

IMPACT AND POLICY RESEARCH REVIEW

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January – June 2026

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EDITORS' NOTE

Impact and Policy Research Review (IPRR)

IPRR Volume 5 Issue 1 (January - June 2026)

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We are pleased to present Volume 5, Issue 1 of the Impact and Policy Research Review (IPRR), a biannual journal dedicated to fostering critical scholarship and policy-relevant research. This issue brings together a range of contributions that reflect the journal's core commitment to interdisciplinarity, evidence-based analysis, and engagement with urgent socio-political and developmental challenges.

The articles featured in this issue reflect the breadth and diversity of contemporary public policy scholarship, bringing together interdisciplinary perspectives on some of the most pressing governance and development challenges facing India and the world. The contributions span themes including climate resilience and sustainable urbanisation, urban inequality, artificial intelligence governance, regional social development, student mental health, women's economic participation, labour market transformation, public administration, environmental governance, international relations, maritime security, digital governance, and inclusive policymaking.

This volume also features thought-provoking contributions under the Young Voices section, showcasing emerging scholarship on labour market precarity, institutional reform, and contemporary policy challenges. Alongside the Insights, Policy Perspective, and Report Review sections, the issue offers critical reflections on governance innovation, sustainable development, technological transformation, social inclusion, and evidence-based policymaking. Collectively, these contributions reinforce the importance of rigorous research in informing policy decisions, encouraging interdisciplinary dialogue, and supporting academics, practitioners, policymakers, researchers, and civil society stakeholders.

We extend our sincere gratitude to our authors, reviewers, editorial board, and readers for their continued support and intellectual engagement. We hope this issue stimulates meaningful dialogue and contributes to informed policymaking and impactful research.

With Gratitude,
Editors,
Impact and Policy Research Review (IPRR)

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Rising Tides, Sinking Cities - The Race to Build Resilient Cities

Manish Priyadarshi¹

Abstract

India's coastal cities are increasingly vulnerable to climate-induced hazards, including sea-level rise, cyclones, storm surges, and urban flooding, posing significant risks to economic growth and human security. This article evaluates India's institutional frameworks, technological innovations, and Nature-Based Solutions (NbS) while highlighting the importance of strengthening Urban Local Bodies, enhancing social inclusion, and leveraging climate finance. The article argues that resilient coastal urbanisation requires coordinated governance, ecological restoration, data-driven decision-making.

Keywords: *Climate Resilience, Coastal Cities, Nature-Based Solutions, Disaster Risk Reduction, Urban Governance*

India's coastal cities are not merely urban agglomerations; they are strategic economic assets central to national growth, trade, and employment. Metropolitan regions such as Mumbai, Chennai, and Kolkata serve as gateways to global markets, hosting major ports, industrial corridors, and financial ecosystems. However, these growth engines are increasingly exposed to systemic climate risks—sea-level rise, cyclones, storm surges, and recurrent flooding—that threaten macroeconomic stability. Evidence from the Intergovernmental Panel on Climate Change confirms that low-lying coastal zones globally face disproportionate climate risks (IPCC, 2022). In India, where nearly 30% of the population resides within 100 km of the coastline, and a significant share of critical infrastructure is concentrated, this exposure translates into a national economic risk (MoES, 2020; NITI Aayog, 2021).

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From a national policy perspective, the challenge lies in shifting from reactive disaster response to anticipatory, risk-informed planning. India has made notable progress through scientific tools such as the Coastal Vulnerability Index (CVI), developed by the Indian National Centre for Ocean Information Services (INCOIS). The CVI integrates parameters such as shoreline change, coastal slope, tidal range, and wave exposure to identify high-risk zones. Findings indicate that states such as Odisha, Tamil Nadu, Gujarat, and West Bengal have significant stretches of “very high vulnerability,” particularly in deltaic and low-lying regions (INCOIS, 2018). This spatial heterogeneity underscores the need for differentiated policy responses rather than uniform national strategies.

Institutionally, India’s disaster risk governance architecture—anchored by the National Disaster Management Authority—has evolved significantly over the past decade. The National Cyclone Risk Mitigation Project (NCRMP), supported by the Government of India and the World Bank, represents a flagship intervention aimed at reducing cyclone-related risks. Investments in early warning systems, cyclone shelters, and evacuation planning have yielded measurable outcomes. For instance, during Cyclone Fani, large-scale evacuations and timely alerts significantly reduced mortality compared to the 1999 Odisha Super Cyclone (NDMA, 2020). Similarly, analyses reported by The Indian Express highlight how improved forecasting and institutional coordination have transformed India’s disaster response capacity.

Despite these gains, a critical policy gap persists in the over-reliance on grey infrastructure. Traditional interventions—sea walls, embankments, and drainage systems—remain central to coastal defence strategies but often fail to address the systemic nature of climate risks. Recurrent flooding in Mumbai, widely reported by The Times of India, illustrates how infrastructure alone cannot compensate for wetland loss, drainage congestion, and unplanned urbanisation. Similarly, the 2015 Chennai floods exposed the consequences of encroachment on natural drainage systems and wetlands.

A systems-based approach is therefore essential, integrating ecological, infrastructural, social, and institutional dimensions. Within this framework, Nature-Based Solutions (NbS) offer a cost-effective and sustainable alternative. Coastal ecosystems such as mangroves, wetlands, and dunes act as natural buffers

against storm surges while providing co-benefits such as carbon sequestration and biodiversity conservation. The Sundarbans provide a nationally significant example, where mangrove ecosystems have demonstrably reduced cyclone impacts (Dasgupta et al., 2019; IPCC, 2022). Peer-reviewed studies in journals such as *Nature Climate Change* and *Science of the Total Environment* confirm that NbS can outperform or complement grey infrastructure in reducing climate risks (Kabisch et al., 2017; Seddon et al., 2020).

However, the integration of NbS into national policy frameworks remains limited. Urban planning continues to prioritise engineered solutions, often at the expense of ecological systems. Addressing this imbalance requires embedding NbS into Coastal Regulation Zone (CRZ) policies, urban master plans, and infrastructure investment decisions.

A national perspective also highlights the role of socioeconomic inequality in shaping climate vulnerability. Risks are not evenly distributed but mediated by access to housing, services, and financial resources. Informal settlements, particularly in coastal cities, are often located in high-risk zones. Reporting by *Down To Earth* demonstrates how marginalised communities in cities like Mumbai and Kolkata face recurrent flooding, inadequate infrastructure, and limited adaptive capacity. Migrant populations are especially vulnerable due to their exclusion from formal governance and social protection systems.

This aligns with the concept of “differential vulnerability,” which emphasises that resilience is shaped not only by exposure to hazards but also by social and institutional factors (Ribot, 2014; WRI India, 2024). National policy must therefore incorporate social vulnerability assessments into planning processes, promote community participation, and strengthen social protection mechanisms.

Technological innovation offers significant opportunities to enhance resilience, yet its integration remains uneven. Digital tools such as IoT-based flood sensors, geospatial mapping, and predictive analytics can transform urban risk management. Initiatives under the NCRMP, including web-based risk atlases, demonstrate the potential of data-driven planning. Cities like Chennai and Mumbai are beginning to adopt smart flood management systems. However, fragmented data systems and limited interoperability across agencies constrain their effectiveness.

From a national policy standpoint, there is a clear need to develop an integrated National Coastal Resilience Data Platform that consolidates hazard, infrastructure, and socioeconomic datasets. Evidence from international research suggests that such data integration significantly enhances adaptive capacity and decision-making (Meerow et al., 2019).

The economic rationale for investing in coastal resilience is compelling. Econometric analyses indicate that climate-related losses in coastal cities could increase substantially under high-emission scenarios, potentially eroding significant shares of GDP (Hallegatte et al., 2013). Conversely, investments in disaster risk reduction yield high returns, typically in the range of 4:1 to 7:1 (World Bank, 2019). In Mumbai, flood-related disruptions have resulted in substantial economic losses, affecting productivity and infrastructure. These findings reinforce that resilience investments are not merely protective but also economically efficient.

Aligning coastal resilience strategies with global frameworks further strengthens their policy relevance. Interventions contribute directly to Sustainable Development Goal 11 (Sustainable Cities and Communities), particularly targets 11.5 and 11.b on reducing disaster impacts, and Sustainable Development Goal 13 (Climate Action), which emphasises adaptive capacity and integration of climate measures into policy. India's National Action Plan on Climate Change (NAPCC) and State Action Plans provide a foundation for alignment, but stronger inter-sectoral coordination is required.

Looking ahead to 2030, national policymakers must prioritise five strategic actions. First, institutionalise risk-informed planning through mandatory use of CVI and multi-hazard assessments in urban development. Second, strengthen institutional capacity, particularly at the level of Urban Local Bodies. Third, mainstream Nature-Based Solutions through regulatory mandates and financial incentives. Fourth, ensure inclusive resilience by targeting vulnerable populations and integrating social protection systems. Finally, mobilise sustainable financing through blended finance mechanisms and access to global climate funds.

India's coastal cities face escalating, interconnected risks driven by climate change, unplanned urbanisation, ecological loss, and inequality. Cities like Mumbai, Chennai, and Kolkata show how these pressures are turning episodic disasters into persistent crises despite efforts led by the National Disaster

Management Authority. The future hinges on a decisive shift toward integrated, risk-informed, and inclusive planning. Without it, economic and social losses will intensify; with it, coastal cities can transition into resilient and sustainable growth centres by 2030.

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Building Equitable Indian Cities: Addressing the Structural Drivers of Urban Inequality

Manish Thakre¹

Abstract

India's rapid urbanisation has intensified structural inequalities that limit equitable access to opportunities, livelihoods, housing, and public services despite cities driving economic growth. This article examines urban inequality through the interconnected dimensions of pre-distribution, in-distribution, and post-distribution, highlighting how disparities emerge across education, labour markets, governance, and social protection systems. It argues that fragmented urban governance and weak institutional capacity perpetuate exclusion while integrated policy interventions such as PM-SVANidhi, Odisha's Jaga Mission, and the Kerala Urban Policy Commission demonstrate pathways towards more inclusive development. The article concludes that strengthening local governance, coordinated policymaking, and distributive urban investments is essential for building resilient, equitable, and liveable Indian cities.

Keywords: Urban Inequality, Inclusive Urban Development, Urban Governance, Social Protection, India Urbanisation

India is projected to become nearly [50% urban](#) by 2050, making cities central to the country's economic and social future. Urban areas already contribute nearly [70% of India's GDP](#) and will increasingly shape employment, innovation, investment, and climate resilience. Yet the workers and communities sustaining urban growth often remain excluded from its benefits. Over recent decades, urban inequality has deepened through exclusionary patterns of development that limit

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access to housing, secure livelihoods, public services, and economic mobility for large sections of low-income urban residents.

Urban inequality in India is visible not only in unequal access to education, housing, and secure livelihoods, but also in exclusion from land rights, finance, planning systems, and formal state recognition. At the same time, initiatives such as Odisha's Jaga Mission and PM-SVANidhi suggest a gradual shift away from top-down welfare approaches toward more participatory and inclusion-oriented models of urban governance. These interventions reflect a growing recognition that earlier approaches to urban development often failed to address the structural roots of exclusion.

1 Urban Governance Challenges

Those who sustain cities through their labour often experience limited upward mobility, while those with greater economic security and access to opportunities benefit disproportionately from urban growth. This reflects a structural paradox at the heart of India's urbanisation process: cities generate wealth and opportunity, yet large sections of the urban workforce remain excluded from economic security and social mobility. Urban [inequality](#) is shaped by unequal systems of opportunity, labour markets, fiscal structures, and governance decisions. Addressing these challenges is particularly difficult because [urban governance remains fragmented](#) across Urban Local Bodies (ULBs), parastatals, development authorities, and multiple state-level departments. Although citizens look to city governments to address inequality, many ULBs continue to face limited fiscal autonomy, weak institutional capacity, and inadequate devolution of powers. The RBI Report on [Municipal Finances](#) (2022-23) highlights the persistent financial constraints faced by Indian municipalities in delivering equitable infrastructure and services.

2 The Coordination Deficit in Urban Governance

Urban governance shapes the conditions that influence human development throughout the lifecycle—from nutrition, childcare, health, education, housing, mobility, livelihoods, public health, and dignified ageing. Addressing inequality

therefore requires coordinated action across governments, ULBs, parastatals, and line departments rather than relying on infrastructure-led interventions alone.

Recent efforts such as the [Kerala Urban Policy Commission](#) (2025-2050) illustrate how states are beginning to recognise the need for integrated urban governance frameworks. The Commission highlights how fragmented institutions, weak coordination, limited fiscal autonomy, and inadequate professional capacity continue to constrain equitable urban development. It also proposes a shift toward collective local self-governance, metropolitan planning, local economic development, and more evidence-driven urban governance systems.

3 Manifestations of Urban Inequality

Urban inequality is visible not only through income gaps, but also in unequal access to mobility, clean air, public spaces, digital connectivity, and climate resilience. In many cities, gated communities coexist alongside informal settlements lacking basic amenities, reflecting deep spatial segregation and unequal living conditions. Recent analysis shows how higher-income residents increasingly rely on [privatised infrastructure and services](#), while public systems deteriorate for large sections of the population.

Urban inequality is not produced at a single stage; rather, it accumulates across the lifecycle of opportunity, employment, and public policy. To understand these structural inequalities, it is useful to examine three interconnected [drivers](#): pre-distribution, in-distribution, and post-distribution. Addressing these challenges demands long-term, research-driven, and institutionally coordinated urban transformation focused on inclusive growth, equitable access, and urban dignity.

3.1 Pre-distribution: Inequality Before Entering the Labour Market

Pre-distribution refers to unequal access to opportunities before individuals enter the labour market. Differences in education quality, health, skills, social networks, and neighbourhood conditions shape future life chances long before employment begins. These inequalities are often reproduced across generations, limiting both social mobility and economic productivity.

India has made major progress in expanding educational access over recent decades. According to NITI Aayog's [School Education System in India](#) report (2026), the country now has over 14.7 lakh schools and nearly 24.7 crore students enrolled

in the education system. However, access alone does not guarantee equality of opportunity. Significant disparities persist in retention, learning outcomes, and educational quality, particularly at the secondary level, where dropout rates rise sharply due to economic pressures, household responsibilities, and early entry into the labour market. National assessments also show widening learning gaps in mathematics, science, and language skills. Nearly half of government secondary schools still lack functional science laboratories, limiting STEM learning and access to future high-value employment opportunities.

These inequalities directly shape lifetime earnings and social mobility. Studies suggest that income inequality is strongly associated with factors individuals cannot control, such as parental education, family background, or place of birth. Children from educated and economically secure families are more likely to move upward through the education system, while disadvantaged children often remain trapped in low-opportunity environments. As Revenga and Dooley argue, unequal opportunities in education contribute to “[sticky inequality](#),” where disadvantages persist across generations and reduce income mobility. In rapidly urbanising India, such inequalities constrain not only individual futures but also the quality of the country’s future urban workforce.

Early childhood development and urban childcare systems are increasingly recognised as critical “pre-distribution” investments that shape future human capital and women’s labour force participation. Mission [Poshan 2.0](#) and the expansion of Saksham *Anganwadis* represent important public investments in nutrition, early childhood care, and cognitive development through over 14 lakh Anganwadi Centres serving nearly 9 crore beneficiaries nationwide. However, recent estimates suggest that urban India already requires nearly [320,000 full-day creches](#) for low-income households, while existing public provision meets only a fraction of demand. As cities expand, strengthening affordable childcare, early learning, and nutrition systems will become essential not only for reducing intergenerational inequality, but also for strengthening India’s future urban workforce.

3.2 In-distribution Inequality: Labour Markets and Wages

In-distribution refers to inequalities generated within labour markets and economic systems themselves. This includes wage disparities, insecure employment, unequal returns to capital, informality, and uneven access to productive economic opportunities.

India's urban inequality is increasingly shaped by the structure of its labour markets. A large share of urban employment remains informal, characterised by low wages, insecure work, and limited social protection. Recent analysis of India's [“unincorporated” economy](#) shows that millions of small urban enterprises operate with inadequate infrastructure, low productivity, and limited access to formal finance and stable markets. While cities generate growth and wealth, many workers sustaining urban economies - including street vendors, delivery workers, waste pickers, construction labourers, and service workers - remain excluded from the gains of urban growth. Recent research highlights that although urban areas increasingly drive national income growth, the benefits remain [unevenly distributed](#). The labour market increasingly functions as a “sorting mechanism,” where workers with better education, skills, and social networks are more likely to access secure and better-paying jobs, while large sections of informal workers remain trapped in low-paid and insecure work. Income growth among top urban earners has significantly outpaced that of the lower-income groups, contributing to widening inequality within cities themselves.

One recent intervention addressing structural urban inequality is the Prime Minister Street Vendor's AtmaNirbhar Nidhi (PM-SVANidhi) scheme, launched by the Ministry of Housing and Urban Affairs during the COVID-19 pandemic. The crisis exposed the extreme precarity of millions of street vendors who sustain India's urban informal economy yet remained largely excluded from formal credit, social protection, and municipal systems. [PM-SVANidhi](#) sought to address this exclusion through collateral-free working capital loans alongside digital and financial inclusion measures. The scheme also strengthened engagement between street vendors and ULBs, moving beyond largely tokenistic forms of recognition. As of October 2025, the scheme had disbursed nearly 97 lakh loans worth over INR 14,000 crore, with around 47 lakh vendors using UPI-enabled digital transactions in their daily livelihoods. Extended until 2030, the programme demonstrates how

urban policy can move beyond short-term welfare toward building economic resilience and inclusion for informal workers.

