised practice, with refresher training informed by implementation difficulties.[254]

4.3 Assess Facility Readiness

Existing Ayush infrastructure should be used wherever feasible, but participation in the full service package should be linked to a basic readiness assessment covering trained personnel, private/group space, accessibility, IEC/intervention materials, referral and supervision arrangements, and basic documentation capacity. Facilities could be classified as **'ready'** (able to implement the full package), **'requires strengthening'** (able to implement selected components while gaps are addressed), or **'not yet ready'** (requires additional workforce, infrastructure or referral capacity).

Ayush in India 2024 records marked differences in the availability of hospitals and dispensaries relative to population,[255] confirming that States and districts will not begin implementation from the same infrastructure baseline. A readiness-based approach is therefore required before the full service package is introduced.

4.4 Make Community Outreach a Core Delivery Function

Action	How	Expected output
Use existing contact points	Map Panchayat, school, Anganwadi, NCD and Ayush contacts and schedule recurring activities	Regular outreach calendar
Adapt communication	Translate core IEC into local language; use storytelling, demonstrations and culturally familiar framing	Locally adapted IEC
Use participatory delivery	Co-design with local stakeholders; use brief demonstrations rather than lecture-only sessions	Greater acceptability and participation
Build community capacity	Orient selected local volunteers in mental-health literacy, distress recognition and referral	Community referral network

[252]Tewari et al., "Process Evaluation of the SMART Mental Health Project in Rural India," 385.

[253]Agrawal et al., "Scaling Up the Task-Sharing of an Evidence-Based Psychological Treatment for Depression in Rural India."

[254]Bhargav, H., Holla, B., Ramakrishna, K. K., Shivakumar, V., Gokulakrishnan, K., Varambally, S., & Gangadhar, B. N. (2022). Yoga and integrative healthcare: Lessons from the National Institute of Mental Health and Neurosciences (NIMHANS) in India. International Journal of Yoga, 15(2), 150–157. https://doi.org/10.4103/ijoy.ijoy_56_22

[255]Ministry of Ayush, Ayush in India 2024.

Action	How	Expected output
Maintain continuity	Schedule repeat contacts/home-practice reinforcement rather than one-off events	Sustained engagement and follow-up

NIMHANS experience indicates that brief, participatory, culturally adapted activities with local stakeholder involvement and regular follow-up are more feasible than lengthy, lecture-based or one-off activities.[256]

4.5 Pilot, Evaluate and Adapt Before Scale-up

The model should first be tested in diverse settings representing different levels of Ayush infrastructure, workforce capacity and specialist access. The pilot should assess reach, feasibility, workforce competency, community acceptability, referral completion, workload and selected wellbeing outcomes, consistent with the Atmiyata feasibility approach[257] and the RE-AIM framework used in the Healthy Activity Program scale-up.[258] The recommended pilot sequence prioritises: (1) maternal and perinatal care; (2) schools/adolescents; (3) adults/NCD contacts; (4) older adults and populations with specific needs; and (5) cross-cutting system functions — detailed further in Section 6.1. Pilot sites should represent different levels of Ayush infrastructure and specialist access, and findings should be used to refine the intervention package, workforce competencies, referral mechanisms and monitoring framework before phased scale-up.

4.6 Establish a Lean Monitoring and Learning Framework

Level	Key indicators	Data source	Expected outcome
Individual	WHO-5 wellbeing; PHQ-9/GAD-7 where clinically appropriate; sleep/functioning; help-seeking	Baseline and 3/6-month assessment; session/referral records	Improved wellbeing, reduced distress and improved functioning
Community	Reach, participation, home-practice uptake, acceptability/stigma	Outreach/session registers; periodic community feedback	Sustained participation and greater acceptance
Workforce/service	Competency verification; facilities meeting readiness criteria; interventions delivered; screening/referral coverage	Training records; readiness checklist; service/HMIS records; supervisor review	Competent workforce and functional preventive service
Referral/system	Referral completion/time; reverse referral; follow-up; case outcomes	Referral and follow-up registers; DMHP records	Timely access and continuity of care
Learning	Performance by population, cadre, platform and setting; adaptations required	Quarterly dashboard; supervision and pilot review	Evidence for programme refinement and scale-up

[256]Department of Integrative Medicine, NIMHANS Bengaluru, personal communication, 29 August 2026.

[257]Kaustubh Joag et al., "Feasibility and Acceptability of a Novel Community-Based Mental Health Intervention Delivered by Community Volunteers in Maharashtra, India: The Atmiyata Programme," BMC Psychiatry 20 (2020): 48, https://doi.org/10.1186/s12888-020-2466-z.

[258]Agrawal et al., "Scaling Up the Task-Sharing of an Evidence-Based Psychological Treatment for Depression in Rural India."

5. Expected Impact

Dimension	Expected impact
Improvement over current system	Connects existing Ayush, community and primary-care entry points through a common preventive mental-health pathway; adds structured interventions, defined cadre roles, referral and follow-up.
Efficiency gains	Uses existing facilities, frontline workers and routine maternal, school and NCD contacts, reducing the need for parallel platforms, training and reporting systems.
Stakeholder benefits	**Communities:** earlier access to practical support. **Ayush workforce:** clearer roles and competencies. **Health system:** stronger prevention, early identification and continuity. **Ministry/States:** a standardised model that can be adapted and monitored.
Scalability & sustainability	A common core with defined local adaptation can be implemented across States using existing infrastructure, cadres, training and reporting systems; phased rollout allows progressive expansion according to readiness.
Short term	Increased reach, trained workforce, functioning referral pathways and baseline implementation/wellbeing data.[259][260]
Medium term	Earlier identification, improved referral completion and continuity, and greater integration of prevention into routine Ayush and community services.
Long term	A sustained preventive and promotive mental-health layer integrated with Ayush, primary healthcare and specialist services.

These impacts should be assessed progressively; the proposed model should not be expected to produce immediate changes in national prevalence of mental disorders or suicide.

6. Next Steps and Conclusion

6.1 Immediate Policy Actions

The Ministry of Ayush may initially develop and test a defined set of preventive and early-intervention pathways, rather than attempt simultaneous national implementation. The following actions translate the proposed architecture into specific policy and implementation steps.

1. **Maternal and perinatal care:** integrate mental-health literacy, brief mood/support identification and appropriate Ayush wellbeing interventions into existing maternal-health contacts.
2. **Schools/adolescents:** test the structured emotional-regulation and coping pathway through school-linked platforms.
3. **Adults/NCD:** integrate preventive interventions and appropriate early identification into routine Ayush and NCD contacts.
4. **Older adults and populations with specific needs:** adapt community-based wellbeing, caregiver and supportive interventions to relevant settings.
5. **Cross-cutting system functions:** establish competency-based task-sharing, verified forward/reverse referral, community outreach and routine monitoring across all pilot sites.

[259] Tewari et al., "Process Evaluation of the SMART Mental Health Project in Rural India," 385.

[260] Agrawal et al., "Scaling Up the Task-Sharing of an Evidence-Based Psychological Treatment for Depression in Rural India."

Pilot sites should represent different levels of Ayush infrastructure and specialist access. Findings should be used to refine the intervention package, workforce competencies, referral mechanisms and monitoring framework before phased scale-up.

6.2 Conclusion

The recommended policy direction is to develop, test and refine a readiness-based preventive mental-health model within existing Ayush and community platforms before wider adoption, using pilot findings to guide phased scale-up and strengthen convergence with primary and specialist mental-health services.

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Editorial Notes

Reviewers encouraged a clearer account of the implementation pathway and stronger explanation of how the proposed approach would respond to the needs of intended beneficiaries. The paper could sharpen its problem definition, clarify the evidence supporting the recommendations and identify practical delivery arrangements. Future work should specify the roles of relevant institutions and practitioners, as well as safeguards and indicators for assessing accessibility and effectiveness.

Strengthening Ayush-Medical Value Travel (MVT) in India: An Evidence-Based Implementation Framework

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Executive Summary

India's Ayush-based Medical Value Travel (MVT), popularly known as medical tourism, is gaining attention in the policy domain as an important element of national health and economic strategy. Ayush-MVT emphasizes the wellness sector with a preventive and overall well-being approach while contributing to the country's economy[261]. Building on the domestic foundations, the Government of India launched its flagship "Heal in India" initiative, which is a strategic sub-brand under Incredible India designed to position the nation as a global hub for integrated healthcare (KPMG, 2025; PIB Backgrounder, 2026). To operationalize this vision, institutional oversight has been codified under the National Medical & Wellness Tourism Board within the Ministry of Tourism (Ministry of Tourism, n.d.). The "Heal in India" ecosystem works on two primary components: curative medical tourism (tertiary clinical care) and preventive wellness tourism (holistic well-being via Ayurveda, Yoga, Unani, Siddha, and Homeopathy). Further, the introduction of the Ayush visa in 2023 for international patients suggests efforts at the governance and policy level to increase the reach of traditional medicine.

Notably, India is emerging as one of the significant destinations in the evolving landscape, with the medical tourism market at about USD 8.7 billion in 2025, with a projection of USD 16.2 billion by 2030. The compound annual growth rate of the MVT market is about 10.8%. Following the Medical Tourism Index 2020-2021, India ranks 10th among the top 46 medical tourism destinations globally, 12th among the world's top 20 wellness markets, and 5th among the top 10 wellness destinations in the Asia-Pacific region. The latest data highlights that India recorded 9.15 million Foreign Tourist Arrivals (FTAs) in 2025, while 507,244 foreign patients arrived for medical treatments, and medical tourism constitutes 5.5% of total FTAs. Notably, according to the 2025 figures, the leading markets of India's MVT include Bangladesh (325,127 arrivals), followed by Iraq (30,989), Uzbekistan (12,699), Somalia (11,506), Turkmenistan (10,231), Oman (9,738), and Kenya (9,357). These market estimates and medical-purpose arrival figures relate to overall medical travel, rather than Ayush-specific services. Separately, reported countries of origin of Ayush-visa users include Switzerland, Hungary, Germany, Israel, Saudi Arabia etc.[262]

Notably, India is competing with other countries in the sector of medical tourism and traditional treatments. However, there are challenges that are hindrances to its growth, which include fragmented governance, lack of attention to state-level coordination in Ayush-MVT, limited uptake and unclear utilization of Ayush visa, quality assurance, scientific credibility, service delivery, continuity of care, and unregulated patient navigation. The reviewed literature and PIB reports identified domains that are required for strengthening the Ayush-MVT ecosystem. The paper proposes an integrated six-domain implementation framework that builds on existing initiatives and strengthens coordination among the responsible institutions. The domains cover governance and policy architecture, service delivery, quality assurance, patient navigation, market readiness, and research and evidence generation.

The framework is designed to be system-specific and is expected to strengthen interministerial governance

[261] An estimate by the Ministry of Tourism, in FY24, travel and tourism contributed 5.22 percent to GDP, close to pre-pandemic levels. The sector also supported an estimated 8.46 crore direct and indirect jobs, accounting for about 13.3 percent of total employment.

[262] Details about the number of international patients, their countries and the Indian states where most of them are visiting are mentioned in a Lok Sabha Parliament question and answer document dated 7th February, 2025

architecture, quality assurance, digitally enabled continuity of care across the patient journey, and a stronger scientific evidence base to support Ayush's international credibility.

1. Challenges

The global MVT market was valued at about USD 115.6 billion in 2022, which is projected to reach around USD 285.1 billion by 2030[263]. Building on the domestic foundations[264], the Government of India launched its flagship "Heal in India"[265] initiative[266]. Notably, India is competing with the global tourism market increasingly dominated by countries like Thailand, Malaysia, Singapore and South Korea in terms of patient volume, destination competitiveness, and marketing[267]. However, India possesses a unique advantage of quality healthcare at a cost-effective basis and integrated traditional medicine treatments. Thus, more than having a comparative advantage, the challenges mentioned below highlight the absence of a framework to govern, deliver and market it coherently.

1.1. Fragmented governance - The literature analysis highlights that initiatives like Ayush visa, Ayush-MVT boards, traditional treatment promotion, hospital accreditation and the Ayush-specific schemes are discussed in isolation.[268,269] There is no single institutional mechanism that links ministries and the State Ayush departments, highlighting the disconnect that questions the coordination of the governance council, and less clarity on how the actors and institutional responsibilities work.

1.2. Lack of attention to state-level coordination in Ayush-MVT - In India, healthcare and its infrastructure are a state subject and differ in terms of healthcare capacity, accessibility and institutional strength[270]. Notably, state-level policies or considerations are least discussed or identified while reviewing literature related to Ayush-MVT or medical tourism. Since there is a disparity in the state health system capacity, a uniform national approach risks concentrating Ayush-MVT investment in states with already visible strengths like Kerala (Panchakarma), Tamil Nadu (Siddha) etc.

1.3. Limited uptake and unclear utilization of Ayush visa - Based on a Rajya Sabha written reply shared between July 2023 and December 2024, India issued only 123 regular Ayush Visas, 221 e-Ayush Visas, and 17 e-Ayush Attendant Visas, which is a small proportion since the scheme's implementation.[271] A Lok Sabha reply dated 24 July 2026 reported a total of 3,002 Ayush and Ayush Attendant visas in 2025, up from 1,354 in 2024. These figures represent visas obtained, including by attendants, and are not directly comparable with foreign tourist arrivals for medical purposes. [272] These figures do not establish how many international patients access Ayush treatment through other visa categories. Further enquiry is needed to understand whether limited awareness, use of other visa categories or treatment at non-accredited Ayush institutions affects uptake of the

[263] As mentioned in a PIB Delhi report 2026

[264] The PIB Delhi report published in February 2026 shares that there are over 3885 Ayush hospitals, 62000 beds, and the widespread co-location of the public health facilities, more than 7.5 lakh registered Ayush practitioners, with targeted skill certification (37000+ since 2021), through HSSC's Ayush sub-council to meet MVT standard.

[265] A strategic sub-brand under Incredible India designed to position India as a global hub for integrated healthcare

[266] (KPMG, 2025; PIB Backgrounder, 2026)

[267] (Dang et al., 2020)

[268] The PIB Delhi report published on 5th August, 2025, highlights that the Ministry of Ayush signed MoU with the India Tourism Development Corporation, ran two national Ayush-MVT Summits, operated the Ayurgyan capacity building scheme and IC scheme in parallel. Another PIB Delhi report published on 10th December 2024 shared that the Ministry of Health and Family Welfare separately launched India's official MVT portal, Advantage Healthcare India which is different from the Ministry of Home Affairs' Medical and Ayush Visa Portal. Additionally, the Ministry of Ayush, jointly with the Ministry of Health and Family Welfare are developing an initiative of a one-stop 'Heal in India' portal, & the Ministry of Tourism chairs the National and Medical Tourism Board since 2015.

[269] For example, PIB reports do not clarify if Ayurgyan training is feeding into HSSC (Health Sector Skill Council) certification or whether the AQM is one of the pre-conditions for the IC Scheme in Ayush funding promotions.

[270] As cited in an article by Chakrabarti & Tatavarthy published in 2019

[271] As published in The Hindu on 19th December 2024

[272] Lok Sabha, Unstarred Question No. 1125, 24 July 2026, Annexure I.

Ayush visa.[273,274]

1.4. Demand, Quality Assurance and Scientific Credibility - Demand, quality assurance and scientific credibility are prominent aspects in international healthcare destinations. The recent scholarship on Ayurveda suggests its global acceptance is constrained less by demand and more by the weak research infrastructure, inconsistent peer-review, and a shortage of high-quality internationally indexed clinical evidence and scientific credibility.[275] However, it is noteworthy that awareness, demand, quality assurance and scientific credibility are correlated, which needs to be strengthened for a long-term competitive position of India in the traditional treatment and medical tourism ecosystem. Thus, the challenges can affect the credibility, visibility and confidence associated with Ayush-MVT services.

1.5. Service Delivery and Continuity of Care[276] - The reviewed literature highlights the role of healthcare service delivery, accessibility, hospital management, referral networks as relevant components and that the international patient's pathway extends beyond an Ayush institution. Notably, they experience post-treatment care as one of the major concerns,[277] and suggest telemedicine as a solution to continue getting care after leaving the country,[278] which is observed as not available or documented in the context of Ayush treatment. If these challenges are unaddressed, international patients will remain exposed to an inconsistent quality and safety healthcare ecosystem, leading to inadequately regulated medical travel.

1.6. Unregulated patient navigation - The international patient journey[279] is a multidimensional process,[280] and the intermediaries[281] must also be discussed as an important part of the international patient journey. The recent developments on the Ayush Visa and expanded insurance coverage address the visa and cost dimensions of the patient journey. However, it does not address facilitator regulation or structured follow-ups, leaving these as open gaps for the framework to address.

2. Proposed Solution

The solution paper proposes a conceptual Ayush-MVT framework developed through evidence synthesis of 54 reviewed studies and different PIB reports. The following are the objectives:

1. To map the existing Ayush-MVT ecosystem and understand the role of key stakeholders across the international patient journey.
2. To establish a single inter-ministerial framework for Ayush-MVT.
3. To analyze the literature and identify recurring domains in the medical tourism ecosystem in India involving Ayush (Ayurveda, Yoga, Unani, Siddha, Sowa Rigpa, Homoeopathy).

[273] As mentioned in a Lok Sabha Parliament question and answer document dated 7th February, 2025, in the year 2024, there were 132 regular Ayush vias and 1106 e-Ayush visa availed by the international patients while the partial-year figures for 2025 reported in the reply dated 7 February 2025 were 17 regular Ayush visas and 252 e-Ayush visas. In the context of availing regular Ayush visa, majority of the patients were from Saudi Arabia (24) while e-Ayush visa were availed mostly by patients from Switzerland (455), followed by Hungary (266) and Germany (185). Among the international patients availing Ayush-visa, majority visited Kerala (1204) followed by Karnataka (68), Tamil Nadu (21), Maharashtra (17) etc.

[274] The informal conversations with international patients highlighted taking treatments in non-accredited Ayush institutes, a potential gap in the identification and documentation of international patients accessing traditional treatment including the ones through other visa categories, such as medical or tourist visas.

[275] As cited in an article by Patil published in 2026

[276] The aspect of care in the service delivery for international patients involves pre-assessment, provider selection, consultation, treatment, referral to another level or system of care, if required, discharge and post-treatment follow-up.

[277] As cited in an article by Grewal et al., published in 2012

[278] As cited in an article by George & Henthorne published in 2009

[279] International patients need reliable information before they travel, assistance with visas and provider selection, transparent information on services and costs, coordination during treatment, communication support and post-treatment follow-up.

[280] Patient satisfaction, destination choice, patient mediation, intercultural communication, patient-physician communication, cultural competence, brokers and interpretersInternational

[281] MVT facilitators, interpreters or hospital-based international services etc.

4. To strengthen the international patient journey end-to-end in Ayush-MVT.

2.2. Methodology

The methodology adopted was a structured, multi-stage review to develop an implementation framework for Ayush-MVT. Academic articles & policy literature were searched using Boolean combinations: "Medical Value Travel", "medical tourism", "traditional treatment", "Ayush", "India" & pairwise combinations. Around 160 articles were identified using Boolean search on different databases & exported to an excel sheet. The screening process involved three stages (abstract screening, full-text screening and data abstraction) & 54 articles were selected. The initial round of coding identified recurring, similar ideas & patterns across 54 articles. Similar meaning themes were clubbed together & then regrouped based on their role in the system. The analytical steps included colour-coding, visual mapping, domain-specific coding, tallying, frequency mapping, functional clustering & domain formation. The review draws on both Ayush-specific and broader medical-tourism literature. Findings from broader medical tourism inform potentially relevant design considerations, but their applicability to individual Ayush systems requires further validation.

2.3. Why this solution was selected - While working on this framework, three alternative solutions were considered. The first one is related to a marketing-led approach[282]. Another alternative was developing a single and uniform accreditation mandate for states[283]. Yet another solution was to consider treating Ayush-related MVT challenges as a scientific validation problem[284]. These alternatives were rejected because literature highlighted other major challenges in the Ayush-MVT governance ecosystem, which required attention.

2.4. Key design principles:

- To build on and strengthen existing Ayush initiatives rather than suggesting parallel institutions.
- Consider all the Ayush systems while suggesting an Ayush-MVT ecosystem rather than emphasizing Ayurveda or Yoga.
- Considering quality assurance, patient safety and evidence generation as prominent pillars.

3. Solution Architecture and Components

The solution paper suggests six interlocking domains identified from literature analysis and the diagrammatic presentation of the domains is attached in Annexure I. The first domain is governance, which forms the foundation and operates in coordination; the second domain focuses on the quality of services, and the third domain builds a layer of trust in the Ayush ecosystem, without which international marketing or bilateral agreements between countries cannot succeed. Thus, the second and third domains build capacity for operation. However, it is equally important that the above three domains are credible. The fourth domain maps and acts as a pathway for the international patient, and the fifth domain functions as converting governance, capacity and trust into international demand. Thus, the fourth and fifth domains are patient journey and market readiness, influenced by the above two, and convert the capacity into outcome. The sixth domain is research evidence that increases the credibility of the above domains.

[282] This approach was set aside since the prominent backbone of the ecosystem (governance, regulation and service quality) is still developing (Ikhtiyorovna & Salimovich, 2026)

[283] It was also rejected since different states have varied Ayush strengths, arrangements and capacities, showcasing inter-state disparity in health capacity (Chakrabarti & Tatavarthy, 2019)

[284] Since evidence generation matters (Patil, 2026)

Domain I - Governance and the Nascent Policy Architecture [285]

Sub-theme cluster	What it covers	Contribution to Ayush-MVT
Policy and strategy	National and state health policy, Ayush policy, National Strategic Roadmap for Medical and Wellness Tourism	It provides the mandate and direction for the Ayush-MVT planning and activities
Institutional coordination	Interministerial coordination between MoA, MoHFW, MoHA, MoEA, MoT etc.	It prevents duplication and addresses the coordination gap identified across the literature
Regulatory and legal framework	Patient rights, malpractice liability, cross-border dispute resolution, quality assurance system, service entitlement	Makes the Ayush-MVT ecosystem patient-friendly and reduces India's exposure to reputational and legal risk
International collaboration	Bilateral MoUs, source country agreements	Formalizes demand generation and service delivery

Table 3.1. Domain I - Governance and the Nascent Policy Architecture

Domain II - Service Delivery and Health System Capacity[286,287]

Sub-theme cluster	What it covers	Contribution to Ayush-MVT
Health system strength	Ayush healthcare capacity, Ayush hospital integration, Centre of Excellence by Ministry of Ayush	Determines and strengthens the state's capacity to be the Ayush Centre of Excellence.
Accessibility	Transport connectivity, airport access, geographic distribution of Ayush infrastructure	Reduces the risk of readiness being concentrated to three or four metro hubs
Care coordination	Referral networks linking overseas physicians to Ayush centers or the interstate coordination of Ayush institutions and Allopathic institutions	Builds the overseas referral pathways and interstate referral pathways
Digital infrastructure	Telemedicine, digital health records and consultation platforms	Enables pre-arrival consultations and post-return continuity of care

Table 3.2. Domain II - Service Delivery and Health System Capacity

[285] The literature has consistently highlighted the need to address governance fragmentation challenges in medical tourism (Hunter, 2020; Martínez Álvarez et al., 2011).

[286] As published in a PIB Delhi report in 2026, The Union Budget's 2026-27 proposal for five Regional Medical Hubs having Ayush Centers with dedicated Ayush-MVT facilitation Centers alongside three new AIIA institutes promotes state-level service delivery and health system capacity. Further, the literature has highlighted the importance of referral pathways.

[287] One of the studies shared that 70% of the international patients in a pediatric cardiac program were referred by physicians in their home country (Maheshwari et al., 2012). Thus, the formal overseas referral relationships and Ayush practitioners are not just advertising the Ayush system but also can act as a core service delivery infrastructure.

Domain III - Quality Assurance and Patient Safety[288] [289]

Sub-theme cluster	What it covers	Contribution to Ayush-MVT
Clinical quality and accreditation	Ayush Quality Mark, JCI, NABH	Gives international patients, insurers and partner governments a legible quality signal
Patient safety systems	Pharmacovigilance for ASU drugs, adverse event reporting mechanism, grievance redressal mechanism	Directly addresses the documented safety failures
Patient-centered quality	Service standards for hospitals, transparency, and communication aspects, follow-up services	Satisfaction evidence from Ayush-specific service standards

Table 3.3. Domain III Quality Assurance and Patient Safety

Domain IV - Patient Journey and Experience[290]

Sub-theme cluster	What it covers	Contribution to Ayush-MVT
Communication and cultural support	Multilingual navigators, trained Ayush interpreters, cultural competency training	Addresses a documented and Ayush-specific need (diet, lifestyle and long-duration care)
Decision-making and referral	Physician referral network, word of mouth, digital trust building	Professional referral networks can complement generic marketing of Ayush treatments by supporting informed provider selection and appropriate referrals.
Continuity of care	Pre-arrival teleconsultation, in-country coordination, post-return follow-up	Directly addresses the concern shared in the literature related to follow-up care after returning home

Table 3.4. Domain IV Patient Journey and Experience

Domain V - Market Readiness and International Competitiveness[291]

Sub-theme cluster	What it covers	Contribution to Ayush-MVT
Competitive benchmarking	Comparison against Thailand, Singapore, Malaysia, South Korea on cost, quality and patient volume	Grounds branding claims in evidence

[288] The literature suggests that NABH-accredited Ayush facilities can provide and build international trust (Paul & Nair, 2014).

[289] This domain is gaining importance since the Ayush Quality Mark was recently launched in 2025, and the Bureau of Indian Standards has adopted 22525 to maintain international standards for Ayush-MVT (PIB Delhi, 2026a). The Ayush facilities, and centres should treat these as the quality assurance benchmark to maintain international standards so that the certification is internationally legible.

[290] Trained interpreters and cultural mediators shape trust, satisfaction and influence further on decision-making (Mehra & Tyagi, 2025). This plays an important role because Ayush treatment is very different from the usual conventional treatments. The identified domain about pre and the post-return leg of the journey fills the gap in the continuity of care, transparent communication and knowledge related to the selected hospitals and the international journey pathways.

[291] The literature suggests the need for documenting unmet demands of the countries to prioritize the outreach of Ayush-MVT towards them and not spreading promotional resources equally in all countries.

Branding and digital marketing	Ayush positioning within Heal in India, digital trust-building platform	Building visibility
Priority source country mapping	Identification of countries with documented Ayush or wellness demands and the domestic care gaps	Focusing limited promotional resources where demand evidence is strongest
Economic aspect and PPP	PPP models for infrastructure and facilitation	Mobilizing private capital while maintaining state oversight of quality regulation

Table 3.5. Domain V Market Readiness and International Competitiveness

Domain VI - Research Evidence and Knowledge Systems[292]

Sub-theme cluster	What it covers	Contribution to Ayush-MVT
Evidence generation	Clinical research output, indexed publication, participation in WHO-GCTM, Ayurogenomic and similar programs	Builds scientific credibility that international insurers, regulators and partner country healthcare professionals increasingly expect
Scientific credibility and standardization	Ethical publishing standards, standardized treatment protocols, outcome monitoring	Differentiates the Ayush centres from the ones which are unregulated informal providers. It also increases credibility.

Table 3.6. Domain VI Research Evidence and Knowledge System

4. Implementation Recommendations

The diagrammatic presentation of the proposed Ayush-MVT framework is attached in Annexure II. The implementation should be phased and system-selective since the institutional and research maturity across the Ayush systems is different. The stakeholder roles and responsibilities in the proposed Ayush-MVT framework are discussed in Annexure III.

4.1. Institutional Ownership - An interministerial convergence platform as shown in Annexure V is needed for Ayush-MVT governance council, which facilitates a regular institutional platform through interministerial coordination for strengthening the Ayush-MVT ecosystem[293] which also caters to the Ministry of Ayush's requirements. Further, a three-level mechanism is proposed, as shown in Annexure IV, to establish institutional ownership for policy and coordination, executive functions, and the operation of a One-Stop Ayush-MVT information and facilitation system. The proposed council and executive arrangements should be anchored in existing institutional structures, with their mandates and responsibilities agreed by the participating ministries.

4.2. Resource and capacity requirements for the proposed Ayush-MVT ecosystem

[292] It has been observed that limited scientific validation and inconsistent standardization are considered the prominent reasons for barriers in the expansion of international Ayush systems (Gautam & Bhatta, 2020). Thus, this domain should be seen as a pre-condition in the Ayush-MVT ecosystem, not a by-product of the market expansion.

[293] This recommendation is similar to the recent suggestion for a unified national regulatory authority to standardize Ayush promotion under the Heal in India mission (Soni, 2024).

The diagrammatic presentation of the Ayush-MVT international patient journey is attached in Annexure VI. A care pathway for international patients involves interaction of multiple ministries, immigration systems, facilitators, healthcare providers and tourism services, which would require inter-ministerial coordination, institutional capacity, standardized processes, digital infrastructure and patient support mechanisms.

4.2.1. Visa facilitation and inter-ministerial coordination - A mechanism is required through which applicants using India's visa platform[294] are provided with clear information about Ayush visa and services. The Ayush-MVT ecosystem should also enable appropriate identification and tracking of international patients accessing Ayush services, irrespective of whether their interest was developed before or after arrival, digital record of the international patients (education, employment visa) seeking Ayush treatments. Notably, Ayush-MVT relevant information is scattered across disconnected platforms, highlighting the need for a single point of access for quality and safe services throughout the journey.

4.2.2. International patient information, awareness and counselling - A dedicated information & counselling mechanism for international patients seeking Ayush services to reduce information asymmetry & the possibility of being misdirected or misled by unverified intermediaries or commercial facilitators. This may include Ayush-MVT counsellors or facilitators designated and accessible at immigration centers abroad, or through telephone or digital platforms. The counselling mechanism would provide verified information on: Ayush systems & available treatments, eligible and quality-assured Ayush facilities, practitioner qualifications and credentials, accreditation and quality-certification mechanisms, treatment packages, indicative costs, expected duration of treatments, referral & emergency arrangements, accommodation and transportation options, patient rights, grievance mechanism and refund policies. The India Tourism Pavilion can be utilized to advertise and raise awareness of alternative treatments in India.

4.2.3. Provider identification and Ayush-MVT hospital readiness - The Ministry of Ayush requires the development and maintenance of a verified directory of Ayush-MVT facilities with defined eligibility and quality requirements. The directory should also emphasize providing information based on their accreditation or certification status, Ayush systems offered, Ayush-MVT facilitators, treatment specialization, infrastructure, international patient services, available capacity and treatment slots to help international patients make informed choices. There is also a need for an international patient nodal officer within participating Ayush facilities for coordinating patient documentation, communication, treatment scheduling, referral, grievances and liaison with relevant government or external agencies.

4.2.4. Standardized processes for participating Ayush facilities - A common set of Standard Operating Procedures (SoPs) is required for Ayush facilities participating in the Ayush-MVT ecosystem. The SOPs should establish minimum requirements for managing international patients while allowing facilities to adapt implementation to their size and existing capacity. This covers: Pre-arrival communication and documentation, patient registration and initial assessment, treatment planning and informed consent, communication and interpreter requirements, treatment documentation, referral and escalation mechanism, coordination with other healthcare facilities within and outside India, discharge planning, post-treatment follow-up, grievance management and documentation of treatment outcomes. Similar SOPs are required for practitioners, MVT facilitators and the other personnel involved in international patient care, while the state government needs to develop context-specific implementation procedures.

4.2.5. Digital patient navigation and monitoring system - A dedicated Ayush-MVT digital interface could be developed or integrated with the existing government digital infrastructure to enable international patients to

[294] India's Ayush visa is availed from Medical and Ayush visa portal by getting a valid medical appointment letter from a hospital in India throught the portal itself https://indianfrro.gov.in/frro/medicalvaluetravel

navigate the Ayush-MVT pathway. The system could allow patients to: Access verified information on Ayush services, identify eligible facilities, treatment options and packages, receive appointments and treatment information, track key stages of their treatment journeys, communicate with the designated hospital nodal officer, submit grievances, receive information regarding referrals and follow-up, and provide feedback on their experience. This digital interface should be user-friendly and linked with the participating Ayush facilities so that there is continuity of information between the patient, the treating team and the designated nodal officer. The digital interface should also take care of confidentiality, consent, data security and access control for international patients.

4.2.6. Patient protection, grievance redressal and financial safeguards - Participating hospitals should communicate about treatment packages & as far as possible, the treatment charges should be notified in advance with no hidden costs involved before the patient starts the journey. A standardized guideline should include details related to: changes to treatment packages, additional charges, cancellation rules, early termination of treatment, refund eligibility and calculation, referral facility norms, easy access to treatment or service grievance, escalation mechanism, & procedures for resolving disputes through appropriate government platforms.

4.2.7. Data monitoring and evidence generation - A systematic mechanism includes, at the point of registration, informed consent from patients for the use of relevant de-identified information for research & system improvement, following applicable ethical & data protection requirements by capturing information like country of origin, route of entry/ visa category, Ayush system & service accessed, reason for seeking Ayush treatment, facility accessed, duration and type of treatment, referral, patient experience & satisfaction, treatment completion, follow-up & relevant outcome. Participating institutions should submit periodic monitoring reports to the designated authority so that the data can be used to identify system-level gaps, monitor patient experience, and evaluate service quality and strengthen the evidence base for Ayush-MVT policy.

4.2.8. Demand responsive and evidence-informed - A mechanism is needed to convert the existing Ayush ecosystem to systematically identify, document and translate available evidence into patient-facing and provider-facing information. The Ayush-MVT ecosystem should respond to existing and emerging international demand while ensuring that services are supported by credible documentation, transparent communication, appropriate evidence and quality assurance mechanisms.

4.3. Potential risks - Interministerial coordination failure, impact on the domestic health system, and possibility of dilution of quality by informal facilitators. Furthermore, weak evidence base can undermine credibility claims.

5. Expected Impact

- Interministerial convergence platform - Single-window interministerial coordination
- Patient-centred continuity of care, supported by digital systems.
- Targeted system-level investment to strengthen the Ayush-MVT ecosystem

5.1. Benefits for stakeholders

1. **International patients:** Safe, quality, genuine and consistent continuity of care
1. **State:** Clear evidence-based framework to decide how and where to invest in Ayush healthcare to strengthen the Ayush-MVT ecosystem.

2. **Domestic healthcare system:** Strengthening healthcare for domestic patients through improved infrastructure and service capacity, while safeguarding their access as international patient services expand.

3. **India's Ayush global positioning:** Distinctly branded and credible Ayush positioning.

5.2. Scalability and Sustainability

By implementing the Ayush-MVT framework, it is expected that more globally accredited Ayush wellness centers will be brought into the Ayush-MVT ecosystem. International patient arrivals are expected to increase steadily, and the reach of Ayush-MVT is expected to expand from developed to developing countries, subject to service readiness, patient safety, credible treatment evidence and validated demand in these markets.

Long-term impact: India's Ayush-MVT positioned as one of the prominent destinations for seeking traditional treatments and integrative Ayush treatments aiming for curative and holistic well-being.

5.3 Immediate actions required

1. Creating an inter-ministerial convergence platform - Ayush-MVT Governance Council

2. Identifying priority countries for Ayush-MVT promotion.

3. Resolving and strengthening Ayush visa accessibility.

4. Implementing a continuity of care system

5. Training and certifying more MVT facilitators

6. Conclusion

This solution paper brings together existing initiatives and governance arrangements in a proposed evidence-informed framework.

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Annexure I

Six-Domain Solution Architecture based on literature review

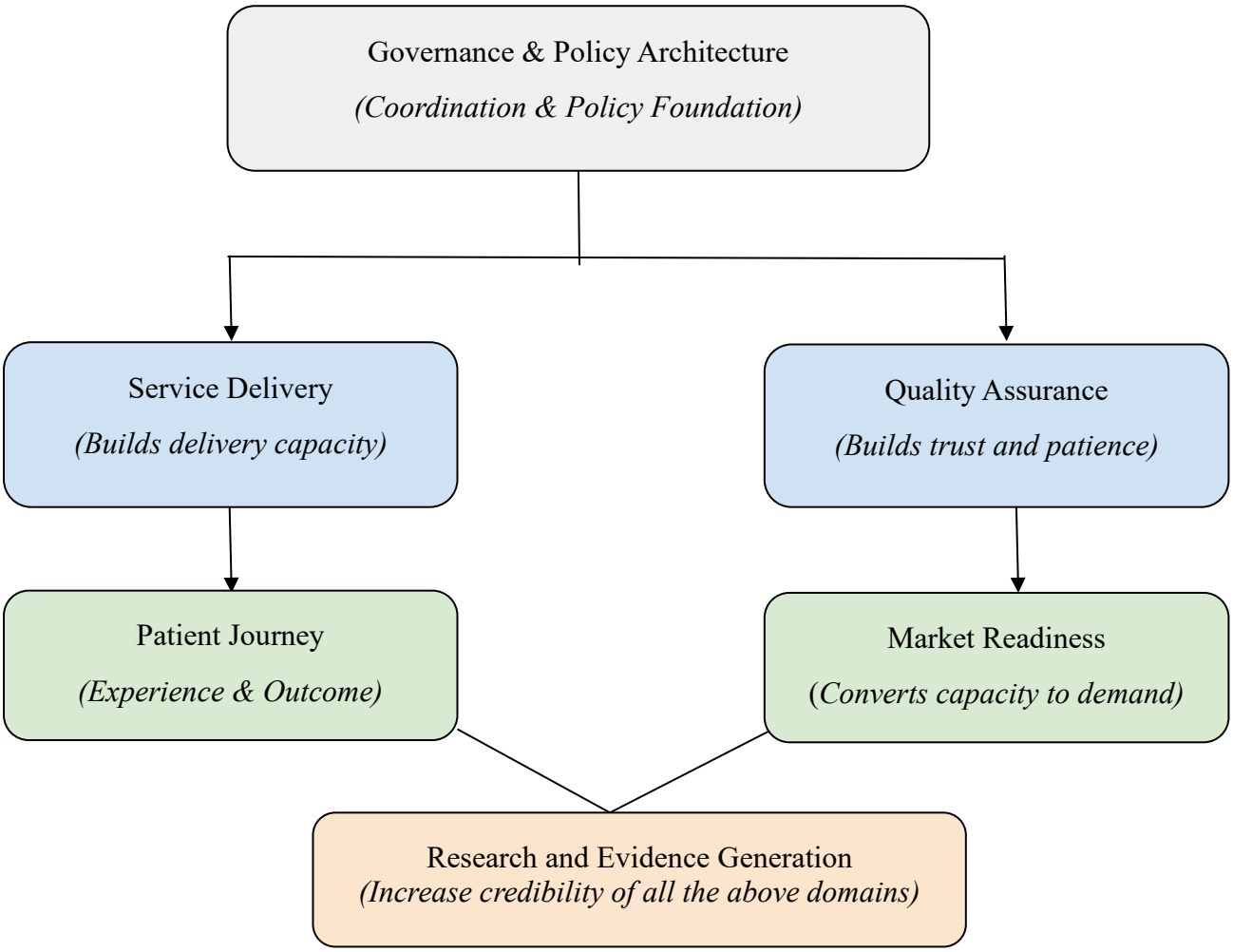


Diagram 3.1. Six-domain solution architecture

Annexure II

Integrated Ayush–MVT Implementation Framework

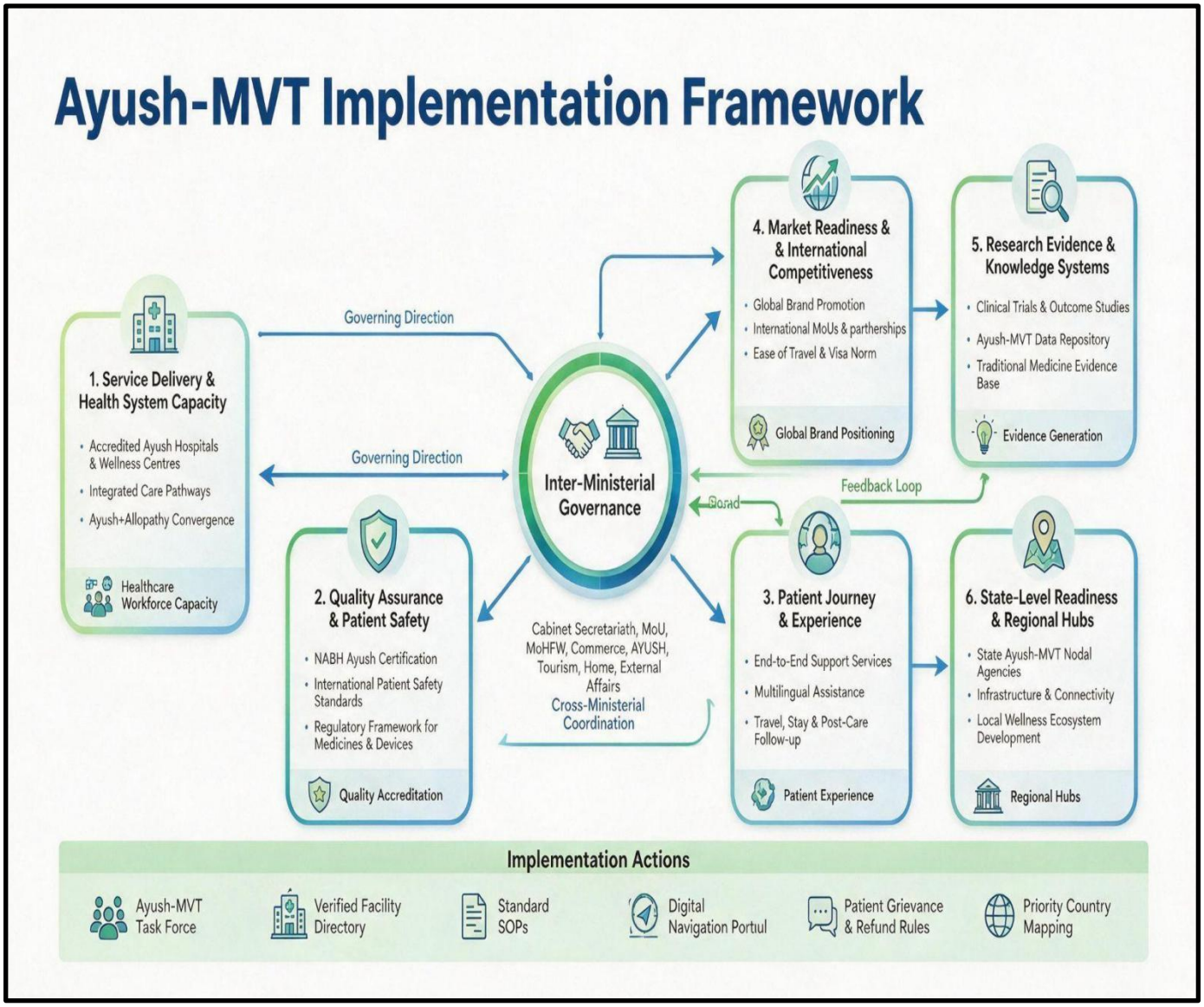


Image 4.1. Integrated Ayush-MVT Implementation Framework

Annexure III

Stakeholder roles and responsibilities in the proposed Ayush-MVT framework

S.No.	Stakeholders	Roles and responsibilities
1.	Ministry of Ayush	Ayush-MVT Governance Council, the system readiness aspects, and sees the Centre of Excellence Certification for all Ayush systems, one-stop portal
2.	Ministry of Health and Family Welfare	Ayush-MVT Governance Council, and the Advantage Healthcare India portal. Co-develops the joint 'Heal in India' one-stop portal along with

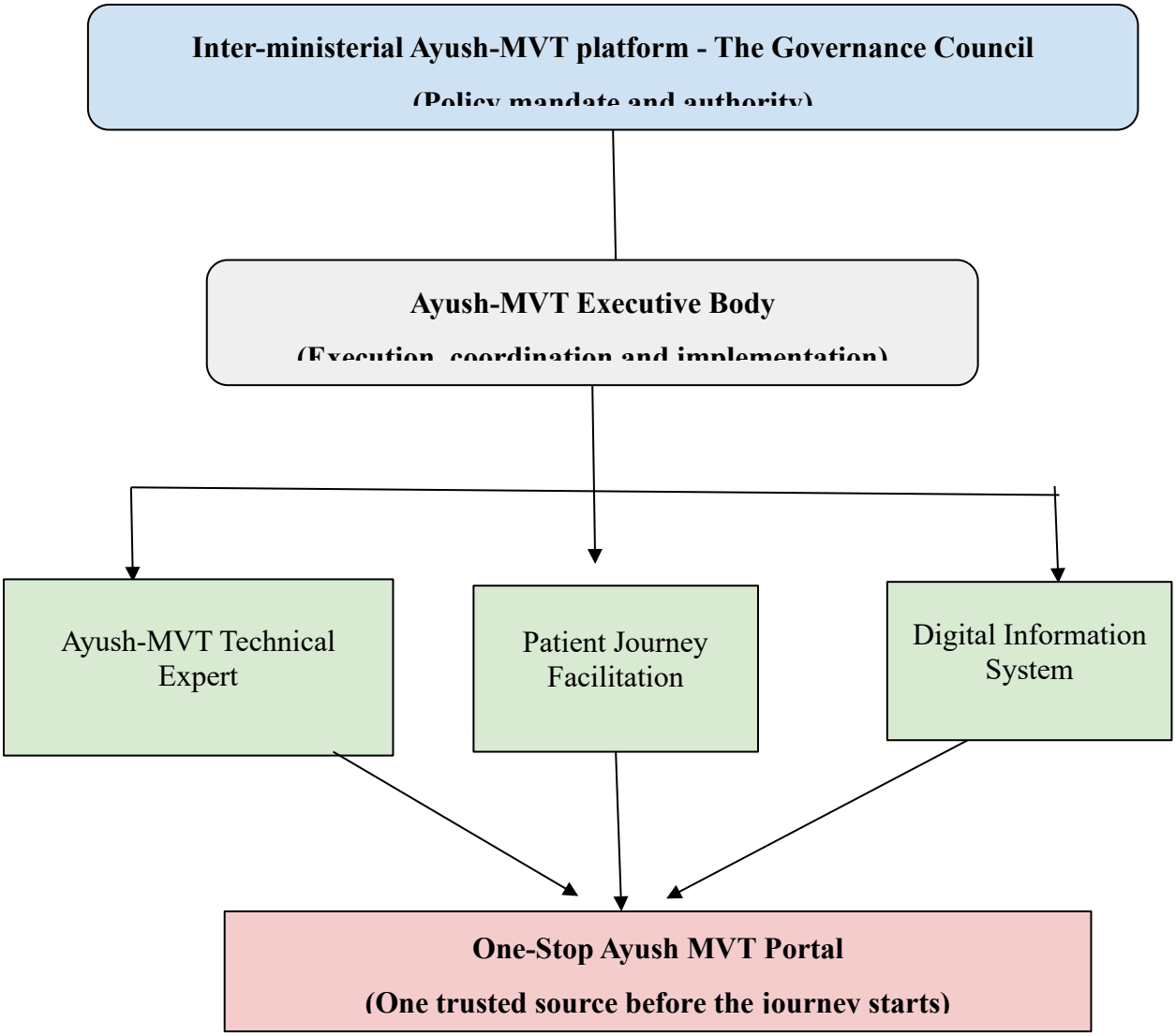
		other ministries
3.	Ministry of Tourism	Ayush-MVT Governance Council, Destination branding and Heal in India positioning, supports PPP-based tourism infrastructure, one-stop portal
4.	Ministry of External Affairs	Ayush-MVT Governance Council, bilateral MoU negotiation with priority source countries and embassy-level promotion, one-stop portal
5.	Ministry of Home Affairs	Ayush-MVT Governance Council, Operationalizes and streamlines the Ayush Visa, one-stop portal
6.	Ministry of Commerce	Ayush-MVT Governance Council, One-stop portal (SEPC)
7.	State Ayush Departments	Lead system-level readiness for the Ayush system, whichever is strongest in the state, and nominate facilities for Centre of Excellence review
8.	NABH/ QCI and Research Councils (CCRAS, CCRUM, CCRS)	Develop and administer Ayush-specific accreditation standards and research quality, MVT facilitator
9.	AIIA and Academic Institutions	Serves as the reference institutional model for Centers of Excellence[295] and as anchors for international academic partnerships, building the evidence base underpinning Ayush's scientific credibility
10.	Bureau of Indian Standards (BIS)	Maintains and updates ISO 22525 adoption as the international quality assurance benchmark referenced in the readiness diagnostic, and it is the first step towards an internationally recognized benchmark
11.	HSSC Ayush Sub-Council	Certifies the Ayush workforce and aligns skilling output with the workforce needs of Certified Centers of Excellence
12.	FICCI Ayush Committee and private providers	Participate in governance council consultation and regional summit, contribute facility-level data to the readiness diagnostic
13.	Insurer	Expand and standardise Ayush treatment coverage and condition coverage on Centre of Excellence, JCI, NABH or AQM status, reinforcing the accreditation incentive from the demand side.

Table 4.1: Stakeholder roles and responsibilities

[295] The AIIA is a Centre of Excellence that combines clinical care, research and tourism-linked satellite campus in Goa, showcasing a template that the other states can follow to support Ayush-MVT ecosystem (Nesari, 2022).

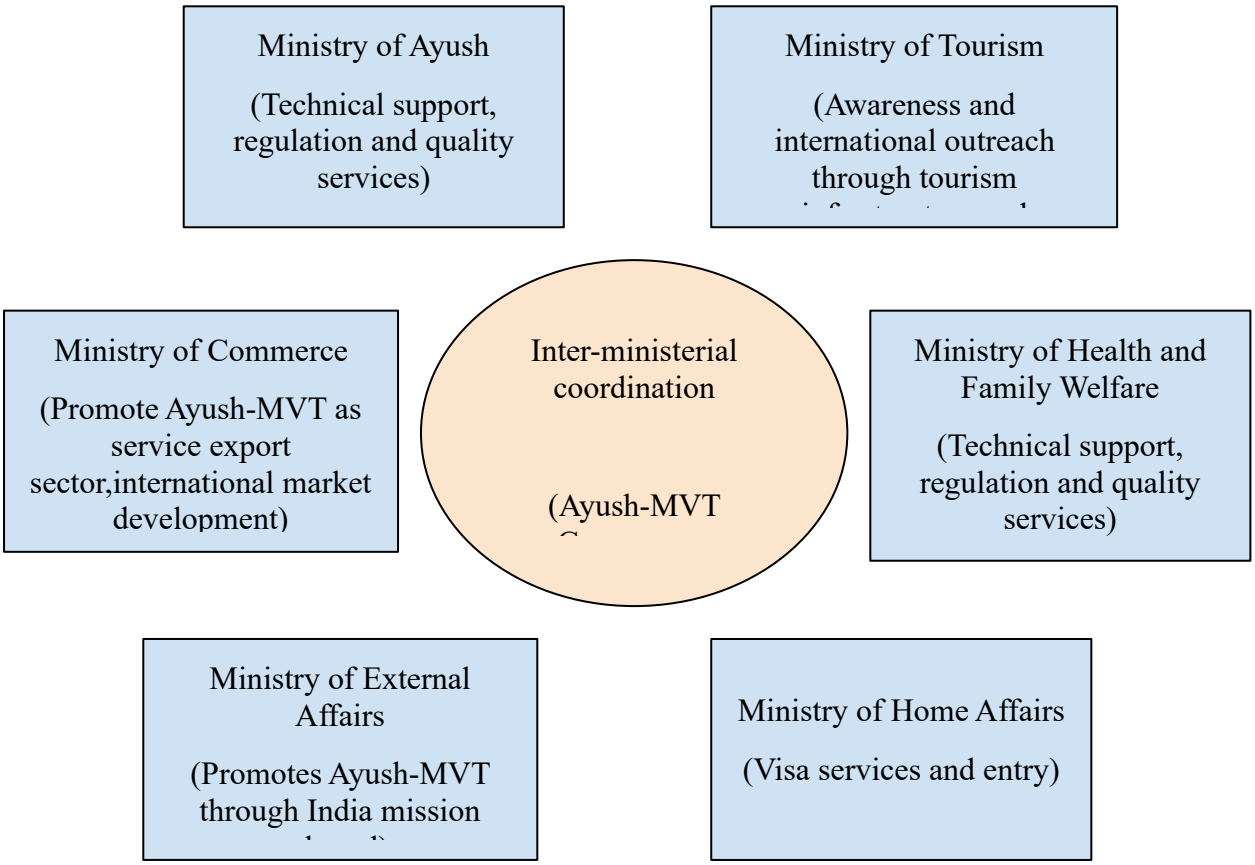
Annexure IV

Three-level mechanism



Annexure V

The Ayush-MVT Inter-ministerial Coordination-Governance Council



Annexure VI

Ayush-MVT International Patient Journey

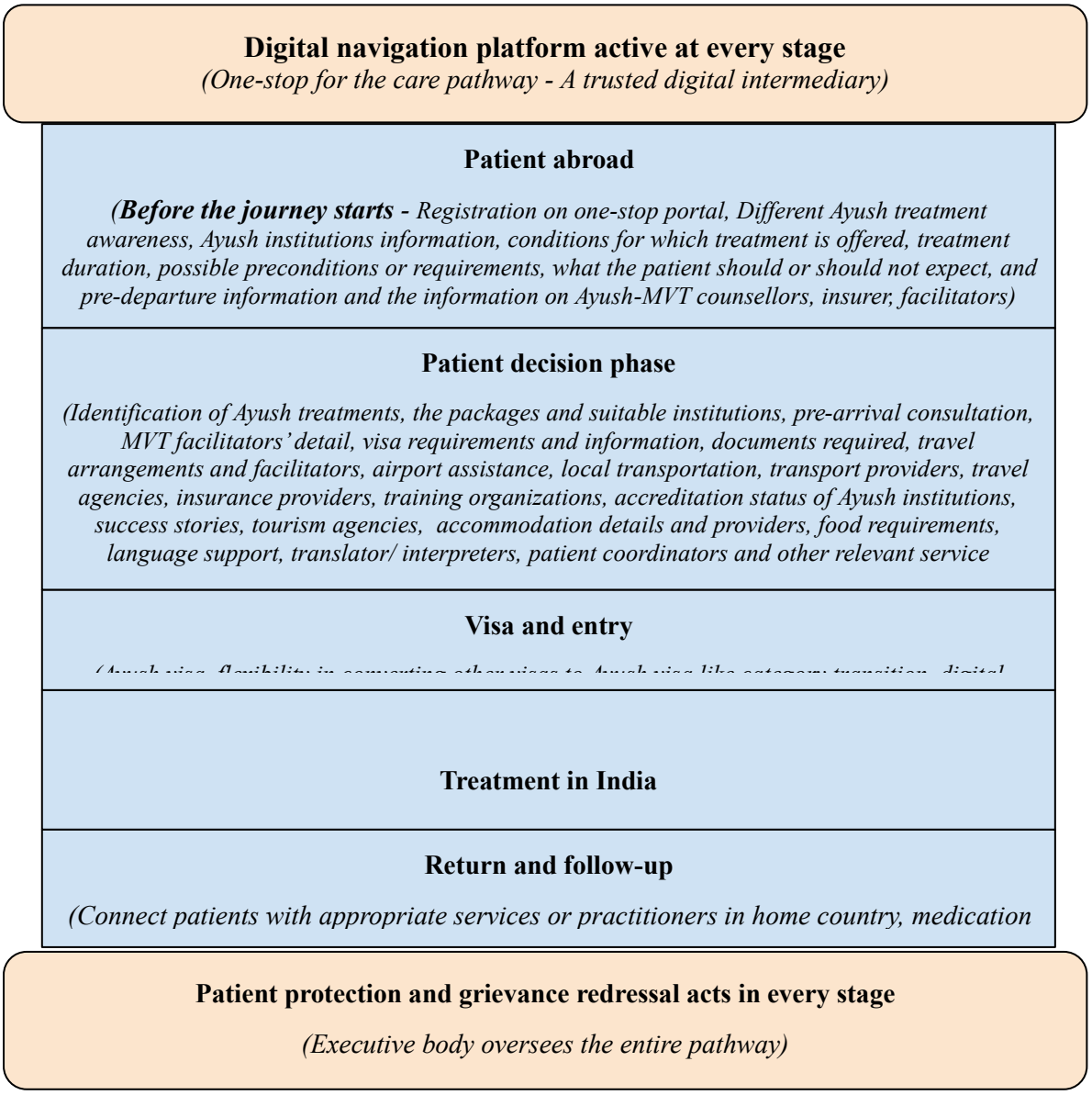
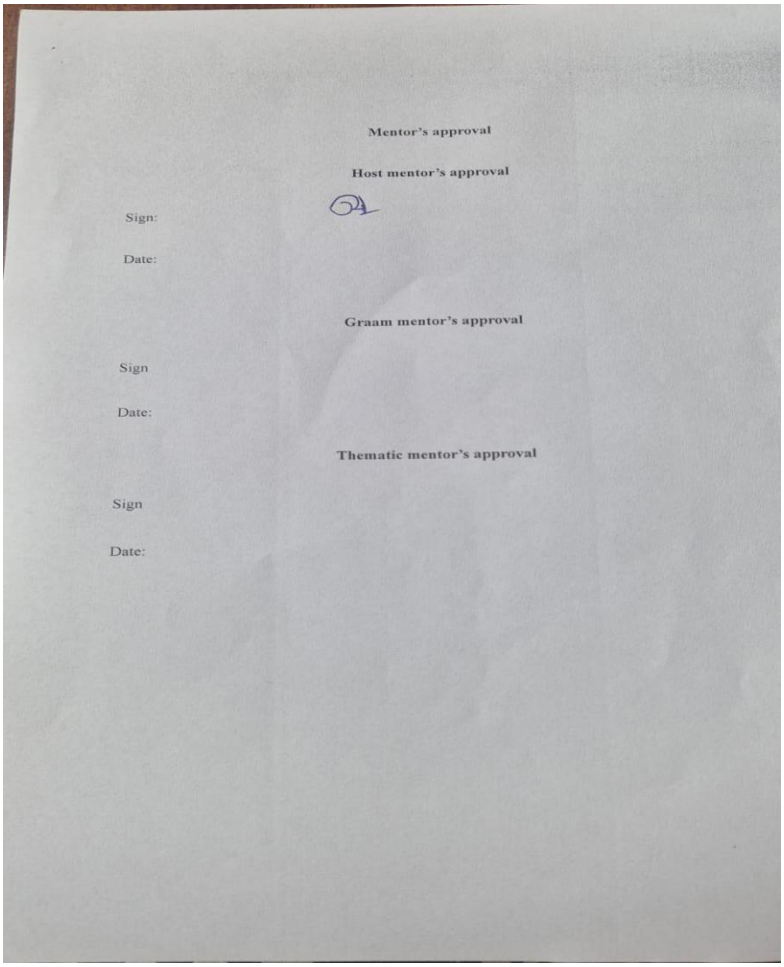


Diagram 4.2. Ayush-MVT International Patient Journey

Mentor's approval



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Editorial Notes

Reviewers encouraged the paper to define its problem and proposed solution more precisely, with a clearer account of the evidence supporting its recommendations. Further analysis could strengthen the connection between the current state of medical value travel and the implementation framework being proposed. Future refinement should identify priority actions, responsible stakeholders and practical measures for evaluating the framework's feasibility and outcomes.

Beyond the bill - Measuring and Protecting Against Household Income Loss due to Hospitalization

Evidence from the NSS 80th Round and Recommendations to National Social Security Protection A dual instrument: a Total Economic Burden (TEB) measure for the household, and a sickness cash benefit for India's informal workers

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August 2026

Executive Summary

For as long as India has measured the financial burden of illness, it has measured only half of it. Every official instrument, out-of-pocket expenditure (OOPE), catastrophic health expenditure (CHE), and the estimates built on them, counts the bill: the medical outlay and the direct costs a household pays when a member falls ill. None counts the income a household forgoes while that member is hospitalized or recovering. That loss is not new to the data. The National Sample Survey's Household Social Consumption: Health schedule is collecting data on loss of household income due to hospitalisation, but it was never measured as well as reported in the factsheets. This study measures the households' income loss due to hospitalisation by using the latest (80th) round of NSS data[296], and also attempts to measure the total economic burden of the households by incorporating the medical, non medical, and loss of income due to hospitalization.

The evidence is stark. Income loss accompanies **60.8%** of hospitalizations, three in five, with a median loss of ₹2,500 per episode (one inpatient stay, from admission to discharge, for a single ailment; childbirth excluded). At public facilities, the typical wage lost (₹2,000) exceeds the typical medical bill (₹1,500): free care removes the bill, not the lost income due to hospitalization.

The exposure is structural: casual-labour households face **2.83** times the odds of income loss of a comparable salaried household, and health insurance, which halves the median bill, leaves the lost income entirely untouched. The loss is invisible in our statistics and unprotected in our policy.

This paper proposes a dual, mutually reinforcing solution that measures the loss of income due to hospitalization and then protects it, assembling instruments that already exist rather than inventing new ones:

- **Introduction of a new measurement to capture the total catastrophic burden of a household:** a Total Economic Burden (TEB) measure that folds forgone earnings into India's catastrophic-burden statistics, from the survey collected by MoSPI/NSO; and
- **An income-protection instrument:** a sickness-linked daily cash benefit for informal and casual workers, delivered through the Code on Social Security, 2020, whose rules were notified in May 2026.

The two halves are joined by a state targeting typology that sequences the benefit's rollout by where income loss is most common and most severe. Together they correct a burden undercount of roughly one-fifth (catastrophic incidence among the hospitalised rises from 44.4% to 53.1%), and extend financial protection, especially to the informal majority, for whom no instrument today replaces the lost income due to hospitalization.