3.3 Post-Distribution Inequality: Welfare and Social Protection

Post-distribution inequality refers to how governments attempt to reduce inequality through taxes, subsidies, welfare programmes, and public services such as education, healthcare, housing, and social protection. In theory, fiscal policy can reduce both poverty and inequality by redistributing resources and protecting vulnerable populations. However, evidence from [developing countries](#) shows that weakly designed tax and transfer systems can still leave poorer households worse off if social protection remains inadequate.

In India, this challenge is particularly significant because nearly 90% of the workforce is informal, with millions of workers lacking secure employment, pensions, health insurance, or income protection. Although informal workers contribute substantially to the economy, [social protection](#) coverage remains fragmented and limited. Studies show that many welfare schemes continue to suffer from inadequate financing, weak implementation, exclusion errors, and limited portability for migrant workers. As a result, large sections of urban workers remain highly vulnerable to economic shocks, illness, unemployment, and rising living costs.

Urban public services also reflect wider inequalities in access and quality. Higher-income groups increasingly rely on private healthcare, education, transport, and gated housing, while lower-income households depend heavily on overstretched public systems and informal settlements. This produces unequal urban living conditions where economic growth coexists with deep disparities in security, opportunity, and quality of life. Strengthening inclusive social protection, alongside investments in quality public services, remains critical for reducing long-term urban inequality.

[Odisha's Jaga Mission](#) (Liveable Habitat Mission) provides an important example of addressing structural urban inequality through integrated urban policy. Rather than treating slum residents as temporary “encroachers,” the programme combined land tenure security, infrastructure upgrading, livelihood generation, and participatory governance. Through a decentralised model involving ULBs,

community associations, CSOs, and state agencies, residents received non-transferable but mortgageable land rights alongside investments in water supply, sanitation, roads, street lighting, and housing upgrades. Local residents including women were directly employed in upgrading works without private contractors, generating livelihoods while strengthening local accountability and participation in urban planning. The initiative also adopted convergence-based financing across departments and earmarked municipal resources for slum upgrading. With over 125,000 land rights granted and eight cities declared slum-free, the programme demonstrates how integrated urban policy can simultaneously address spatial inequality, livelihood insecurity, service deficits, and exclusion from urban governance.

As urbanisation deepens and climate risks, migration pressures, and technological change accelerate, the resilience gap is widening. Heat stress, flooding, air pollution, and water insecurity increasingly demonstrate how climate vulnerability is becoming a major driver of urban inequality. Low-income residents, who are disproportionately exposed to economic and climate shocks, often lack the resources and institutional support needed to recover. In contrast, higher-income groups possess greater financial security, social connections, mobility, and adaptive capacity.

4 Towards More Equitable Urbanisation

Addressing urban inequality in India requires moving beyond fragmented and sectoral approaches to urban development. Inequality is not produced by a single policy failure; rather, it emerges through the interaction of education systems, labour markets, housing, infrastructure, welfare systems, and urban governance structures.

Emerging initiatives such as Odisha's Jaga Mission, PM-SVANidhi and the Kerala Urban Policy Commission demonstrate that more inclusive forms of urbanisation are possible when governance, infrastructure, livelihoods, and social protection are addressed together rather than in isolation. At the same time, strengthening ULBs through greater fiscal autonomy, institutional capacity, and planning authority remains essential for equitable urban transformation. The recently announced Urban Challenge Fund also presents an opportunity to support urban

projects that not only stimulate economic growth but also reduce structural inequalities through improved mobility, climate resilience, and better access to essential services. However, this requires urban investments to be assessed not only for economic returns, but also for their distributive and social impacts, with an embedded focus on Leave No One Behind.

As India urbanises rapidly, the central challenge is no longer whether cities will grow, but whether urban growth will expand opportunity, resilience, and dignity across all sections of society. The future of India's urbanisation will ultimately be judged not by the scale of its infrastructure, but by whether cities become more just, inclusive, and liveable for those whose labour sustains them.

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AI Governance Frameworks in India: Balancing Innovation and Regulation

Rohit Mehta¹

Abstract

Artificial Intelligence (AI) is rapidly reshaping governance, economic landscapes, and public service delivery across the globe. India, leveraging its extensive digital infrastructure and initiatives such as the India Stack, stands at the forefront of AI adoption in the developing world. However, this exponential growth presents a complex challenge: how to foster an environment of innovation while establishing robust regulatory safeguards to protect privacy, ensure fairness, and maintain public trust. This paper examines India's evolving AI governance ecosystem through a qualitative policy analysis and comparative study. It analyzes key regulatory instruments including the Digital Personal Data Protection Act, 2023, and the National Strategy for AI against global frameworks such as the EU AI Act and the U.S. approach to AI regulation. The study identifies critical challenges, including algorithmic bias, regulatory gaps, and infrastructure deficits. It further proposes an original "Balanced AI Governance Framework" tailored for developing economies, emphasizing ethical AI principles, regulatory sandboxes, data protection mechanisms, and institutional oversight. The findings suggest that India must adopt a middle path combining the EU's risk-based rigor with the U.S.'s innovation-centric approach to position itself as a global leader in inclusive and responsible AI.

Keywords: AI Governance, India AI Policy, Digital Regulation, Ethical AI, Data Protection, AI Ethics, Public Policy, AI Regulation India

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1 Introduction

The dawn of the twenty-first century has been marked by the relentless advance of Artificial Intelligence (AI), a technology that promises to redefine human civilization. From predictive diagnostics in healthcare to algorithmic decision-making in welfare distribution, AI systems are increasingly embedded in the fabric of public and private life. For India, a nation with over 800 million internet users and a vibrant startup ecosystem, AI represents a unique opportunity to leapfrog traditional developmental barriers (NITI Aayog, 2021). Initiatives like the Unified Payments Interface (UPI), Aadhaar, and the CoWIN platform have demonstrated India's capacity to deploy technology at scale, creating a fertile ground for AI-driven innovation.

However, the rapid proliferation of AI-driven systems brings with it profound concerns regarding data privacy, algorithmic discrimination, and the erosion of individual rights. The sheer volume of data generated by Indian citizens often collected without explicit informed consent poses significant risks to personal privacy (Mehra, 2023). Furthermore, AI algorithms, trained on historical data, risk perpetuating and amplifying existing social inequalities, particularly in a diverse society like India (Crawford, 2023). The lack of a comprehensive, cross-sectoral legal framework for AI specifically has left a regulatory vacuum, creating uncertainty for innovators and exposing citizens to potential harms.

This paper seeks to address this critical juncture. It asks: How can India craft an AI governance framework that balances the imperatives of technological innovation with the necessity of ethical regulation? To answer this, the paper adopts a qualitative methodology, employing a comparative policy analysis to juxtapose India's regulatory trajectory with global models. It reviews existing literature, analyzes current policy instruments, and examines specific case studies of AI deployment in India. The ultimate aim is to propose a governance model that is not only theoretically sound but practically applicable to the unique socio-economic context of a developing nation.

2 Literature Review

The discourse on AI governance has evolved from initial focus on technical safety to a holistic examination of socio-economic impacts, ethics, and rights. At the

global level, the OECD AI Principles (2019) established the foundational pillars for responsible AI: inclusive growth, sustainable development, human-centered values, transparency, robustness, security, and accountability. These principles have become a benchmark for national strategies, emphasizing that AI systems must be designed to respect human rights and democratic values.

In the academic sphere, the work of researchers at the World Bank has highlighted the distinct challenges of AI governance in developing economies (World Bank, 2022). Unlike the EU or the US, where digital infrastructure is mature, developing nations often face issues of digital literacy, infrastructure deficits, and informal data markets. This context necessitates a governance model that is not merely a clone of Western regulations but is tailored to local realities.

In India, the primary policy contribution has come from NITI Aayog's discussion papers, particularly "Responsible AI for All" (2021) and the "National Strategy for Artificial Intelligence" (2018). These documents articulate a vision of "AI for All," emphasizing inclusive growth but often lacking in enforceable regulatory mechanisms. Scholars have critiqued this approach as being more aspirational than substantive, noting the gap between policy pronouncements and ground-level implementation (Kumar, 2022).

The literature on AI ethics underscores the importance of "fairness, accountability, and transparency" (FAT). However, implementing these abstract principles in complex socio-technical systems remains a challenge. This review identifies a gap: while global frameworks exist, there is a lack of an integrated governance model specifically designed for the Indian context, a gap this paper aims to fill.

3 India's AI Policy Landscape

3.1 The National Strategy for AI

India's formal entry into the AI policy arena began with the NITI Aayog's "National Strategy for Artificial Intelligence" in 2018. The strategy identified five core sectors for AI application: Healthcare, Agriculture, Education, Smart Cities, and Transport. It championed the use of AI for economic growth and social inclusion, famously coined as "AI for All." However, the strategy was largely a guidance document, emphasizing research and skill development rather than regulation.

3.2 Digital Personal Data Protection Act, 2023

A landmark legislative development is the Digital Personal Data Protection Act, 2023 (DPDP Act). This act represents India's first comprehensive attempt to regulate the processing of personal data. It establishes duties for data fiduciaries and rights for data principals (citizens), including the right to consent, correction, and erasure. Crucially, the Act imposes penalties for non-compliance, creating a deterrent against data misuse. While not exclusively an "AI law," the DPDP Act provides the essential substrate for AI governance, as most AI systems rely on large datasets for training (Mehra, 2023). It addresses the critical issue of consent, requiring that data be processed only for specified purposes.

3.3 IT Rules and Sector-Specific Policies

Beyond the DPDP Act, the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011, remain relevant, though they are considered outdated in the context of advanced AI. Sector-specific regulators have also begun issuing guidelines. For instance, the Reserve Bank of India (RBI) has released guidelines for the use of AI and Machine Learning (ML) in the financial sector, emphasizing explainability and model risk management. Similarly, the Ministry of Health and Family Welfare is drafting regulations for AI in telemedicine and diagnostics.

3.4 Government Vision: Innovation vs. Regulation

The Indian government's vision has largely leaned towards promoting innovation. The "Make in India" and "Digital India" campaigns reflect a desire to position India as a global AI hub. The establishment of the India AI Governance Centre is a step towards institutionalizing these efforts. However, there is a recognized tension: heavy regulation could stifle the burgeoning startup ecosystem, while under-regulation could lead to societal harm. The current approach can be described as "soft law" guidelines and principles rather than binding legislation though the DPDP Act signals a shift towards harder law.

4 Global Comparison: Finding a Middle Path

To contextualize India's approach, it is imperative to analyze the dominant global models of AI governance.

4.1 The European Union: The Risk-Based Rigor

The EU AI Act (2024) represents the most comprehensive attempt to regulate AI globally. It adopts a risk-based classification, banning AI systems that pose "unacceptable risk" (e.g., social scoring) and imposing strict compliance requirements on "high-risk" systems (e.g., in hiring, law enforcement, and critical infrastructure). The Act mandates transparency, human oversight, and documentation. For India, the EU model offers a template for ensuring safety and rights protection. However, its prescriptive nature may be overly burdensome for a developing economy with a nascent AI sector.

4.2 The United States: Market-Driven Innovation

The United States has adopted a sectoral, market-driven approach, prioritizing innovation over top-down regulation. The "Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence" (2023) represents a shift, but the U.S. relies heavily on self-regulation and industry standards. This approach fosters rapid innovation but risks leaving citizens exposed to algorithmic harms and bias.

4.3 China: State Control

China's approach is characterized by state-centric control, with regulations focusing on content moderation, algorithmic recommendation, and deepfakes. The "Generative AI Services Management Measures" (2023) emphasize alignment with socialist values. India's governance model cannot be a carbon copy of any of these, given its democratic setup, federal structure, and developmental priorities.

4.4 India's Middle Path

India is uniquely positioned to chart a "middle path." It can borrow the risk-based classification logic from the EU to protect fundamental rights while incorporating the innovation-friendly sandbox approach seen in the US and UK. India's model must be "developmentally regulatory" meaning it regulates enough to ensure trust

and safety but not so much that it impedes technological adoption for societal benefit.

5 Key Challenges in AI Governance

Despite progressive policies, several challenges impede effective AI governance in India.

5.1 Data Privacy Risks

The lack of robust data protection before the DPDP Act led to the proliferation of unregulated data collection. Even now, enforcement remains a challenge. The sheer scale of data collection by government platforms (e.g., Aadhaar) and private players creates persistent risks of surveillance and data breaches.

5.2 Algorithmic Bias

AI systems are only as good as the data they are trained on. In India, historical data often reflect caste, gender, and economic biases. AI-driven credit scoring systems may exclude marginalized communities, while algorithmic hiring tools may discriminate against women. The lack of diverse datasets in Indian languages further exacerbates this issue, leading to exclusionary technologies.

5.3 Regulatory Gaps

India lacks a dedicated "AI Act." The DPDP Act covers data, but AI-specific issues like algorithmic accountability, automated decision-making, and synthetic content generation are not comprehensively addressed. This regulatory ambiguity creates uncertainty for businesses.

5.4 Skill and Infrastructure Deficit

A significant challenge is the lack of technical expertise within government agencies to understand, audit, and regulate complex AI systems. There is a dire need for AI literacy among policymakers and regulators.

6 Case Studies

6.1 AI in Healthcare: Predictive Diagnostics

AI is making significant inroads into Indian healthcare. Algorithms are used for early detection of diabetic retinopathy, cancer prediction, and drug discovery. For example, AI-driven platforms are being integrated into the Ayushman Bharat health scheme to optimize resource allocation. However, these systems raise concerns regarding patient data privacy and the "black box" nature of diagnostic algorithms. If an AI system misdiagnoses a patient, determining liability is complex.

6.2 AI in Governance: Welfare Targeting

The most visible application of AI in governance is the use of algorithms for targeting welfare schemes. The government uses the Socio-Economic Caste Census (SECC) data and Aadhaar to identify beneficiaries for schemes like PM-KISAN. While this has improved targeting efficiency and reduced leakages ("DBT" or Direct Benefit Transfer), it has also led to "exclusion errors" where legitimate beneficiaries are denied support due to algorithmic flags. This highlights the risk of automating high-stakes decisions without adequate human oversight.

6.3 AI in Agriculture: Crop Prediction

AI models are being deployed to advise farmers on crop selection, fertilizer usage, and weather forecasting. Initiatives like the Kisan drones and AI-powered soil health cards represent a push towards precision agriculture. The benefit is increased productivity; the risk lies in data ownership and the potential marginalization of small farmers who lack access to smartphones or digital literacy.

7 Proposed AI Governance Model

Based on the analysis of India's challenges and global best practices, this paper proposes a "Balanced AI Governance Framework" tailored for developing economies. This model moves beyond the binary of "innovation vs. regulation" to a symbiotic relationship.

7.1 The Framework Diagram

The proposed framework rests on four interdependent pillars:

- **Ethical AI (The Foundation):**
 - *Principles:* Fairness, Accountability, Transparency, and Privacy (FATP).
 - *Mechanism:* Mandatory "AI Ethics Impact Assessments" for high-risk AI systems, similar to Environmental Impact Assessments.
- **Regulatory Sandbox (The Engine):**
 - *Purpose:* To allow innovators to test AI solutions in a controlled environment with relaxed regulations, under strict monitoring.
 - *Application:* Specifically designed for startups and research institutions in sectors like fintech, health, and agriculture.
- **Data Protection Mechanism (The Shield):**
 - *Implementation:* Full enforcement of the DPDP Act, 2023.
 - *Extension:* Creation of "Data Trusts" or common data facilities for sensitive sectors (health, finance) to enable AI training without compromising individual privacy.
- **Institutional Oversight Body (The Watchdog):**
 - *Structure:* An independent "AI Regulatory Authority of India" (AIRAI).
 - *Functions:* Auditing algorithms, setting technical standards, handling citizen grievances, and ensuring compliance.
 - *Features:* It must include a multi-stakeholder panel (technologists, ethicists, lawyers, and civil society) to ensure diverse perspectives.

7.2 Core Additions for the Model

To ensure the framework is actionable, the following are integrated:

- **Public Audit Systems:** Mandatory algorithmic audits for public sector AI.
- **Explainable AI (XAI) Requirements:** Developers of high-risk AI must provide explainable outputs for decisions affecting individuals.
- **Redressal Mechanisms:** A clear legal pathway for citizens to challenge automated decisions.

8 Policy Recommendations

To operationalize the proposed framework, the following policy actions are recommended:

- **Legislative Action:** Enact a dedicated "Artificial Intelligence Act" that builds upon the DPDP Act, specifically addressing algorithmic accountability and sectoral risks.
- **Capacity Building:** Invest in training judges, bureaucrats, and law enforcement in AI literacy.
- **Promote R&D in Ethical AI:** Fund research into explainable AI, bias detection, and privacy-enhancing technologies.
- **Foster Public-Private Collaboration:** Use regulatory sandboxes to bridge the gap between tech startups and government regulators.
- **International Cooperation:** Align with global standards (OECD, ISO) while protecting India's strategic interests.

9 Conclusion

India stands at a critical juncture in its AI journey. The nation has the potential to become a global AI powerhouse, driven by its talent pool, digital infrastructure, and massive data resource. However, realizing this potential sustainably requires a governance ecosystem that earns public trust. The "Balanced AI Governance Framework" proposed in this paper offers a roadmap for achieving this balance. It advocates for a risk-based, flexible regulatory approach that safeguards fundamental rights while unleashing innovation.