Implementation can be inter-ministerial but low-cost: the government may institutionalize the metric; the Ministry of Labour & Employment and the National and State Social Security Boards design and fund the benefit; and delivery runs on systems already built, namely, the eShram registry and Aadhaar-linked direct benefit transfer. When new survey rounds come up, including more questions on this aspect, the trend of income loss among households due to hospitalisation can also be studied further and deeper. The paper recommends a phased further in-depth analysis and study in the highest-priority states to protect the household with an income loss due to

[296] NSS 80th Round, Schedule 25.0 records loss of household income due to hospitalisation (Block 7, item 20)

hospitalization, an admission-triggered flat benefit to contain moral hazard, and a fiscal envelope sized directly on the survey's weighted totals.

1. The Challenge

A hospitalization carries two costs. The first is visible: the medical bill and the non-medical outlay for transport, food, and lodging. The second is invisible: the earnings the household forgoes while a member is ill (loss of income due to hospitalization). India's entire measurement apparatus captures the first and is structurally blind to the second. This is not a small technicality. When someone falls ill, two things happen at once: the bills go up, and the earnings go down. Catastrophic health expenditure (CHE) sees the first and cannot see the second.

Why it matters

The number a policymaker relies on, how many families a health shock financially ruins, is therefore an undercount, and the families it misses are not a random slice. They are the ones who use the free public system and the ones who work without paid leave. Our standard measures understate the burden most for exactly the households they most need to see.

Empirical evidence

Catastrophic health expenditure (CHE) research rests on the capacity-to-pay framework developed by Xu et al. (2003) and Wagstaff and van Doorslaer (2003), later adopted as SDG indicator 3.8.2 (financial protection, measured as the share of the population facing catastrophic health expenditure, i.e. out-of-pocket health spending exceeding a threshold (the standard thresholds are 10% and 25% of household consumption or income). In India, this framework has produced a mature but narrow literature: Kastor and Mohanty (2018), using NSS data, and Prinja et al. (2016), using hospital cohorts, all measure catastrophic burden purely as medical out-of-pocket spending. Dror et al. (2008) found indirect costs were 30% of total illness cost in a five-site Indian survey; Prinja et al. (2019) found productivity loss reached half of direct medical spending in injury cases, but both rely on small, facility-based samples, not national data.

The strongest causal evidence comes from Korea: Jung et al. (2021), using panel data and formal mediation analysis, found hospitalisation reduced earned income by 49% on average, and that this income loss independently and significantly mediated catastrophic-expenditure risk, confirming the mechanism outside India, even where formal social protection exists.

Limitations of the current system

- **Every metric measures outlay.** OOPE, CHE, and all such measures capture the amount in the bill. None measures the opportunity cost of being ill.
- **Free care is not freeing them from the burden.** At public facilities, the typical wage lost (₹2,000) exceeds the typical bill (₹1,500); for a household given fully subsidized care, the forgone income is the whole cost, and an outlay-based measure records zero burden for it.
- **Insurance was never built for it.** Coverage roughly halves the median bill (₹15,000 → ₹8,000) but leaves income loss identical (₹2,500 whether insured or not). AB-PMJAY reaches the poorest, most casually employed households, precisely those most exposed to losing a wage, yet can do nothing for that lost income due to hospitalization.

Consequences of the status quo

Counting the forgone earnings alone raises catastrophic incidence among hospitalised households from 44.4% (medical bill only) to 47.9%, an increase of roughly 8%. Adding the non-medical direct costs the same episodes impose (transport, food, lodging) brings the full Total Economic Burden (TEB) measure to 53.1%, a rise of roughly one-fifth over the bill-only figure that is stable whether the threshold is drawn at 10% or 25%. Across all

households nationally, not only those hospitalised, the same correction lifts the catastrophic count from 4.2% to 5.0%. Just over half (51%) of the newly burdened households were treated in a public facility. Meanwhile, no public scheme, insurer or benefit in India today replaces the lost wage for the informal majority. A few private insurers do market income-replacement and 'hospital-cash' products, but these are voluntary, premium-funded and thinly held, least of all by the low-wage, casually-employed households most exposed to losing an income due to hospitalization. The gap is therefore one of protection, not only of measurement: a missing market that the status quo leaves open on both axes at once.

2. The Proposed Solution

The solution follows directly from the diagnosis. If there is income loss, income protection is the natural policy frame; and if the loss is invisible, measurement must make it visible first. We therefore propose a single solution with two components that reinforce each other: **measure the income loss and protect it.**

Objectives

- Make the income-loss term visible in India's health statistics on the financial burden of illness.
- Provide a data-driven targeting map that sequences where protection is needed most.
- Deliver income replacement to the informal and casual households the data show are least protected and most exposed.

Why this solution was selected

This solution builds entirely on infrastructure the government has already created. The NSS Health rounds elicit the income a household loses to hospitalisation; the eShram registry identifies informal workers; Aadhaar-linked Direct Benefit Transfer moves payments; and the Pradhan Mantri Jan Arogya Yojana (PMJAY) hospital network provides a verification point. The delivery frame exists too: the Code on Social Security, 2020 brings unorganised, gig, platform and casual workers into statute and provides for National and State Social Security Boards to design and fund schemes for them. Each of these already functions; what they have not yet been used to do, together, is to measure the loss which is already collected and then act on it. The solution assembles these pieces into a working whole rather than building anything from scratch. It is a build-on-success path: having brought the medical cost of public care to near zero, it extends the same protection to the wage.

How it addresses the challenge

The measurement reform brings the loss into India's health statistics; the sickness cash benefit replaces part of it for the workers most exposed; and the state targeting typology connects the two, directing each State and Union Territory to where its own burden is concentrated, so that further study and scheme design can be followed. Measurement and protection are thus delivered as a single, coordinated intervention.

Key design principles

- **Build on existing systems.** The solution works by interlinking infrastructure the government has already built, registration (eShram), identity (Aadhaar), transfer (DBT) and verification (PMJAY hospitals), rather than by reusing any one of them in isolation. Its novelty is the **linkage**.
- **Sequence & Piloting.** Rollout follows the state typology, beginning where foregone earnings due to hospitalization fall most often and most deeply.
- **Keep the benefit simple and verifiable.** A flat daily amount triggered by inpatient admission is to administer and hard to game.
- **Preserve fiscal discipline.** Partial financial protection, a per-episode cap, and phased scale keep exposure bounded and sized on real survey totals.

3. Solution Architecture and Components

The solution runs as a three-stage pipeline — **Measure → Target → Protect** — in which a statistical instrument feeds a delivery instrument. Each stage is actionable on its own; together they form a closed loop from evidence to protection.

Component 1 : The Total Economic Burden (TEB) Measure

Purpose: to include forgone earnings in health statistics and economics.

Function: the conventional catastrophic-health-expenditure ratio places net medical outlay over ability to pay; the TEBR adds the non-medical direct cost and the forgone-income term to the numerator.

Relationship: it is the statistical backbone of the whole solution, the number that reveals who is burdened.

Contribution: it corrects the ~one-fifth under count and, crucially, tilts the count toward the casually employed, converting an invisible loss into a monitored indicator.

$$TEB_i = (M_i + D_i + W_i) \div (12 \times C_i)$$

where, for household i over the 365-day reference period:

- M_i = net medical out-of-pocket expenditure (item 12 − item 16, reimbursement-net, floored at zero);
- D_i = non-medical direct costs (transport, food, lodging, escort; items 13 &14);
- W_i = forgone household income during illness (item 20);
- C_i = usual monthly consumption expenditure, annualised as 12 × C_i (the ability-to-pay (ATP)).

Component 2 : The validated income-loss measure

Purpose: to establish that the new self-reported variable is a real economic magnitude, not a reporting artefact.

Function: a four-part face-validity check, the loss rises monotonically with length of stay; it implies a plausible, employment-ranked daily wage (≈₹571); the casual-versus-regular gradient matches a paid-leave mechanism; and it remains distinct from the bill, since 54.2% of free-care users still report a loss.

Contribution: it gives the measure, and the benefit built on it.

Table 3.1 Incidence and median value of income loss, by length of hospital stay (Jan -Dec 2025)

Duration of Hospital stay	Income loss incidence (%)	Median loss (₹)
1 day	48.8	800
2–3 days	59.2	1,500
4–7 days	61.8	3,000
8–14 days	67.0	5,000
15–30 days	72.2	8,750
31+days	66.6%	16,500

Table 3.2 What the reported loss implies as a daily wage, by household employment type

Household employment type	Implied daily wage, median (₹)
Casual-labour	500
Self-employed	562
Regular-wage	650

Household employment type	Implied daily wage, median (₹)
All hospitalising households	571

Note: *Implied daily wage (₹) = weighted median of (reported income loss ÷ days of hospital stay) among loss-reporting households; childbirth excluded, survey-weighted. Because time away from work is at least the length of stay, the figure is a mild upper bound on the true daily wage, and it orders itself by employment type exactly as a genuine wage should.*

Component 3: The state targeting typology

Purpose: to sequence the benefit's rollout. **Function:** states are classified on two axes, how often illness causes income loss (incidence) and how deep the loss runs (magnitude), into four groups, because the two run in opposite directions: broad-but-shallow in poorer states, narrow-but-deep in richer ones.

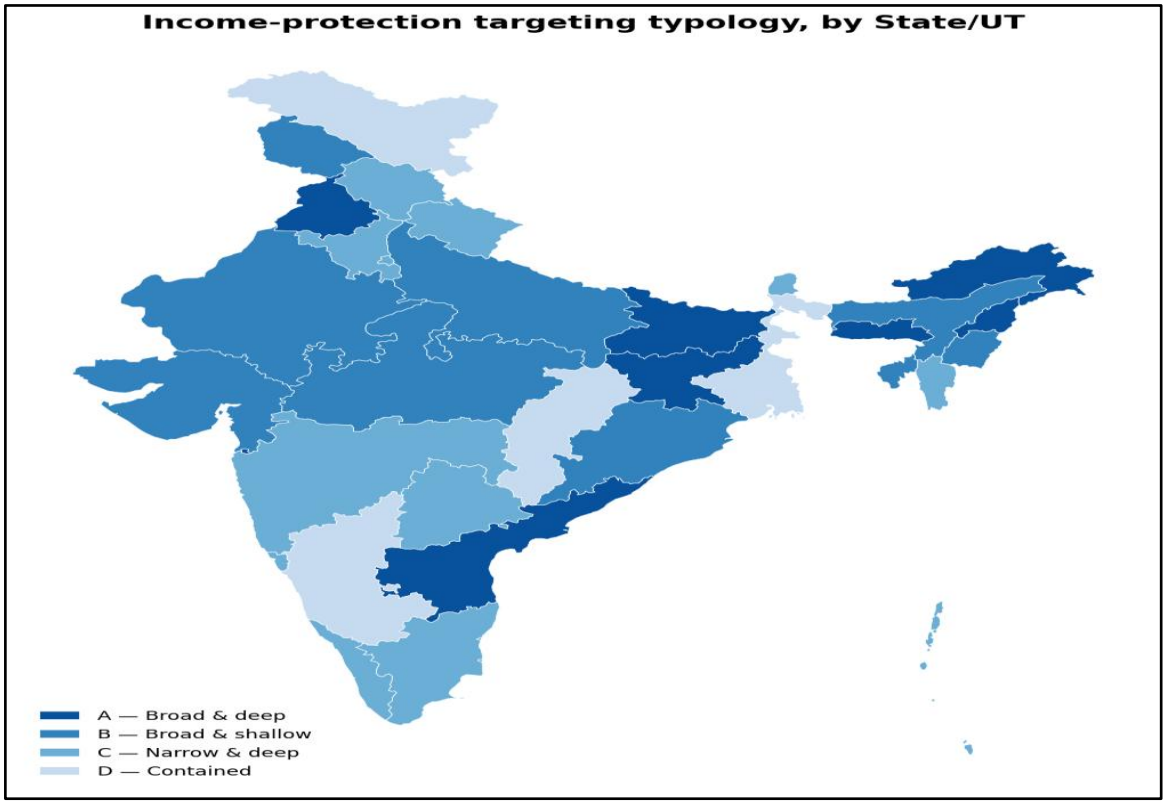
Contribution: it turns a national average into an operational rollout plan, distinguishing where the lever is coverage from where it is adequacy.

Table 3.4 A targeting typology for income protection under the Code on Social Security, 2020

Group	Profile	Income-loss incidence (benchmark 60.8%)	Median loss per case (benchmark ₹2,500)	Illustrative states (n ≥ 300)	Priority
A	Broad & deep	High ≥ (61.6–73.0%)	High > (₹3,000–₹3,950)	Bihar, Jharkhand, Andhra Pradesh, Punjab, Nagaland, Arunachal, Meghalaya	Highest; enrol widely and pay an adequate benefit
B	Broad & shallow	High ≥ (62.1–84.3%)	Lower ≤ (₹1,500–₹2,500)	Uttar Pradesh, Odisha, Rajasthan, Madhya Pradesh, Gujarat, Assam, Tripura, J&K, Manipur	Coverage first: flat-rate benefit, maximum enrolment
C	Narrow & deep	Lower < (31.5–59.3%)	High > (₹3,000–₹4,500)	Maharashtra, Kerala, Tamil Nadu, Telangana, Haryana, Delhi, Uttarakhand, Himachal	Adequacy first: earnings-linked replacement matters more
D	Contained	Lower < (43.2–59.2%)	Lower ≤ (₹1,500–₹2,400)	West Bengal, Karnataka, Chhattisgarh	Lower priority but note large absolute volumes

Note: *Groups defined relative to national benchmarks (income-loss incidence 60.8%, median loss ₹2,500): A = high incidence + high loss; B = high incidence + lower loss; C = lower incidence + high loss; D = lower on both. Ranges are the minimum–maximum across states with ≥ 300 sample cases in each group. Four B-states (J&K, Manipur, Rajasthan, UP) sit at exactly ₹2,500 — the A/B knife-edge.*

Fig.1 Income Protection Targeting Typology



Component 4 :The sickness cash benefit

Purpose: to replace part of the foregone earnings.

Function: a flat daily cash amount, triggered by verified hospital admission and capped per episode, indexed to the state typology so that Group-C states receive an adequate uplift.

Relationship: it is the delivery end of the pipeline, reaching precisely the 2.83×-exposed casual and informal households the TEBR reveals.

Contribution: it converts the Code's architecture from a framework into a benefit in payment.

Table 3.5 Recommended design parameters for the sickness cash benefit

Parameter	Recommended design
Benefit form	Flat cash amount per day of inpatient stay (partial wage replacement)
Base rate	≈ ₹300/day — about half the implied median daily wage of ₹571, below full replacement to limit moral hazard
Trigger	Verified hospital admission (≥ 1 day); minimal documentation — admission record + Aadhaar
Per-episode cap	≈ 15 days (≈ ₹4,500), covering the vast majority of stays while bounding fiscal exposure
Adequacy top-up	State-indexed uplift for Group-C (high-wage) states where losses run deep
Eligibility	eShram-registered informal, casual, gig and platform workers under the Code on Social Security, 2020

Note: *Rates are illustrative, the authorities can decide the amounts based on their capacity and further studies.Consider the above as recommendations, which can be customized for states and union territories as per their requisites.*

Component 5 : Delivery system

Purpose: to deliver the benefit at near-zero marginal administrative cost.

Function: worker identity and eligibility come from the eShram registry; the transfer runs through Aadhaar-linked DBT; the hospital admission record is the claim trigger, with PMJAY-empanelled hospitals a natural point of integration.

Contribution: It makes the scheme administrable and auditable without new institutional machinery. Ownership may rest with the National and State Social Security Boards established under the Code on Social Security, 2020 or with the central and state governments, respectively.

4. Implementation Recommendations

Recommended approach

A phased, evidence-sequenced scheme rollout. The measurement component can be operationalised immediately by the government from the existing unit-level files; the benefit component may be piloted in the highest-priority states before national scale, so that design lessons are absorbed at low fiscal risk. The upcoming NSO survey rounds can also include more questions to capture more findings.

Stakeholder roles and responsibilities

- **The government** may institutionalise the TEB as a published indicator; produce and maintain the state targeting dashboard; size the fiscal envelope from weighted totals; design the benefit and notify the scheme under the Code on Social Security, 2020.
- **National & State Social Security Boards** may take on scheme ownership, funding design, and state-level enrolment and adequacy calibration.
- **National Health Authority (NHA)** may provide the PMJAY-empanelled hospital network as the admission-trigger and verification layer.
- **Employees' State Insurance Corporation (ESIC)** may lend the sickness-benefit template it already runs for the organised sector (≈70% of wages for up to 91 days) as a design reference.
- **State governments** may co-fund, drive eShram enrolment, and administer the adequacy top-up. Local governments may also use the TEB data for better policy formulation; urban, rural, and household-type-wise data may equip them to prioritize their local social-protection policies effectively.
- **The income-loss variable** collected in the NSS health round may be retained and strengthened in all future rounds, giving it the same standing that out-of-pocket expenditure has long enjoyed. Institutionalise this way, that the measure would allow the states and union territories to capture the full economic cost of illness on a continuing basis and to track, round on round, whether income-protection instruments are closing the gap it first revealed.

Resource and capacity requirements

- Statistical capacity for annual TEB estimation and dashboard maintenance (existing NSS teams; marginal cost).
- DBT piping and eShram–hospital data integration (largely existing infrastructure).

Phased implementation plan

- .**Phase 1 [stablish the measure]** :The Government may publish the TEB indicator and the state targeting typology, and size the fiscal envelope on the survey's weighted totals.

- **Phase 2 [Pilot]:** The flat daily benefit is piloted in two or three Group-A states (e.g. Bihar, Jharkhand), with claims triggered through PMJAY-empanelled hospital admissions.

- **Phase 3 [Scale by typology**]: Rollout follows the typology, coverage-first in Group-B states, adequacy-first in Group-C, with the benefit calibrated to each group's lever.

- **Phase 4 [Review and refine]:** Pilot and early-scale outcomes may be evaluated against administrative and survey data, uptake, exclusion error, fiscal cost, and effect on distress financing, and the benefit design may be adjusted before wider extension.

- **Phase 5 [Extend]:** Coverage may be broadened to long outpatient and chronic-care spells, and adequacy may be refined as administrative data accumulate.

Potential risks and mitigation

Table 4.1 Principal implementation risks and mitigation measures

Risk	Mitigation
Moral hazard (over-claiming, unnecessary admission)	Benefit tied to verified inpatient admission and capped; partial (not full) wage replacement preserves the incentive to return to work.
Fraud / verification	Hospital admission record + Aadhaar authentication; integration with PMJAY-empanelled hospital systems for automated triggers.
Fiscal exposure	Flat rate, per-episode cap, and phased rollout by typology; envelope sized on weighted NSS totals before scale-up.
Exclusion error (unenrolled workers)	Enrolment drives linked to hospital touchpoints; auto-enrolment prompts at admission for eligible unregistered patients.
Measurement caveats (cross-section, recall)	Claims kept to association, not causation; annual re-estimation; periodic validation against administrative benefit data once flowing.

5. Expected Impact

Improvements over the current system

For the first time, the government burden statistic would count the highest cost of illness for the poorest households. Catastrophic incidence among the hospitalized is corrected upward by roughly one-fifth (44.4% → 53.1%), and the correction is concentrated where it belongs: just over half the newly counted were treated in a public facility. The state that could not previously see the wage-laborer's crisis would now measure it directly.

Efficiency gains

- **Sharper targeting:** the typology directs finite protection budgets to where loss is most common and most severe, avoiding uniform spend. It also equips states/UTs to prioritize their health policies.

- **Avoided distress:** replacing part of the lost income reduces distress financing, asset depletion, and the slide into poverty that a fortnight of lost earnings can trigger.
- **Scale of the loss:** nationally, India's households lose roughly ₹10,355 crore in income to hospitalization in a year, about ₹9 of income for every ₹100 of medical bill. This loss can be diluted with better, targeted social-security policies.
- **Low administrative overhead:** delivery on the existing eShram + DBT system keeps the cost of protection close to the transfer itself.

Benefits for stakeholders

- **Casual & informal households:** the 2.83×-exposed group (casual) finally gains an instrument that reaches their largest cost.
- **Government:** a more accurate poverty-and-burden statistic, and a targeted, fiscally-bounded protection scheme that completes the Social Security Code's promise. The local governments can also utilize the data for better local level social protection policies.
- **The health system:** Free public care and Ayushman Bharat removed the *price* of treatment; income protection removes the *penalty* for seeking it. Together, Universal Health Coverage and social security strip the decision to seek care of both its deterrents, the bill and the forgone income, so patients present earlier, complete treatment rather than discharging early to get back to work, and the public investment in health is no longer eroded by the earnings a family must give up to use it.

Scalability and sustainability

Because the solution reuses national infrastructure, a nationwide survey, a national registry, a national transfer system, and a statutory Board framework , it scales without new institutions. The flat-rate, capped design keeps it fiscally sustainable, and annual re-estimation keeps both the measure and the targeting current.

Short, medium, and long-term impact

- **Short term:** a foregone-earnings-inclusive burden indicator and a state-wise targeting dashboard.
- **Medium term:** a working sickness cash benefit for informal workers in priority states, evaluated and refined.
- **Long term:** income protection during illness extended to the informal majority, turning the Code on Social Security's architecture into everyday reality, and closing one of the truest gaps on the road to ***Viksit Bharat by 2047***.

6. Next Steps and Conclusion

India has brought the medical cost of public care down to near zero for half a billion people; the bill, however, was only ever half of the cost of illness. This paper's contribution is to name and measure the other half, the foregone earnings due to hospitalization, and to route protection to it through instruments the country has already built. The measurement reform and the policy point are the same sentence: fold the wage into the measure, and the households that appear are the very ones the Code's informal-worker protections are meant to reach.

Immediate actions required

- **Government** should publish the TEBR and the state targeting typology from the NSS 80th Round file, and size the fiscal envelope on weighted totals. Also, it should notify a pilot sickness cash benefit for eShram-registered informal workers, triggered at PMJAY-empanelled hospitals.
- Constitute a **working group** to own the **Measure → Target → Protect** pipeline end to end.

Opportunities for future enhancement

The framework extends naturally: to long outpatient and chronic-care spells; to a maternity-linked variant; to real-time monitoring once administrative benefit data flow; and to periodic re-estimation as future NSS rounds **deepen the income-loss-due-to-hospitalisation series**. The gig worker's protection is now taking shape; the daily-wage worker's is the frontier still to cross. Extending it to them is how the promise of social security for every Indian turns from architecture into everyday reality.

References

All statistical results are the author's calculations from the unit-level records of the 80th Round of the National Sample Survey, Schedule 25.0 (Household Social Consumption: Health), canvassed January–December 2025. Figures are survey-weighted (final multiplier = recorded multiplier ÷ 100); design-based standard errors use Taylor linearisation under the ultimate-cluster approximation.

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Annexures

Annexure A. Incidence and magnitude of illness-related income loss

Measure (ref period _365 days)	Value	Numerator (n)	Denominator (n)	Statistics
Income-loss incidence due to hospitalisation	60.80%	52,186	86,790	incidence
Median income loss (loss cases)	₹2,500	52,186	—	median

Annexure B. Validity of the income-loss measure, by facility type

measure	Medical institution	value	Numerator (n)	Denominator (n)	Statistics
Median net Out-of-pocket expenditure (OOPE)[297]	All	₹11,285	86,790	—	median
Loss cases where income lost > net bill[298]	All	25.20%	13,277	52,186	incidence
Income loss present when bill = ₹0 (free medical care)	All	54.20%	6,637	12,596	incidence
Income-loss incidence, stay ≤ 2 days	All	53.00%	13,204	25,142	incidence
Income-loss incidence, stay > 2 days	All	63.90%	38,982	61,648	incidence
Median net OOPE	Public	₹1,100	36,146	—	median
Loss cases where wage lost > net bill	Public	54.50%	11,407	22,151	incidence
Income loss present when bill = ₹0 (free care)	Public	56.00%	5,734	10,631	incidence
Income-loss incidence, stay ≤ 2 days	Public	56.60%	6,493	12,030	incidence
Income-loss incidence, stay > 2 days	Public	67.70%	15,658	24,116	incidence
Median net OOPE	Private	₹24,000	48,273	—	median
Loss cases where wage lost > net bill	Private	5.90%	1,547	28,675	incidence

[297]Net out-of-pocket expenditure (OOPE): medical expenditure borne by the household net of reimbursement — the gross amount paid (item 12) less any sum reimbursed by insurance, employer or government scheme (item 16), floored at zero. It is the medical cost the household could not recover, not the amount billed.

[298]Read as: the share of income-loss cases in which the foregone income exceeds the net OOPE (the net medical bill defined above). "Medical bill" and "net bill" refer to the same net OOPE quantity throughout this annexure.

measure	Medical institution	value	Numerator (n)	Denominator (n)	Statistics
Income loss present when bill = ₹0 (free care)	Private	47.20%	708	1,542	incidence
Income-loss incidence, stay ≤ 2 days	Private	50.60%	6,364	12,389	incidence
Income-loss incidence, stay > 2 days	Private	62.00%	22,311	35,884	incidence
Median net OOPE	NGO/charitable	₹10,000	2,371	—	median
Loss cases where wage lost > net bill	NGO/charitable	25.10%	323	1,360	incidence
Income loss present when bill = ₹0 (free care)	NGO/charitable	41.80%	195	423	incidence
Income-loss incidence, stay ≤ 2 days	NGO/charitable	47.30%	347	723	incidence
Income-loss incidence, stay > 2 days	NGO/charitable	58.20%	1,013	1,648	incidence

Notes: *incidence = the share of the stated group meeting the condition; median = middle value of the distribution (no denominator applies). Bill = ₹0 denotes fully free or fully reimbursed care. Stay = duration of the hospital stay. Facility: Public = government hospitals; Private = for-profit providers; NGO/charitable = not-for-profit or trust hospitals; All = the three pooled.*

Annexure C. Composition of the economic burden, by facility type

C1. Aggregate burden shares

Facility type	Sample cases (n)	MedicalOOP (% of burden)	Nonmedical (% of burden)	income loss due to hospitalization (% of burden)
Public	36,146	54.80	23.90	21.20
Private	48,273	87.60	6.90	5.50
NGO/charitable	2,371	82.90	9.40	7.70

Note:Shares are of the aggregate economic burden and sum to 100% across the three components.

C2. Median bill versus median wage among loss cases

Facility type	Income loss cases (n)	median net medical bill (₹)	median income loss (₹)	Cases where income loss > bill (%)
Public	22,151	1,500	2,000	54.50
Private	28,675	26,000	3,000	5.90
NGO/charitable	1,360	12,500	3,500	25.10

Annexure D. Income-loss incidence by household employment type

Household employment type	Income loss incidence (%)	Loss cases (n)	Total cases (n)
Casual-labour	78.40	12,916	16,357
Self-employed	65.40	26,877	40,777
Regular-wage	50.00	10,808	22,877
Others	24.40	1,585	6,779

Annexure E. Determinants of income loss on hospitalisation (design-based logistic regression)

Predictor	Odds ratio	[95% CI]
Household type		
Regular-wage *(reference)*	1.00	—
Casual-labour	2.83***	[2.51, 3.20]
Self-employed	1.67***	[1.52, 1.84]
Others	0.31***	[0.24, 0.39]
Sector		
Urban *(reference)*	1.00	—
Rural	1.29***	[1.17, 1.41]
Social group		
General *(reference)*	1.00	—
OBC	1.05	[0.95, 1.17]
SC	1.25**	[1.09, 1.44]
ST	1.19	[0.98, 1.44]
Consumption quintile		
Q1, poorest *(reference)*	1.00	—
Q2	1.37***	[1.16, 1.62]
Q3	1.19*	[1.02, 1.40]
Q4	1.17	[0.98, 1.38]
Q5, richest	0.78**	[0.66, 0.92]

Note: Odds ratios from a design-based logistic regression of the probability that a hospitalisation involves household income loss; childbirth excluded. 95% confidence intervals in brackets; reference categories shown as 1.00. Significance: *** p<0.001, ** p<0.01, * p<0.05; categories without an asterisk are not statistically significant. Design-based (Taylor-linearisation) standard errors; state controlled via stratification.

Annexure F. Income loss on hospitalisation, by State/UT

Serial.No	State / UT	Group	Income loss incidence (%)	Loss cases (n)	Median income loss (₹)
1	Tripura	B	84.30	1,090	1,500
2	Odisha	B	73.40	2,501	2,000
3	Jharkhand	A	73.00	1,655	3,500
4	Bihar	A	72.00	3,588	3,000

Serial.No	State / UT	Group	Income loss incidence (%)	Loss cases (n)	Median income loss (₹)
5	Jammu & Kashmir	B	70.80	1,160	2,500
6	Nagaland	A	69.40	599	3,000
7	Assam	B	68.90	1,760	2,000
8	Gujarat	B	67.80	2,954	2,000
9	Manipur	B	67.60	970	2,500
10	D&N Haveli & Daman & Diu	A	64.70	156	2,917
11	Rajasthan	B	64.40	3,140	2,500
12	Andhra Pradesh	A	64.30	1,944	3,200
13	Punjab	A	63.60	1,425	3,000
14	Arunachal Pradesh	A	62.90	677	3,952
15	Madhya Pradesh	B	62.40	3,272	2,400
16	Uttar Pradesh	B	62.10	5,688	2,500
17	Meghalaya	A	61.60	289	3,000
18	Telangana	C	59.30	1,839	3,000
19	Haryana	C	59.30	1,212	3,000
20	Chhattisgarh	D	59.20	1,378	2,100
21	Maharashtra	C	58.70	4,300	3,000
22	Tamil Nadu	C	57.80	2,389	3,000
23	West Bengal	D	56.70	2,892	1,500
24	Uttarakhand	C	55.00	492	3,000
25	Ladakh	D	51.50	72	1,526
26	Mizoram	C	50.40	390	3,000
27	Kerala	C	50.10	1,465	4,000
28	Himachal Pradesh	C	49.20	393	3,000
29	Puducherry	C	45.80	137	2,800
30	Karnataka	D	43.20	1,531	2,400
31	Andaman & N. Islands	C	41.30	122	3,000
32	Chandigarh	C	36.90	29	4,672
33	Sikkim	C	35.60	263	4,000
34	Delhi	C	31.50	330	4,500
35	Lakshadweep	C	25.10	34	3,000
36	Goa	C	24.30	44	3,979

Note: States and Union Territories are ranked by the incidence of hospitalisation-related income loss (highest to lowest); the serial number is a rank, not an official code order. "Incidence" is the survey-weighted share of hospitalisation cases (childbirth excluded) reporting any loss of household income. All estimates are survey-weighted (final multiplier = recorded multiplier ÷ 100). Incidence and median loss often move in opposite directions, in poorer States loss is widespread but smaller per case, in richer States rarer but larger. Figures for Chandigarh, Ladakh, Lakshadweep, Goa, Dadra & Nagar Haveli and Daman & Diu, and Puducherry rest on fewer than 300 sample cases and are indicative only.

Annexure G. Catastrophic reclassification - Conventional CHE versus the Total Economic Burden (TEB) measure

G1. Reclassification at the 10% and 25% thresholds

Base	Threshold (%)	Conventional CHE (medical bill only (%))	Medical bills + income loss (%)	TEB_Medical bills +income loss + non-medical direct cost (%)
Hospitalised households	10	44.40	47.90	53.10
Hospitalised households	25	23.60	26.00	28.60
All households (national)	10	4.20	4.50	5.00
All households (national)	25	2.20	2.40	2.70

Note: Hospitalised households' uses only households with a hospitalisation in the reference year as the base; 'all households (national)' uses the full surveyed population, so the lower national rates reflect that most households had no hospitalisation.

G2. Reclassification by employment type (TEB, 10% threshold)

Household type	Conventional CHE (%)	TEB (%)	Relative rise (%)
Casual-labour	40.60	51.20	+26
Regular-wage	41.60	50.10	+20
Self-employed	46.20	54.50	+18
Others	52.70	58.90	+12

G3. Profile of the newly burdened

Characteristics of the newly burdened	Share (%)
Paid ₹0 net bill	11
Medical burden < 5% of consumption	32
Used a public facility	51

Annexure H. Insurance, AB-PMJAY and the income gap

H1. Insured versus uninsured

Coverage Status	share of hospitalizations (%)	median net medical bill (₹)	Income loss incidence (%)	Loss cases (n)	median income loss (₹)	Sample cases (n)
Insured	59.50	8,000	60.60	28,633	2,500	48,123
Uninsured	40.50	15,000	60.40	20,482	2,500	33,969

H2. AB-PMJAY versus uninsured

group	median net medical bill (₹)	Income loss incidence (%)	Loss cases (n)	median income loss (₹)	Sample Cases (n)
AB-PMJAY	9,500	65.30	17,159	2,500	26,497
Uninsured	15,000	60.40	20,482	2,500	33,969

Acknowledgement

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Editorial Notes

Reviewers recognised the detailed, data-driven work and recommended strengthening the link between the analysis and the policy questions it seeks to address. The paper could clarify its research objective, explain how the data and indicators support the proposed measures, and make the policy pathway more explicit. Further refinement should address gaps in the analysis and show how the proposed household-burden measure and sickness benefit could inform protection for informal workers.

A Proposed National Framework for Monitoring and Evaluating Scheme Convergence under VB-G RAM G

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Executive Summary

India's rural development challenge is not simply to mobilise public resources, but to ensure that investments across schemes, institutions and departments work together to create lasting public value. The VB–G RAM G Act, 2025 provides a statutory foundation for convergence through its framework for integrated planning and implementation. The next challenge is operational: how can the government determine whether convergence is substantive, whether it improves development outcomes, and what needs to change when it does not?

This solution paper proposes a **National Convergence Monitoring and Evaluation Framework (NCMEF)** to address this gap. It moves convergence monitoring beyond counting linked schemes, financial contributions and completed works towards assessing whether public resources are jointly planned, effectively coordinated, functionally integrated and capable of generating additional, verified and sustainable outcomes. The central proposition is to organise measurement around the developmental objective, asset, service or activity being pursued, rather than the administrative boundaries of individual schemes.

NCMEF establishes a nested measurement architecture comprising **nine forms of convergence, six assessment dimensions, a lifecycle-based evidence structure and a Composite Convergence Effectiveness Index (CEI)**. The nine forms distinguish how convergence occurs; the six dimensions assess its effectiveness; and lifecycle monitoring tracks interventions from planning and Gram Sabha consideration through execution, asset functionality and operation and maintenance (O&M). The CEI provides a diagnostic assessment of performance, retaining underlying scores to identify specific weaknesses rather than reducing convergence to a single headline number.

The framework's proposed digital solution is to connect existing government information through a common package-level view, rather than create another reporting system. Guided by the principle of *reuse first, derive second, add only where necessary*, NCMEF would draw on existing scheme management information systems (MIS), financial, planning, geospatial and asset records. A proposed federated interoperability layer through the Viksit Bharat–National Rural Infrastructure Stack (VB–NRIS), supported by a common Convergence Package Record and identifier, would enable participating systems to exchange relevant information while preserving scheme-specific administrative and financial accountability. ***The central proposal is to move convergence monitoring from counting linked schemes and completed works to measuring whether coordinated public resources create additional, verified, and sustainable value around a common rural development objective.***

Measurement, however, creates value only when it informs decisions and improves implementation. NCMEF therefore proposes a continuous management cycle—**Measure → Verify → Diagnose → Act → Review → Learn → Re-plan**—linking evidence to time-bound corrective action and institutional learning. Regular stakeholder consultation with Gram Panchayats, Gram Sabhas, line departments, technical agencies and user groups would help identify implementation bottlenecks and ensure that field-level experience informs future planning and system design. Cross-system verification, geospatial checks, risk-based field verification and community evidence would help distinguish reported convergence from demonstrated convergence, while provisional Red–Amber–Green (RAG) classifications would guide management attention and corrective action.

The framework also incorporates a proportionate value-for-money assessment to determine whether convergence generates additional public value beyond what separate, uncoordinated interventions might achieve. Ex-ante appraisal would assess the anticipated incremental benefits and costs of a convergent package against a credible business-as-usual alternative, while ex-post evaluation would examine whether the expected additionality materialised. Drawing on public-sector appraisal and evaluation principles, this assessment would consider costs, benefits, risks, effectiveness, efficiency, impact and sustainability in proportion to the scale and complexity of the intervention (HM Treasury, 2026; OECD, 2021, 2023).

NCMEF is therefore proposed not as an index or an additional compliance mechanism, but as a governance architecture connecting measurement with verification, corrective action, evaluation and institutional learning. Its intended contribution is to help government identify where convergence works, understand why it succeeds or fails, and improve the design and delivery of future rural development investments. The indicator definitions, CEI scoring bands, verification protocols and digital arrangements remain proposed designs requiring empirical and operational validation before national adoption.

The policy shift is fundamental: from counting convergence to assessing its effectiveness; from fragmented scheme-level reporting to integrated package-level intelligence; and from monitoring expenditure and completed assets to examining the additional, sustainable public value created through coordinated rural development.

The central proposition is that convergence should be assessed around the activity, asset, service, or developmental objective being pursued, rather than around the administrative boundaries of individual schemes. This is consistent with the resource-convergence approach documented in the UNDP-supported work of Aruna Sharma, which emphasized planning around activities and common objectives, identification of the components required to achieve those objectives, and the complementary deployment of resources and institutional capabilities (Sharma, 2013).

1. The Challenge

Convergence has long been recognised as a means of improving the effectiveness of public programmes. Rural development interventions frequently depend on complementary resources: a water asset may require labour, technical design, irrigation inputs, watershed treatment, and subsequent maintenance; a rural habitation may require housing, sanitation, water, roads, electricity, and livelihood services; and a productive asset may require skills, finance, market access, and institutional support. When these components are planned independently, the resulting investments may remain physically adjacent but functionally disconnected.

The UNDP-supported study by *Sharma (2013)* describes this problem as one of resources being spread across agencies and schemes, creating duplication, fragmented effort, and weak alignment between resources and outcomes. Its resource-convergence approach emphasises planning around a common developmental objective, identifying the components required to achieve it and then identifying the schemes, agencies, and resources that can contribute to those components. The lesson is important for VB–G RAM G: convergence is primarily a problem of management, sequencing, and coordination, not simply one of scheme availability.

Existing government systems contain substantial information relevant to convergence. Scheme MIS platforms can record works, beneficiaries, expenditure, technical inputs, and completion. Financial systems can record releases and payments. Geospatial systems can locate interventions. Local records can document Gram Sabha processes and community oversight. Asset records can provide information on completion and functionality. The difficulty is that these information streams are generally organised around individual administrative systems rather than around a common convergence package and its intended outcome.

This produces a measurement gap. A work may be labelled as convergent without showing whether the contributing schemes were jointly planned, whether their components were sequenced, whether financial or technical contributions were actually complementary, whether the interventions were spatially and functionally

linked, whether the resulting asset is being used, or whether the combination created an outcome that would not have been achieved through isolated interventions.

The problem is therefore not simply inadequate reporting. It is a governance problem arising from fragmented information, fragmented accountability, and fragmented planning. NCMEF is proposed to address this problem by creating a common analytical and management layer without requiring every participating scheme to abandon its existing administrative architecture.

2. Purpose and Objectives of the Proposed NCMEF

The purpose of NCMEF is to make convergence measurable and actionable across the levels at which rural development is planned and implemented. The framework is intended to support decision-making by the ministry, states, districts, and Gram Panchayats rather than function solely as a compliance-reporting mechanism.

2.1 Core objectives

- Establish a common operational definition of convergence under VB–G RAM G.
- Distinguish administrative convergence from substantive convergence.
- Measure convergence across planning, financing, institutions, technology, outcomes, and the asset lifecycle.
- Use existing government information systems as the primary evidence base and minimize additional reporting.
- Create a package-level information architecture through federated interoperability.
- Provide a transparent and interpretable CEI supported by underlying dimension and form scores.
- Strengthen verification and reduce the risk of paper convergence and indicator gaming.
- Link measurement to corrective action, institutional learning, and replanning.
- Incorporate community participation and stakeholder consultation into the governance cycle.
- Assess the additional public value and value-for-money potential of convergence.

2.2 Guiding principles

The framework should be governed by six principles: usefulness, proportionality, transparency, interoperability, verifiability, and learning. Measurement should be useful enough to change a decision; proportional enough not to create unnecessary administrative burden; transparent enough for stakeholders to understand; interoperable enough to connect existing systems; verifiable enough to distinguish reported from demonstrated convergence; and learning-oriented enough to improve future planning.

These principles also guard against a common failure mode in performance measurement: once an indicator becomes a target, organisations may optimise the indicator rather than the underlying objective. Goodhart's Law is relevant here. The framework should therefore avoid allowing the CEI or individual indicators to become standalone performance targets without context, verification, and outcome information *(Goodhart, 1975)*.

3. Understanding Convergence: From Schemes to Developmental Objectives

The proposed framework takes the position that schemes are instruments, not the unit of developmental purpose. A convergence package should therefore begin with an activity, asset, service, or developmental objective and then identify the complementary interventions required to achieve it. This reverses the conventional question from "Which schemes can be attached to this work?" to "What combination of public resources is required to achieve this objective, and which schemes or institutions can legitimately provide those components?"

This approach draws on the Resource Convergence Mantra Model described by *Sharma (2008, 2013*). The earlier convergence literature identifies several forms of resource convergence, including human-resource and technical

convergence, financial or scheme-resource convergence, convergence that enlarges the scope of an intervention, complementary implementation of separate components, beneficiary-based convergence, and area-based convergence. The 2013 report further emphasises holistic planning, bottom-up feedback, and the use of information systems to support coordination and monitoring *(Sharma, 2013)*.

The same logic can be seen in contemporary public-sector planning approaches. NITI Aayog's discussion of the Aspirational Districts approach, for example, describes identifying a thrust activity, mapping schemes, implementing agencies, and setting targets around the developmental problem rather than treating each scheme as an isolated intervention *(NITI Aayog, 2018)*. This provides a useful conceptual bridge for VB–G RAM G: convergence can become a way of organising public action around outcomes while retaining the legal and financial identity of participating programmes.

3.1 Nine forms of convergence

Form	Meaning
Administrative	Formal coordination of roles, responsibilities, orders, approvals, and follow-up actions.
Financial	Complementary financial contributions or sequencing of resources across participating schemes/departments.
Planning	Joint identification, sequencing, and planning of interventions before sanction.
Institutional	Functional coordination among institutions responsible for planning, implementation, technical support, and review.
Outcome	Multiple interventions contributing to a defined shared developmental outcome.
Spatial	Geographic and/or functional linkage among interventions within a defined service or resource area.
Digital	Exchange and use of information across systems to support planning, implementation, verification, and review.
Community	Participation of Gram Sabha, communities, and relevant user groups in prioritization, oversight, and use.
Lifecycle	Continuity of convergence from planning through execution, completion, functionality, and O&M.

These forms are analytically distinct. Two departments may jointly finance an asset without having jointly planned it. Two works may be located near each other without being functionally complementary. A technical department may provide an input without being involved in later review or maintenance. The purpose of the framework is therefore not to maximise the number of forms present in every package but to establish which forms are relevant to the intervention and whether the required forms are functioning.

3.2 From a Scheme List to a Convergence Network

The indicative scheme-mapping workbook supplied for this study contains 67 scheme rows across 22 ministry nodes, alongside two cross-cutting entries. This provides a useful starting point for moving from a static list of potential convergence schemes to a network representation of rural development.

The proposed network should not be read as a claim that all mapped relationships are already formal convergence. Instead, it provides an analytical structure for identifying where schemes, permissible VB–G RAM G works, and

developmental outcomes intersect. Departmental confirmation can then distinguish potential, proposed, and operational convergence.

A future network analysis can calculate degree centrality, betweenness centrality, clusters, and bridge schemes; identify highly connected outcome areas; and surface under-connected but potentially valuable linkages. This would strengthen NCMEF by showing not only how convergence is measured but also where the convergence ecosystem is structurally concentrated.

Figure 1. Indicative ministry–scheme convergence ecosystem. The figure is a visual analytical map; formal convergence status remains subject to inter-ministerial confirmation.

4. The Nested Measurement Architecture

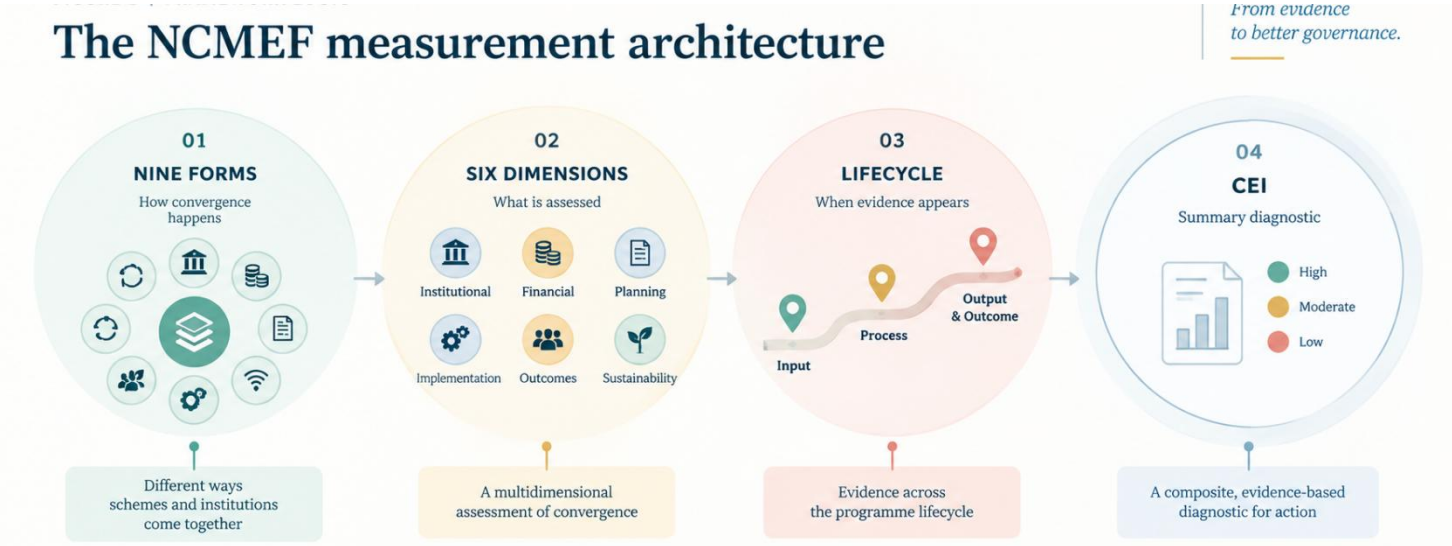


Figure 2. Nested measurement architecture: forms explain how convergence occurs; dimensions explain what is assessed; lifecycle identifies when evidence appears; CEI provides a diagnostic summary.[1299]

The framework separates four concepts that are often conflated: forms, dimensions, lifecycle and CEI. This separation is essential for avoiding double counting and for ensuring that the composite score remains interpretable.

Element	Question answered
Nine forms	How does convergence occur?
Six dimensions	What domain of convergence effectiveness is being assessed?
Lifecycle	When should evidence be generated and reviewed?
CEI	What is the overall diagnostic picture of convergence effectiveness?

The six dimensions are Scheme, Planning, Institutional, Technological, Outcome, and Community & Lifecycle. The forms map into these dimensions through a pre-defined crosswalk. The mapping should be established before scoring and should assign each indicator to a primary dimension for aggregation. This reduces the risk of counting the same underlying performance feature multiple times.

Dimension	Core question
Scheme	Are resources and scheme contributions complementary and synchronised?
Planning	Was the package jointly planned, sequenced and aligned to the local development plan?
Institutional	Did the responsible institutions coordinate effectively and implement agreed decisions?
Technological	Can information move across systems and support package-level management and verification?
Outcome	Did the combined intervention achieve the intended outcome and demonstrate additionality?
Community & Lifecycle	Was the intervention socially anchored and sustained through functionality and O&M?

[299] The nine forms describe how convergence occurs, while the six dimensions define what is assessed. Their overlap is intentional, reflecting the relationship between convergence processes and their assessment, rather than implying identical or mutually exclusive categories.

5. Convergence Across the Full Lifecycle

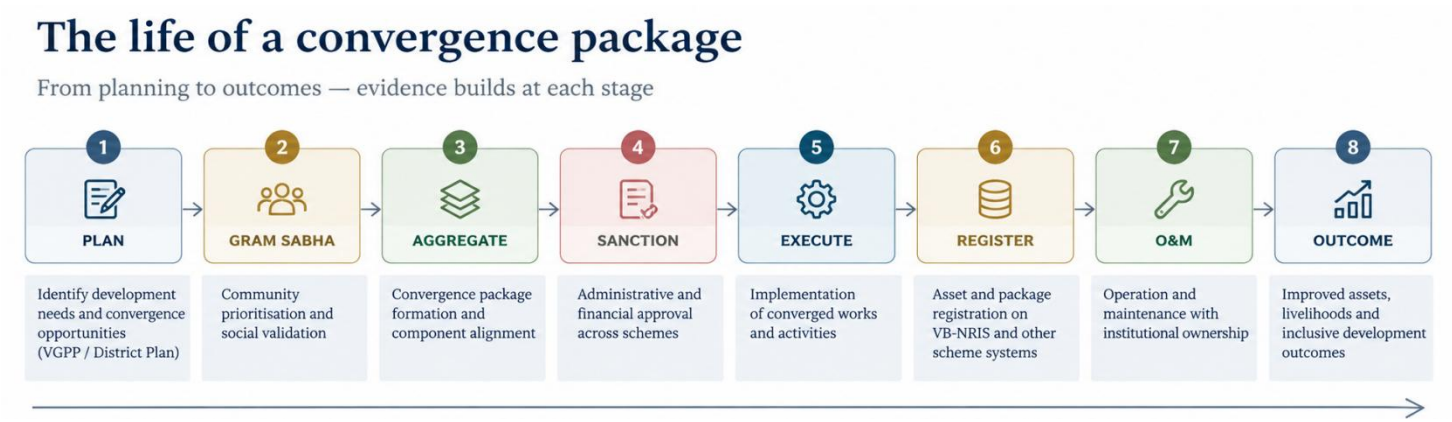


Figure 3 . Evidence generation across the full convergence lifecycle.

Convergence should be measured across the lifecycle of an intervention rather than at a single reporting point. A package that is jointly planned but poorly executed is different from one that is implemented successfully but has no credible O&M arrangement. Lifecycle measurement therefore prevents early-stage coordination from being mistaken for durable development impact.

1. Planning: identify the developmental objective, required components, participating schemes and institutional responsibilities.
2. Gram Sabha approval and prioritisation: establish local legitimacy, priorities and community oversight.
3. Aggregation: bring the relevant components and schemes into a common package view.
4. Estimation and sanction: sequence technical and financial approvals and establish responsibilities.
5. Execution: monitor physical, financial, technical and institutional coordination.
6. Completion and asset registration: confirm completion, documentation and ownership/responsibility.
7. Functionality and O&M: verify whether the asset is functional, used and maintained.
8. Outcome review: assess whether the package contributed to the intended developmental outcome and whether there is evidence of additionality.

The lifecycle also creates a natural governance rhythm. Planning evidence can be used before sanction; execution evidence can support mid-course correction; completion evidence can trigger asset registration and O&M assignment; and outcome evidence can feed future planning. This converts monitoring from a retrospective reporting exercise into a management process.

6. Building Convergence Intelligence from Existing MIS

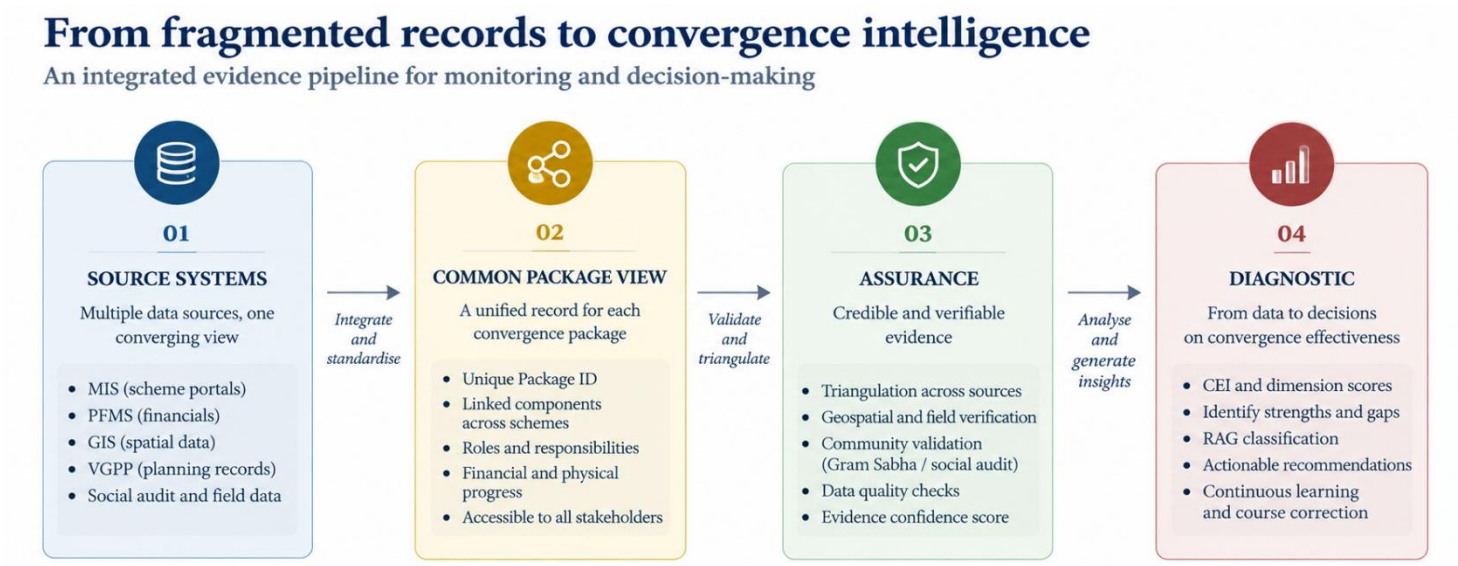


Figure 4. Evidence architecture: source systems feed a common package view; assurance strengthens credibility; the CEI summarises the verified diagnostic signal.

The strongest design choice in NCMEF is to avoid creating a large new indicator universe. The existing MIS indicators identified in the current framework should remain the core evidence base. New routine fields should be introduced only where a critical measurement gap is demonstrated and where the decision value of the new information justifies its reporting cost.

Existing evidence area	What it can establish	What NCMEF should additionally ask
Number of convergence works	Scale of reported convergence	Was convergence substantive or only tagged?
Line-department contribution	Financial participation	Did contributions complement and synchronise?
Technical inputs	Technical participation	Did technical inputs improve design or quality?
Beneficiary coverage	Reach	Did reach translate into improved outcomes?
Person-days	Employment output	Did the asset support sustained livelihoods or other intended outcomes?
Functional assets	Asset status	Is functionality sustained and is the asset productively used?
Income generated	Outcome signal	What is the plausible contribution of the converged package?

This distinction is critical. Existing MIS data should not be discarded because it does not directly measure convergence effectiveness. Instead, it should be reorganised around the questions NCMEF is intended to answer.

The framework should therefore operate as an analytical layer over existing systems rather than a parallel reporting architecture.

6.1 Data sufficiency rule

Each proposed measure should be classified as Existing, Derived, Extension-required or New. Existing means the field is already collected in an authoritative system. Derived means it can be calculated without additional reporting. Extension-required means systems need to exchange or expose an existing field. New means the field does not exist in the available administrative architecture. New fields should face the highest threshold for inclusion.

This rule is especially important at Gram Panchayat, Block and District levels, where reporting capacity is uneven. The framework should measure the administrative cost of each additional data element and periodically review whether the information continues to influence decisions.

7. Composite Convergence Effectiveness Index (CEI)

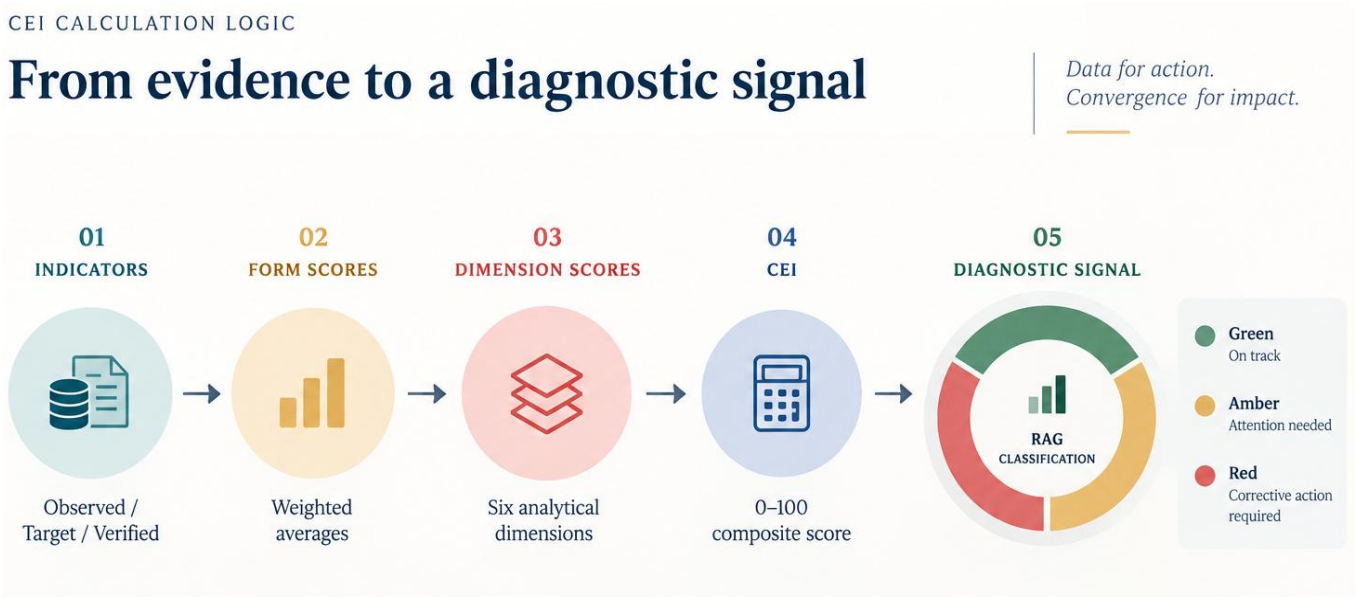


Figure 5. CEI calculation logic from indicators to form scores, dimensions and diagnostic summary.

The CEI is intended to provide a transparent summary of convergence effectiveness. It should remain a diagnostic instrument: the underlying dimension and form scores, evidence-confidence status, verification status and relevant outcome, equity and value-for-money information must remain visible alongside the composite score.

7.1 Indicator normalisation

For indicators where a higher value represents better performance, the pilot design uses a target-referenced score: Observed value divided by target value, multiplied by 100 and capped at 100. For negative indicators, a bounded inverse transformation may be used against a defined threshold. Binary evidence can be scored as verified or absent, while partial evidence should use a pre-specified rubric. Thresholds must be justified and documented rather than chosen after seeing the results.

7.2 Form scores

For each convergence form, the score is the weighted average of its component indicators. Equal indicator weights are recommended as the transparent starting point unless there is a strong policy or empirical reason for differential weights. Any departure from equal weighting should be documented before results are interpreted.

7.3 Dimension scores

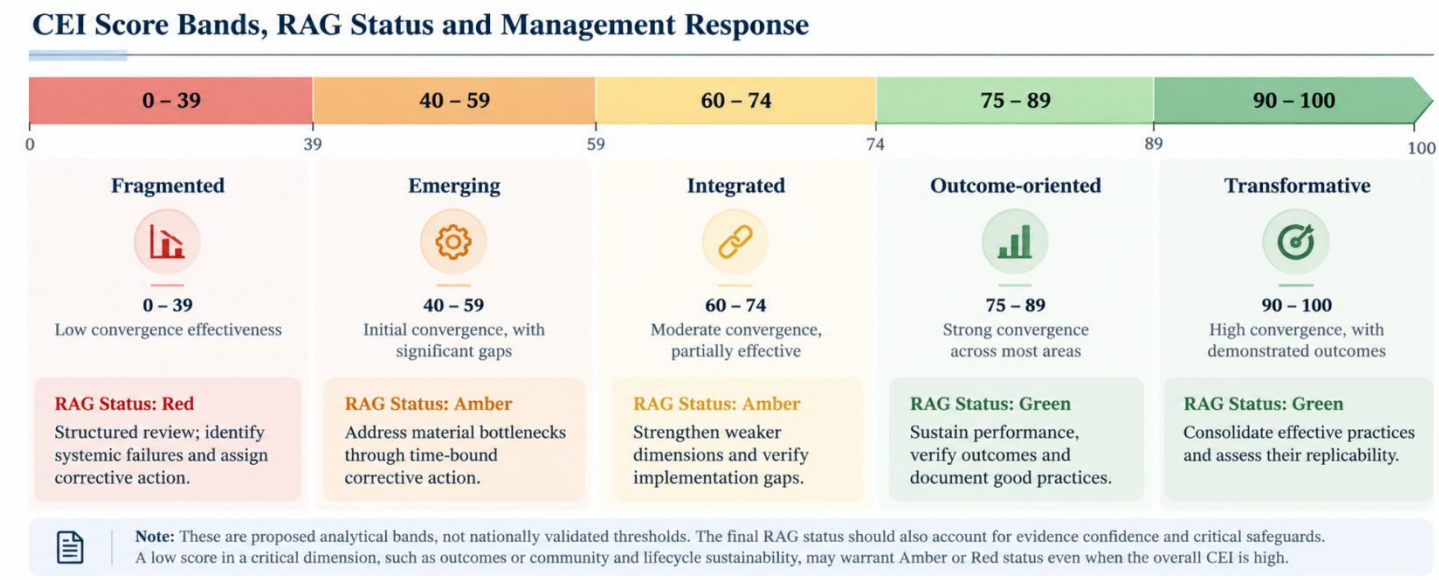
Dimension scores should be constructed through the pre-defined primary-dimension crosswalk. This avoids allowing one indicator to influence multiple dimensions simply because it appears relevant to several concepts. Secondary associations may be displayed analytically, but the aggregation rule should use one primary assignment for scoring.