By learning from the EU's rigor, the US's dynamism, and addressing the unique challenges of the Global South, India can define its own path. This path must be paved with ethical principles, robust data protection, institutional oversight, and a commitment to inclusive growth. Only then can India truly harness AI "for All."

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Dynamics of Social Development in Jharkhand: A Regional Perspective

Sunita Kumari¹, Manoj Paul², Raghunath Birua³ & Santoshi Sundi⁴

Abstract

Jharkhand, comprising five divisions, is a region characterised by diverse social, geographical, and cultural landscapes. However, interactions between development policies and culturally heterogeneous populations have not produced uniformly positive outcomes, resulting in disparities in development outcomes across divisions. This paper adopts a regional perspective to analyse the socio-demographic profiles of Tribal and other social groups in Jharkhand, focusing on health and education, to reveal patterns of social development across the five divisions: Kolhan, North Chotanagpur, South Chotanagpur, Palamu, and Santhal. The results show that the Santhal region lags in all forms of development.

Keywords: Immunisation, Social development, Child Marriage, Anaemia, BMI, Tribe, Wealth Index

1 Introduction

In general, social development refers to the progression of non-economic outcomes in society, including reduced vulnerability, greater inclusion, improved well-being, greater accountability, and people-centred approaches. It also concerns itself with greater human rights and the possibility of equality among individuals and groups within society, especially for indigenous and marginalised people. However, social development is rarely uniform across regions. Empirical studies on social

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development and disparity examine the interplay among geographic location, economic opportunities, and political arrangements.

Midgley (2014, 13) described social development as “a process of planned social change aimed at improving the well-being of the entire population within a complex 'multifaceted development process'”. It promotes a better quality of life by strengthening social structures, relationships, and institutions. Key concerns include education, health, and equality, to build inclusive societies that support social justice and unity. Social development became a recognised and specialised area within development studies in the 1950s (Midgley, 1995). Sharma defines “social development as normative and integrative upgrading of the social order”. In the Indian context, he identifies three conceptions: “social development as increase in social well-being; social development as transformation in an egalitarian direction; and social development as normative and integrative upgrading of the social order”.

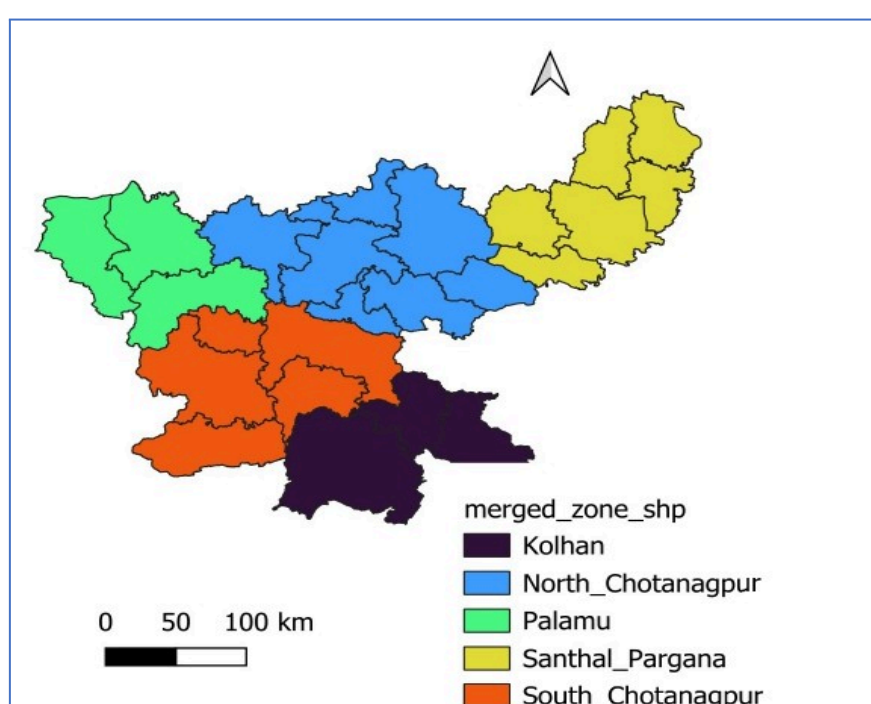
Historically, India has witnessed significant disparities in social indicators. Although India adopts a balanced regional approach, in reality, after 75 years of independence, development is primarily concentrated in a few states, especially the southern states (Kerala and Tamil Nadu) and the western states (Maharashtra and Gujarat). In recent years, despite pro-backwards areas policies and programs, central Indian states have been far behind in this race, especially in tribal-dominated areas of Madhya Pradesh, Chhattisgarh, and Jharkhand. According to the NITI Aayog Multidimensional Poverty Index report 2023, Jharkhand ranked second in terms of the multidimensional Poverty Index, with a headcount ratio of 28.8 per cent. The literature suggests that Jharkhand was separated from Bihar in 2000 and divided into five divisions—South Chota Nagpur, North Chota Nagpur, Santhal Pargana, Kolhan, and Palamu – for better administration and development. However, unfortunately, even after division and 25 years, Jharkhand still lags behind the national average.

This paper examines the level and pattern of social development across Jharkhand's five divisions by drawing on the National Family Health Survey (NFHS) rounds 5 (2019-21) to examine the status of Jharkhand after 25 years of separation.

1.1 Data Sources and Methodology

The paper is based on secondary data that is NFHS, National Family Health Survey 4th round 2015-16 and NFHS 5th round 2019-21. Based on the following socioeconomic indicators, data were compiled for analysis. A correlation matrix has been calculated using data from NFHS 4 to the 5th round to examine the association between indicators and growth rates, providing insight into the trend of development across districts. Division-wise development has also been analysed to assess the status of development within each division. This reflects regional development in the state.

Fig: Regions of Jharkhand



1.2 Outcome Variables:

The presents Study has selected total eight social development indicator such as (i) Women with 10 or more years of schooling (ii) Women aged 20-24 years married before age 18 years (iii) Women aged 15-19 years who already mothers or pregnant at the time of the survey (iv) Institutional births (v) Children aged 12-23 months are fully vaccinated based on information from the vaccination card (vi) Children under 5 years who are stunted (height-for-age) (vii) Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m²) (viii) All women aged 15-49 years who are anaemic.

2 Results

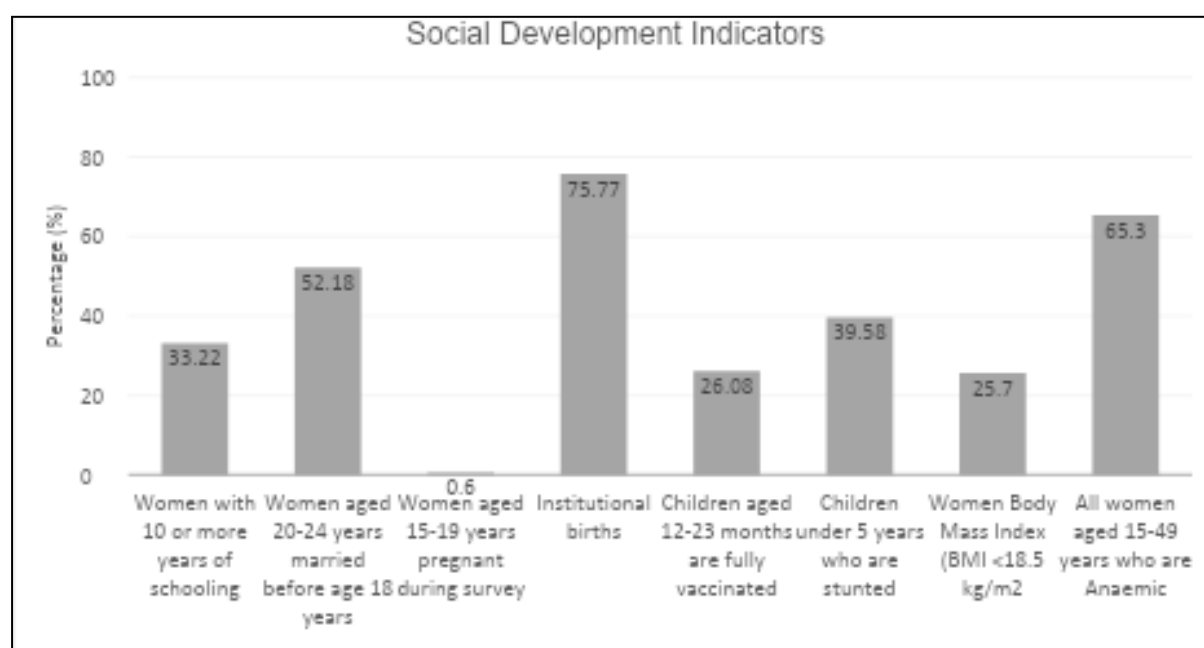
2.1 Background Characteristics of the Study Population

The socio-economic characteristics (Table 1) highlight a wide range of regional variation. Overall, Jharkhand is predominantly dominated by the Hindu community (77.2%); however, the Santhal division has a higher Muslim population. On the other hand, Chaibasa and South Chota Nagpur have significant populations from different communities. By social category, OBCs constitute the most crucial share across the region; however, Chaibasa, South Chota Nagpur, and Santhal are predominantly ST-dominated. Overall, around 66.02 per cent of the population is poor, while only North Chota Nagpur is relatively better off. Furthermore, 75.38 per cent of the Study population resided in rural areas; only Chaibasa and North Chota Nagpur had more than 30 per cent of their population living in urban areas.

Table 1: Socio-Economic profile of Study area

Household Characteristics	Region					Total
	Chaibasa	North Chota Nagpur	Palamu	South Chota Nagpur	Santhal	
Religion						
Hindu	72.01	88.21	87.69	62.77	66.78	77.21
Muslims	4.49	10.43	7.58	9.26	22.51	11.52
Others	23.5	1.36	4.72	27.97	10.71	11.27
Social Category						
SC	11.31	21.31	27.75	10.37	11.71	16.91
ST	43.82	10.64	17.11	52.65	28.89	26.86
OBC	34.9	56.5	44.12	30.92	47.5	45.8
Others	9.97	11.55	11.03	6.06	11.9	10.43
Wealth Index						
Poorest	47.45	27.59	58.79	45.63	57.89	43.58
Poorer	14.69	27.04	21.71	18.41	23.49	22.44
Middle	11.16	21.54	9.35	14.89	10.83	15.21
Richer	12.25	15.6	6.4	11.69	4.86	11.1
Richest	14.46	8.24	3.74	9.39	2.92	7.67
Residence						
Urban	36.0	32.82	8.81	27.04	10.07	24.62
Rural	64.0	67.18	91.19	72.96	89.93	75.38

Data Source: National Family Health Survey 2019-2021

Figure 1: Social development indicators of Jharkhand

2.2 Social Development Status of Jharkhand

Table 2 presents the status of social development indicators in Jharkhand, categorised by tribal and non-tribal populations. Results show that only 33.2 per cent of women in Jharkhand had 10 or more years of schooling, and 52.2 per cent were married before the age of 18. Overall, only 0.6% of women aged 15-19 were pregnant during the survey period. Although 77.5 per cent of live births were delivered at government or private institutions, only 26.08 per cent got fully vaccinated, and 38.6 per cent were stunted. On the other hand, data also revealed that one-fourth of women have a BMI below 18.5 kg/m², while 65.3 per cent of women aged 15-49 are anaemic.

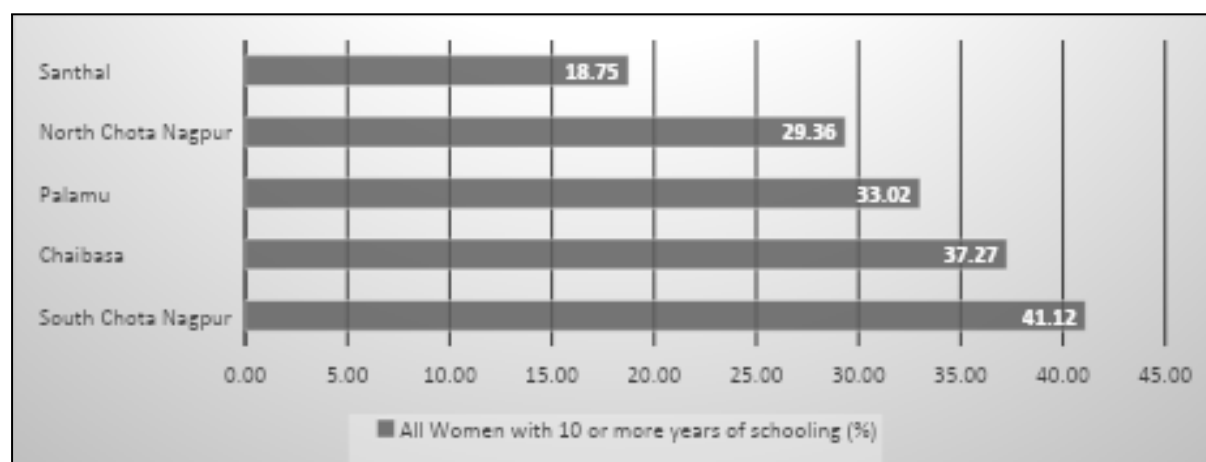
3 Regional variation in social development indicators

3.1 Educational Development:

Educational development in the region, as reflected by the indicator of 10 or more years of schooling, is the lowest among all women and among Scheduled Tribe women in Santhal Pargana. However, women with 10 more years of education are the highest in South Chotanagpur. District-wise analysis indicates that the proportion of women with 10 or more years of schooling is highest in Ranchi and lowest in Pakur (13.6%). Tribal Women with 10 or more years of education are the

least educated in the Deoghar District (6.59 per cent), and the highest in the Ranchi District (Figure 2).

Figure 2: Women with 10 or more years of schooling (%).

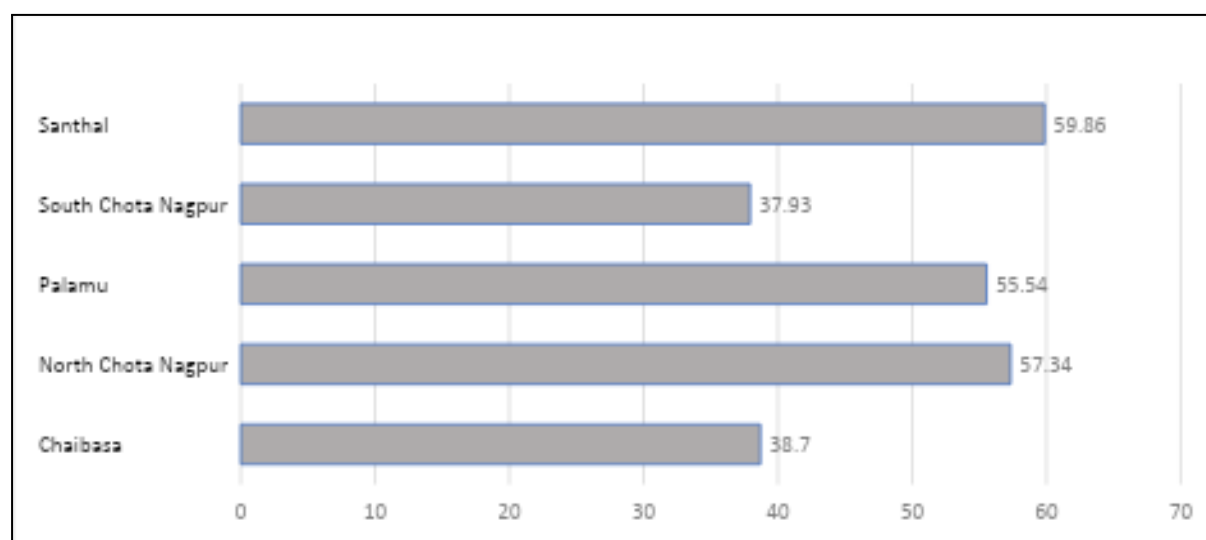


Data Source: National Family Health Survey 2019-2021

3.2 Women aged 20-24 married before age 18 years

Figure 2 highlights that child marriage is prominent in Jharkhand. Regionally, 59.8 per cent of 20-24-year-old women in the Santhal division were married before completing 18 years of age, followed by North Chota Nagpur (57.3%) and Palamu (55.5%). However, North Chota Nagpur (37.9%) and Chaibasa (38.7%) have a relatively low level of child marriage.