7.4 Composite score

The initial CEI can be calculated as the arithmetic mean of the six dimension scores. Equal dimension weights provide a transparent starting point and reduce the risk that subjective weights dominate the result. The score should be accompanied by its component profile and evidence of confidence.

Provisional interpretation bands may be used for analytical communication, but they should not be treated as notified national thresholds without validation. The suggested bands are **0–39 Fragmented, 40–59 Emerging, 60–74 Integrated, 75–89** Outcome-oriented, and 90–100 Transformative. These are design categories, not claims about current performance.

Most importantly, the CEI should not be used as a standalone ranking instrument. A high composite score should not conceal weak outcomes, weak equity performance, or poor lifecycle sustainability. The reporting architecture should therefore prevent the highest performance category from being interpreted as fully successful where critical outcome, community, lifecycle, or equity safeguards are below a predefined floor.



CEI Score Bands, RAG Status and Management Response.

CEI dimension	Score	Evidence observed	Management reading
Scheme	80	Multiple complementary schemes/components are explicitly linked to one package objective.	**Green**
Planning	75	Joint sequencing is visible before implementation; local plan alignment is strong.	**Green**
Institutional	55	The lead institution is identified, but coordination and follow-through are uneven.	**Amber**

CEI dimension	Score	Evidence observed	Management reading
Technological	45	Geotagging/data exists, but cross-system visibility is incomplete.	**Red**
Outcome	60	Shared outcome is defined; baseline and attribution evidence remain partial.	**Amber**
Community & Lifecycle	50	The community role is visible, but O&M responsibility and post-completion review are not yet strong.	**Amber**

Illustrative Application: CEI Scoring for a Convergence Package

The value of a composite index lies not in the headline score alone, but in its ability to identify where convergence is working, where it is breaking down, and what action should follow. The following illustrative package demonstrates how the proposed CEI can operate at the level of an individual convergence package.

The example applies the CEI methodology described in Section 7 and Annex B. All scores are constructed solely to demonstrate the scoring and management logic and are not field observations or State-level performance estimates. The example should therefore be read alongside the limitations set out in Section 17.

PACKAGE PROFILE

Package: Integrated Water Security and Livelihoods Package

Location: Gram Panchayat [X], Block [Y]

Convergence Package ID: VBNRIS-2026-[XXXX]

Participating programmes: VB–G RAM G (water conservation structure), Jal Jeevan Mission (piped water extension), and NRLM (irrigation-linked farmer producer group)

Developmental objective: To improve reliable water availability and enable a shift towards higher-value irrigated cultivation for approximately 140 households.

TABLE 1. DIMENSION-WISE CEI ASSESSMENT

Dimension	What is being assessed?	Illustrative indicator(s)	Evidence source	Score
Scheme	Whether participating schemes make complementary and synchronised contributions	Sequencing of financial and programme contributions across VB–G RAM G, JJM and NRLM	PFMS; scheme MIS	78
Planning	Whether components are jointly planned, sequenced and aligned with the VGPP	Joint VGPP entry; sequencing of components before sanction	VGPP records	85
Institutional	Whether coordination mechanisms function and decisions are implemented	Convergence committee meeting regularity; action-closure rate	Committee records	62
Technological	Whether information can move across participating systems	Package record completeness; successful data exchange	VB–NRIS (proposed)	55

Outcome	Whether the package produces the intended outcome and additionality	Expansion in irrigated area; income change relative to business-as-usual	Outcome MIS: evaluation	70
Community & Lifecycle	Whether the package is socially anchored and remains functional after completion	Gram Sabha oversight; O&M institution; asset functionality	Gram Sabha records; asset registry	48

CEI RESULT

CEI = (78 + 85 + 62 + 55 + 70 + 48) / 6 = 66.3

66.3 → Integrated (60–74)

The package therefore falls within the proposed 60–74 "Integrated" band. However, the framework does not interpret 66.3 as a standalone declaration of success. The Community & Lifecycle score of 48 falls below the proposed safeguard floor for sustainable operation and maintenance. Consequently, the package remains Amber, despite its overall CEI falling within the "Integrated" band.

The headline score describes the overall state of convergence; the safeguard prevents a critical weakness from being hidden by stronger performance in other dimensions.

EVIDENCE CONFIDENCE AND VERIFICATION STATUS

Evidence confidence: Medium-high. The Scheme, Planning and Outcome dimensions are supported by triangulated administrative and financial records. Technological and Community & Lifecycle scores rely on partially verified entries and therefore require further confirmation.

Verification status: Financial and planning information has been cross-system triangulated. Geospatial verification remains pending, and no independent re-performance has yet been undertaken.

This distinction is important because measurement and verification are separate functions. A reported convergence linkage may be recorded in the system without yet providing sufficient evidence that the linkage is functioning on the ground.

RAG (RED-AMBER-GREEN) DETERMINATION AND MANAGEMENT RESPONSE

AMBER — CORRECTIVE ACTION REQUIRED

Finding: The package demonstrates relatively strong convergence in Planning (85) and Scheme coordination (78) and records a reasonable Outcome score (70). Its principal weakness is at the Community & Lifecycle stage (48).

Identified gap: An O&M institution has been identified, but the mechanism for financing and sustaining maintenance is not documented.

Required action: The Block-level convergence functionary should confirm and document the O&M financing arrangement within 60 days.

Next review point: The package should be re-assessed at the next functionality/O&M checkpoint, with the Community & Lifecycle dimension re-scored on the basis of verified evidence.

Escalation: If the corrective action remains unresolved at the subsequent review, the package should move from Amber to the applicable Red corrective pathway under the framework.

WHAT THE WORKED EXAMPLE DEMONSTRATES

Convergence is multidimensional. A package can perform well in planning and financial coordination while remaining weak in institutional coordination, digital interoperability or lifecycle sustainability.

The CEI is diagnostic. The value of the score lies in identifying the dimensions responsible for weaker performance and directing management attention towards them.

Safeguards matter. Without the Community & Lifecycle floor, stronger scores could produce a favourable headline score despite an unresolved sustainability risk.

Measurement must lead to management action. The purpose of scoring is to create a repeatable management loop rather than simply produce a number.

MEASURE → VERIFY → DIAGNOSE → ACT → REVIEW → LEARN → RE-PLAN

In this sense, the CEI functions as a management instrument for convergence, rather than as a ranking mechanism for States or Gram Panchayats.

8. Measurement Assurance and Verification

The credibility of NCMEF will depend on whether reported convergence can be distinguished from actual convergence. Administrative records are necessary but not always sufficient. The framework should therefore establish an evidence hierarchy and verification protocol.

- Automated validation and anomaly detection across participating systems.
- Cross-system triangulation of works, funds, locations and participating departments.
- Geospatial checks for spatially linked interventions.
- Risk-based field verification, with higher verification intensity for high-value or high-risk packages.
- Random verification to reduce predictability.
- Gram Sabha, social-audit and community evidence as corroborative sources.
- Independent re-performance of selected assessments.
- Evidence-confidence tagging so that a score is interpreted alongside the reliability of its underlying evidence.

The purpose is not to create an audit-heavy system for every work. Verification should be proportionate to risk. A small, low-risk package may require automated and documentary checks, while a high-value package with multiple departments and significant public assets may warrant more intensive verification.

This approach is consistent with the logic of social accountability embedded in MGNREGA's audit framework and with the broader lesson from CAG performance audits that planning, records, works, financial management and monitoring systems need to be examined together rather than as isolated administrative functions (Government of India, 2011; CAG, 2013).

9. Digital Architecture: From Fragmented MIS to Federated Convergence Intelligence

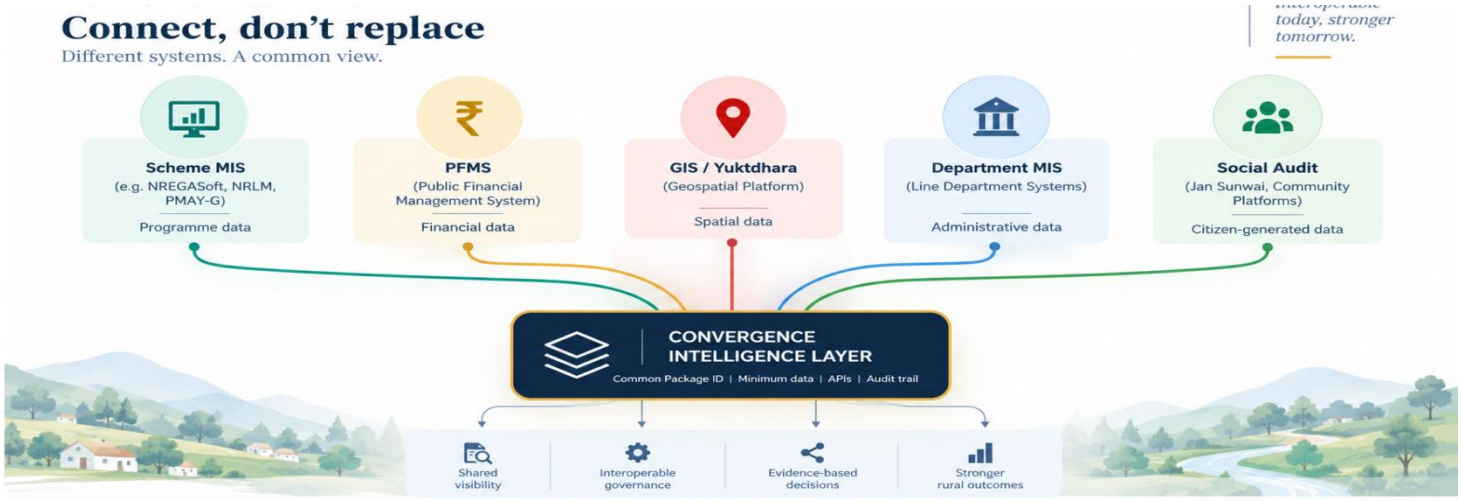


Figure 6. Federated interoperability: existing systems remain authoritative while the convergence layer creates a common package-level view.

The digital problem is not that every scheme needs a common software platform. Replacing multiple scheme MIS systems would be costly, disruptive and institutionally difficult. The more practical approach is federated interoperability: participating systems retain their own administrative functions but exchange a defined minimum set of information through agreed identifiers, APIs or other secure data-exchange mechanisms.

The proposed VB–NRIS layer should therefore be understood as an interoperability and analytical architecture. Its most important innovation would be a Convergence Package Record with a common package identifier. The identifier would link the component interventions without erasing their scheme-specific financial and administrative identity.

Lifecycle stage	Minimum package-level information
Planning	Developmental objective, location, components, participating schemes/departments
Approval	Gram Sabha/local approval status, technical and administrative approvals
Financing	Sanctioned and realised contributions by component
Execution	Progress, technical inputs, sequencing and exceptions
Completion	Completion status, asset registration and responsible institution
Functionality	Functional status, utilisation and maintenance requirement
O&M	Responsible institution, maintenance arrangement and review status
Outcome	Defined outcome, baseline/target where available and outcome evidence

The architecture should be designed around data minimisation, role-based access, audit trails, authoritative-source designation and clear responsibility for data quality. Digital integration should also support, rather than displace, community-facing accountability mechanisms.

The 2013 UNDP-supported convergence work provides an important historical precedent. It documents the value of common databases and information systems in reducing silos, improving access to information and enabling

departments to view assistance and entitlements across programmes. The lesson for VB–G RAM G is not to reproduce an older system, but to apply the same principle of shared visibility through modern interoperable architecture (Sharma, 2013).

10. Governance: From Measurement to Management

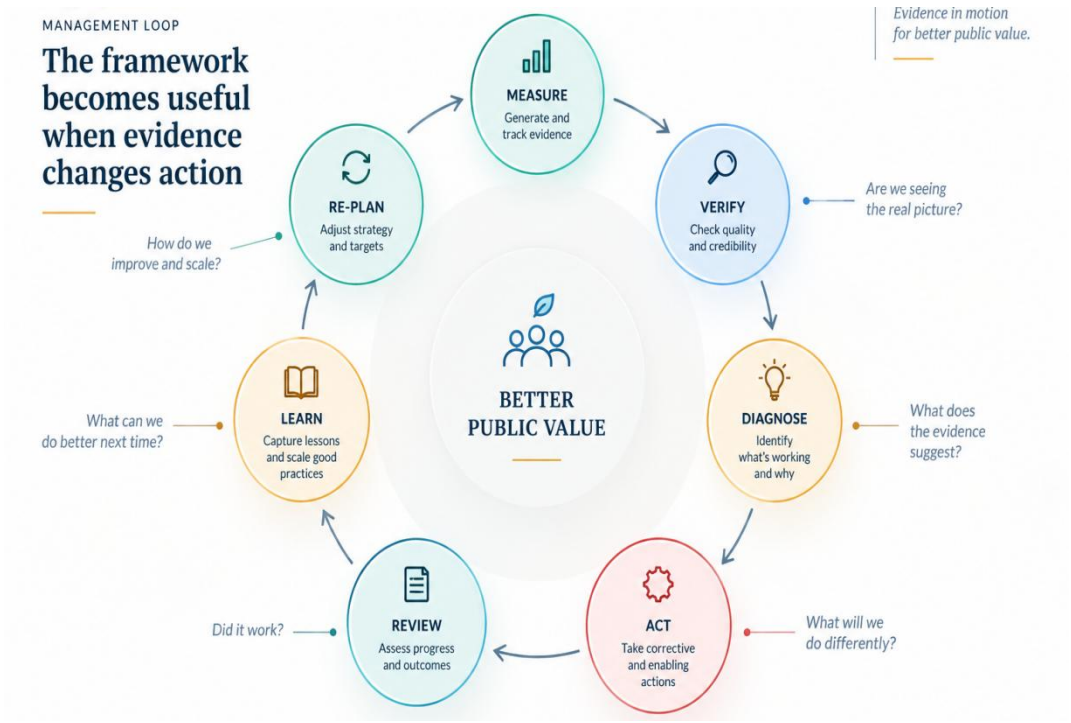


Figure 7. The management loop: evidence becomes useful when it changes action and re-planning.

NCMEF should be embedded within existing authorised governance structures rather than creating a parallel committee ecosystem. The exact institutional arrangement should be determined by the Ministry based on existing mandates, but responsibility must be explicit at national, state, district, block and Gram Panchayat levels.

The central principle should be that every significant measurement result has a management pathway. Data should travel in both directions: upward for aggregation and policy learning, and downward for corrective action and implementation support.

10.1 RAG-based management response

Status	Meaning	Management response
Green	Convergence is functioning and evidence is credible	Continue; document and share effective practice.
Amber	A material bottleneck or evidence gap is present	Identify cause, assign corrective action and review within a defined period.
Red	Substantive convergence failure, persistent bottleneck or serious evidence concern	Undertake structured review, assign responsibility and establish corrective pathway.

The RAG system should not be treated as a punitive performance classification. Its purpose is to allocate management attention. At the Gram Panchayat and Block levels, the designated convergence functionary should initiate and track corrective action; at District level, the District Programme Coordinator/District convergence mechanism should review unresolved Amber and Red cases; and State-level convergence mechanisms should address issues requiring inter-departmental or policy intervention. At national level, the Ministry should

periodically review systemic issues, evidence quality and recurring bottlenecks. The precise designation should follow the notified institutional arrangements under the Act and applicable rules, but accountability for closure should always be explicit and time-bound.

10.2 Stakeholder consultation as a permanent feedback loop

Stakeholder consultation should be institutionalised as part of the convergence cycle. The objective is not to create another meeting requirement but to establish a structured mechanism for understanding why convergence succeeds or fails. Consultation should occur at appropriate planning and review points, and the record should capture the issue raised, the response, the responsible institution and whether the issue was resolved.

At the local level, Gram Sabha and community processes can help establish priorities, identify whether assets are being used and surface operational problems. At Block and District levels, line departments can identify technical and sequencing constraints. At State and national levels, system-level issues such as fund-flow rules, data standards and scheme guidelines can be addressed. This creates a learning loop rather than a one-directional reporting hierarchy.

The UNDP convergence experience similarly emphasised decentralised planning, institutional capacity and the use of data for planning and monitoring. The relevant lesson is that convergence is sustained through institutional relationships and management routines, not only through software or guidelines (Sharma, 2013).

11. Lifecycle Sustainability and O&M

A convergence package should not be considered successful merely because its physical components have been completed. The durability of public value depends on whether the resulting asset or service remains functional and whether responsibility for maintenance is clear.

O&M responsibility should therefore be established during package design and confirmed at completion. A credible arrangement should identify the responsible institution or user group, authority to act, financing or maintenance mechanism, technical capacity, inspection process and reporting pathway. Functionality should be reviewed after completion where the nature of the asset makes post-completion monitoring relevant.

This emphasis also protects against a narrow interpretation of employment-led public works. The purpose of convergence is not simply to increase the number of activities that can be tagged together. It is to combine public resources in ways that create durable assets, services and livelihood-supporting outcomes.

12. Cost–Benefit and Value-for-Money Assessment

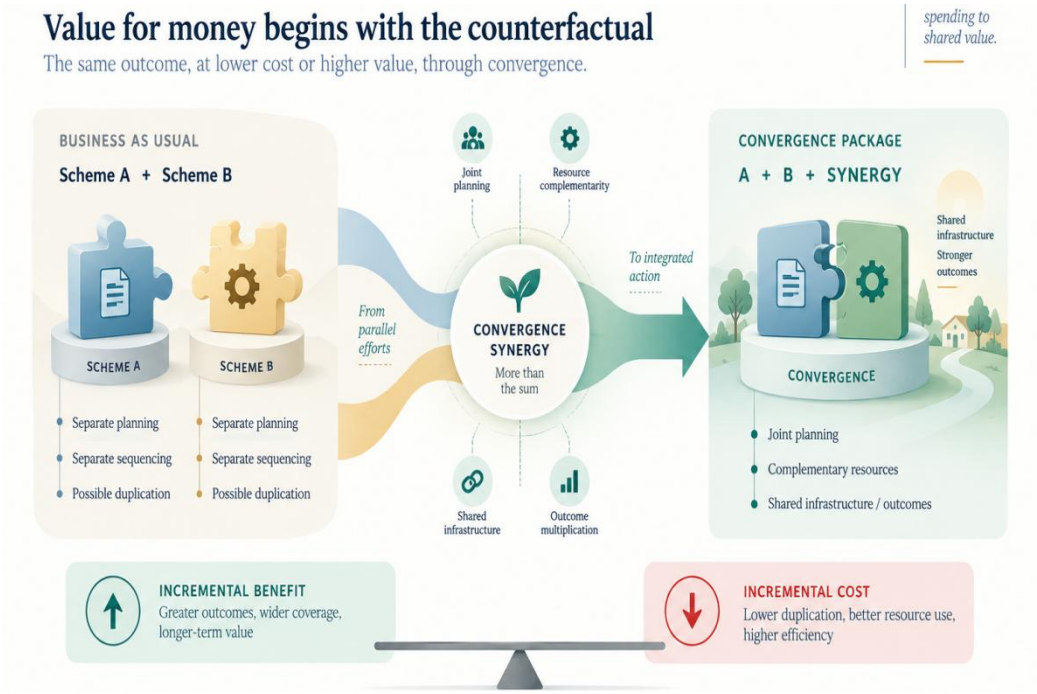


Figure 8. Value-for-money logic: assess incremental benefits and costs against a credible business-as-usual counterfactual.

Convergence is justified not merely because several departments participated, but because their coordinated action may produce additional public value. The CBA component should therefore compare the convergent option with a credible business-as-usual alternative and identify incremental costs and incremental benefits attributable to convergence.

12.1 What should be assessed

- Avoided duplication of infrastructure or administrative effort.
- Improved asset utilisation arising from complementary components.
- Additional livelihood or income effects where credible evidence exists.
- Improved service access or coverage.
- Reduced implementation delays caused by sequencing failures.
- Improved asset quality or durability from technical convergence.
- Reduced future maintenance or replacement costs where evidence supports the claim.
- Administrative and technology costs associated with coordination and interoperability.

The assessment should not count scheme expenditure itself as a social benefit. Nor should the same outcome be counted once for every participating scheme. The Green Book provides a useful public-sector principle: appraisal should assess the costs, benefits and risks of alternative ways of achieving government objectives, and the effort should be proportionate to the scale, cost, complexity and risk of the proposal (HM Treasury, 2026).

For major packages, analysis can use low, central and high scenarios and sensitivity analysis around key assumptions. Ex-post evaluation should then revisit whether the expected additionality materialised. CBA should inform learning and future design, but it should not mechanically determine CEI weights. CEI measures convergence effectiveness; CBA addresses whether convergence creates additional public value relative to alternatives.

The OECD evaluation criteria also provide a useful complementary lens: relevance, coherence, effectiveness, efficiency, impact and sustainability. In the context of convergence, coherence is particularly important because it

directs attention to how interventions fit together, while efficiency and sustainability help assess whether integrated investments produce durable value (OECD, 2021, 2023).

13. Recommendations: Institutionalising Effective Convergence under VB–G RAM G

THE POLICY DECISION

The central decision is whether to institutionalise a common convergence management architecture that uses existing information, creates a package-level view, measures effectiveness transparently, verifies evidence and links findings to corrective action. The recommendations below are designed to make that architecture operational without creating a parallel reporting system.

The recommendations are the core of the proposed solution. They are designed to move convergence from a stated principle to an operational governance practice. The recommendations do not propose a new reporting layer for its own sake. They seek to create a common architecture through which existing information can support better planning, implementation, verification, evaluation and learning.

13.1 Adopt a common national definition of convergence

The Ministry should establish a common operational understanding of convergence under VB–G RAM G that moves beyond the identification of multiple schemes against the same work. Convergence should be assessed around the activity, asset, service or developmental objective being pursued, rather than around the administrative boundaries of individual schemes. The presence of multiple schemes should therefore be treated as the starting point of convergence, not evidence of its effectiveness.

The nine forms proposed in this paper provide a structured language for distinguishing administrative, financial, planning, institutional, outcome, spatial, digital, community and lifecycle convergence. The framework should be incorporated, as appropriate, into convergence guidelines, planning instructions, monitoring protocols and capacity-building material.

13.2 Establish NCMEF as a management framework, not an additional reporting system

NCMEF should be positioned as a management and decision-support layer over existing scheme systems. The objective is to connect information that already exists and interpret it around a common convergence package and outcome.

NCMEF should convert existing scheme information into management decisions across the convergence lifecycle. Its purpose is to show where coordination is working, where it is breaking down and what action is required.

13.3 Establish a common Convergence Package Record

The Ministry should initiate the technical design of a Convergence Package Record supported by a common package identifier. The record should link the components of a convergent intervention from planning and approval through financing, execution, completion, asset registration, functionality and O&M.

The identifier should not replace scheme-specific records. Instead, it should establish a common reference across systems so that participating departments can retain their administrative identity while gaining package-level visibility.

13.4 Make existing MIS the foundation of convergence measurement

Existing MIS indicators should remain the core evidence base for CEI. The governing principle should be: reuse first, derive second, add only where necessary.

Every proposed measure should be classified as existing, derivable, extension-required or genuinely new. New routine reporting should be introduced only where a critical measurement gap is demonstrated and the decision

value of the information justifies the administrative cost. This is particularly important for Gram Panchayats and frontline functionaries.

13.5 Shift monitoring from works completed to value created

The monitoring architecture should progressively move from activity counting to outcomes and asset performance. A convergence work should not be considered successful merely because multiple schemes are tagged to it, funds are released or the physical asset is completed.

Each major convergence package should have a defined developmental objective. Monitoring should then examine whether the combined intervention contributed to that objective, whether the asset is functional and whether the package produced additional value relative to a credible alternative.

13.6 Institutionalise stakeholder consultation as part of the convergence cycle

Stakeholder consultation should become a continuing governance mechanism rather than a one-time exercise during framework development. Gram Panchayats, Gram Sabhas, line departments, technical agencies, user groups and other relevant actors should have structured opportunities to identify bottlenecks, validate local priorities and provide feedback on implementation.

The consultation process should be linked to action: issues raised should be recorded, assigned, responded to and reviewed. This creates a practical feedback loop between field experience and system design.

13.7 Make verification integral to the framework

NCMEF should distinguish reported convergence from verified convergence. Verification should combine automated validation, cross-system triangulation, geospatial evidence, risk-based and random verification, community/social-audit evidence and independent re-performance.

Evidence confidence should be reported alongside CEI results. This prevents a high score based on weak or incomplete evidence from being interpreted as equivalent to a high score supported by independently verified information.

13.8 Use CEI as a diagnostic instrument, not a ranking mechanism

The CEI should provide a common language for understanding convergence performance, not a league table of States or Districts. Form and dimension profiles should remain visible so that decision-makers can understand whether weaknesses arise from planning, financing, institutions, technology, outcomes or lifecycle sustainability.

Comparative analysis can support peer learning, but the CEI should not be used as a standalone ranking, funding-allocation formula or punitive performance score without additional evidence and policy justification.

13.9 Link measurement directly to corrective action

NCMEF should establish a closed management loop: Measure → Verify → Diagnose → Act → Review → Learn → Re-plan. Every material Amber or Red finding should have an identified responsible institution, corrective action, expected timeline and subsequent review. The responsible level should be the lowest level capable of resolving the issue, with unresolved or cross-departmental matters escalated through the District, State and national convergence mechanisms as appropriate.

Responses should distinguish capacity constraints, institutional coordination failures, procedural barriers, data problems and design weaknesses so that corrective action addresses the underlying cause.

13.10 Institutionalise lifecycle and O&M accountability

O&M responsibility should be established during package design and confirmed at completion. A credible O&M arrangement should identify responsibility, authority, financing or maintenance mechanism, capacity, inspection and reporting.

This should be reflected in the convergence package record and asset registry wherever technically feasible. Post-completion functionality should be monitored for asset categories where sustained use is central to the intended outcome.

13.11 Institutionalise value-for-money assessment

The Ministry should progressively incorporate proportionate value-for-money assessment into major convergence packages. The assessment should focus on incremental costs and incremental benefits relative to a credible non-convergent alternative and should explicitly avoid double counting.

Ex-ante assessment should inform design and sequencing; ex-post evaluation should assess whether expected additionality materialised. The evidence should be used for learning and future planning rather than mechanically converted into CEI weights.

13.12 Build an institutional learning system around convergence

NCMEF should ultimately create a repository of what works, where it works, under what conditions and why. The Ministry should capture effective convergence pathways, recurring institutional bottlenecks, useful combinations of schemes, technical solutions, O&M arrangements and community participation practices.

The objective is to turn convergence monitoring into a learning architecture for rural development. A successful convergence package should generate not only an outcome but also usable knowledge for future planning.

13.13 Recommended institutional sequence

The recommendations can be implemented through an institutional sequence rather than a pilot-centred sequence. First, the Ministry may approve the policy architecture and designate institutional ownership. Second, the existing MIS and convergence workflows should be mapped against the proposed dimensions and lifecycle. Third, the data-governance and package-record architecture should be technically specified. Fourth, indicators, scoring rules and verification protocols should undergo structured field validation. Fifth, the refined framework should be operationalised through appropriate administrative instructions and capacity-building. Sixth, the framework should be periodically reviewed using evidence on usefulness, burden, data quality, outcomes and value for money.

This sequence preserves methodological caution without making the pilot the central policy proposition. Validation becomes a quality-assurance stage within a national architecture rather than a test of whether convergence measurement should exist at all.

14. Implementation Pathway

A national framework requires sequencing because institutional, technological and behavioural changes cannot be introduced simultaneously. The following pathway is proposed as an implementation roadmap rather than a pilot design.

Stage	Priority actions	Primary output
I. Policy adoption	Approve conceptual architecture; designate ownership; define convergence terminology	Institutional mandate and common policy language
II. System mapping	Map existing MIS, financial, geospatial, planning and asset information	Data-source and responsibility map
III. Technical design	Specify package identifier, data dictionary, APIs/interoperability and governance rules	Convergence Package Record and interoperability specification

IV. Measurement validation	Test indicator definitions, scoring rules, evidence requirements and reporting burden in representative settings	Refined measurement protocol
V. Operationalisation	Issue guidance, train institutions and integrate dashboards/review routines	Operational NCMEF workflow
VI. Learning and refinement	Review outcomes, verification findings, burden and value for money	Periodic framework improvement

The sequence should not imply that every component must be fully digitised before measurement begins. Existing records can support early analytical work while digital interoperability is progressively developed. Equally, the Ministry should avoid locking in data fields or thresholds before their practical usefulness has been demonstrated.

14.1 Capacity building

Capacity building should be designed around the actual roles of institutions. Gram Panchayats require clarity on planning, package formation and local records; Blocks and Districts require coordination and review capabilities; line departments require clarity on technical and financial contributions; States require system stewardship and institutional coordination; and national institutions require analytical, evaluation and data-governance capacity.

Training should therefore use real convergence packages and practical problem-solving rather than treating NCMEF as a theoretical index. The proposed framework can also inform modules for State ATIs and LBSNAA on convergence planning, evidence interpretation, digital interoperability, value-for-money assessment and corrective action.

15. Risks and Safeguards

Risk	Safeguard
Indicator gaming[300]	Verification, evidence-confidence scoring and outcome safeguards.
Paper convergence	Distinguish administrative convergence from substantive convergence.
Excessive reporting burden	Reuse existing MIS; introduce new fields only where justified.
Fragmented MIS	Federated interoperability rather than system replacement.
Double counting	Primary-dimension crosswalk and package-level accounting.
Weak O&M	Assign responsibility and maintenance arrangements before completion.
CEI becoming an end in itself	Publish component profiles and use CEI diagnostically.
Community evidence becoming purely subjective	Use community evidence as corroborative evidence within a triangulated system.
Institutional duplication	Map NCMEF responsibilities onto existing authorised structures.

[300] Manipulation of indicators to show better performance

Digital exclusion or system failure	Maintain appropriate offline/documentary processes and clear fallback procedures.
Premature adoption of thresholds	Treat score bands as provisional until empirical validation.
Overclaiming causal impact	Distinguish monitoring signals from rigorous impact evaluation.

A particularly important safeguard is to maintain a distinction between monitoring and causal evaluation. CEI can indicate whether convergence processes and outcomes are associated with stronger performance. It cannot, by itself, establish that convergence caused an observed outcome. Causal claims require appropriate evaluation designs, comparison strategies and context-specific evidence.

16. Expected Policy Impact

If implemented as proposed, NCMEF could create value at several levels. At the Gram Panchayat level, it could make the developmental package and its responsibilities clearer. At the Block and District levels, it could improve coordination and identify bottlenecks before they become persistent. At the State level, it could provide a common basis for learning across departments. At the national level, it could enable the Ministry to understand where convergence is substantive, where it is weak and what institutional changes are required.

The most important impact is expected to be a change in the management question. Instead of measuring the volume of reported convergence, the system is likely to increasingly assess its depth, functionality, outcomes and additional value. This would support more deliberate public investment and reduce the risk that convergence becomes merely an administrative label.

The framework may also support a broader shift in rural development planning: from planning within scheme boundaries toward planning around local developmental objectives while retaining scheme-specific accountability. This is the central conceptual contribution of the proposal.

17. Scope and Limitations

The CEI, VB–NRIS architecture and score bands are proposed designs; none has been nationally validated. Pilot validation is therefore a precondition for formal adoption.

The evidence review undertaken during the fellowship (Katiyar, 2026) is an analytical input rather than a nationally representative impact evaluation. It should therefore be used to identify measurement and governance questions, not to generalise performance estimates to all States or Districts.

The cost–benefit framework is also a proposed method. Demonstrating economic value will require package-specific evidence and a credible business-as-usual comparison where causal inference is intended. The CEI remains a diagnostic measure, not an impact estimate.

These are design conditions for credible operationalisation.

18. Conclusion

VB–G RAM G creates an opportunity to deepen the role of convergence in rural development by bringing public resources, technical expertise, institutional capacity and planning processes together around integrated rural outcomes. The central challenge is not the absence of schemes or information. It is the absence of a common architecture through which fragmented information and institutional action can be organised around the same developmental objective.

The proposed NCMEF responds to this challenge by establishing a nested measurement and governance architecture. The nine forms of convergence describe how convergence occurs. The six dimensions describe what should be assessed. The lifecycle establishes when evidence should be generated. The CEI provides a transparent diagnostic summary. Verification protects against paper convergence. Federated interoperability and the Convergence Package Record create package-level visibility. Stakeholder consultation creates a continuing feedback loop. CBA and evaluation examine whether convergence creates additional public value. RAG-based management connects evidence to corrective action.

The framework therefore proposes a shift in the role of monitoring. Monitoring should not end with reporting upward. It should inform decisions, trigger correction, generate learning and influence the next cycle of planning. In that sense, NCMEF is not primarily an index. It is a governance architecture in which the CEI is one component.

The recommended direction is consequently to institutionalise the framework while validating and refining its operational details. Initial field validation should test indicator definitions, data availability, scoring rules, verification methods, interoperability and administrative burden. It should not be treated as a substitute for institutional commitment to convergence measurement.

The long-term objective is straightforward: to move from counting convergence to understanding its effectiveness; from reporting coordination to governing outcomes; and from fragmented interventions to integrated public investment.

Annex A. Existing MIS-Based CEI Measurement Framework

Network mapping note

The indicative workbook is best treated as a discovery layer for NCMEF. It maps ministries, schemes, operational focus, potential convergence areas and candidate VB–G RAM G works. Before operational use, each proposed edge should be validated with the relevant Ministry/Department and classified as potential, proposed, approved or operational.

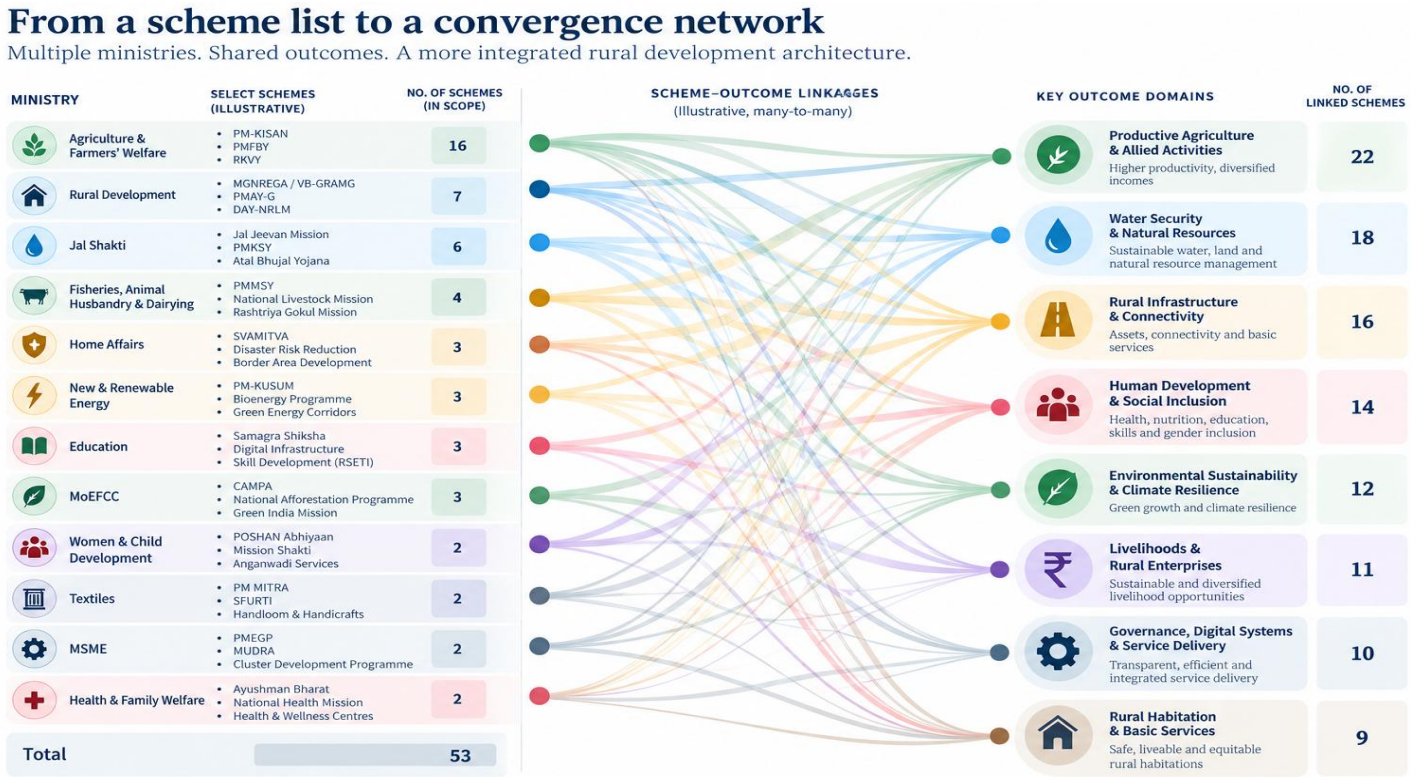


Figure 9. Distribution of scheme rows across the ministry nodes in the indicative mapping workbook; shown as an analytical starting point rather than a confirmed convergence ranking.

The following indicators retain the core measures identified in the current solution paper. They are presented as the minimum analytical backbone rather than as a new mandatory reporting universe.

Form	Primary dimension	Core measures retained from existing framework	Indicative source
Administrative	Scheme	Lead/partner departments; joint administrative action; closure of agreed actions	VGPP / administrative records
Financial	Scheme	Component-wise financing; realised partner contribution; fund synchronisation	PFMS / scheme MIS
Planning	Planning	Joint planning before sanction; VGPP alignment; sequencing of components	VGPP / planning records
Institutional	Institutional	Functional convergence committee; meeting regularity; implementation of decisions	Committee / administrative records
Outcome	Outcome	Shared outcome; baseline/target where available; achievement; additionality	Outcome MIS / evaluation
Spatial	Planning	Geotagging; functional linkage; duplication checks	GIS / Yuktdhara
Digital	Technological	Package Record; field completeness; successful data exchange	VB–NRIS / APIs
Community	Community & Lifecycle	Gram Sabha participation; representation; community oversight	Gram Sabha / social audit
Lifecycle	Community & Lifecycle	O&M institution; maintenance plan; functionality; productive use	Asset registry / inspection

These measures should be interpreted with care. Administrative and financial measures establish whether participation occurred; outcome and lifecycle measures help establish whether the intervention created durable value. No single indicator should be treated as sufficient evidence of effective convergence.

Annex B. Proposed CEI Calculation Logic

9. Normalize each indicator to a 0–100 scale using predefined target or threshold rules.
10. Aggregate indicators into the relevant convergence-form score using documented weights.
11. Map indicators to a primary dimension to prevent double counting.
12. Calculate six-dimensional scores.
13. Calculate the CEI as the arithmetic mean of the six dimension scores for the initial design.
14. Report the CEI together with all six dimension scores, nine form scores, evidence confidence, and verification status.

15. Apply integrity and equity safeguards so that a high composite score cannot conceal critical weaknesses.

For a positive indicator, a transparent starting rule is Score = min(100, Observed/Target × 100). For a negative indicator, the score can be transformed against a pre-defined threshold and bounded between 0 and 100. Binary evidence may be scored as verified/absent, with partial evidence governed by a published rubric. The final rules should be frozen before comparative analysis and should not be tuned after observing results.

The provisional bands are 0–39 Fragmented, 40–59 Emerging, 60–74 Integrated, 75–89 Outcome-oriented, and 90–100 Transformative. These are analytical categories for design and communication, not final national thresholds.

Annex C. Proposed Measurement Logic / Theory of Change

The proposed theory of change is that public resources, scheme funds, technical expertise, institutional capacity and digital infrastructure enable joint planning and coordinated implementation; these processes generate integrated works, coordinated financing, shared information, and registered assets; when these outputs are functional, maintained, and used, they can contribute to improved livelihoods, service access, resource use, and asset utilization; sustained improvements can contribute to more integrated and outcome-oriented rural development.

The feedback loops are central. Outcome evidence should inform future planning. Performance evidence should trigger institutional correction. Community feedback should influence package design and implementation. Evaluation findings should refine future convergence arrangements. In this way, the theory of change is not a static chain but a learning cycle.

Annex D. Evidence and Verification Matrix

Evidence type	Primary purpose	Verification approach
Administrative records	Establish roles, approvals, and decisions.	Document review and cross-record consistency
Financial data	Establish contributions and synchronization.	PFMS/MIS triangulation
Planning records	Establish joint planning and sequencing.	Plan comparison and sanction-stage review
Geospatial data	Establish location and functional linkage.	GIS checks and targeted field verification
Technical records	Establish technical participation and quality inputs.	Technical review/reperformance
Community evidence	Establish participation and use	Gram Sabha/social audit corroboration
Asset records	Establish completion and responsibility.	Registry and inspection
Outcome evidence	Assess achievement and additionality.	Outcome evaluation and triangulation

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Beyond the work itself, I am grateful for the conversations, experiences, and relationships that I have built during my time in the department. What began as a professional fellowship has given me connections and friendships that I hope will remain with me long after the fellowship ends. I will carry with me not only the knowledge I gained but also the generosity, patience, and spirit of public service that I witnessed along the way.

Editorial Notes

Reviewers encouraged a more precise definition of the problem, along with a clearer explanation of the proposed framework's components. The paper could examine how convergence would be monitored in practice, including the data, coordination arrangements and indicators required. Future work should strengthen the evidence base and clarify how the framework could support implementation and accountability at different administrative levels.

Electric Vehicle Adoption Pathways for India: Policy Challenges, Solutions and Implementation Roadmaps

Vijay V

Executive Summary

India's electric vehicle (EV) sector has evolved and from 2016 the EV sales have surged approximately 46 times, increasing from approximately 50,000 units sold in 2016 to 2.3 million units projected for 2026. The proportion of EVs in new vehicle registrations increased from 0.08% in FY15-16 to 8.26% in FY25-26, indicating a significant rise. This shift is driven by a strong rationale for energy security and reducing fossil fuel imports, a crucial climate and emissions rationale (with the transport sector contributing approximately 9% of India's total emissions) wider economic opportunities. The value of India's EV market, estimated at USD 3.71 billion in 2025, is expected to reach USD 191.04 billion by 2034, with a CAGR of 54.94%. Meanwhile, the EV battery market is anticipated to grow from USD 2.71 billion in 2025 to USD 15.90 billion by 2034, at a CAGR of 21.70%. In line with its 2070 net-zero goal, India targets 30% of all vehicle sales to be electric by 2030 (EV30@30) and plans to establish 1.32 million charging stations by 2030. The transition in India's EV sector is shifting from "EV adoption" to "EV ecosystem scale-up." Achieving this scale-up phase requires more than just vehicle-side incentives, it demands coordinated efforts across vehicles, charging infrastructure, grids, batteries, manufacturing, digital infrastructure, education, and regulatory sectors. These efforts are addressed through various policy pillars outlined in this study, each directly linked to the solution directions and the schemes and targets detailed. [241]

1.India's EV Transition: Current Status and Policy Landscape

1.1 EV Evolution and Market Development

India's journey towards electric mobility began in 2015 with the launch of the National Electric Mobility Mission Plan (NEMMP 2020) and the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) scheme, driven by the strategic priorities of reducing the petroleum import bill, tackling urban air pollution, and lowering transport sector greenhouse gas emissions. The NEMMP 2020 outlines a strategic roadmap to accelerate EV adoption and domestic manufacturing, with the twin objectives of energy security and clean, sustainable mobility. The FAME India scheme, launched in 2015 under the NEMMP framework, offers incentives to buyers and supports charging infrastructure and manufacturing. Phase I of FAME continued until March 2019, followed by Phase II, which was implemented over five years until April 2024.

A decisive turning point came in the post-COVID period in FY22, when targeted policy incentives, enhanced subsidies, and improved vehicle availability drove accelerated growth. Early adoption during FY20–FY21 was dominated by e-rickshaws and electric two-wheelers, which soon gained significant traction and, by FY25, became a leading segment, signaling a broader shift from informal shared mobility to mainstream private and commercial adoption.

In 2025, motorized two-wheelers (12.8 lakh units) and three-wheelers (8 lakh units) drove much of India's EV sales, out of 23 lakh total EV units sold that year (a 46-fold increase over the 50,000 units sold in FY2016). Uttar Pradesh emerged as the largest EV market in 2025, with 4 lakh+ units (18% of national EV sales), followed by Maharashtra (2.66 lakh units, 12%) and Karnataka (2 lakh units, 9%). India's EV penetration was one-fifth of the global penetration in 2020 and is expected to rise to over two-fifths of the global penetration by 2024. India's EV sales growth (46x since 2016) has outpaced the global trend (20x from 918,000 units in 2016 to 18.78 million units in 2024). Regarding exports, Indian EVs have increased from USD 1.2 million in 2020 to USD 84 million in 2024, with Nepal, Indonesia, and Japan as the top destinations. [241]

1.2 Underpinning Policy Architecture

The policy architecture supporting India's EV transition is comprised of several schemes and instruments designed by central and state governments.

1.2.1 The FAME India Scheme: Phase I & II (up to March 2019)

supported 2.80 lakh EVs, while Phase II (up to April 2024) supported 16.72 lakh EVs. [255]

1.2.2 PM E-DRIVE Scheme:

Notified in 2024 by the Ministry of Heavy Industries with an outlay of INR 10,900 crore, covering e-3Ws, e-trucks, e-buses, and e-ambulances. It targets support for over 28 lakh EVs (22.12 lakh sold as of January 2026, according to the scheme scorecard). Of the total budget, INR 4,391 crore is allocated for 14,028 e-buses (13,800 allocated to seven major cities: Bengaluru, Delhi, Mumbai, Hyderabad, Ahmedabad, Pune, Surat), INR 2,000 crore is earmarked for nationwide EV Public Charging Stations (EVPCS), and INR 780 crore is allocated for the modernization of vehicle testing agencies. The Phased Manufacturing Programme (PMP) under this scheme mandates the domestic manufacturing of specified EV components. [242, 256]

1.2.3 PM e-Bus Sewa–Payment Security Mechanism (PSM) Scheme (2024)

The PM-eBus Sewa Payment Security Mechanism (PSM) was notified on 28 October 2024 to provide payment security for e-bus operations. As of 12 March 2026, 6,228 buses had been tendered and 4,720 Letters of Award issued under PM-eBus Sewa, while 10,900 buses were tendered under PM E-DRIVE. The Government has sanctioned 23,800 e-buses in total 13,800 under PM E-DRIVE and 10,000 under PM-eBus Sewa and released ₹500 crore to CESL for the Payment Security Fund. The mechanism provides payment security for up to 12 years per bus, supporting reliable and sustainable electric public transport deployment. [243, 257]

1.2.4 Scheme for Promotion of Manufacturing of Electric Passenger Cars in India (SPMEPCI, 2024): Mandates a minimum investment of INR 4,150 crore and domestic value addition (DVA) of at least 25% by year three and 50% by year five. [244, 258]

1.2.5 PLI Scheme for Automobile and Auto Components Industry (PLI-Auto, 2021):

The PLI-Auto Scheme, approved on 23.09.2021 with an outlay of ₹25,938 crore, aims to strengthen India's advanced automotive manufacturing, including EVs, with a minimum 50% Domestic Value Addition (DVA). As of 31.03.2026, the scheme has attracted ₹44,326 crore in investment and generated 67,820 jobs, while also supporting R&D expenditure to promote advanced automotive technologies. [245, 259]

1.2.6 PLI Scheme for National Programme on Advanced Chemistry Cell (ACC) Battery Storage (PLI ACC, 2021)

The PLI-ACC Battery Scheme, approved in 2021 with an outlay of ₹18,100 crore, aims to establish 50 GWh domestic ACC battery manufacturing capacity. So far, 40 GWh has been awarded, attracting ₹5,180 crore investment and creating 1,277 direct jobs. [246, 259]

1.2.7 National Mission on Manufacturing (NMM, 2025)

Identifies EVs as a key "seed" sector, targets doubling manufacturing's contribution to GDP from 12.9% in 2023 to 25%, creating 143 million jobs by 2035, and boosting merchandise exports to USD 1.2 trillion. [260, 261]

1.2.8 CAFE Norms:

Introduced in 2017, the upcoming CAFE III (2027–2032) and CAFE IV (2033–2037) propose CO2 limits of 91.7 g CO2/km and 70 g CO2/km, respectively, with a super-credit mechanism to enable compliance through EV sales. [248, 262]

1.3 Methodology and Analytical Framework

Solution Paper adopts a mixed evidence-based policy-analysis approach combining secondary data analysis, structured literature review, government policy and scheme review, and stakeholder/institutional inputs.

Challenge identification: Challenges were identified through examination of EV adoption trends, government policies and schemes, academic literature, institutional reports and implementation gaps across the electric-mobility ecosystem.

Data sources: The quantitative assessment primarily uses VAHAN/Parivahan registration data for FY 2014-2015 to FY 2025–26, supplemented by government and institutional sources including NITI Aayog, Ministry of Heavy Industries, Ministry of Road Transport and Highways, Ministry of Power, Ministry of Environment, Forest and Climate Change, Ministry of Finance and State Governments.

Literature review: A structured review of peer-reviewed literature and institutional publications was undertaken covering EV adoption, charging infrastructure, financing, grid integration, battery ecosystems, manufacturing, consumer behaviour and policy interventions. India-specific evidence was prioritised where available, while international studies were used for comparative and conceptual evidence.

Thematic classification: Identified challenges were grouped into thematic pillars corresponding to major components of the EV ecosystem, including cost and financing, charging infrastructure, grid and power supply, battery ecosystem, adoption and market development, manufacturing and technology, and institutional and regulatory dimensions.

Prioritisation: Challenges were categorised as HIGH, MEDIUM or LOW priority based on their potential impact on EV adoption and ecosystem development, scale of the affected segment, urgency, implementation relevance and potential to unlock progress across multiple dimensions of the ecosystem.

Solution development: Proposed interventions were formulated by linking each identified challenge and evidence gap with an implementable policy response, responsible stakeholder and expected outcome. Existing schemes, institutional mechanisms and regulatory instruments were considered before proposing new mechanisms.

Feasibility assessment: Recommendations were considered in terms of institutional, regulatory, financial, technical and implementation feasibility, including coordination requirements, scalability and alignment

with existing government programmes.**Stakeholder inputs:** The analysis was also informed by institutional and stakeholder interactions undertaken during the fellowship. These inputs were used as contextual and validation evidence and were not treated as a statistically representative primary dataset.

Study period: The policy review covers the evolution of India's electric-mobility policy framework from 2014-2015 to 2025-2026.

1. The Challenge and proposed Solution

Challenge	Source Evidence / Baseline	Proposed Solution	Responsible Stakeholders	Expected Outcome	Priority
COST & FINANCING (5 challenges)					
High Upfront Cost of Electric	EV upfront price remains 20-30% higher than comparable ICE models despite falling	Introduce a battery-leasing/Battery-as-a-Service	Ministry of Heavy Industries, NITI Aayog,	A narrower upfront price gap with ICE vehicles,	**HIGH**

Vehicles [1-9]	battery costs PM E-DRIVE (Oct 2024-Mar 2028, outlay Rs.10,900 cr) capped e-2W subsidy at Rs.2,500/kWh (max 15% of ex-factory price) and this demand incentive lapsed for e-2Ws from 31 July 2026, pushing showroom prices up Rs.5,000-10,000.	model to decouple battery costs from vehicle prices, extend targeted interest subvention and priority-sector lending for EV loans, encourage states to backstop the withdrawn central e-2W incentive with their own purchase subsidies and road-tax waivers.	State Transport Departments, RBI/banks, EV OEMs	sustained retail demand after subsidy withdrawal, and wider financing access for low-income buyers.	
High Public Charging Cost compared with home charging [10-16]	DISCOM advance rulings confirm that public EV charging is taxed as a 'supply of service' at 18% GST versus 5% GST on electricity/home charging equivalent, raising the effective per-unit cost of public charging above that of home charging.	Pursue GST Council reclassification of EV charging services to align with the 5% rate on EV goods and electricity supply, or provide an offsetting central subsidy on the service component for public CPOs during the sector's growth phase.	GST Council, Ministry of Finance, Ministry of Power, Ministry of Heavy Industries, Charge Point Operators	Narrowed cost gap between public and home charging, improved viability for users without home charging access, and faster public charger utilization.	**HIGH**
High Capital Expenditure and Operating Expenditure [17-26]	Charging-station capex (land, transformer, chargers civil work) and opex (electricity demand charges, land lease maintenance) remain high relative to utilization in the early stage market, thus discouraging private CPO investment outside the metro corridors.	Offering viability-gap funding and demand-charge waivers/rebates for CPOs on low-utilisation highway and semi-urban corridors during the market-building phase enables blended financing (concessional debt plus PM E-	Ministry of Heavy Industries, Ministry of Power, PFC/REC and other financial institutions, private CPOs	Improved CPO unit economics and broader geographic charging coverage beyond dense urban markets are also required.	**HIGH**

		DRIVE grant) as proposed under the Tri-pillar strategy.			
High Insurance Costs for Fuel Stations with Electric Vehicle Charging Facilities [11], [27-30]	Fuel stations that add EV charging bays face higher composite insurance premiums, reflecting combined fuel-and-electrical fire risk, discouraging co-location by OMC dealers.	Collaborate with insurers/IRDAI to develop a differentiated risk-based insurance product for co-located fuel-EV charging outlets, informed by actual incident data rather than a blanket high-risk premium.	IRDAI, insurance companies, Oil Marketing Companies, Ministry of Petroleum and Natural Gas	Lower insurance cost barrier to co-locating EV charging at fuel retail outlets	**LOW**
Limited Toll/Highway Incentives for Electric Vehicles [2], [31-37]	EVs receive limited toll or highway usage incentives, and most FASTag/toll frameworks do not differentiate EVs from ICE vehicles, despite several states offering road tax and registration fee waivers.	Introduce a graded toll discount for registered EVs on NHAI highways, alongside continued state-level road tax exemptions, to improve long-distance trip economics and support highway-corridor adoption.	NHAI, Ministry of Road Transport and Highways, Ministry of Heavy Industries	Improved economics for EV highway travel and stronger incentives for long-distance/fleet EV adoption	**LOW**
CHARGING INFRASTRUCTURE & SERVICE QUALITY (8 challenges)					
Non-availability of Public Charging Infrastructure at malls, restaurants, highways, apartments, metro stations, railway stations and bus stops [38-44]	MoP's PM E-DRIVE charging guidelines (Sep 2025) target ~72,300 public charging points, but stations remain concentrated in metro residential areas malls, highway stretches, apartments, metro/rail stations and bus stop largely lack mandated charging bays.	Amend building bye-laws and Model Building Code to mandate EV-ready wiring/charging bays in new malls, apartments, transit hubs, and extend the 100% upstream-infrastructure subsidy (offered to government offices, hospitals,	MoHUA, Ministry of Power, State Urban Development Departments, Metro Rail Corporations, Indian Railways, mall/RWA developers	A higher public charger density at high-footfall destinations reduces range anxiety and improves daily use viability for EV owners without dedicated parking.	**HIGH**

		and educational institutions under PM E-DRIVE) to public-access commercial sites, integrate charger siting into metro/rail station redevelopment.			
Resident Welfare Associations Not Providing No-Objection Certificates for Home Charging [45-49]	Housing societies frequently withhold No-Objection Certificates for installing home/common-area EV chargers, citing fire safety and electrical load concerns, despite MoP/MoHUA advisories encouraging RWAs to permit charging points.	Make RWA/society NOC approval for individual or common-area EV charger installation deemed granted within a statutory timeline unless a documented safety objection is raised, backed by a model bye-law circulated to state Registrars of Cooperative Societies.	Ministry of Housing and Urban Affairs, State Registrar of Cooperative Societies, RWAs, DISCOMs	Faster, less contested access to home/society charging and higher adoption in multi-dwelling housing	**MEDIUM**
Land Identification and Acquisition for Charging Stations [38], [50-55]	The identification and acquisition of land for public charging stations along highways and in urban areas is delayed by multi-agency land records and inconsistent state land-allotment policies for EV infrastructure.	Create a single-window online land bank of pre-identified government/PSU land parcels (fuel-station forecourts, transport-department depots, municipal land) for EV charging, with time-bound allotment under PM E-DRIVE's infrastructure component.	NITI Aayog, State Land/Revenue Departments, Oil Marketing Companies, State Urban Development Departments	Shorter site-acquisition timelines and faster rollout of the planned 72,300 public charging stations.	**MEDIUM**
No Effective Penalty or Incentive	Public charging station uptime is not tracked against a binding	Introduce a minimum uptime SLA (e.g., via PM	Ministry of Heavy Industries,	Higher and more consistent	**MEDIUM**

System for Public Charging Station Uptime [56-60]	service-level standard, and users have no recourse or compensation mechanism when stations are non-functional, thereby undermining trust in the public network.	E-DRIVE station empanelment conditions) with graded incentives for high-uptime CPOs and penalties/delisting for chronic non-performance, monitored via the national EV charging app/portal.	Bureau of Energy Efficiency, State Nodal Agencies, CPOs	charger availability improves user confidence in relying on public infrastructure.	
Lack of Mandatory Complaint and Helpline Numbers at Public Charging Stations [41, 61-65]	Many public charging stations lack visible complaint/helpline numbers; therefore, users facing faulty equipment or billing issues have no standard escalation channel.	Mandate the display of a common national/state EV-charging helpline number and QR-based complaint registration at every empanelled public charging station as a licensing condition.	Ministry of Heavy Industries, State Nodal Agencies, Bureau of Energy Efficiency, CPOs	Faster fault resolution and a measurable grievance redressal track record for the public charging network.	**LOW**
Limited Co-location of Fuel Stations and Electric Vehicle Charging Stations [38, 54, 66-70]	The co-location of EV charging with existing fuel retail outlets remains limited; oil marketing companies have piloted EV charging at select outlets, but nationwide integration into fuel station real estate is uneven.	Mandate/incentivise OMC-owned and franchised fuel stations above a threshold footfall to install at least one EV charging bay, leveraging existing land, power connections, and high-traffic locations, as encouraged under inter-ministerial PM E-DRIVE coordination.	Ministry of Petroleum and Natural Gas, Oil Marketing Companies, Ministry of Heavy Industries, Ministry of Road Transport and Highways	Faster charger rollout using existing fuel-retail real estate and improved highway/urban charging densities.	**LOW**
Long Recharge	DC fast charging typically takes 30–60 min to reach 80%	Prioritize PM E-DRIVE's fast-charger allocation	Ministry of Heavy Industries,	Shorter effective charging	**MEDIUM**

Time high [71-80]	charge, compared with a few minutes for ICE refuelling; slower AC home/workplace charging can take several hours, constraining high-utilisation and long-trip use cases.	(48,400+ planned units) on high-traffic and highway corridors and support next-generation high-power charging and battery-chemistry R&D to shorten charge times over time.	Department of Science and Technology, CPOs, battery/OEM R&D units	downtime improves the viability of EVs for fleets and commercial long-distance users.	
No free public parking is available. [81-84]	Most municipal/public parking facilities do not offer free or discounted parking for EVs, unlike some cities that provide EV-specific parking incentives, reducing the low-cost, easily implementable adoption nudge.	Direct municipal corporations to reserve a share of public parking with free or discounted EV parking (and charging where feasible), building on isolated city-level precedents into a national model by-law.	Ministry of Housing and Urban Affairs, Municipal Corporations, State Urban Development Departments	A visible, low-cost incentive that improves the daily convenience and perceived value of EV ownership in cities	**LOW**
GRID & POWER SUPPLY (6 challenges)					
Non-availability of Adequate and Timely Power Supply [85-92]	DISCOM feeder augmentation lags demand in high-density charging corridors; substation and transformer capacity upgrades are not synchronized with the site-selection timelines of highway and urban charging projects under PM E-DRIVE.	Mandate DISCOM to conduct' EV readiness' capacity assessments as part of highway/urban charging-site approval and ring-fence a dedicated capital expenditure allocation within the state Annual Revenue Requirements for feeder and substation upgrades on notified EV corridors.	State DISCOMs, State Electricity Regulatory Commissions, Ministry of Power, NHAI, MoRTH	Faster power-supply provisioning for new charging sites and reduced commissioning delays	**HIGH**

Variation in Electricity Pricing Across Locations [93-99]	Retail electricity tariffs for EV charging vary widely across states and DISCOM circles, as the Ministry of Power's model EV tariff guidelines are advisory, and adoption/implementation differs by state regulator.	Encourage State Electricity Regulatory Commissions to adopt a uniform special EV tariff category (as recommended by MoP) with Time-of-Day pricing and publish comparative state tariff data to guide CPO investment.	Ministry of Power, Forum of Regulators, State Electricity Regulatory Commissions, DISCOMs	More predictable and comparable charging costs for users and investors across states.	**MEDIUM**
Absence of Dedicated Power Lines for Charging Stations [100-108]	High-power/fast-charging stations often lack a dedicated feeder connection, forcing reliance on a shared low-tension supply that limits the simultaneous charging capacity and increases the outage risk.	Classify public EV charging stations above a defined capacity threshold as a distinct load category eligible for dedicated 11 kV/33 kV feeder connections under state DISCOM connectivity regulations.	State Electricity Regulatory Commissions, DISCOMs, Ministry of Power, CPOs	Reliable, uninterrupted high-power charging supply and reduced grid-related downtime at public stations	**HIGH**
Absence of Adequate Subsidies for Substations, Transformers and Charging Infrastructure [53, 109-111]	Central subsidy support under PM E-DRIVE covers charger equipment and select upstream costs at select site categories; however, substations, transformers, and broader grid-upgrade capex for charging hubs are not uniformly subsidized.	Extend the PM E-DRIVE upstream-infrastructure subsidy framework to explicitly cover substation and transformer capacity augmentation for high-capacity public and fleet charging hubs, with viability gap funding for low-traffic/highway sites.	Ministry of Heavy Industries, Ministry of Power, DISCOMs, State Nodal Agencies	Reduced capital burden on CPOs for grid-side infrastructure and improved commercial viability of charging hubs.	**HIGH**
High Security Deposits	DISCOMs commonly levy high upfront security deposits for new	Cap or phase DISCOM security deposits for EV	Ministry of Power, State Electricity	Lower upfront capital requirements	**MEDIUM**