Fig: Women aged 20-24 married before age 18 years

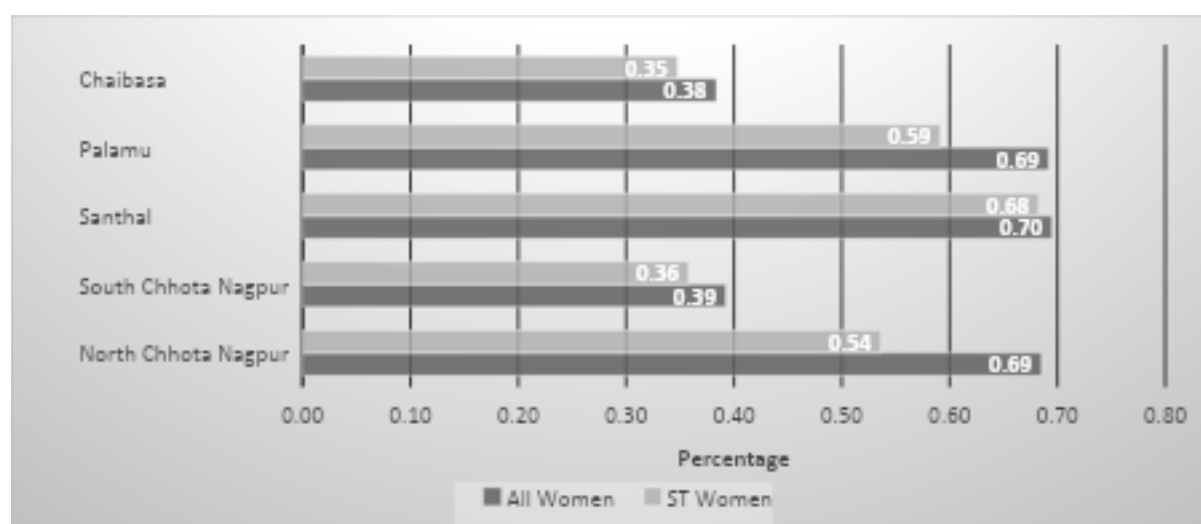


Data Source: National Family Health Survey 2019-2021

3.3 Women aged 15-19 pregnant during the survey

Women aged 15-19 years who were already mothers or pregnant at the time of the survey (Figure 3). It reflects the early age of childbearing that may lead to anaemia among women and undernourishment among children. The survey indicates that the highest percentage of early-age pregnancy was reported in the Santhal division, whereas the lowest was in the Chaibasa division. District-wise data suggest that it is highest in Deoghar District, followed by Sahibganj, whereas it is lowest in West Singhbhum District. Among scheduled tribes, it is reported to be the highest. Godda.

Figure 3: Women aged 15-19 years who were already mothers or pregnant at the time of the survey



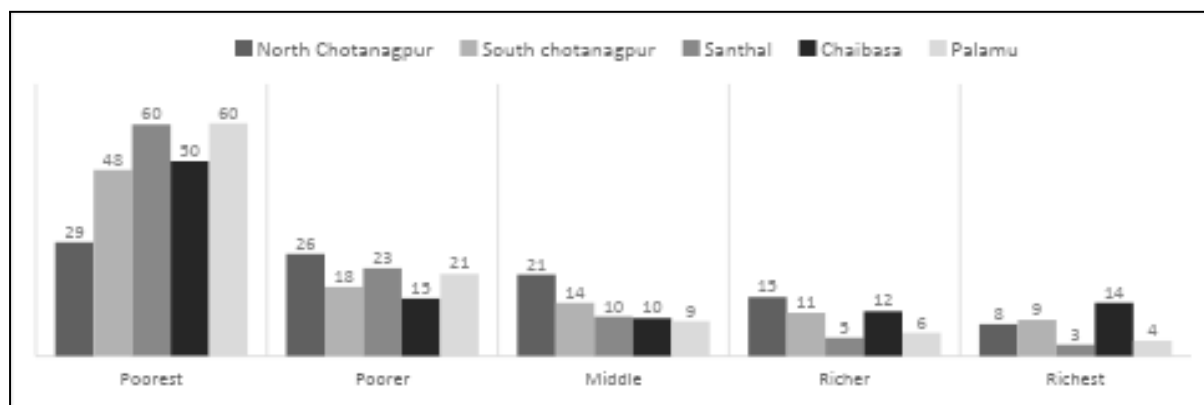
Data Source: National Family Health Survey 2019-2021

3.4 Wealth Index

Most of the poorest people are found in the Santhal and Palamu regions, according to the wealth index. Middle-income people are found in North Chotanagpur, followed by South Chotanagpur. The Richer people are found in North Chotanagpur, followed by the Chaibasa division. The wealthiest people are found in Chaibasa, followed by South Chotanagpur. At the district level, the highest percentage of the poorest people is in West Singhbhum (79%), whereas the lowest is in Dhanbad (19%). Most of the wealthiest people were reported in East Singhbhum (26 per cent), while middle-income people were reported in Ramgarh.

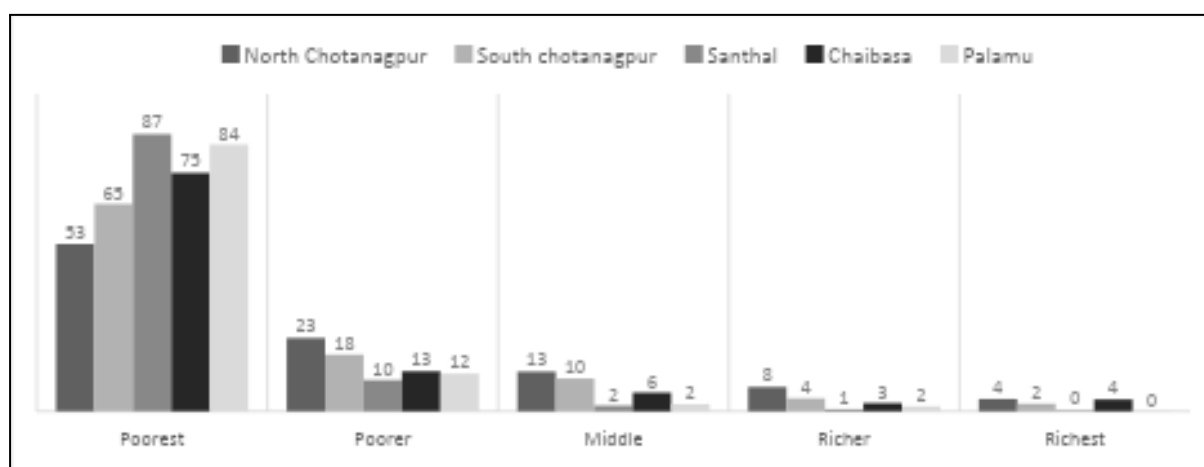
Among the tribes, the majority of the poorest people were reported in the Dumka and Deoghar districts (91%). Most middle-income tribal people are found in Ranchi District (19.9). The wealthiest tribes are found in East Singhbhum and Bakro District (10%).

Figure 6. Wealth Index in the five divisions of Jharkhand



Data Source: National Family Health Survey 2019-2021

Figure 7: Wealth Index in Five Divisions of Jharkhand by Scheduled Tribes



Data Source: National Family Health Survey 2019-2021

The poorest Tribal people are found in the Santhal division, followed by Palamu, while comparatively less poor people are found in North Chotanagpur. Poverty is more prevalent in North Chotanagpur than in South Chotanagpur. The middle-income Tribal people were also more numerous in North Chotanagpur than in South Chotanagpur. Richer tribals are more common in North Chotanagpur, followed by South Chotanagpur, while richer tribal people are very few in the Santhal divisions. The richest tribal people, based on the wealth index, are found

in the North Chotanagpur and Chaibasa divisions. In contrast, wealth index values are almost zero in the Santhal and Palamu divisions.

4 Child Health

4.1 Institutional Births

Almost 84 per cent of institutional births have been reported in South Chotanagpur, followed by the Chaibasa division (Figure 4). In contrast, they are lowest among the general and tribal populations in the Santhal division. It is the highest in East Singhbhum District (96%), whereas it is the weakest among the Scheduled Tribes in Dumka. Institutional delivery is reported at the highest percentage in East Singhbhum, whereas it is lowest in Giridih district (32 per cent). The Proportion of Children under five who were stunted is highest in the North Chota Nagpur division, followed by the South Chota Nagpur division; it is lowest in the Chaibasa division, both overall and among tribes. It is the weakest in the Ranchi district, while the percentage of stunted children was the highest reported in the West Singhbhum district (60%).

Figure 4: Institutional Delivery in Jharkhand

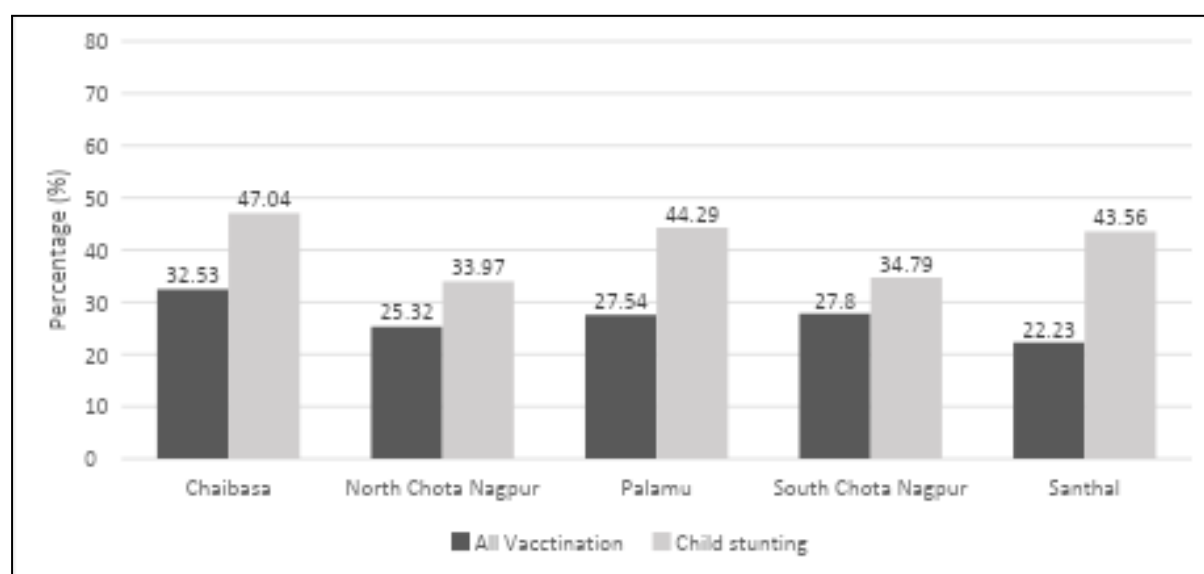


Data Source: National Family Health Survey 2019-2021

4.2 Child Immunisation and Stunting

Figure 5 presents the regional variation in child immunisation and stunting. Results show that the level of full immunisation, as indicated on the card, is very low across the region. For instance, Chaibasa records the highest immunisation rate, whereas it is significantly lower in the Santhal divisions (22.2%). On the other hand, the Level of child stunting is much higher across the region, with only North Chota Nagpur and South Chota Nagpur showing a relatively lower level.

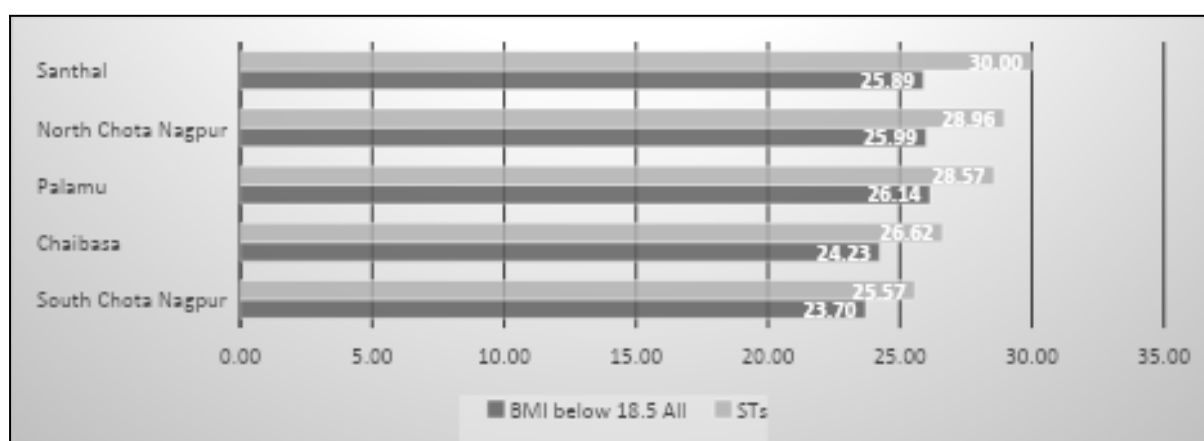
Figure 5: Child Immunisation and stunting



Data Source: National Family Health Survey 2019-2021

5 Women's Body Mass Index

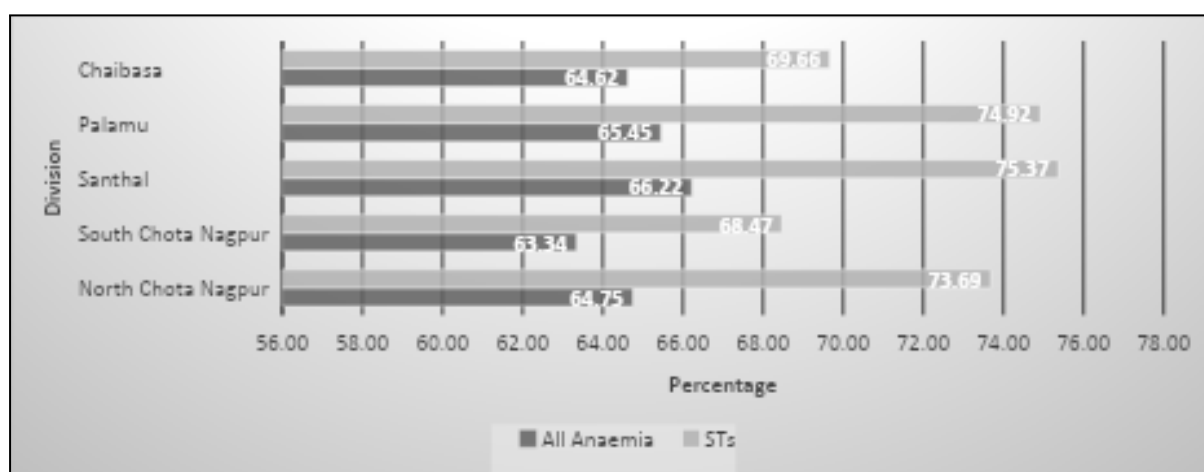
The Body Mass Index (BMI) is a key indicator of overall health status. The women with a BMI below normal are considered underweight. Regional disparity in BMI has been observed in the state. Among underweight women, the highest proportion is among Santhal women, whereas among scheduled tribes' women, the highest proportion is in the Palamu division. For all women, the rate is lowest in the East Singhbhum District and highest in the Pakur District; for Scheduled Tribe women, it is highest in Pakur, followed by Dhanbad. The proportion of underweight tribal women was reported to be the lowest in the East Singhbhum district (Figure 5).

Figure 5: Women whose Body Mass Index (BMI) is below normal (BMI <18.5)

Data Source: National Family Health Survey 2019-2021

5.1 Women Anaemia

Anaemia is a condition that develops when your blood produces a lower-than-normal amount of healthy red blood cells. Women in Jharkhand are highly affected by anaemia. It is reported to be the highest in the Santhal division and the lowest in the South Chotanagpur. For Scheduled Tribe women, it is highest in the Santhal region and lowest in South Chotanagpur. Almost 79 per cent of women in the Pakur district are affected by anaemia, and it is the lowest in the Chatra district. Eighty-seven per cent of scheduled tribe women in Pakur district are anaemic, and it is the lowest in Chatra district (Figure 6).

Figure 6: Division-wise Anaemia in Jharkhand

Data Source: National Family Health Survey 2019-2021

Table 2: Percentage distribution of social development indicators by region and tribe

Social Indicators	Division				
	Chaibasa	North Chota Nagpur	Palamu	South Chota Nagpur	Santhal
More than 10 Years of schooling					
Tribe	24.69	25.79	22.99	33.67	11.68
Non-Tribe	46.51	37.57	35.06	48.96	21.64
Pregnant 15-19					
Tribe	0.34	0.48	0.27	0.17	1.05
Non-Tribe	0.13	0.72	0.38	0.31	1.18
Institutional Birth					
Tribe	72.32	57.04	65.14	78.33	53.78
Non-Tribe	89.78	80.89	78.94	89.97	69.31
Child Marriage					
Tribe	40.77	56.34	54.87	35.78	56.03
Non-Tribe	37.29	57.45	55.67	40.11	61.39
All Vaccination					
Tribe	31.92	27.4	26.11	26.16	22.85
Non-Tribe	33.72	24.99	27.85	29.84	21.88
Child stunting					
Tribe	52.85	37.17	50.57	40.17	44.74
Non-Tribe	40.6	33.6	42.7	28.5	43.1
Women with low BMI					
Tribe	25.7	31.9	31.0	22.7	32.3
Non-Tribe	18.27	25.97	26.64	21	27.91
Anaemic					
Tribe	72.6	74.0	70.2	65.5	80.5
Non-Tribe	64.8	61.7	60.3	57.3	69.3

Data Source: National Family Health Survey 2019-2021

6 Regional variation in social indicators by tribal and non-tribal status

Across all divisions, tribal populations exhibit poorer social and health outcomes than non-tribal populations (Table 2). For example, women's schooling (10+ years) is remarkably lower among tribal groups across the division, while the non-tribal population is relatively better but still lags behind the national average. Institutional birth rates are moderate across regions but remain far behind the 100% goal, especially among non-tribal groups. The tribal population in North Chota Nagpur reported the second lowest institutional delivery, and the Santhal region shows the lowest accessibility of institutional birth, both among tribal and

non-tribal groups. Child marriage is practised widely across all groups and areas, peaking in North Chota Nagpur, Palamu and the Santhal region.