Charged by DISCOMs [112-119]	commercial charging-station power connections, tying up the CPO's working capital before revenue generation begins.	charging connections, or allow bank guarantees in lieu of cash deposits, as recommended in MoP's model EV tariff and connectivity guidelines.	Regulatory Commissions, DISCOMs	for CPOs and faster new-station commissioning.	
Grid Stability & Peak Risk [120-127]	Concentrated EV charging loads, especially uncoordinated fast charging, risk straining local distribution grids during evening peak hours, and smart metering and load management rollout are still at an early stage of national implementation.	Mandate Time-of-Day tariffs and smart charge-management systems at high-capacity public and fleet charging stations to shift load to off-peak hours, integrated with DISCOM demand-response programs.	Ministry of Power, State Electricity Regulatory Commissions, DISCOMs, CPOs	Reduced peak-load stress on distribution grids and more efficient utilization of existing power infrastructure.	**HIGH**
TAXATION & GST (3 challenges)					
High Goods and Services Tax on Charging Services [14, 108, 128-132]	Charger hardware attracts 5% GST, while the charging service itself is taxed at 18% GST per the CESC advance ruling, creating a split-rate structure that raises operating costs for charge point operators relative to the 5% rate on the EV and equipment.	Align GST on charging services with the 5% rate applicable to EV goods and charging equipment, or classify charging-service GST as fully creditable input tax across the value chain to neutralize cascading costs.	GST Council, Ministry of Finance, CPOs/EV energy service providers	Lower per-unit public charging tariffs and improved commercial viability for charge-point operators	**HIGH**
High Goods and Services Tax and Import Duties on Batteries and Battery Components [133-141]	EV batteries and charging infrastructure attract 5% GST, while standalone battery sales/replacement and swapping-service transactions are taxed at 18%, with a pending proposal to reduce	Bring GST on standalone batteries and battery-swapping transactions down to 5%, matching the vehicle and charger rate, and rationalize import	GST Council, Ministry of Finance, Ministry of Heavy Industries	Lower replacement/swap costs for EV owners and improved economics for the battery-swapping business model	**HIGH**

	standalone battery GST to 5% for parity with the vehicle rate.	duty on battery cells/components pending domestic capacity scale-up.			
Goods and Services Tax Burden on Electric Vehicle Purchase [2,36, 142-146]	New EVs are taxed at a favorable 5% GST versus up to 28–50% GST-plus-cess on ICE vehicles, but ancillary items (spare parts at 28%, standalone batteries and servicing at 18%) partly offset the headline benefit over the ownership lifecycle.	Rationalize GST on EV spare parts and standalone battery servicing to be at parity with the 5% vehicle rate so that the total-cost-of-ownership benefit is not eroded by downstream taxation.	GST Council, Ministry of Finance, Ministry of Heavy Industries	A more consistent tax advantage for EVs across the full ownership lifecycle, not just at the point of purchase.	**MEDIUM**
BATTERY ECOSYSTEM (7 challenges)					
Insufficient Battery Swapping Infrastructure [147-153]	Battery swapping stations remain limited to e-2W/e-3 W fleet operators in select metros; MoP's January 2025 Guidelines for Establishment and Operation of Battery Swapping and Battery Charging Stations formalized BaaS and battery-vehicle ownership separation; however, station density and interoperability remain low.	Operationalize the 2022 Draft Battery Swapping Policy's interoperability and UIN battery-tagging standards nationally extend PM E-DRIVE infrastructure incentives explicitly to battery-swapping station rollout in metro and last-mile delivery hubs.	NITI Aayog, Ministry of Power, Ministry of Heavy Industries, BIS, battery-swapping operators	Expanded swapping network for fleet/gig-economy EVs and reduced vehicle downtime versus plug-in charging	**MEDIUM**
Challenges in Collection and Availability of Battery Materials [154-158]	India imports the bulk of lithium, cobalt, and nickel used in battery cells, with domestic cell manufacturing scaling under the PLI-ACC scheme; however, raw-material and precursor supply chains are still largely import-dependent.	Accelerating critical-mineral sourcing partnerships (e.g., via KABIL) and incentivizing domestic cell/precursor manufacturing under the PLI-ACC scheme strengthen battery	Ministry of Mines, KABIL, Ministry of Heavy Industries, Ministry of Environment, Forest and Climate Change, battery manufacturers	Reduced import dependence and more stable, cost-competitive domestic battery-material supply	**MEDIUM**

		recycling recovery of lithium/cobalt/nickel to build a secondary domestic supply.			
Limited Sharing and Standardization of Battery Management System Data [159-163]	Battery Management System (BMS) data on state of health and charge cycle degradation are proprietary to individual OEMs/battery makers, with no common data-sharing standard, limiting interoperability, resale valuation, and second-life certification.	Mandate a common BMS data-reporting standard (via BIS/AIS) covering state-of-health and cycle data, accessible to certified resale and insurance second-life assessors with appropriate data-privacy safeguards.	Bureau of Indian Standards, Ministry of Heavy Industries (AIS standards), OEMs, battery manufacturers	More transparent battery health data enables reliable resale valuation, insurance underwriting, and second-life certification.	**MEDIUM**
Non-traceability of Unused and End-of-Life Batteries [164-170]	India lacks a mandatory take-back or tracking system for end-of-life and unused EV batteries; the Battery Waste Management Rules require extended producer responsibility, but enforcement and traceability of the collected volumes remain inconsistent.	Strengthen EPR compliance monitoring under the Battery Waste Management Rules with UIN-based battery tagging and a central tracking registry from manufacture through end-of-life, linked to vehicle registration data.	Ministry of Environment, Forest and Climate Change, Central Pollution Control Board, Ministry of Heavy Industries, battery producers	Improved end-of-life battery recovery rates and reduced informal/unsafe disposal	**MEDIUM**
Absence of Standardized Second-Life Electric Vehicle Battery Certification [171-178]	No standardized certification framework exists for repurposing EV batteries into second-life applications (e.g., stationary storage), and this gap was flagged in fellowship research on second-life certification as a barrier	Develop a BIS-led second-life battery certification standard covering residual capacity, safety testing labelling, enabling certified second-life batteries to be used in BESS and other stationary	Bureau of Indian Standards, Ministry of Heavy Industries, Ministry of Power, battery recyclers/OEMs	A credible second-life market for used EV batteries, extending battery value and supporting grid-storage (BESS) deployment	**MEDIUM**

	to safe reuse and monetization.	storage applications.			
Absence of a Standardized Electric Vehicle Depreciation and Resale-Value Framework [179-185]	No standardized depreciation or resale value framework exists for EVs, unlike the well-established ICE resale benchmarks. The unclear battery health disclosure at resale suppresses used-EV market liquidity and buyer confidence.	Establish a standardized EV depreciation/resale-valuation framework incorporating battery state-of-health data (drawing on the proposed BMS data-sharing standard) to be adopted by used-vehicle marketplaces and valuers.	Ministry of Road Transport and Highways, Ministry of Heavy Industries, vehicle valuation bodies (e.g. IBBI/FADA), used-EV marketplaces	A more liquid and trustworthy used-EV market that improves the total cost of ownership economics for first owners.	**MEDIUM**
Limited Long-Term Battery Warranty Coverage [182, 186-187]	Battery warranties from most OEMs are typically limited to 3 years/50,000 km on two-wheelers and around 8 years on cars, well short of the vehicle's expected operating life, raising owner uncertainty about mid-life battery replacement costs.	Set a minimum battery-warranty benchmark (duration and capacity-retention threshold) as a condition for PM E-DRIVE subsidy eligibility and require standardized warranty-term disclosure at the point of sale.	Ministry of Heavy Industries, Bureau of Indian Standards, OEMs	Greater buyer confidence in long-term battery reliability and lower perceived total costs of ownership.	**MEDIUM**
ADOPTION, AWARENESS & MARKET DEVELOPMENT (5 challenges)					
Limited Electric Vehicle Adoption Among Gig Workers [5,6,188-193]	Gig and platform workers, a major share of e-2W/e-3 W demand, face high upfront costs and limited access to affordable financing, slowing EV adoption in this segment despite it offering the strongest utilization-based payback.	Expand targeted financing (aggregator-backed loan guarantees, leasing models) and priority procurement commitments from delivery/ride-hailing aggregators for e-2W/e-3 W fleets,	Ministry of Heavy Industries, NITI Aayog, gig/platform aggregators, NBFCs/banks	Faster EV penetration among high-mileage gig-worker fleets, with outsized emissions and fuel cost savings per vehicle.	**MEDIUM**

		building on the PM E-DRIVE fleet-focused incentive design.			
Range Anxiety [194-199]	Range anxiety persists as the most-cited adoption barrier even as PM E-DRIVE's 2028 infrastructure extension explicitly targets it through 72,000 additional charging points real-world range on older/entry models still lags marketed figures.	Expand fast-charging corridor density on national highways (NHAI/MoRTH-notified corridors) and mandate standardized, real-world range disclosure on vehicle labels, paired with in-app real-time charger availability under a unified EV-charging app.	Ministry of Heavy Industries, NHAI, Ministry of Road Transport and Highways, OEMs, CPOs	Reduced consumer hesitation and higher confidence in inter-city and long-distance EV travel.	**HIGH**
Lack of Knowledge & Information [200-206]	Consumer awareness of total-cost-of-ownership savings, available subsidies, charging options, and battery safety remains low, particularly in tier-2/3 cities, limiting the conversion of interest into purchase.	Run a coordinated national EV-awareness campaign (TCO calculators, subsidy explainers, safety information) through the PM E-DRIVE portal, dealer networks, and state transport departments, targeted at tier-2/3 markets.	Ministry of Heavy Industries, Bureau of Energy Efficiency, State Transport Departments, OEMs	Higher informed-consumer conversion rates and reduced misinformation-driven hesitation, especially outside metros	**MEDIUM**
Low performance on long trips [207-215]	Battery performance (range, power output) degrades with sustained high-speed highway driving and temperature extremes, and thin highway fast-charger coverage worsens the perception of poor long-trip performance.	Expand highway fast-charging corridor density under PM E-DRIVE/NHAI planning and encourage thermal management and battery chemistry improvements through PLI-	NHAI, Ministry of Heavy Industries, Department of Science and Technology, OEMs	Improved real-world long-trip range and charging reliability, closing the gap with ICE road trip convenience.	**LOW**

		ACC-linked R&D incentives.			
Limited availability of models on the market [216-220]	Model availability, especially in the budget segment and in body styles such as SUVs/MPVs and rural-suited vehicles, remains narrower for EVs than for ICE equivalents, limiting consumer choice.	Continue PLI-linked incentives for domestic EV manufacturing to widen the range of price points and body styles and encourage component-level localization to bring down entry-level model costs.	Ministry of Heavy Industries, DPIIT, EV OEMs, component manufacturers	A broader range of EV models across price segments and vehicle types to match diverse consumer needs.	**LOW**
SKILLS, WORKFORCE & INNOVATION (4 challenges)					
Lack of Specialized Labor [221-226]	Trained EV-specific technicians (high-voltage battery, motor power-electronics servicing) remain scarce relative to the existing ICE mechanic base, especially outside metropolitan cities.	Scale EV-specific modules within the Skill India / Pradhan Mantri Kaushal Vikas Yojana framework and OEM-run technician certification programs, with targeted rollout in tier-2/3 cities alongside dealer network expansion.	Ministry of Skill Development and Entrepreneurship, Ministry of Heavy Industries, OEMs, ITIs/polytechnics	A larger pool of certified EV technicians reduces service wait times and builds owner confidence in after-sales support.	**LOW**
After-sales Lack of services and maintenance Infrastructure [221-226]	After-sales service and maintenance infrastructure (authorized service centers, spare parts availability) lags vehicle sales growth, particularly beyond metro and tier-1 markets.	Incentivize OEM service network expansion into tier-2/3 cities (linked to PM E-DRIVE eligibility/compliance conditions) and support multi-brand independent EV service centers through a standardized certification scheme.	Ministry of Heavy Industries, OEMs, State Industry Departments, independent service-centre operators	Wider after-sales service coverage and shorter turnaround times reduce a key adoption deterrent.	**MEDIUM**

Skill development and Professional courses not available [227-234]	Formal skill-development and professional certification courses specific to EV technology (battery systems, charging infrastructure, and EV servicing) remain limited within mainstream ITI/polytechnic/engineering curricula.	Introduce dedicated EV-technology certificate and diploma courses within ITIs, polytechnic engineering colleges under Skill India, co-designed with OEMs and charging-infrastructure companies for industry relevance.	Ministry of Skill Development and Entrepreneurship, Ministry of Education (AICTE), Ministry of Heavy Industries, OEMs	A pipeline of industry-ready EV professionals supporting manufacturing, charging infrastructure service-sector growth	**LOW**
Lack of R&D and Patents Registration in India [234-238]	India's EV-related patent filings and R&D output (batteries, power electronics charging technology) remain modest relative to global leaders such as China, Japan, Korea, and the US, despite the PLI-ACC scheme's manufacturing push.	Expand R&D tax incentives and grant funding for EV technology innovation (battery chemistry, power electronics charging systems) through DST/DPIIT programs and fast-track patent examination for EV-related filings.	Department of Science and Technology, DPIIT, Ministry of Heavy Industries, CSIR, academic and industry R&D units	Stronger domestic EV-technology innovation base and reduced long-term dependence on imported IP	**LOW**

2. Implementation Recommendations

An integrated EV infrastructure strategy from design to delivery requires a phased, institutionally anchored roadmap that sequences standardization and grid integration financing actions so that each pillar reinforces the others rather than proceeding in isolation. The recommendations below are organized around a three-phase implementation horizon, a defined institutional mechanism for inter-ministerial coordination, the specific regulatory actions required to operationalize each pillar, and a monitoring framework to track outcomes against the targets set out in the Expected Impact section.

Phased Roadmap

Three-phase sequencing is recommended over a 36-month horizon, moving from standard-setting and pilot deployment to nationwide scale-up and consolidation. Sequencing standardization ahead of large-scale capital deployment prevents the interoperability and stranded-asset risks that have affected earlier charging infrastructure rollouts.

Phase	Timeline	Key Actions	Lead Institutions
Phase I — Foundation	Months 0–12	Mandatory public charging connector standard operationalizing Time-of-Day EV tariff orders in at least five priority states issuing PM E-DRIVE implementation guidelines covering the blended financing window commissioning the requirements and vendor selection. A battery warranty State of Health (SoH) guideline defines the minimum capacity percentage a battery must retain before a free repair or replacement is triggered. Auditing the uptime of electric vehicle (EV) charging infrastructure reveals a hidden industry reality: while network dashboards frequently report 98% to 99% uptime, actual customer-facing charging attempts fail nearly 30% of the time.	Bureau of Indian Standards, Ministry of Power, State Electricity Regulatory Commissions, Ministry of Heavy Industries
Phase II — Scale-Up	Months 12–24	Across pilot states with unified login for users, CPOs, state nodal agencies, and the central dashboard extend viability-gap funding and demand-charge relief to highway and semi-urban corridors activate the single-window land bank for charging-site allotment and complete BMS data-standard notification.	Ministry of Heavy Industries, State Nodal Agencies, DISCOMs, Bureau of Indian Standards
Phase III — Consolidation	Months 24–36	The Nationwide rollout with interoperable battery-swapping and second-life certification modules is live; the GST Council review of charging-service and battery rate alignment has been concluded, uptime SLA and grievance-redressal enforcement are fully operational, and a mid-term review of PM E-DRIVE outcomes against targets has been conducted. Finalizing the tracking of Key Performance Indicators (KPIs) for electric vehicles (EVs) requires focusing on battery metrics, operational efficiency, and charging performance.	GST Council, Ministry of Finance, NITI Aayog, Ministry of Heavy Industries

3. Institutional Mechanism

Effective delivery depends on a standing coordination mechanism rather than one-off inter-ministerial meetings. The following arrangements are recommended.

- A Joint Implementation Cell, co-chaired by the Ministry of Heavy Industries and the Ministry of Power, tracks cross-pillar milestones and resolves inter-ministerial bottlenecks on a monthly cadence.

- State Nodal Agencies, already designated under PM E-DRIVE, to serve as the single point of accountability for compliance, tariff order adoption, and onboarding within each state.
- Formal linkage between the Joint Implementation Cell and the GST Council secretariat to carry forward the charging service and battery rate-alignment recommendations raised under the Challenge section.

3.1 Regulatory and Fiscal Actions

A defined set of regulatory instruments must be issued or amended to give the strategy legal and financial effect.

- Ministry of Power notification mandating it as the default connector for all publicly funded and PM E-DRIVE-subsidized charging infrastructure, with a defined transition window for legacy installations.
- State Electricity Regulatory Commission orders adopting a dedicated time-of-day EV tariff category, building on the Ministry of Power's model tariff guidelines, in states not yet covered.
- Amendment of Model Building Bye-Laws to mandate EV-ready wiring and charging bays in new commercial, residential transit hub construction
- Extension of PM E-DRIVE's upstream-infrastructure subsidy to explicitly cover substation and transformer augmentation battery-swapping station rollout, alongside continued blended financing (concessional debt paired with PM E-DRIVE grant support) for low-utilization corridors.
- GST Council consideration of rate alignment for charging services and standalone batteries with the 5% rate applicable to EVs and charging equipment.

3.2 Monitoring and Review

Implementation should be tracked against a small set of measurable indicators, such as number of states with notified Time-of-Day EV tariffs and CPO state-agency logins, and PM E-DRIVE fund utilization against sanctioned outlay, reviewed quarterly by the Joint Implementation Cell and reported annually to the host ministries. A mid-term review at the 18-month mark should assess whether Phase II milestones justify proceeding to a nationwide Phase III rollout or require course correction.

4. Expected Impact

Horizon	Priority Actions	Expected Outcomes
2026–27	Scale public fast charging finalise CAFE-III continue focused demand support for 2W/3W/commercial deepen ACC localisation Right-to-Charge rules uptime SLAs Pack Aadhaar foundation second-life protocol drafting 500 rural solar micro-hubs	EV penetration >22% strong growth in passenger cars e-bus fleet expansion in major cities measurable improvement in charger reliability
2027–28	City-level saturation strategies (100% e-buses/paratransit in pilot cities) battery recycling standards V2G pilots entry-level 4W scale-up full Pack Aadhaar expansion certified second-life market operational	Commercial EV tipping point visible reduction in urban air pollution in leading cities formal second-life and residual-value markets functioning
2029-2030	Mature domestic battery ecosystem widespread mandates for high-usage categories robust second-life and recycling industry corridor readiness scores mature across 74 routes	Approach or exceed 25–30% overall EV share in new sales electricity share of transport energy significantly higher

		circular battery economy established Formula: EV Penetration (%) = (Total EV New Sales ÷ Total Vehicle New Sales) × 100 Ex: EV share = (7.5 ÷ 30) × 100 = 25%

5. Conclusion

India's electric mobility transition has entered a new phase of rapid ecosystem growth. With strong policy support and rising EV adoption, the focus should now shift towards building a reliable, affordable, and sustainable EV ecosystem. The proposed integrated approach covering charging infrastructure, grid readiness, battery systems, domestic manufacturing, financing, standardization, and digital platforms can address key barriers and accelerate market development. A phased 36-month implementation roadmap, supported by strong central state coordination and public-private partnerships, provides a practical pathway for achieving these objectives. By effectively implementing these measures, India can strengthen domestic manufacturing, reduce energy dependence, create skilled employment, improve consumer confidence, and build a circular battery economy. The transition can ultimately position India as a globally competitive leader in clean, resilient, and inclusive electric mobility.

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Editorial Notes

Reviewers encouraged the paper to strengthen its evidence base and explain the practical relevance of its proposed adoption pathways. The analysis could more clearly distinguish among the barriers affecting different users and contexts, and link each challenge to a feasible policy response. Further work should identify implementation responsibilities, assess the feasibility of the recommendations and use relevant data to support the proposed roadmap.

RuTAGe Smart Village Centres (RSVCs): A Framework for Technology Deployment, Rural Innovation, and Sustainable Development

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Executive Summary

The RuTAGe Smart Village Centre (RSVC) initiative was launched by the Office of the Principal Scientific Adviser (PSA) in February 2025 to deliver demonstrated rural technologies through a network of Panchayat-level centres. Technologies deployed across the network include Rural Technology Action Group (RuTAG) technologies developed with Indian Institutes of Technology (IIT) partner institutions, such as the Tulsi Mala Bead Making Device (IIT Delhi) used by artisans in Uttar Pradesh, the Mobile Subjee Cooler (IIT Bombay) for vegetable vendors, Frustum-Shaped Porous Vessels for sub-surface irrigation, and the Assistive Aid for Lifting Ailing Cattle, alongside clean-cooking systems in Bihar, LCB biofertiliser units (a RuTAG–IIT Kanpur technology) in Maharashtra, Bhuvision soil-testing units, solar dryers, and water-hyacinth recycling in West Bengal; in all, 79 technologies have been deployed. PSA supports the initiative through a defined registration process, structured baseline surveys, and AMRIT (Accelerated Medium of Rural Innovations and Technologies), the RSVC module of the Manthan portal used for technology matching, centre registration, and self-assessment. The Office of the PSA–National Bank for Agriculture and Rural Development (NABARD) National RSVC Centre of Excellence (CoE) additionally assesses technology–village fit through the Village Readiness Level (VRL) framework, validates technologies, provides technology-acceleration support, and conducts capacity-building activities for RSVCs. [301]As of 30 June 2026, the network comprises 104 operational centres across 21 states, covering 2,080 villages and set up by 43 implementing partners (IPs).

This paper is based on an assessment of five RSVCs: Dhamari (Maharashtra), Chandpara (West Bengal), Siya Khas (Madhya Pradesh), Dobhi (Bihar), and Tappal (Uttar Pradesh). These five centres were selected as suggested by the Office of PSA. Each centre had been operational long enough to have moved beyond initial installation into regular use; the five centres together span five states, five implementing partners, and several distinct technology tracks. This sample is not statistically representative of the full network of 104 centres. Findings from the assessment should accordingly be read as patterns observed at these five centres, which may merit further examination across the wider network, rather than as established conclusions applicable to all centres.

The assessment methodology combined a review of secondary sources with primary data collection at the five centres assessed. The secondary review included an independent financial assessment of the RSVC model done by the Pahle India Foundation, together with PSA/NABARD's own programme documentation. For primary data collection, a structured consultation tool was shared with the implementing partner at each of the five centres, who completed the questionnaire directly. Separately, focus group discussions were conducted with community members at the same centres, facilitated with the support of the respective implementing partner and conducted through online video-conferencing sessions. Responses from the implementing-partner consultations and the community focus group discussions were reviewed descriptively to identify both the outcomes already being achieved by the RSVC model and the specific areas where these outcomes could be further strengthened. Supplementary field observations were also drawn from the Tumakuru and Mangaluru RSVCs.

The assessment finds that the RSVC model is functioning as intended in its core task: technologies are being identified through baseline surveys, deployed through implementing partners, and adapted to local

[301] NABARD–Office of the PSA National Centre of Excellence on RSVCs, programme documentation.

conditions. At Tappal, the introduction of a mechanised process reduced garland-production time from approximately ninety minutes to twenty minutes, and the implementing partner's operational area extended to approximately 90 villages. At Dobhi, a number of local women have been trained as clean-energy technicians and micro-entrepreneurs. At Dhamari, cumulative technology sales are about ₹4.7 lakh (₹3.8 lakh from the plant nursery and ₹87,000 from low-cost biofertiliser), and the Tulsi Mala Machine deployed at Tappal remains in regular use beyond its initial installation. These centre-level results are consistent with network-level output: the RSVC dashboard reports 3,294 livelihoods created, 5,700 villagers skilled on technology, 4,422 farmers, 4,007 women and 1,902 youth engaged, and 51 entrepreneurs developed (Figure 1).

Consultations with implementing partners and focus group discussions with community members identified three specific opportunities to strengthen outcomes as centres move from initial deployment toward sustained operation: (i) extending financial planning to include the marketing and distribution of technologies, not solely their procurement and deployment; (ii) complementing the existing technology validation and six-month impact assessment with a periodic review of each technology's utilisation and business performance; and (iii) building on the Village Readiness Level (VRL) framework, which already brings community and innovator perspectives into technology selection, to strengthen the connection between post-deployment community feedback and technology innovators. In response, this paper proposes a **Sustainable RSVC Framework** comprising three corresponding measures (Figure 3), together with a phased implementation plan specifying responsibility for each action.

2. Taking Stock: Achievements and Opportunities

2.1 Current Status of the RSVC Network

Across the five RSVCs assessed, technologies selected through the baseline-survey process are reaching rural communities. This is a notable early result for an initiative that is, at the national level, sixteen months old(as of 30 June 2026) and already operating 104 centres. The result rests on an institutional architecture that PSA and NABARD have built around the centres, on a structured technology pipeline, and on the work of implementing partners and Centre Heads responsible for day-to-day operations.

2.1.1 Network Achievements

The RSVC Type 1 dashboard (Figure 1) summarises the network's output. The 104 centres established in 2025–26 span 21 states and 2,080 villages, with the largest concentrations in Uttar Pradesh (21 centres), Jharkhand (13), Bihar (12) and Karnataka (10). Forty-three implementing partners have set up centres, and 79 technologies have been deployed, amounting to 126 units across 59 RSVCs. In human terms, the network reports **3,294 livelihoods created** and **51 entrepreneurs developed**; **5,700 villagers skilled** on technology; and **4,422 farmers, 4,007 women and 1,902 youth** engaged at RSVCs.

Technology-specific outputs are equally notable. One hundred Tulsi Mala bead-making machines have been deployed, 156 LCB fertilizer plants established, and 90 Mobile Subjee Coolers sold; 555 soil-testing samples have been collected and 1,715 acres brought under satellite-based crop monitoring. At the centre level, the Swachhatapukare Foundation has trained more than 3,200 women in water-hyacinth harvesting, processing and craft production across 13 RSVCs, with its West Bengal centre earning up to ₹1.8 lakh since implementing the RSVC, while Vigyan Ashram's Dhamari centre has recorded cumulative sales of about ₹3.8 lakh from its plant nursery and ₹87,000 from low-cost biofertilizer. The model's standing is reflected in external recognition: the RSVC initiative is a winner of the Social Stock Exchange prize and is featured in the Economic Survey 2025–26.

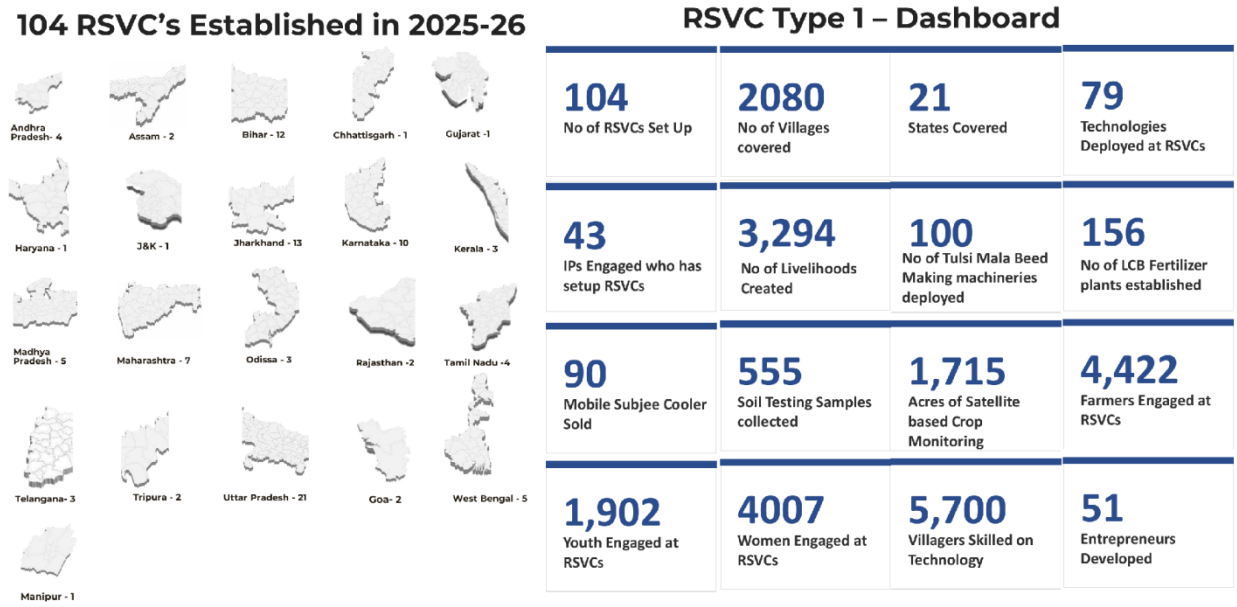

Figure 1. RSVC Type 1 dashboard: 104 RSVCs established in 2025–26, with state-wise distribution and key outputs. Source: Office of the PSA–NABARD National RSVC CoE (2026).

2.1.2 The Office of the PSA–NABARD National RSVC Centre of Excellence

The National RSVC Centre of Excellence (CoE), established jointly by the Office of the PSA and the National Bank for Agriculture and Rural Development (NABARD), is the operational backbone of the network. It is governed through three bodies: a 14-member **Governing Council** of distinguished experts that guides strategic direction; a **Proposal Advisory Committee (PAC)**, comprising NABARD's Chief General Manager (Rural MSME), the Programme Director and a Technical Advisory Group, which reviews centre proposals and recommends them for sanction; and a **Village Readiness Level Committee**, drawing on institutions including IIT Roorkee, IIT Madras, IIM Ahmedabad, IIM Bangalore, IRMA, AWS, the Centre for Rural Development, iCreate, Social Alpha, Villgro and IIIT Surat, which oversees the VRL framework. The CoE's day-to-day work is organised into six verticals, summarised in Table 1.

Vertical	Role in the RSVC network
Technology Sandbox (Rural Technology & Innovation)	Scouts, evaluates and classifies technologies as market-ready or not market-ready, and routes them to validation and acceleration partners.
M&E of RSVCs (Data & Impact Evaluation)	Monitors centre set-up, baseline requirements and impact through the AMRIT platform, including the six-month impact self-assessment.
Dissemination & Market Linkages	Amplifies validated technologies to implementing partners, including through weekly innovator webinars, and links centre enterprises to markets.
Funding (Finance, Compliance & Commercialisation)	Mobilises funding from NABARD, CSR partners and government, and supports compliance and commercialisation of technologies.
NGO Implementation Partners	Onboards and supports the implementing partners that establish and operate centres.
Capacity Building & Training	Builds the capacity of Centre Heads, implementing partners and villagers to operate, maintain and earn from technologies.