Regarding child health and nutrition indicators, persistent areas of deprivation persist, with full vaccination rates significantly lower across divisions and only slight differences between groups. Compared to the non-tribal population, the level of child stunting among tribal groups is very high in Chaibasa (52.5 %) and Palamu (50.7%). Further, results highlight that undernutrition among women is higher among tribal groups than non-tribals, while anaemia is alarmingly higher everywhere.

Table 3: Correlation Matrix of Key Social Development Indicators (NFHS 2019-2021)

Indicator of Social Development	Women with 10 or more years of schooling (%)	Women aged 20-24 years who were married before age 18 years (%)	Women aged 15-19 years who were already mothers or pregnant at the time of the survey (%)	Institutional births (%)	Children aged 12-23 months are fully vaccinated based on information from the vaccination card, only 12 (%)	Children under 5 years who are stunted (height-for-age) (%)	Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m ²) (%)	All women aged 15-49 years who are anaemic (%)
Women with 10 or more years of schooling (%)	1							
Women aged 20-24 years who were married before age 18 years (%)	-0.64	1						
Women aged 15-19 years who were already mothers or pregnant at the time of the survey (%)	-0.73	0.8	1					
Institutional births (%)	0.81	-0.5	-0.6	1				
Children aged 12-23 months are fully vaccinated based on information from the vaccination card, only 12 (%)	0.47	-0.5	-0.7	0.6	1			
Children under 5 years who are stunted (height-for-age) (%)	-0.57	0.1	0.17	-0.4	-0	1		
Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m ²) (%)	-0.65	0.6	0.51	-0.6	-0	1	1	
All women aged 15-49 years who are anaemic (%)	-0.62	0.3	0.39	-0.5	-0	0	0.3	1

7 Correlation Matrix

The results indicate a strong negative association between the percentage of women with 10 or more years of schooling and the proportion of women aged 20-24 who were married before age 18. Meaning 10 or more years of education would help to reduce cases of child marriage. Women with 10 or more years of education and women aged 15-19 years who were already mothers or pregnant at the time of the survey also show a strong negative association. Institutional births and 10 or more years of schooling are strongly positively associated.

Table 4: Growth Rate in Social Development Indicators from NFHS 4 to NFHS 5

District	Women with 10 or more years of schooling (%)	Women aged 20-24 years married before age 18 years (%)	Women aged 15-19 years who were already mothers or pregnant at the time of the survey (%)	Institutional births (%)	Children aged 12-23 months are fully vaccinated based on information from the vaccination card, only 12 (%)	Children under 5 years who are stunted (height-for-age) 18 (%)	Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m ²) 1 (%)	All women aged 15-49 years who are anaemic 2 (%)
Garhwa	11.31	-27.45	-10.16	26.17	-18	2.12	-2.95	2.56
Chatra	5.62	-17.36	-1.49	15.87	-9.9	-7.41	-5.11	-0.68
Kodarma	3.02	-7.88	-3.37	12.78	-40	-7.85	-2.6	3.13
Giridih	5.95	-6.96	-3.85	7.46	-31	-13.89	-7.32	-3.78
Deoghar	-4.79	-3.1	-2.31	3.32	-21	-3.12	-5.48	14.29
Godda	1	-14.96	-5.59	12.69	-15	-14.62	-11.95	-5.3
Sahibganj	2.85	2.26	5.4	16.54	-24	-1.16	-2.92	9.62
Pakur	1.53	2.28	-2.8	15.2	-37	-0.58	-3.37	8.64
Dhanbad	6.06	-1.59	3.85	13.35	-46	-11.48	-4.86	0.27
Bokaro	9.02	-4.38	-0.4	18.4	-39	-3.58	-4.09	-3.57
Lohardaga	3.01	-6.67	-4.09	12.34	-26	-0.96	-10.76	-4.97
Purbi Singhbhum	3.44	-6.29	-5.38	12.33	-43	-3.46	-4.74	-2.22
Palamu	9.1	-4.49	-5.45	20.19	-24	-1.68	-3.82	7.4
Latehar	6.49	-4.95	0.28	19.03	-30	-4.08	1.08	9.65
Hazaribagh	4.66	-2.22	1.87	5.51	-52	-11.47	-7.06	-4.72
Ramgarh	5.37	-2.61	-5.01	7.49	-38	-3.44	-1.5	-5.3
Dumka	3.25	-4.3	0.07	6	-42	-5.62	-7.66	9.71
Jamtara	6.3	6.69	-2.6	14.79	-36	-2.21	-5.39	13.11
Ranchi	4.7	-6.91	-3.49	10.41	-46	-12.33	-7.88	-5.61
Khunti	2.09	-6.07	-2.06	6.05	-42	-1.61	-4.9	5.91
Gumla	4.46	-3.15	-2.79	14.5	-41	-5.59	-2.28	-10.16
Simdega	4.83	1.17	-0.34	26.56	-38	2.99	-4.57	-7.57

Pashchimi Singhbhum	2.37	3.04	-2.45	30.5	-13	1.2	0.7	-0.22
Saraikela-Kharsawan	3.11	-13.98	-4.49	17.79	-39	-5.09	-14.47	-8.62

Data Source: National Family Health Survey 2019-2021 and NFHS 4 round 2015-16

Among children aged 12-23 months, complete vaccination, as indicated solely by the vaccination card, is positively associated. Children under five years who are stunted have a moderately negative association with women with 10 or more years of schooling. The association between Women with 10 or more years of education and women with a body mass index (BMI) below normal ($BMI < 18.5 \text{ kg/m}^2$) is highly negative. All women aged 15-49 years who are anaemic also have a negative association with women who have 10 or more years of schooling. Women aged 15-19 years who are already mothers at the time of the survey.

8 Growth Rate in Social Development Indicators

Table 4 shows that in the Garhwa district, women with 10 or more years of schooling reported the highest growth rate from NFHS 4 to NFHS 5, whereas in Deoghar, the growth rate was negative (-4.79%) over the same period. The proportion of women aged 20-24 who were married before age 18 has decreased in Garhwa district, but increased in Sahibganj district. The percentage of women aged 20-24 years who were married before age 18 has declined significantly in the Garhwa district, whereas it has increased by 6.69 per cent in the Jamtara district. The percentage of women aged 15-19 years who were already mothers or pregnant at the time of the survey decreased in Garhwa district during this period, whereas it increased in Sahibganj district. Growth in institutional delivery has been reported to be highest in the West Singhbhum district, whereas the least growth has been reported in Deoghar. Children aged 12-23 months are fully vaccinated, as indicated on their vaccination card. Only 12% has increased in Hazaribagh district, while the least growth has been reported in Chatra district. Children under 5 years who are stunted (height-for-age)¹⁸ (%) have increased in Simdega district, while the highest percentage of decrement has been reported in Godda. The proportion of women with a Body Mass Index (BMI) below the reference range ($BMI < 18.5 \text{ kg/m}^2$) has increased in the Latehar district. It has increased significantly in

Saraikela-Kharsawan. The proportion of women aged 15-49 years who are anaemic (22%) has increased in Deoghar. It has declined markedly in the Gumla district.

9 Discussion

The National Family Health Survey 2019-21 reveals that Jharkhand's social development is the least developed relative to the national average. Not only state-level but also within-state results showed divisional variations. The regional disparity is closely linked with economic vulnerabilities and social backwardness. The gaps are most visible in women's education across regions and tribal groups. Tribal women in Jharkhand are in a most disadvantaged position, shaped by not only economic conditions but also overall community status, which is clearly shown in other development and health indicators of themselves and their children.

For instance, a household's poor economic status, educational level, or social backwardness can lead to child marriage in North Chota Nagpur, Palamu, and Santhal divisions, suggesting deep-rooted social norms that cut across communities. Regarding maternal health service utilisation, Jharkhand is far from achieving 100 per cent institutional births. Consistent with other studies, the present Study also found that socio-economically backward people, especially tribal women and children, experienced significant health penalties and chronic deprivation in terms of nutrition. Further, the present Study found that child stunting is very high among tribal children in Chaibasa and Palamu, which is directly linked with poor economic conditions and low education of mothers. Although all vaccinations in Jharkhand are much lower among tribal children than non-tribal children, reflecting not only poor economic conditions, low female literacy and low awareness about immunisation, but also accessibility and structural barriers. Similarly, consistent with earlier studies, the present Study also found that women's nutritional status, particularly undernutrition, is primarily correlated with family economic condition and level of education.

Finally, the correlation results highlight that women with 10 years or more of schooling are highly associated with lower child marriage and higher institutional birth, and it is negatively associated with undernutrition, anaemia or stunting among women and children.

10 Conclusion

There is a regional disparity in social development in Jharkhand. The Santhal Pargana region lags across all forms of development, whereas South Chota Nagpur performs better than the other five divisions of the state. District-wise performance also indicates that the Shibganj, Jamtara, and Pakur districts are performing poorly. Similar patterns are observed among Scheduled Tribes. They are behind in the Santhal Division and ahead in South Chota Nagpur. There is a need to address district- and region-level social development problems across indicators. The results indicate regional disparities across the state's divisions. For instance, districts in South Chota Nagpur perform well, whereas most districts in Santhal Pargana are part of the state's less developed region. The percentage of women with 10 or more years of schooling is lowest in Pakur district and highest in Ranchi. The rate of women aged 20-24 years who were married before age 18 is highest in Jamtara district (Santhal Pargana) and lowest in Simdega. The percentage of women aged 15-49 years who are anaemic²² is highest in Pakur district (Santhal Pargana) and lowest in Chatra district. Institutional delivery is lowest in Dumka (Santhal Pargana). The results show that, among the state's five divisions, Santhal Pargana lags in all social development indicators.

The findings of this Study not only underscore the existing disparities but also illuminate the potential for significant improvement in Santhal Pargana. This potential for growth serves as a beacon of hope, inspiring optimism for policy formulation and providing a crucial benchmark for monitoring demographic and health-related Sustainable Development Indicators in Jharkhand with a regional perspective.

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Rethinking Student Mental Health in Indian Higher Education: Building Enabling Institutional Ecosystems

Meenu Anand¹

Abstract

Student mental health has emerged as a major concern within higher education in India, particularly in the context of rising academic stress, emotional distress, social isolation, and increasing reports of student suicides. Although many higher education institutions (HEIs) have expanded counseling services and awareness initiatives, responses often remain fragmented, individualized, and crisis-oriented. This paper argues for a shift from narrowly counseling-centered approaches toward ecosystem-oriented understandings of student mental health. Drawing upon ecological perspectives, particularly Bronfenbrenner's ecological systems theory, the paper conceptualizes HEIs as psychosocial ecosystems where relationships, institutional cultures, and support structures shape student well-being. It critically examines the limitations of prevailing institutional approaches and highlights the importance of enabling environments characterized by inclusion, belongingness, participation, and psychological safety.

The paper further situates these concerns within the evolving policy discourse on student mental health in India. It argues that meaningful mental health promotion requires integrating well-being into institutional culture, pedagogy, student engagement, and campus governance rather than confining it to counseling services alone. The paper concludes by emphasizing the need for culturally grounded, preventive, and ecosystem-oriented approaches to student well-being within Indian higher education.

Keywords: *Student mental health, Higher education institutions Institutional ecosystems, Psychosocial well-being, and Indian higher education*

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1 Introduction

Student mental health has emerged as a major concern within higher education systems globally. Increasing reports of anxiety, stress, loneliness, academic burnout, emotional distress, and uncertainty regarding the future have drawn attention to the psychosocial experiences of young people navigating university life. The transition to higher education coincides with a critical developmental phase characterized by identity formation, changing social relationships, academic pressures, and growing expectations regarding employability and success. Universities therefore function not only as spaces of academic learning but also as important social environments shaping students' psychological well-being and sense of belonging (Suresh & Dar, 2025).

Concerns regarding student mental health have intensified globally, particularly following the COVID-19 pandemic, which amplified existing vulnerabilities within educational systems. Studies across contexts have reported increasing levels of anxiety, depression, stress, and emotional exhaustion among university students (Anand, 2024, 2023; Gururaj et al., 2016). At the same time, scholars have cautioned against viewing student distress solely through individualized or clinical frameworks, emphasizing that mental health concerns are deeply shaped by broader institutional, social, and structural conditions (Kirkbride et al., 2024). This has contributed to growing interest in ecological and institution-wide approaches to student well-being.

Within the Indian context, student mental health has gained increasing policy and public attention over the past decade. The Economic Survey 2024-25 identified youth mental well-being as critical to India's demographic dividend and long-term economic growth. Competitive academic cultures, pressure to succeed, financial insecurities, migration away from home, language barriers, social inequalities, and uncertainty regarding employment contribute significantly to psychosocial stress among students. Rising concerns regarding student suicides have further intensified attention toward mental health within educational institutions. According to the National Crime Records Bureau (NCRB, 2026), 14,488 students died by suicide in 2024 alone. Despite growing awareness, responses within many higher education institutions (HEIs) continue to remain fragmented, reactive, and largely counseling-centered.

Most institutional responses focus primarily on counselling services, stress management programmes, and crisis response mechanisms. While important, such approaches often fail to address the broader institutional and relational contexts within which student distress emerges. Unequal access to counselling services, stigma surrounding help-seeking, exclusionary campus cultures, excessive academic competition, social isolation, discrimination, and weak peer support systems continue to shape student experiences within higher education spaces.

Emerging perspectives within educational psychology and public mental health increasingly emphasize ecosystem-oriented understandings of student well-being. Ecological perspectives suggest that mental health is shaped not only by individual coping capacities but also by the quality of relationships, institutional cultures, support systems, and opportunities for participation and belonging within educational environments (Bronfenbrenner, 1979). Universities may therefore be understood as psychosocial ecosystems that can either enable or constrain well-being. Supportive peer networks, inclusive campus climates, mentoring relationships, participatory spaces, and meaningful student engagement can contribute toward psychologically supportive educational environments.

Policy developments in India have also begun to acknowledge the importance of holistic educational ecosystems. The National Education Policy (NEP) 2020 emphasizes multidisciplinary learning, flexibility, inclusion, and student-centered educational environments. However, translating these aspirations into meaningful institutional practices remains a significant challenge.

Against this backdrop, the present paper argues for a shift from narrowly individualized approaches toward ecosystem-oriented understandings of student mental health in Indian higher education. It critically examines the limitations of counseling-centered responses and highlights the importance of enabling institutional environments that foster belongingness, participation, relational support, and psychosocial well-being.

2 Limitations of Current Institutional Approaches to Student Mental Health

Institutional responses to student mental health within higher education have expanded considerably in recent years. Universities and colleges have increasingly

introduced counseling services, wellness cells, helplines, awareness campaigns, and stress management programs in response to growing concerns regarding student distress. While these developments reflect important recognition of mental health within educational spaces, current approaches often remain limited in both conceptualization and implementation.

A major limitation of prevailing responses is their reliance on individualized and counselling-centred models that frame student distress primarily as a personal psychological problem requiring therapeutic intervention or coping strategies. While counselling services remain important, excessive dependence on such approaches risks overlooking the broader institutional, relational, and structural conditions contributing to distress (Purohit, 2024). Academic competition, fear of failure, financial insecurity, social isolation, discrimination, and employment uncertainty are often embedded within institutional cultures and social inequalities rather than merely individual vulnerabilities (Anand, 2024; Anand & Thekkedath, 2024). Overemphasis on resilience and coping may therefore shift responsibility onto students while leaving institutional practices insufficiently examined.

In many higher education institutions (HEIs), mental health interventions continue to function largely as reactive mechanisms rather than as part of preventive and enabling institutional cultures. Persistent stigma, fear of judgement, concerns regarding confidentiality, and lack of trust in institutional systems discourage many students from seeking formal psychological support (Anand, 2023). In the Indian context, these limitations are further compounded by uneven access to trained professionals, inadequate counselling infrastructure, and insufficient institutional commitment toward student well-being, particularly within public and resource-constrained institutions (Murthy, 2025).

Another important limitation is the tendency to treat mental health as separate from the everyday functioning of educational institutions. Student well-being is often addressed through isolated programmes rather than being integrated into pedagogy, student engagement, campus relationships, and institutional governance. Consequently, mental health initiatives frequently remain peripheral instead of becoming part of the lived culture of higher education institutions.

These limitations highlight the need to move beyond crisis-driven and individualized responses toward ecosystem-oriented approaches that recognize the role of belongingness, inclusion, relational support, participation, and institutional culture in shaping student well-being within higher education.

3 An Ecological Understanding of Student Mental Health

Ecological perspectives have gained increasing attention in educational psychology and public mental health for emphasizing the interconnected environments that shape psychosocial well-being. Rather than viewing mental health solely as an individual attribute, ecological approaches locate student well-being within dynamic relationships between individuals, institutions, communities, and wider sociocultural structures.

Bronfenbrenner's Ecological Systems Theory remains one of the most influential frameworks in this regard, conceptualizing human development as shaped by multiple interacting systems including family, peers, educational institutions, and broader social contexts (Bronfenbrenner, 1979). From this perspective, universities and colleges are not merely academic spaces but psychosocial ecosystems that shape experiences of belonging, participation, recognition, stress, and support.

Within higher education institutions (HEIs), student well-being is influenced by everyday experiences such as faculty interactions, peer relationships, campus climate, academic expectations, institutional responsiveness, and opportunities for participation. Supportive environments may foster connectedness, confidence, and resilience, while exclusionary or highly competitive cultures may contribute to anxiety, alienation, and emotional distress.

A key contribution of the ecological lens is its emphasis on relationality and belongingness. Positive peer networks, mentoring relationships, supportive faculty interactions, and inclusive campus communities can function as important protective factors for student well-being. Research within Positive Psychology similarly identifies belongingness, relatedness, and social connectedness as central dimensions of psychological well-being (Carr, 2004). In the Indian context, students' experiences of mental health are also shaped by inequalities related to caste, class, gender, language, disability, sexuality, and regional identity, making institutional sensitivity and inclusion especially important.

Ecological approaches further emphasize that promoting student well-being cannot remain confined to counselling services alone. Mental health becomes a shared institutional responsibility involving administrators, faculty members, peer groups, institutional policies, and support systems. This perspective broadens mental health promotion beyond crisis response by recognizing the importance of participation, co-curricular engagement, creativity, peer interaction, and inclusive campus cultures in fostering psychosocial well-being. Enabling institutional ecosystems therefore foster not only academic achievement but also belongingness, dignity, participation, relational support, and emotional safety. Presented below are key strategies for adopting a more holistic and ecological approach to student mental health in HEIs.

4 Strategies for Building Enabling Ecosystems in HEIs

4.1 Changing the Mental Health Narrative

Local Solutions, Universal Perspectives: Higher education institutions (HEIs) must be viewed not merely as centres of academic learning, but as psychosocial spaces that shape students' experiences of belonging, participation, recognition, and emotional well-being. This requires universities to actively foster cultures of care, inclusion, and psychosocial support. There is also an urgent need to fundamentally shift the dominant narrative around mental health within higher education (Murthy, 2024):

- from mental illness to mental health
- from patients to populations
- from insanity to sanity
- from clinic to community

Such a shift requires universities to move beyond narrowly treatment-oriented approaches toward preventive and promotive frameworks. The focus should not remain limited to responding to distress after crises emerge, but on creating emotionally supportive and psychologically healthy educational ecosystems. Institutions must recognize that students enter universities with diverse life experiences, emotional vulnerabilities, family contexts, childhood experiences, and social realities that shape their mental well-being.

Approaches to student mental health therefore need to remain local in solutions and universal in perspectives. Universities must understand how stress, uncertainty, social pressures, and emotional vulnerabilities are affecting students' lives, while also drawing upon local cultural resources, community traditions, indigenous knowledge systems, and reflective practices within Indian philosophical and spiritual traditions to develop innovative and contextually relevant mental health responses.

4.2 Promoting a culture of Self-care

Universities, in the post-pandemic scenario, have an important responsibility to create and enable mentally healthy students, with the primary focus of action centred on the individual. Educational environments must therefore encourage students to consciously learn how to care for their own physical, emotional, and psychological well-being, with the larger goal of developing balance, resilience, and equanimity in everyday life. HEIs can promote emotionally healthy cultures by integrating self-care and life skills education into student life. This may include encouraging healthy sleep, regular physical exercise, adequate nutrition, mindfulness, stress and anger management, emotional regulation, digital detoxification, journaling, spirituality, and healthy “me time” practices. Such initiatives recognize that student mental health is shaped not only by individual factors, but also by broader academic, social, and institutional environments. Creating supportive environments that encourage positive lifestyles and preventive mental health practices can contribute to the holistic development of students, improved academic engagement, and reduced psychosocial distress.

4.3 Relational Support Systems

One important dimension of enabling ecosystems is the creation of supportive relational environments within campuses. Normalizing conversations around mental health and reducing stigma within classrooms and campuses are equally important. Students often navigate multiple forms of stress related to academic expectations, social adjustment, identity formation, financial pressures, and uncertainty regarding future careers. In such contexts, supportive peer networks, mentoring relationships, and approachable faculty members can function as

important protective factors (Anand, 2024). Institutions therefore need to strengthen peer mentoring programmes, student support groups, faculty mentorship systems, and safe spaces for dialogue and emotional expression.

4.4 Inclusive Campus Culture

Institutional cultures that encourage inclusion, collaboration, participation, and recognition can enhance students' sense of belonging and psychological safety. Universities therefore need to critically examine the implicit values and practices embedded within campus life, including how success, achievement, discipline, and participation are experienced by students. Increasingly, campuses are moving beyond centralized counselling models toward more holistic approaches that equip faculty and staff as first-line responders to student distress (Murthy, 2025).

4.5 Integrating Mental Health into Institutional Processes

Mental health promotion needs to become part of the everyday functioning of institutions rather than remaining confined to specialized services or awareness events. Well-being considerations can be integrated into teaching-learning processes, orientation programmes, academic advising, student engagement activities, hostel life, and campus governance structures. Faculty sensitization is particularly important, as teachers often serve as the first point of contact for students experiencing emotional difficulties. Developing empathetic communication skills, early identification of 'at-risk' students, and referral awareness among faculty can significantly strengthen supportive educational environments.

4.6 Co-curricular Participation and Student Engagement

Co-curricular and participatory spaces may contribute meaningfully to enabling ecosystems when they are experienced as inclusive, collaborative, and identity-affirming. Participation in arts, sports, student clubs, cultural activities, NSS, NCC and community engagement initiatives can foster self-expression, social connectedness, confidence-building, and stress management. Institutions therefore need to ensure that co-curricular spaces remain accessible, inclusive, and supportive for diverse student groups.

4.7 Digital Ecosystems and Student Well-being

Digital environments have become an integral part of student life within higher education. While social media pressures, online comparison cultures, cyberbullying, academic surveillance, and digital overload may contribute to anxiety and emotional fatigue, digital platforms can also serve as important spaces for connection, awareness-building, peer support, and mental health advocacy. Higher education institutions (HEIs) therefore need to engage proactively with the digital dimensions of student well-being. Universities can use official digital platforms such as Instagram pages, institutional websites, YouTube channels, podcasts, and LinkedIn networks to promote mental health awareness, self-care practices, life skills, and help-seeking information. Dedicated mental health links, student support resources, expert talks, interactive sessions, survivor stories, and student-led campaigns can be integrated into these platforms. Documenting lived experiences and recovery narratives online may help normalize conversations around mental health and reduce stigma among students. Since Gen Z students are highly digitally engaged, universities need to ensure that accessible, credible, and youth-friendly mental health content remains actively available throughout the academic year rather than being limited to occasional awareness events.

4.8 Equity, Inclusion, and Psychosocial Vulnerability

In the Indian context, building enabling institutional ecosystems must also involve greater sensitivity toward diversity, inequality, and social marginalization. Students from historically marginalized communities, those with adverse childhood experiences, first-generation learners, linguistic minorities, students with disabilities, and economically disadvantaged backgrounds may experience higher levels of exclusion and psychosocial vulnerability within higher education spaces. Institutional support systems therefore need to move beyond universal approaches and adopt more inclusive and equity-oriented practices that recognize the varied social realities students bring into educational settings.

4.9 Institutionalizing Student Mental Health Support and Research

Creating enabling ecosystems implies adopting a humane and sensitive approach toward student mental health as an important dimension of educational quality

and institutional responsibility. Establishing a center for mental health and well-being in every college and university as a nodal institutional mechanism can play an important role in coordinating mental health promotion, self-care initiatives, counseling support, peer engagement, digital outreach, and referral services. There is also a strong need to promote continuous research on student mental health to better understand emerging psychosocial challenges, institutional stressors, help-seeking behaviors, and the changing realities of student life in India.

5 Indian Context and Policy Relevance

Student mental health has acquired growing policy relevance within India's higher education landscape due to increasing concerns regarding academic stress, emotional distress, social isolation, and rising student suicides. These concerns have become particularly significant within a rapidly expanding and highly competitive higher education system marked by widening social diversity and intensified academic and career pressures.

Policy developments in recent years have increasingly acknowledged the importance of holistic and supportive educational environments. The National Education Policy (NEP) 2020 emphasized multidisciplinary, inclusive, and student-centred learning ecosystems that support students' cognitive, emotional, and social development. However, translating these aspirations into institutional practice remains a major challenge, as many higher education institutions continue to function within highly performance-oriented cultures.

The growing national concern regarding student suicides has further shaped policy and legal discourse on student mental health. In its landmark judgement dated 25 July 2025, the Supreme Court of India recognized mental health as integral to the constitutional right to life under Article 21 and directed educational institutions to adopt comprehensive mental health policies. The judgement referred to important national initiatives including the UMMEED Draft Guidelines, Manodarpan, and the National Suicide Prevention Strategy (2022), all of which emphasized preventive, supportive, and institution-wide approaches to student well-being.

More recently, the University Grants Commission's draft UGC Guidelines on Uniform Policy on Mental Health & Well-Being for Higher Educational Institutions (2026)

proposed counselor-student ratios, well-being centers, peer-support systems, crisis management mechanisms, and institutional mental health policies across universities and colleges.

Despite these important developments, significant implementation gaps continue to persist, particularly within public and resource-constrained institutions. While policy attention has increased visibility around student mental health, responses often remain individualized and crisis-oriented. Building enabling institutional ecosystems therefore requires integrating mental health within broader educational practices, campus governance, student engagement, and institutional support structures to create more inclusive and psychologically safe higher education environments.

6 Conclusion

Student mental health has emerged as an urgent concern within Indian higher education, requiring responses that move beyond fragmented, counseling-centered, and crisis-driven approaches. While psychological support services remain important, student well-being is deeply shaped by institutional cultures, social inequalities, academic pressures, and experiences of belongingness within educational spaces.

This paper argues that higher education institutions must be understood as psychosocial ecosystems where relationships, participation, campus climate, institutional practices, and support structures collectively influence student well-being. Promoting mental health, therefore, cannot remain confined to counseling centers alone; it must become an integral part of institutional planning, pedagogy, student engagement, faculty development, and campus governance.

Recent initiatives such as NEP 2020; Manodarpan; the UMMEED Draft Guidelines; the National Suicide Prevention Strategy; the Supreme Court's 2025 judgment on student suicides; and the UGC's proposed mental health guidelines reflect growing national recognition of the need for preventive, inclusive, and institution-wide approaches to student well-being. However, meaningful change will depend on translating these policy commitments into sustained institutional practices across diverse higher education settings.

Building enabling institutional ecosystems that foster dignity, inclusion, participation, relational support, and psychological safety is therefore essential for creating more humane, equitable, and socially responsive higher education institutions in India. This also requires decolonising mental health within higher education by moving beyond narrowly individualized and imported clinical frameworks toward culturally grounded and contextually responsive understandings of student well-being.

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Paradox of Progress: Why Educated Women in India Stay Out of the Workforce

Kavya Yadav¹

Abstract

Despite rising female education levels in India, women's labor force participation has declined over the past two decades. This paradox—where greater educational attainment does not translate into higher workforce entry—reveals deeper structural, social, and economic barriers. This paper examines the reasons behind this disjuncture by reviewing existing literature, analyzing secondary data, and exploring policy implications. It finds that women's workforce participation is shaped not only by economic conditions but also by entrenched social norms, mobility restrictions, skill mismatches, and inflexible labor markets. The study highlights significant rural-urban differences, showing that rural women's engagement is driven largely by distress-based employment, while urban women face higher opportunity costs and stronger cultural barriers despite better educational outcomes. The analysis demonstrates that education alone cannot guarantee economic empowerment unless complemented by supportive labor markets, safe mobility infrastructure, and redistribution of unpaid care work. The paper concludes by outlining policy interventions that can address the multidimensional constraints preventing educated women from entering the workforce.

Keywords: *women's labor force participation, education, India, gender norms, workforce barriers*

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1 Introduction

Women's education in India has expanded rapidly over the past two decades. Enrollment in secondary and higher education has increased, and young women now outperform men in several academic indicators. Yet women's labor force participation remains one of the lowest globally. This mismatch between education and employment raises important questions about India's development trajectory and the social structures that shape women's choices and constraints.

The paradox is particularly visible in urban India, where families increasingly invest in women's education but often do not expect or encourage them to work. In rural areas, participation patterns are different but equally complex, shaped by limited job opportunities, agricultural distress, and social expectations around marriage and domestic responsibilities.

This paper investigates the factors contributing to this paradox by examining existing literature, analyzing secondary datasets, and identifying key policy gaps. It argues that education by itself cannot dismantle the layered barriers women face in accessing paid work.

2 Literature Review

2.1 Social barriers to women's employment

A large body of work highlights how social norms shape educated women's labor market decisions in India. Scholars show that expectations around marriage, domestic roles, and family honor frequently discourage women from seeking or continuing employment, particularly in urban middle-class households (Sudarshan & Bhattacharya, 2009). These norms construct the ideal woman as a primary caregiver and homemaker, while paid work is seen as optional or even disruptive to family status. Even when women obtain higher education, their labor market choices are filtered through these expectations, leading many to withdraw from or never enter paid employment.

Safety considerations compound these pressures. Studies on crime and women's mobility find that perceptions of risk in public spaces, especially in large cities, strongly influence whether families permit women to travel for work or work late hours. Even modest increases in reported crime can trigger defensive responses such as restricting women's movements or preferring that they stay at home. For

educated women whose job opportunities are often located in urban business districts or require evening commutes, these constraints can severely limit feasible employment options and reinforce withdrawal from the labor force.

Unpaid care work is another central barrier that interacts with these norms. Time-use research shows that Indian women spend several times more hours than men on unpaid domestic work, including cooking, cleaning, and child and elder care (NCAER, 2022). This disproportionate care burden peaks at key life stages such as marriage, childbirth, and caring for aging parents. For women in regular salaried jobs, long and inflexible working hours become difficult to reconcile with these expectations, leading to career breaks or permanent exit from formal employment. Importantly, this constraint affects educated women as much as others; education may change employment aspirations, but it does not automatically reduce unpaid care responsibilities within households.

Taken together, this strand of literature suggests that rising education alone is insufficient to overcome deep-rooted gender norms and unequal divisions of labor. Instead, education can coexist with conservative expectations about women's roles, producing the very paradox in which highly qualified women remain outside paid work.

2.2 Economic and structural barriers

Economic and workplace structures also limit educated women's ability to enter and remain in paid work. Analyses of the Indian labor market stress that most formal sector jobs are highly inflexible, demanding continuous full-time, on-site presence with limited options for remote, part-time, or flexible schedules (Deshpande, 2020). Promotion tracks and performance evaluations are often tied to uninterrupted tenure and long working hours. For many women, especially those who shoulder primary responsibility for care work, such rigid arrangements make labor force participation extremely difficult, even when they possess the necessary qualifications.

A second set of studies points to persistent skill mismatches and the dominance of informality (International Labor Organization, 2021; India Skills Report, 2023). Educated women are frequently concentrated in disciplines such as arts, humanities, or teacher training, where formal job creation has been relatively

weak in recent years. At the same time, the bulk of employment opportunities in India lie in the informal sector, which typically offers low pay, little security, minimal social protection, and poor working conditions. This sector also often lacks formal contracts, maternity benefits, or safe and dignified workplaces. Faced with a choice between unemployment and insecure informal work, many qualified women either remain outside the labor force or withdraw after short spells of unsatisfactory employment.

Urban-rural contrasts emerge clearly within this economic context. Rural women, although less likely to have completed secondary or higher education, participate more in agricultural and casual labor, often driven by household survival needs rather than individual career preferences. Urban women, by contrast, are more closely linked to the formal and semi-formal sectors where entry barriers, skill mismatches, and rigid work cultures are more pronounced. The interaction of labor market structures with social norms helps explain why better education in urban areas does not automatically translate into higher workforce participation.

2.3 Policy measures and gaps

Several policy initiatives seek to promote women's education and employment, yet they only partially address the constraints facing educated women. The Maternity Benefit (Amendment) Act, 2017 extended paid maternity leave in the formal sector from 12 to 26 weeks, signalling recognition of care-related constraints and aiming to support women's continued employment after childbirth. However, it covers only a small share of women workers, as the vast majority are employed in informal or non-contractual jobs where such protections do not apply. Some commentators also note that increased costs for employers may inadvertently discourage hiring of women into small and medium enterprises.

Skills and education policies have similar limitations. The Skill India Mission has expanded vocational and technical training opportunities, including for women, but existing evaluations suggest that many programmes focus on basic skills or traditional trades rather than aligning with the aspirations and qualifications of college-educated urban women. As a result, these schemes do little to resolve the mismatch between the fields in which women are trained and the sectors that are actually generating quality jobs.

Meanwhile, the Beti Bachao Beti Padhao scheme has helped promote girls' education and address discriminatory practices such as sex-selective abortion, thereby improving educational access and outcomes. However, the scheme largely stops at schooling and does not directly connect educational gains to economic empowerment, labor market integration, or safe and supportive work environments. In practice, this means that policies successfully move more girls and young women into classrooms without ensuring pathways into dignified employment once their education is complete.

Overall, the literature indicates that social norms, unpaid care responsibilities, labor market structures, and partial policy responses all contribute to low female workforce participation, even among the educated. However, the specific predicament of educated urban women, at the intersection of rising schooling and stagnant or declining employment, remains relatively underexplored. This paper builds on existing work by focusing explicitly on that paradox and by using recent large-scale survey data to trace how the rural-urban divide interacts with education to shape women's labor market outcomes in India.

3 Data and Methodology

3.1 Data sources

This study uses secondary data from two major national surveys conducted by the Government of India. The first is the National Family Health Survey (NFHS), Rounds 3, 4, and 5, which provide information on women's educational attainment, household characteristics, and basic demographic indicators. These surveys allow tracking of changes in the share of women completing secondary and higher education over time, separately for rural and urban areas.