Table 1. Verticals of the Office of the PSA–NABARD National RSVC CoE and their roles.

The CoE also mobilises funding and partnerships. Funders supporting the initiative include NABARD, the Ministry of Fisheries, Animal Husbandry and Dairying, and the Department of Telecommunications, and others. The CoE has further convened a roundtable with CSR partners across banking and finance, agriculture, manufacturing, healthcare and technology, including the Axis Bank, SBI, ICICI, Reliance, HCL and Cummins India foundations.

2.1.3 The Technology Pipeline: Sandboxing, VRL, Validation and Acceleration

Technologies reach RSVCs through a structured pipeline. Under **RSVC Technology Sandboxing**, the CoE scouts technologies with partners such as RuTAG, SIDBI, Social Alpha, Villgro, the Honey Bee Network, IIT Madras's Rural Technology and Business Incubator and IIM Bangalore's NSRCEL. Of 797 technologies reviewed, 459 have been classified as market-ready against deployment readiness, technical maturity and operational scalability, while 338 remain at prototype stage. Market-ready technologies are validated by PwC; technologies at lower Technology Readiness Levels (TRL) are supported by the Central Manufacturing Technology Institute (CMTI) through technical-feasibility assessment and TRL progression; and the National Research Development Corporation (NRDC) supports technology selection, certification and scale-up. Validation confirms that a technology delivers what it promises, and validated technologies are then uploaded to AMRIT.

Before deployment, the fit between a technology and a particular village is assessed through the **Village Readiness Level (VRL)** framework, a new evaluation framework for the adoption of technologies and innovations in a village. The VRL recognises that a technology's TRL is not sufficient to determine its appropriateness for a village, and therefore pairs a demand-side assessment completed for the RSVC with a supply-side assessment completed by the technology or innovation provider. Each is scored against weighted dimensions and parameters, placing a technology at VRL 1 (low suitability, below 50 per cent, requiring significant adaptation), VRL 2 (moderate suitability, 50–79 per cent, requiring some adjustment) or VRL 3 (high suitability, 80–100 per cent, implementable with minimal modification). The VRL is, in effect, the programme's first structured channel between community need and innovator capability.

After deployment, technologies are amplified and accelerated. Innovators with validated technologies present to around 100 implementing partners in a weekly Wednesday webinar series, which has completed 31 sessions. A group of accelerators, including Xelevate, CMTI, WitVision, NSRCEL, Villgro, A-IDEA and SELCO, is selecting deployed technologies for acceleration, and a Catalyst for Acceleration process has shortlisted eight technologies from a pool of 45, including solar drying, Bhuvision soil testing, the power weeder, LCB biofertilizers, the Mobile Subjee Cooler and hyacinth recycling. The CoE has also costed combinations of technologies for centre sustainability; one such combination, pairing a solar rice mill with a prefabricated biogas unit and AI-based crop planning for FPCs, is estimated to become self-sustaining within about six months.

2.1.4 The AMRIT Platform

AMRIT, the **Accelerated Medium of Rural Innovations and Technologies**, is the RSVC module of PSA's Manthan portal and serves as the network's digital platform for technology matching and monitoring (Figure 2). Through AMRIT, implementing partners submit baseline technology requirements, register RSVC set-up details and complete the RSVC self-assessment on impact, while innovators upload innovation details for matching with centre requirements. The platform's dashboard records 817 RSVC innovations, 130 RSVC set-up records, 2,308 baseline entries and 32 impact self-assessments.[302] Innovations are catalogued across the programme's technology tracks, the largest being agricultural services and animal husbandry (206), RuTAG technologies (80), health technologies (74), renewable energy (70), assistive technologies (66), WASH (62) and livelihood and entrepreneurship (54). Baseline problem statements collected through AMRIT are

[302] AMRIT figures are live platform counts drawn from the Manthan portal and may differ from the dashboard in Figure 1, which reports operational centres.

also being used by partners such as ARTPARK at IISc to design student innovation projects under the RSVC internship programme.

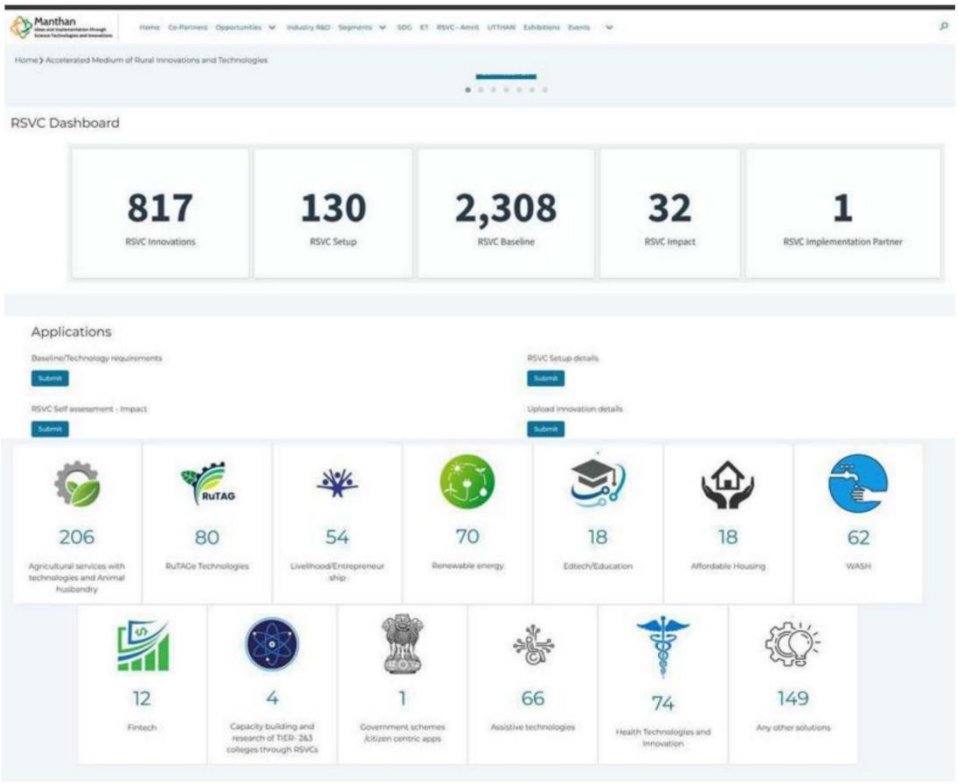

Figure 2. The RSVC dashboard on AMRIT (Accelerated Medium of Rural Innovations and Technologies), Manthan portal. Source: Office of the PSA (2026).

2.1.5 RSVC Models, Schemes and Convergence

The CoE has defined three RSVC types. **Type 1** centres promote technologies across 13 tracks: agricultural services, RuTAG technologies, livelihood and entrepreneurship, renewable energy, edtech, affordable housing, WASH, fintech, R&D with Tier-2 and Tier-3 colleges, government schemes and citizen-centric apps, assistive technologies, health innovations, and technologies identified from village baseline problem statements. **Type 2** centres develop local manufacturing and entrepreneurship through the transfer of RuTAG technologies; 63 market-ready RuTAG technologies from IIT Delhi, IIT Madras, IIT Guwahati, IIT Roorkee, IIT Bombay, ICAR-NAARM and SKUAST-Kashmir have been identified, and the Entrepreneurship Development Institute of India (EDII) is integrating RuTAG technology transfer into its programmes in Uttarakhand, Goa, Ladakh and Gujarat. **Type 3** centres host rural innovation internships in which students identify village problem statements and prototype solutions; under this track, Head Held High and Raichur University conducted a rural immersion for 156 students, completing 4,372 household surveys across 56 villages.

Several schemes and institutional linkages have been launched to extend the model. With NABARD's support, RSVCs are being integrated with **Primary Agricultural Credit Societies (PACS)**: sanction letters have been issued for three RSVC-PACS (Nandanam in Warangal and Beerpur in Karimnagar, Telangana, and BAIF in Nandurbar, Maharashtra), five further proposals have been approved by the PAC and sent for sanction, and nine more are at the detailed-project-report stage. RSVCs are also being integrated with **Pradhan Mantri Kisan Samriddhi Kendras (PMKSKs)** through IFFCO, NFL and FACT, adding fertilizer and seed distribution to centre services. The CoE has additionally mapped the central schemes through which ministries can support RSVCs, including DAY-NRLM, Mission Antyodaya, the Rashtriya Gram Swaraj Abhiyan, Finance Commission grants and Gram Panchayat Development Plans, SFURTI, RKVY-

RAFTAAR, the Agricultural Infrastructure Fund, SMAM, PMKVY, PM-KUSUM, PM Surya Ghar, PMFME and AHIDF.

Governments are also adopting the model. The Government of Andhra Pradesh, through the Ratan Tata Innovation Hub, launched RSVCs at Kuppam, Mangalagiri and Pithapuram on 25 May 2026; the Ministry of Tribal Affairs is exploring the integration of RSVCs into its 750 multi-purpose centres and 7,500 Adi Seva Kendras; and the Department of Telecommunications is exploring expansion within Samriddh Gram Kendras in Madhya Pradesh, Uttar Pradesh and Andhra Pradesh. Discussions are under way with the Ministries of Rural Development, MSME, Textiles, and Fisheries, Animal Husbandry and Dairying, and with the Governments of Mizoram, Arunachal Pradesh, Chhattisgarh, Punjab and Uttar Pradesh.

Across the five centres assessed, this architecture is visible in practice: technologies were identified through baseline surveys, assessed for village fit, matched through AMRIT, and deployed by implementing partners and Centre Heads. The opportunities identified below therefore concern the stage after deployment, which the existing architecture is now well placed to extend to.

2.2 Three Opportunities Identified Through the Assessment

Consultations with implementing partners and focus group discussions with community members identified three specific opportunities to strengthen outcomes as centres move from initial deployment toward sustained, everyday use.

1. **Extending financial planning to include post-deployment marketing and distribution**. Implementing partners indicated that available financial support is directed primarily toward the procurement of technologies and associated operational costs, with comparatively limited provision for the subsequent marketing and distribution of technology-based products or services to the community. Procurement of a technology does not, by itself, ensure that its output reaches the intended users.
2. **Complementing validation and impact assessment with a periodic utilisation and business review**. Technologies are validated by the CoE's partners before deployment, to confirm that each technology delivers what it promises, and each centre completes a self-assessment of impact on AMRIT six months after set-up. Focus group discussions and consultations with implementing partners indicated that, beyond these two checks, centres would benefit from a recurring review of how deployed technologies are performing as enterprises: how often they are used, how many users they reach, what revenue they earn against their running costs, and whether demand is holding. The six-month assessment captures impact at a single point in time; what is additionally required is (i) a repeat review at regular intervals after six months, (ii) technology-level, rather than only centre-level, indicators of utilisation and revenue, and (iii) a defined follow-up action where utilisation or revenue falls short of plan.
3. **Building on the VRL framework to connect community feedback with technology innovators**. The VRL framework already brings the community and the innovator into the selection decision, pairing a demand-side assessment at the RSVC with a supply-side assessment by the technology provider before deployment. After deployment, however, community feedback is gathered primarily through verbal, in-person interaction between Centre Heads, implementing partners, and community members. These interactions reflect close working relationships with communities, but feedback gathered in this form is not currently transmitted in a structured manner to the technology innovators responsible for further refinement.

2.3 Basis for the Proposed Framework

The three opportunities identified in Section 2.2 relate to distinct stages of the technology lifecycle that follow initial deployment: financing and market linkage, ongoing utilisation and business performance, and feedback transmission. Addressing each requires a specific, targeted measure rather than a single, general response.

This pattern is consistent with the experience of a young, expanding programme. A network that has, in its first sixteen months, concentrated on establishing centres and completing deployment would be expected, at this stage, to extend its attention to the systems that support technologies after deployment. Sections 3 and 4 set out a corresponding framework for this purpose.

3. The Proposed Solution

This paper proposes a Sustainable RSVC Framework comprising three measures, each addressing one of the opportunities identified in Section 2.2. The framework is designed to build on the existing RSVC model rather than introduce a separate structure. Figure 3 presents the framework.

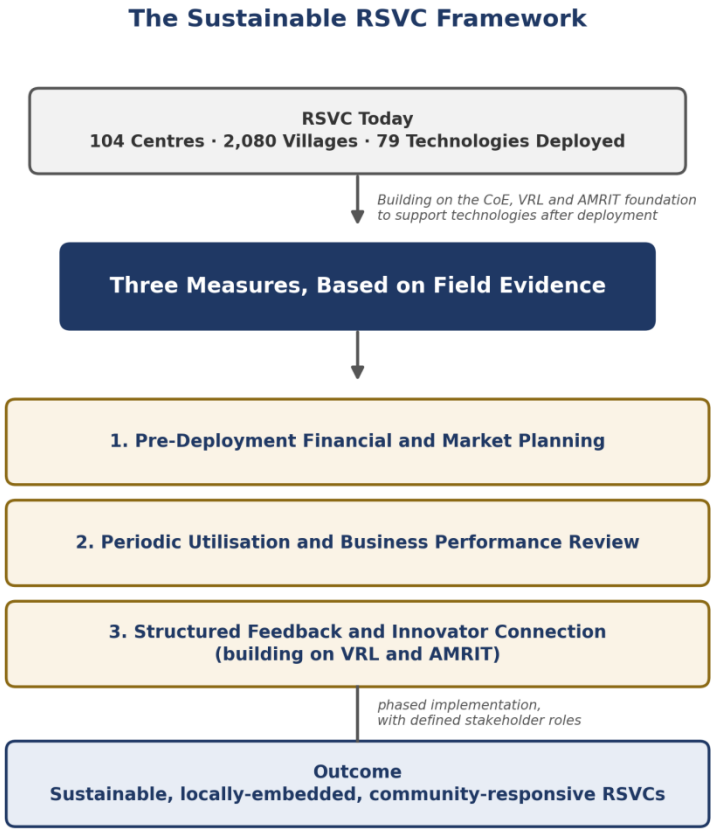

Figure 3. The Sustainable RSVC Framework, comprising three measures addressing the opportunities identified in Section 2.2.

4. Solution Architecture and Components

Measure 1 — Pre-Deployment Financial and Market Planning

Opportunity addressed: Available financial support for RSVCs is currently directed primarily toward the procurement of technologies and associated operational costs, with limited provision for subsequent marketing and distribution.

Proposed intervention: Prior to deployment, implementing partners are encouraged to prepare a business plan for each technology, rather than a financing plan alone. This plan should identify the specific client groups the technology is intended to serve — for example, individual households, Self-Help Groups, or Farmer Producer Organisations — and estimate, for each technology, the number of prospective

beneficiaries within these groups in the centre's service area. The plan should further estimate the minimum number of beneficiaries the technology would need to serve on an ongoing basis to sustain its operation, and set out an outreach approach for reaching that number, together with a revenue forecast based on the estimated beneficiary base. In preparing this plan, implementing partners are encouraged to examine multiple funding avenues, including local donor contributions, corporate social responsibility funding, and relevant government schemes.

This business-planning approach is intended to ensure that procurement of a technology is treated as one step within a larger delivery process, rather than as the concluding step: a technology should reach a defined client base of a defined minimum size, not simply be installed at a centre.

Where feasible, implementing partners may further reduce fixed operating costs by developing villagers as entrepreneurs who operate centre technologies and earn from the services and products they provide, rather than engaging them as salaried staff. This is consistent with the RSVC approach of engaging villagers in centre operations; it converts a fixed salary cost into revenue-linked earnings and builds local ownership of each technology, and the network has already developed 51 such entrepreneurs. Implementing partners may also identify premises that eliminate or reduce rental expenditure, such as facilities owned by the implementing organisation, as at Dhamari, or premises provided by a government body, as at Dobhi.

However, an implementing partner could prepare an accurate business plan and still receive no funding specifically for marketing and distribution. To close this gap directly, the business plan is required to include a ring-fenced marketing and distribution budget, stated as a defined amount or as a minimum share of the technology's total funding (for example, 10 to 15 percent of procurement cost), and specifying how this allocation will be used. This allocation is not discretionary: it is, like the business plan itself, a condition of Year-1 funding release. The CoE does not approve a plan, and funding is not released, unless a specific marketing and distribution budget is included and costed. This shifts the requirement from encouraging an implementing partner to seek funding, to requiring the funding decision itself to include a marketing and distribution line at the point of approval.

Responsibility for implementation: The implementing partner, at the pre-deployment planning stage, is responsible for preparing this plan, including the beneficiary mapping, minimum-scale estimate, revenue forecast, and ring-fenced marketing and distribution budget. The CoE reviews the plan prepared by each implementing partner and confirms the marketing and distribution allocation is present and costed before funding is released

Anticipated outcome: Technologies reaching a defined client base of a defined minimum size, with an accompanying business plan, in place at the point of deployment

Measure 2 — Periodic Utilisation and Business Performance Review

Opportunity addressed: Technologies are validated before deployment, and each centre completes a six-month impact self-assessment on AMRIT; there is, however, no recurring, technology-level review of utilisation and business performance after that point.

Proposed intervention: This measure is distinct from technology validation. Validation, conducted through the CoE's partners, confirms that a technology delivers what it promises; the review proposed here is a business assessment, which asks whether a technology that works is also being used, reaching enough users, and earning enough to sustain itself at a particular centre. It builds on the existing six-month impact assessment rather than replacing it: the six-month assessment serves as the first review point, and the review is thereafter repeated annually for each deployed technology. A short, standard format records, for each technology, usage frequency and the number of users served; revenue earned against the beneficiary and revenue targets in the Measure 1 business plan; operating and maintenance costs; and the status of demand. Where utilisation or revenue falls materially below plan, the review triggers a defined follow-up, such as

revised outreach, a change in pricing or service model, or redeployment of the technology to a centre where demand is higher. This measure does not alter the process by which technologies are selected, which continues to be based on the baseline survey and the VRL assessment.

Responsibility for implementation: The Centre Head conducts the review, with support from the implementing partner, and records it on AMRIT; the CoE's M&E vertical provides the standard format and reviews results across centres.

Anticipated outcome: Earlier identification of technologies whose use or revenue is falling short of plan, a continuous record of business performance beyond the six-month assessment, and a documented basis for adjusting, sustaining or redeploying each technology.

Measure 3 — Structured Feedback and Innovator Connection

Opportunity addressed: The VRL framework already assesses technology–village fit from both the community (demand) side and the innovator (supply) side before deployment. After deployment, however, community feedback is gathered primarily through verbal, in-person interaction and is not currently transmitted in a structured manner to the technology innovators responsible for further refinement.

Proposed intervention: The measure builds on the VRL framework by extending its two-sided logic beyond the point of deployment. Two complementary components are proposed. The first component is a defined set of technology-related questions added to the existing RSVC self-assessment on AMRIT, covering usage frequency, user satisfaction, ease of operation, maintenance requirements, and any modifications made at the centre level. These questions are aligned with the demand-side VRL parameters, so that post-deployment responses can be compared directly with the pre-deployment assessment. Responses concerning individual technologies are shared with the relevant innovator through AMRIT, linked to the specific RSVC and technology concerned. This component operates on the existing reporting cycle and is completed by the Centre Head.

Data recorded in this way, however, passes through the Centre Head, and may not fully capture the community's own assessment of a technology independent of that intermediation. Informal, verbal feedback between community members and the Centre Head is also likely to continue alongside this reporting, regardless of the structured form introduced. To address this limitation, at defined intervals — for example, once every twelve to eighteen months — an independent evaluator not involved in day-to-day centre operations, such as an academic institution or a monitoring and evaluation agency engaged by PSA or NABARD, conducts a structured assessment directly with community members and technology users at a sample of RSVCs. This assessment covers technology utilisation, user satisfaction, and any recurring concerns, obtained independently of the Centre Head and the implementing partner. Given the size of the network, this assessment may be conducted on a rotating basis across a subset of centres in each cycle, such that the full network is covered over a period of several years. Findings from this independent assessment are shared with the CoE and the concerned innovators alongside the data recorded through AMRIT.

Responsibility for implementation: For the first component, the CoE adds the technology-specific questions to the AMRIT self-assessment and routes technology-specific responses to the relevant innovator, such as an IIT partner under RuTAG; the Centre Head completes the self-assessment as part of the existing reporting cycle. For the second component, the CoE commissions and coordinates the independent evaluation; the appointed evaluator conducts the assessment directly with the community; and the Centre Head and implementing partner facilitate access during the assessment visit, without participating in the collection of responses.

Anticipated outcome: Technology-performance and community-feedback data available from two complementary sources: routine data recorded by the Centre Head through AMRIT, and periodic, independently obtained data from the community through third-party evaluation. This reduces reliance on a

single, intermediated reporting channel, while allowing informal verbal feedback at the community level to continue to operate as it does at present.

A comparable structured feedback arrangement has operated in Indian agricultural extension for approximately five decades: Krishi Vigyan Kendras test technologies on farmers' fields and communicate results to researchers as part of their core mandate. This arrangement is referenced here as a design precedent for a feedback loop of this kind.[303]

5. Implementation Suggestions

A phased demonstration is recommended at a small number of established centres prior to wider adoption across the network. Table 2 specifies, for each measure, the action required, the party responsible, the implementation phase, and the expected result, so that progress can be assessed against a defined indicator.

Measure	Key action	Responsible	Phase	Expected result / indicator
1. Financial & Market Planning	Prepare a technology-level business plan, including beneficiary mapping, minimum viable scale, and revenue forecast, before Year-1 funding release	IP, with CoE review	1	Share of demonstration centres with a completed business plan, including beneficiary mapping, prior to deployment
	Confirm the business plan includes a ring-fenced marketing and distribution budget (defined amount or minimum share of technology cost); withhold funding release until confirmed	CoE (verification) + funding partner (commitment)	1	Share of approved business plans with a specified, costed marketing and distribution budget
2. Utilisation & Business Review	Conduct utilisation and business reviews at the six-month impact assessment and annually thereafter, using a standard	Centre Head, with IP support	1	Share of deployed technologies reviewed within the defined interval

[303]Krishi Vigyan Kendras (KVKs) are India's district-level agricultural extension centres, established in 1974 under the Indian Council of Agricultural Research (ICAR). Each KVK operates under a funding agreement between ICAR and a local host institution; its core function includes testing technologies on farmers' fields and communicating results to researchers. Sources: Indian Council of Agricultural Research, Krishi Vigyan Kendra scheme documentation; Agriculture Innovation Fellowship, "Unlocking the Potential of the Krishi Vigyan Kendra (KVK) Model" (2025).

Measure	Key action	Responsible	Phase	Expected result / indicator
	CoE format recorded on AMRIT			
3. Feedback & Innovator Connection	Add technology-specific questions, aligned with VRL parameters, to the AMRIT self-assessment; route responses to relevant innovator	CoE (AMRIT update) + Centre Head (data entry)	2	Share of technology-specific responses reaching the relevant innovator each cycle
	Commission independent third-party evaluation at a rotating sample of centres, every 12–18 months	CoE (commissioning) + independent evaluator	3	Share of network covered by independent evaluation within a multi-year cycle
All measures	Compile review and feedback data into updated technology guidance, on a quarterly basis	PSA / CoE	3	Guidance note revised at least once per quarter
All measures	Include the financing-plan template and review format in the onboarding packet for new centres	PSA / CoE	3	Share of newly registering centres receiving the packet at onboarding

Most of the proposed actions make use of infrastructure that PSA and the CoE already operate, including the baseline survey, the VRL framework, the six-month impact assessment, and the AMRIT platform. One new template (Annexure A) and the AMRIT self-assessment update are the principal additions; all other components extend existing steps.[304]

The template provided in Annexure A is intended as a practical planning instrument. It is expected to be refined through initial field application to confirm its ease of use and relevance to centre-level requirements before wider adoption.

To support ease of adoption, the template is limited to a single page and is designed to integrate with existing RSVC reporting processes rather than introduce a separate reporting requirement.

[304]NABARD–Office of the PSA National Centre of Excellence on RSVCs, programme documentation.

6. Expected Impact

The output recorded to date — more than 759 livelihoods reported across more than 255 villages at the five centres assessed, within their first eighteen months of operation— indicates the potential of the RSVC model.

As the network matures, systematic tracking of technology utilisation, enterprise performance, income change, and technology adaptation, supported directly by Measures 2 and 3, is expected to enable a more comprehensive assessment of the initiative's longer-term impact.

Over the next twelve to eighteen months, two immediate effects are anticipated. First, through Measure 2's periodic utilisation and business review, technologies requiring adjustment are expected to be identified earlier, within weeks of a change in utilisation rather than after an extended period of reduced use. Second, through Measure 1, each newly approved technology is expected to reach deployment with a completed business plan already in place — including beneficiary mapping, an estimated minimum viable scale, and a costed, ring-fenced marketing and distribution budget — rather than these being addressed only once low utilisation or a funding shortfall becomes apparent.

Over the medium term, as further centres adopt the framework, technology-performance data collected through Measure 3 — combining routine Centre-Head reporting with periodic, independently obtained community feedback — is expected to inform improvements to the CoE's technology guidance for centres established at a later stage.

The longer-term aim is a network of RSVCs in which technologies continue to be used and adapted following deployment, and in which centres are recognised as sustainable: institutionally, through clearly defined and durable roles among partners; technologically, through the continued active use of deployed technologies; financially, through operating revenue that covers running costs, for centres whose technology mix allows this; or socially, through continued community value that does not depend on revenue generation. Centres of the last two kinds are expected to become progressively less dependent on external financial support over time, while centres whose principal contribution is social continue to be assessed and supported on that basis, rather than measured against a financial target that does not fit their purpose.

7. Conclusion

This assessment finds that the core RSVC model — the delivery of demonstrated technology to rural communities through implementing partners and Centre Heads — is functioning effectively at the five centres reviewed. Building on this foundation, the assessment identifies three specific opportunities, drawn directly from consultations with implementing partners and community focus group discussions, to strengthen outcomes as centres move from deployment toward sustained use.

The paper's central recommendation is that each of these three opportunities be addressed at the point of deployment, rather than only once a specific requirement becomes apparent: a costed business plan, including beneficiary mapping and a ring-fenced marketing and distribution budget, prepared before a technology is approved (Measure 1); a recurring utilisation and business-performance review that builds on the six-month impact assessment (Measure 2); and a feedback pathway that builds on the VRL framework and reaches the technology's original innovator, combining routine reporting with independent, community-facing evaluation (Measure 3). Taken together, these measures represent a change in the sequence of existing activities, not the introduction of a new approval requirement.

For decision-makers, the recommended next step is a bounded demonstration at two or three established centres: trial the business plan and ring-fenced marketing budget under Measure 1, apply the utilisation and business review format under Measure 2, and add the technology-level questions to the AMRIT self-assessment under Measure 3. Results from this demonstration should inform any decision to extend the framework to additional centres and to new centre onboarding.

If adopted, this framework is expected to help RSVCs convert the strong early output already achieved into more durable outcomes: technologies that reach a defined community at a sustainable scale, that continue to be checked and adjusted over time, and whose field performance reaches the people best placed to improve them.

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Primary Data Sources

These sources reflect the field data collected for this study and internal programme records shared for this purpose. They are listed here in full for transparency and traceability.

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Annexure: Sample Templates

The template below illustrates, in the format proposed in Section 5, the financial planning tool referenced in Measure 1. It is a draft, intended to be refined through initial field application, as noted in Section 5, prior to wider use..

Annexure A — Pre-Deployment Financing and Delivery Plan (Measure 1)

ILLUSTRATIVE SCENARIO — NOT A FINANCIAL FORECAST
All figures below are hypothetical planning assumptions prepared for illustration only. They do not represent a prediction, projection, or forecast of financial performance for any RSVC. Cost figures are grounded in one centre's reported operating costs (Dhamari); revenue and percentage figures are the author's illustrative assumptions. Each centre completing this template must substitute its own figures.

Metric (illustrative assumption, not measured)	Illustrative Year 1	Illustrative Year 2	Illustrative Year 3
A. Operating costs (₹/month) — grounded in Dhamari's reported figures			
Staff salaries (Centre Head + support)	₹45,000	₹47,000	₹49,000
Rent / space (where not government-provided or organisation-owned)	₹0–5,000	₹0–5,000	₹0–5,000
Utilities & connectivity	₹15,000	₹15,000	₹16,000
Technology maintenance & spares	₹3,000	₹4,000	₹5,000
Marketing & outreach	₹5,000	₹6,000	₹7,000
Training & capacity building	₹2,000	₹2,500	₹3,000
Total monthly operating cost (C)	**approx. ₹72,500**	**approx. ₹77,000**	**approx. ₹82,500**
B. Own revenue streams (₹/month) — illustrative planning assumption			
Technology / product sales	₹8,000	₹25,000	₹45,000
Repair & maintenance service fees	₹1,000	₹3,000	₹6,000
Rental / subscription / AMC income	₹0	₹5,000	₹12,000
Training / technical service fees	₹1,000	₹2,000	₹4,000
Total own monthly revenue (R)	**approx. ₹10,000**	**approx. ₹35,000**	**approx. ₹67,000**

Metric (illustrative assumption, not measured)	Illustrative Year 1	Illustrative Year 2	Illustrative Year 3
C. How the two sides reconcile (R + required external support = 100% of C, by definition)			
Own revenue as % of operating cost (R ÷ C)	approx. 14%	approx. 45%	approx. 81%
External support required to cover the remainder (100% − R÷C)	approx. 86%	approx. 55%	approx. 19%
Funder's planned support ceiling (a separate, pre-agreed target)	90%	60%	25%
Shortfall risk, if any (required support above the ceiling)	None (ceiling covers requirement)	None	None (ceiling covers requirement)
D. Reserve, milestones and risk (sub-allocations of revenue already counted in B, not additional cost			
Share of own revenue ring-fenced into operations reserve	10%	15%	20%
Target point for own-revenue coverage of operating costs	Illustrative target: reach 100% own-revenue coverage after Illustrative Year 3 (own-revenue coverage reaches approximately 81% by the end of Illustrative Year 3 in this scenario)		
Named risk / contingency (e.g., seasonal demand, key-staff departure)	_____		

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Editorial Notes

Reviewers encouraged a clearer statement of the research objective and a more structured account of the problem the proposed centres are intended to solve. The paper could strengthen the evidence on existing technologies and rural needs, and explain how the centres would connect technology providers with communities and local institutions. Future refinement should clarify implementation arrangements, accessibility, stakeholder roles and the indicators used to assess impact.

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GRAAM

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GRAAM is a think-and-act-tank' focused on policy and action, community engagement, impact assessment and public policy engagement. GRAAM is dedicated to fostering an inclusive space for community voices in the realm of public policy and development. Our collaborative approach engages key stakeholders, including governmental bodies, citizens, private sector entities, civil society organizations, and academia.

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