The second data source is the Periodic Labor Force Survey (PLFS), conducted annually since 2017-2018. The PLFS provides estimates of female labor market outcomes, such as Worker Population Ratio (WPR), Labor Force Participation Rate (LFPR), and types of employment (self-employment, casual labor, regular wage or salaried work). By using multiple years of PLFS data, the study examines recent trends in women's workforce participation and compares rural and urban patterns.

3.2 Key variables

The analysis focuses on two main sets of variables. The first relates to education, measured by completed years of schooling and categorical levels such as “below primary,” “secondary,” and “higher secondary and above.” The second concerns labor market status, captured through indicators such as WPR and LFPR for women aged 15 years and above. These variables are disaggregated by place of residence (rural and urban) to highlight the contrast that is central to the paper.

Where available, the study also uses cross-tabulations of education level by labor market status. This illustrates how participation changes as women move from low to high education categories, helping to determine whether higher education consistently increases participation or if the relationship is more complex, particularly in urban areas.

3.3 Analytical approach

The study uses a descriptive and comparative approach. First, it presents simple trend tables and graphs that show how women’s educational attainment has changed across NFHS rounds for rural and urban India. These patterns help establish the scale of educational progress, especially among urban women.

Second, the study examines PLFS estimates of women’s WPR and LFPR over recent years. The analysis compares rural and urban female participation and then looks at participation by education level within each area. This step is important for identifying the ‘paradox of progress’: cases where better education does not correspond to higher workforce participation, particularly for urban women.

The approach is primarily quantitative and descriptive rather than econometric. The goal is not to identify precise causal effects but to systematically document patterns in the data and relate them to the social, economic, and policy factors discussed in the literature review. Where necessary, the paper references existing empirical studies that use more advanced statistical methods to support or contrast with the descriptive findings.

3.4 Scope and limitations

The analysis is restricted to working-age women as defined by the respective surveys and focuses on national-level trends with a rural-urban breakdown.

Because the study relies on secondary data, it is constrained by the definitions and classifications used in NFHS and PLFS. It cannot fully capture informal and unpaid forms of work that may be underreported, nor can it directly observe household negotiations, attitudes, or employer practices.

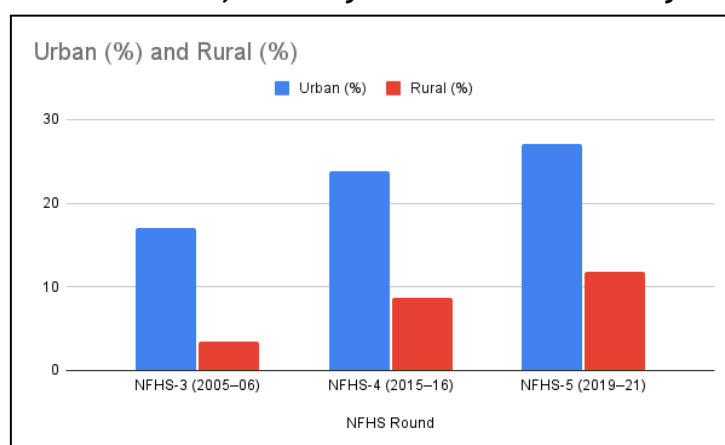
Despite these limitations, using large, nationally representative datasets provides a robust picture of broad trends in education and employment. This allows the paper to situate the experience of educated urban women within wider structural patterns and to connect quantitative evidence with the social and policy barriers identified in the literature.

4 Results and Discussion

4.1 NFHS: Rising education, urban-rural gap

The NFHS data show a steady increase in the share of women who have completed 12 or more years of schooling in both rural and urban India. Urban women consistently have much higher attainment, rising from about 17% in NFHS 3 (2005-2006) to around 24% in NFHS 4 (2015-2016) and over 27% by NFHS 5 (2019-2021), while rural women increase more slowly from roughly three to four % to about 12% over the same period. This confirms that the expansion of secondary and higher education has been strongest in urban areas, creating a large pool of educated women (Ministry of Health and Family Welfare, n.d.).

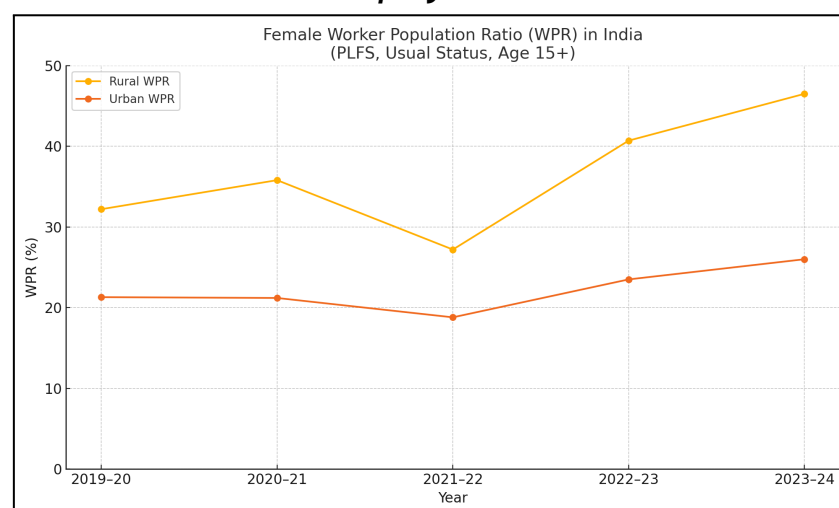
Figure 1: Share of women with 12 or more years of education, rural and urban India, NFHS-3 to NFHS-5. Source: Author's calculations based on NFHS-3, NFHS-4 and NFHS-5, Ministry of Health and Family Welfare.



4.2 PLFS: Stagnant and diverging WPR

In contrast, PLFS trends for the female Worker Population Ratio (usual status, age 15+) reveal that workforce participation has not kept pace with these educational gains. Rural women's WPR remains substantially higher, fluctuating around the low 30s before rising sharply to about 41% in 2022-23 and nearly 47% in 2023-24, while urban women's WPR stays much lower, moving only between roughly 19% and 26% across the same years. This suggests that rural women, though less educated on average, are more likely to work, often in agriculture or informal activities driven by economic necessity, whereas many urban, better-educated women remain outside paid work (Ministry of Labour and Employment, 2017-2024).

Figure 2. Female Worker Population Ratio (WPR), usual status, age 15+, rural and urban India, 2019-20 to 2023-24. Source: Author's calculations based on the Periodic Labor Force Survey, 2019-20 to 2023-24, Ministry of Labor and Employment.



4.3 Core empirical insight

Taken together, the NFHS and PLFS evidence shows a clear disconnect between rising female education and labor market outcomes, especially in urban India. Education levels for urban women have improved rapidly, but their WPR remains low and relatively stagnant, reinforcing the 'paradox of progress' that the rest of this paper investigates through social, economic, and policy explanations.

5 Policy Suggestions: Bridging the Gap

5.1 Expand safe and affordable mobility

Urban employment opportunities remain inaccessible for many women when commuting is perceived as unsafe or expensive. Public investment in well-lit, reliable, and affordable transport, along with last-mile connectivity such as feeder buses and shared services, can substantially improve women's access to workplaces and reduce workforce dropout. Dedicated women's coaches, panic buttons, CCTV coverage, and better policing around transit hubs can further lower safety concerns.

5.2 Promote flexible and remote work models

Policy incentives for employers to offer part-time, hybrid, and work-from-home arrangements can help women reconcile paid work with unpaid care responsibilities. Urban employment schemes and tax or social security benefits tied to flexible work options would encourage firms to design roles that are not based solely on long, continuous, on-site hours. Such models are particularly important for educated women returning to work after career breaks.

5.3 Strengthen career support in higher education

Universities and colleges can play a stronger role in linking female students to the labor market. Career counseling, mentorship programs, and gender-sensitive placement cells targeted at women, especially in non-STEM fields where campus recruitment is weaker, can expand access to diverse occupations. Exposure to role models, internships, and networking platforms can also counter family doubts about women's careers and demonstrate concrete pathways from degrees to jobs.

5.4 Rethinking Empowerment Beyond Education

Rural India is often portrayed as more regressive, yet research suggests that urban households, particularly among the middle and upper classes, can display more rigid and subtle forms of patriarchy. Educated women may be discouraged from working not because jobs are entirely absent, but because ideals of 'respectable' womanhood, household status, and fears of social judgment make paid work appear undesirable or unnecessary. Despite their qualifications, many

women confront invisible barriers within their own homes, including limited say in major decisions and strong expectations that they shoulder primary responsibility for caregiving.

For education to translate into real empowerment, change must occur not only in schools and workplaces but also in family and societal attitudes. Empowerment requires that women are recognized as economic contributors, decision makers, and leaders, rather than as students whose role ends at obtaining a degree. Without such a shift in mindset, rising educational attainment will continue to coexist with low workforce participation.

6 Conclusion: From Learning to Earning

Over the years, women's educational attainment in India has risen sharply, particularly in urban areas, yet this has not produced proportional gains in workforce participation. The evidence in this study shows that the gap is not primarily about a shortage of qualifications, but about the interaction of social norms, safety concerns, unpaid care burdens, labor market structures, and incomplete policy responses. Existing initiatives focus heavily on expanding education and on rural-focused schemes, while the distinct challenges facing educated urban women remain insufficiently addressed.

A deliberate shift in both policy design and social attitudes is necessary to ensure that education opens real economic opportunities. Policies that improve safety, flexibility, and career support must go hand in hand with efforts to redistribute unpaid care and challenge restrictive gender norms. Only then can education function as a genuine launchpad into paid work and economic agency, rather than a finish line that leaves many educated women outside the labor force.

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What does Mahalakshmi scheme reveal about women's mobility in Telangana?

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Abstract

The Mahalakshmi Scheme in Telangana provides fare-free bus travel to women, girls, and transgender persons, aiming to improve mobility and socioeconomic inclusion. Drawing on TGSRTC administrative data (December 2023-February 2026) and a primary survey of beneficiaries, this article evaluates the scheme's impact on ridership, affordability, healthcare access, employment, and women's empowerment. Findings indicate sustained growth in women's bus usage, substantial reductions in transport expenditure, and improved access to education, healthcare, and livelihoods. However, challenges including overcrowding, inadequate route coverage, and safety concerns persist. The article argues that operational improvements are essential to maximise the scheme's long-term social and economic benefits.

Keywords: Women's Mobility, Mahalakshmi Scheme, Public Transport, Gender and Development, Telangana

On the 9th of December 2023, something quietly shifted in how women in Telangana move. The state government launched the Mahalakshmi scheme, a programme offering free bus travel to all women, transgender persons, and girls who are domiciles of Telangana, on TGSRTC District Ordinary, District Express, City Ordinary, and City Metro Express services. No income ceiling, no cap on distance, no limit on trips. An Aadhaar card and address proof were enough.

Two years and some months later, administrative data from the Telangana State Road Transport Corporation (TGSRTC), obtained with institutional permission and covering December 2023 through February 2026, gives us one of the clearest

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pictures yet of what large-scale, gender-targeted transport subsidies actually do on the ground. Within two years of its launch, approximately 34.44 lakh women passengers were using free travel daily, and women had collectively saved an estimated Rs. 10,000 crore in travel costs (*Rasala, 2026*). The short answer: quite a lot, though not without complications.

1 The Indian Context: A Long-Overdue Policy Turn

India's gender transport gap is well-documented. Women in low- and middle-income settings are disproportionate users of public transport because they have lower access to private vehicles, face higher safety risks on informal modes, and bear the double burden of paid work and unpaid domestic labour (*Uteng & Turner, 2019; Borker, 2024*). In Telangana, the 2024 Time Use Survey found that women spend an average of six hours and fifty-six minutes per day on unpaid caregiving and household work, compared to two hours and forty-two minutes for men. At the same time, men spend eight hours and twelve minutes on paid work, while women spend six hours and thirty-eight minutes (*Government of Telangana, 2024; Jha, 2025*). Despite one of the higher female labour force participation rates among comparable states at 34.8 percent, women's engagement in paid work continues to lag significantly behind.

Several Indian states have moved in this direction over the past few years. Delhi's Pink Ticket scheme (2019) pushed women's share of DTC bus ridership from 20 percent to 48 percent within four years (*Jamba, Kanuri, & Devaraj, 2025*). Karnataka's Shakti scheme (2023) produced a 151 percent increase in women's ridership on KSRTC (*Halder & Jayadev, 2025*). Tamil Nadu's programme increased female ridership from 40 percent to 61 percent within nine months of launch (*Observer Research Foundation, 2024*). Together, these schemes constitute one of the largest classes of gendered public transport interventions anywhere in the world (*Observer Research Foundation, 2024*). The evidence base is growing: reducing commuting costs alters women's time allocation and job search behaviour, though employment effects depend on household norms and skill levels (*Chen et al., 2024*).

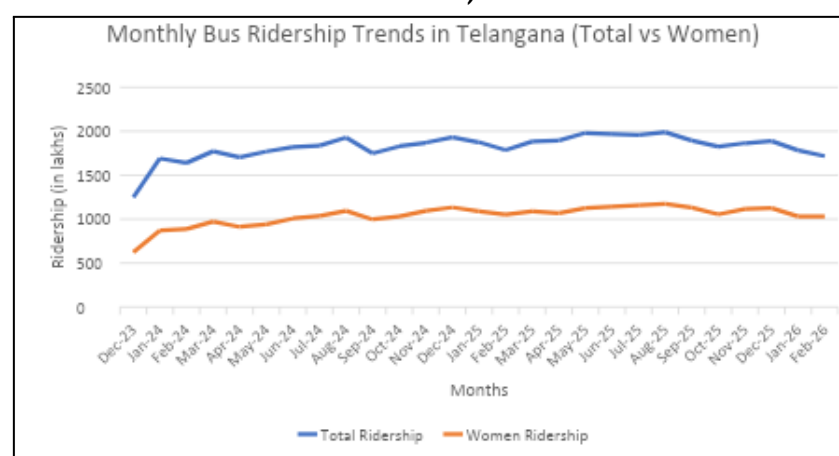
Fare-free public transport (FFPT) has been conceptualised not merely as a fare subsidy, but as a multidimensional sustainability intervention operating across

economic, environmental, and social domains (*Luvisetto & Ricci, 2025*). Even gender-neutral FFPT policies produce gendered effects because women are disproportionate users of public transport (*Maciejewska, 2024*). A well-functioning public transport system is crucial for vulnerable groups who depend on it for access and mobility (*Lucas et al., 2016; Allen & Farber, 2020*).

2 What the TGSRTC Data Shows

At the scheme’s launch in December 2023, women already constituted roughly 50 percent of total TGSRTC ridership. As Figure 1 shows, women’s ridership grew steadily in absolute terms alongside total ridership over the study period (*TGSRTC Administrative Data, 2026*). This growth proved sustained rather than temporary.

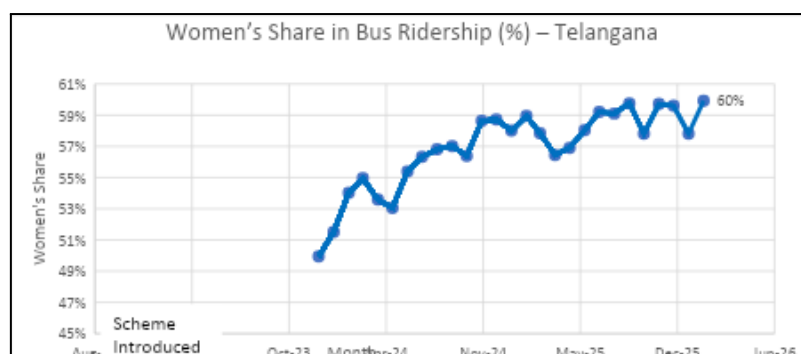
Figure 1: Monthly Bus Ridership Trends in Telangana – Total vs Women (in lakhs)



Source: Author’s calculations based on TGSRTC Administrative Data (2026)

Figure 2 captures the compositional shift more precisely. Women’s share climbed from approximately 50 percent at launch to nearly 60 percent by early 2026, stabilising within a consistent band across multiple months. This pattern points to a structural behavioural change, not a novelty effect, consistent with what was observed following the Karnataka Shakti scheme, where ridership stabilised rather than declined after an initial surge.

Figure 2: Women’s Share in Total TGSRTC Ridership (%), December 2023 – February 2026

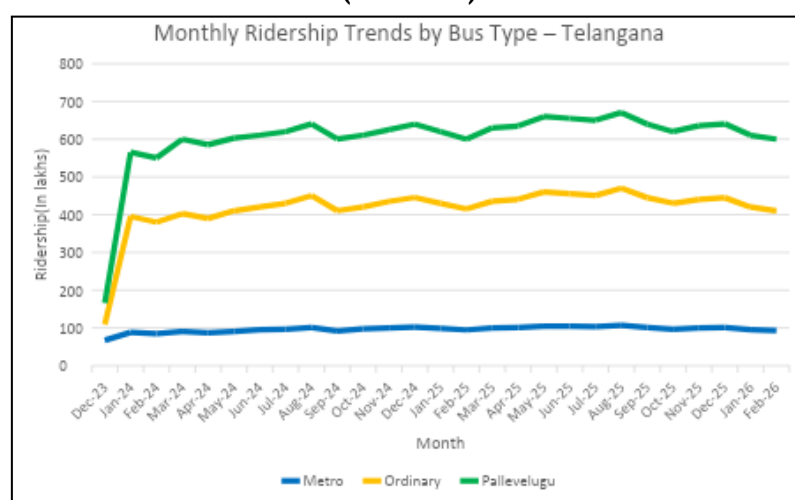


Source: Author’s calculations based on TGSRTC Administrative Data (2026)

Average daily ridership rose from 45.49 lakh passengers before the scheme to approximately 60.40 lakh after implementation. Bus occupancy jumped from 69 percent to 98 percent, effectively full capacity. At this utilisation level, the fleet operates at its cost-effective peak: fixed operating costs are spread across the maximum number of passengers, bringing the per-passenger cost of service delivery to its lowest point. The number of buses operating daily increased from 7,292 to 10,081, a 38 percent expansion, and the scheme covers 2,241 routes across both urban and rural services (*TGSRTC Administrative Data, 2026; Government of Telangana, 2025*).

The distribution of ridership across bus categories reveals the scheme’s geographic breadth. As Figure 3 shows, Pallevelugu services designed for rural and semi-urban areas consistently carry the largest ridership, well ahead of ordinary and metro services.

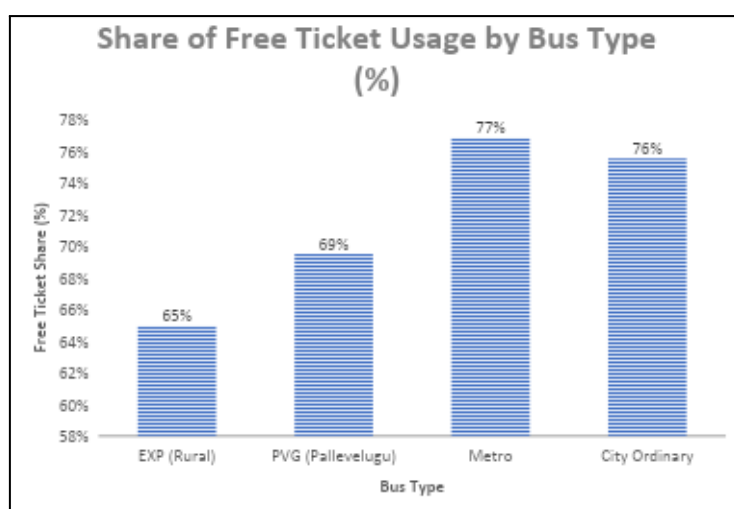
Figure 3: Monthly Ridership Trends by Bus Type – Metro, Ordinary, Pallevelugu (in lakhs)



Source: Author’s calculations based on TGSRTC Administrative Data (2026)

Figure 4 shows the proportion of each service's passengers travelling free. Roughly 69 percent of Pallevelugu passengers travel free, and around 65 percent of express rural service passengers do too. In metro and city ordinary services, the free ridership share rises to 75 to 77 percent. The scheme is not a Hyderabad story alone; its reach into rural Telangana is substantial.

Figure 4: Share of Free Ticket Usage by Bus Type (%)



Source: Author's calculations based on TGSRTC Administrative Data (2026)

3 What Women travellers reveal: Primary Survey Evidence

Aggregate ridership data tells us that women are travelling more. It does not tell us what that means to them. A primary survey was conducted among sixty female beneficiaries across urban, peri-urban, and rural locations in Hyderabad and surrounding areas, spanning domestic workers, students, health workers, retail employees, and homemakers.

The most immediate finding is financial. Before the scheme, respondents spent a mean of Rs. 1,295 per month on transport. After adoption, that fell to Rs. 228, a mean saving of Rs. 1,068, or an 82 percent reduction. This result is statistically highly significant ($p < 0.001$), confirmed by both paired t-tests and Wilcoxon signed-rank tests. For a household earning between Rs. 5,000 and Rs. 10,000 per month, the modal income bracket in the survey, this saving represents 10 to 14 percent of household income. This is, functionally, an in-kind income transfer.

The numbers tell one story. What respondents said during the survey brought it to life in a different way. Across occupational groups and income levels, a few themes came through repeatedly.

“Earlier I used to skip the hospital if it was not urgent. The bus fare plus the time would eat up half a day's wages. Now I go whenever I need to.” –

Daily-wage worker, Hyderabad

Healthcare access was among the most consistently reported improvements. Among applicable respondents, 58.3 percent reported that the scheme had reduced delays in accessing medical care: 33.3 percent significantly and 25.0 percent somewhat. This finding aligns with the broader literature showing that transport costs and unreliability are key determinants of healthcare-seeking behaviour for low-income women, with consequences for maternal health, chronic disease management, and preventive care (*Syed, Gerber, & Sharp, 2013; Balarajan, Selvaraj, & Subramanian, 2011*). Inequities in healthcare access in India are strongly mediated by socioeconomic and geographic barriers, including transport costs (*Balarajan et al., 2011*). No existing study on an Indian free bus scheme had examined this dimension prior to this study.

“I found a stitching job in Kukatpally. I would never have taken it before because the travel cost was too high. Now I go every day and save most of what I earn.” – Homemaker turned part-time tailor, peri-urban Hyderabad

Employment-related access improved for 66.7 percent of respondents, and 33.3 percent reported that the scheme had enabled entirely new opportunities, employment or educational engagements they would not have been able to pursue otherwise. These findings are broadly consistent with *Ajay Kumar and Sekhar (2024)*, who found increased awareness and immediate uptake under the Mahalakshmi scheme, and with *Ramana and Shravan (2025)*, who reported a perceived sense of freedom for women to travel, alongside concerns about overcrowding.

“My college is far but the bus is free. My parents were worried about the cost before. Now they are okay with me going.” – Undergraduate student, outer Hyderabad

Students, who made up 23.3 percent of the sample, were among the groups most visibly affected. Women's travel patterns are structurally distinct from men's: they are multipurpose, care-oriented, time-constrained, and income-sensitive (*Uteng & Turner, 2019*). Women in India additionally face a persistent gender wage gap that makes paid access to transportation disproportionately burdensome (*Deshpande, Goel, & Khanna, 2018*). For young women from lower-income households, the removal of transport expenditure appears to have reduced a practical barrier to sustained attendance.

To examine the scheme's micro-level impact more systematically, a Women's Mobility Empowerment Index (WMEI) was constructed from nine theoretically grounded survey dimensions drawn from *Kabeer's (1999)* three-dimensional framework of resources, agency, and achievements. The index yields a mean score of 3.55 out of 5, indicating moderate-to-high empowerment gains. Regression analysis finds that education level and commute time reduction are the strongest and statistically significant predictors of empowerment, consistent with *Sen's (1999)* concept of conversion factors: more educated women are better positioned to convert the transport resource into actual capability expansions, such as accessing more skilled employment or navigating healthcare systems more effectively. Income is statistically insignificant, confirming the scheme's universality.

One finding cuts against this optimism. Over 51 percent of respondents disagreed that bus routes adequately served their travel needs, and 56.7 percent expressed dissatisfaction with bus quality. Safety perception scored a mean of 3.05 on the Likert scale, with the majority giving a neutral response. Perceived safety is a documented determinant of women's willingness to use public transport independently (*Borker, 2024; Tripathi, Borrion, & Belur, 2017*). A scheme that is financially free but perceived as unsafe will be used below its potential.

“The scheme is good but the bus does not come to our area. I still have to walk 20 minutes to reach the main road where I can board.” – Security guard, semi-urban Hyderabad

4 The Gaps That Data Cannot Hide

The financial relief is real and the ridership transformation is measurable. But a few structural questions linger. First, the absence of pre-scheme gender-disaggregated ridership data from TGSRTC means we cannot construct a clean before-and-after counterfactual for women's ridership at the aggregate level. The upward trajectory is clear, but full attribution to the scheme requires caution.

Second, the geography of benefit is uneven. Women in India face additional sociocultural and economic factors that constrain their mobility patterns (*Tripathi et al., 2017; Srinivasan & Rogers, 2005*). Peri-urban and rural women with longer commutes and fewer transport alternatives arguably need the scheme most, yet route coverage gaps are most acute in precisely these areas. International experience from Morocco, where operator training and female-friendly infrastructure were integrated into BRT design (*Kurshitashvili et al., 2022*), offers a useful reference for how to close such gaps.

Third, near-full occupancy creates real overcrowding. A bus at 98 percent capacity is not equally accessible to all women, particularly those with physical disabilities, those travelling with children, or those boarding from intermediate stops. Overcrowding also raises safety concerns that must be actively addressed if the scheme is to be genuinely inclusive.

5 What This Means for Policy

India's wave of gender-targeted transport subsidies is beginning to accumulate a real evidence base. The patterns emerging from Delhi (*Jamba et al., 2025*), Karnataka (*Halder & Jayadev, 2025*), Tamil Nadu (*Observer Research Foundation, 2024*), and now Telangana are consistent: free transport for women increases ridership in sustained ways, functions as an effective income transfer for lower-income households, and has measurable positive effects on healthcare and employment access. These findings add to the growing international literature on gendered fare-free transport (*Maciejewska, 2024; Luvisetto & Ricci, 2025; Štraub & Hess, 2025*) by providing India-specific micro-level evidence largely absent from that literature.

The Mahalakshmi scheme has generated approximately Rs. 10,000 crore in cumulative travel savings for women across Telangana in roughly two years, according to TGSRTC data as reported in April 2026 (*Rasala, 2026*). The policy challenge now is to extend route coverage to the areas that most need it, improve fleet quality, and address capacity constraints alongside ensuring safety and comfort for women travelling on these buses.

The Mahalakshmi scheme appears to be doing what it set out to do. With improvements on the operational side, the scheme could set a new pathway for women in Telangana and reshape how we think about gender-targeted public investment in this country.

Acknowledgment: We thank TGSRTC for providing Secondary data from TGSRTC administrative records (December 2023 to February 2026). And all the respondents for their time and valuable information (Primary survey data was collected from 60 female beneficiaries across urban, peri-urban, and rural locations in Telangana).

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Skin Capital - Racial Phenotype as Erotic Commodity Among Northeastern Migrant Women in Delhi

Laldinpuii Ruth¹, Leishilembi Terem² & Shlok Goenka³

Abstract

What happens when the body's racial surface becomes its primary economic asset? This paper develops the concept of skin capital, species of embodied capital, in Bourdieu's sense, generated through the market valuation of phenotypic racial difference. Drawing on nine months of ethnographic fieldwork (May 2025-January 2026) in Delhi's informal intimacy economy across spa parlours, encrypted digital platforms, rented flats, and liminal spaces, and on semi-structured interviews with nineteen women from Manipur, Nagaland, and Mizoram engaged in paid intimate labor, we show how the 'Mongoloid' phenotype is converted into capital accumulated, and exchanged above the market norm. We argue that this conversion operates through what we term "phenotypic labor": curating, staging, and sustaining racialized appearance as an erotic commodity legible to a clientele whose desire is structured by transnational racial fantasies (East Asian, K-pop, anime). The analysis engages Bourdieu's field theory, Hochschild's emotional labor framework, Wacquant's concept of bodily capital, Mezzadra and Neilson's work on differential inclusion, and Mbembe's necropolitics to argue that racial fetishism in commercial sex is a concentrated expression of the logics governing Northeast Indian bodies in mainland India. The paper contributes to the sociology of race, sex work, and migration by demonstrating that phenotype functions as a means of production in intimate economies, and that women who possess it engage in racialised bodily entrepreneurship that is simultaneously agentic and structurally coerced.

Keywords: *skin capital, phenotypic labour, racial fetishism, sex work, Northeast India, Bourdieu, intimate economies, Delhi, ethnography*

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1 Introduction

"My face is my capital. Not my brain, not my degree, not my English. My face. These eyes. This is what they're paying for. Everything else I could learn, but this, I was born with it, and in Delhi it has a price."

Lalmuanpuii, 23, Aizawl, Mizoram. Interview, September 2025.

In Bourdieu's (1986) canonical taxonomy of capital, economic, cultural, social, symbolic, the body appears primarily as a vehicle for the habitus, the durable dispositions through which agents navigate social fields. Loic Wacquant (1995a, 1995b, 2004), in his ethnography of Chicago boxers, extended this framework by demonstrating that the body itself can function as capital: boxers accumulate 'bodily capital' through disciplined training, converting physical capacity into economic return. The concept has since been applied to athletes, dancers, models, and sex workers (Mears, 2011; Hoang, 2015; Warhurst and Nickson, 2007). But in each of these formulations, bodily capital is understood as acquired, the product of labour, training, discipline, and investment over time.

This paper identifies a different species. Among the Northeastern Indian women we studied in Delhi's informal intimacy economy, the body's primary market value derives not from what it can do but from what it looks like, specifically, from the phenotypic features (epicanthic folds, flat nasal bridges, lighter skin relative to the North Indian norm, straight dark hair, smaller skeletal frames) that mark them as racially distinct within the Indian context and, crucially, as racially proximate to East Asian bodies within the transnational erotic imaginary. We call this **skin capital**: the convertible value of racial phenotype within a specific market field.

The concept is analytically necessary because existing frameworks cannot account for what we observed. Hochschild's (1983) 'emotional labour' captures the affective work these women perform but not its racial specificity. Bernstein's (2007) 'bounded authenticity' describes the manufacture of intimacy for sale but not the role of racial fantasy in structuring that intimacy. Wacquant's bodily capital presupposes accumulation through effort; skin capital, by contrast, is ascribed at birth and activated by context, a Mizo woman's face has no special erotic value in Aizawl, but in Delhi it commands a 200-300% premium over phenotypically 'mainland' competitors in the same market tier. The capital is not in the body per se. It is in the racial difference the body signifies within a specific field of desire.

The paper proceeds as follows. Section 2 elaborates the theoretical framework. Section 3 describes the fieldwork. Sections 4 through 7 present findings. Section 8 concludes by arguing that racial phenotype functions, in this economy, as a means of production in the classical Marxian sense, and that recognising it as such demands a rethinking of how we theorise the intersection of race, sex, and labour.

2 Bodies, Fields, and Racial Value

2.1 Bourdieu's Capital and Its Limits

Bourdieu's (1984, 1986) theory of capital posits that social power is distributed through multiple, convertible forms of capital that operate within semi-autonomous fields, structured arenas of competition governed by field-specific logics. Economic capital (money, property), cultural capital (education, taste, credentials), and social capital (networks, relationships) are accumulated, invested, and exchanged according to the 'rules of the game' operative in each field.

The body enters Bourdieu's framework through the habitus, the embodied, pre-reflexive dispositions that agents carry as a consequence of their social position. The habitus is 'history turned into nature' (Bourdieu, 1977: 78): class-specific ways of walking, speaking, eating, and gesturing that are experienced as natural but are in fact socially produced. Wacquant (1995b, 2004) made the body more analytically explicit by showing that prizefighters invest in their bodies as a form of capital, subjecting them to regimes of discipline (training, diet, pain management) that convert raw physical capacity into marketable fighting skill. The body becomes, in his terms, a 'form of capital in its own right' (Wacquant, 2004: 128).

But there is a crucial limitation. In Wacquant's account, as in Bourdieu's broader framework, capital is acquired. It is the product of labour, of time, effort, investment. The boxer's body capital is accumulated through years of training; the model's through regimes of diet, exercise, and aesthetic self-management (Mears, 2011). Even the sex worker's 'erotic capital' (Hakim, 2010; Green, 2008) is typically theorised as a combination of attractiveness, social skills, and sexual competence that can be cultivated and deployed strategically.

What I observed among Northeastern women in Delhi does not fit this model. Their primary market asset, the racialised phenotype, is not acquired. It is inherited. It cannot be accumulated through effort, though it can be enhanced through specific cosmetic and performative labour (a point we develop in Section 5). It is not the product of class-specific socialisation. It is, in the most literal sense, skin-deep. And yet it functions, within the field of Delhi's intimacy economy, exactly as capital functions: it confers competitive advantage, commands premium pricing, and can be strategically deployed, converted, and even (through cosmetic modification) invested in.

We therefore propose skin capital as a subtype of bodily capital that is

- Ascribed, not acquired (phenotypic, not performative in origin);
- Field-dependent (its value is activated only within specific markets of desire; it has no special value in the women's home states);
- Convertible (into economic capital, through intimate labour; and, ambiguously, into social capital, through the networks and client relationships it enables);
- Depletable (through aging, physical damage, and the psychic toll of sustained racial performance, a point with necropolitical implications we address below).

2.2 Emotional Labour, Erotic Capital, and Their Insufficiencies

Hochschild's (1983) foundational concept of emotional labour, the management of feeling to produce a publicly observable facial and bodily display, has been extensively applied to sex work (Sanders, 2005; Chapkis, 1997; Boris and Parrenas, 2010). Sex workers manage their own emotions (suppressing disgust, performing desire) and the emotions of clients (producing feelings of desirability, intimacy, specialness). This framework is necessary but insufficient for the present case because it treats the emotional labour as racially unmarked. A flight attendant's smile, in Hochschild's account, is generically warm; a sex worker's performed desire is generically erotic. But the labour we observed is specifically racial: the women are not performing generic intimacy but racialised intimacy, a fantasy structured by the client's desire for a body that signifies East Asian otherness.

Hakim's (2010) concept of erotic capital, comprising beauty, sexual attractiveness, social skills, liveliness, social presentation, and sexuality, gestures toward the

body's market value but remains individualistic and voluntaristic, as if erotic assets were a personal portfolio to be optimised. It has been rightly criticised (Skeggs, 2004; Adkins, 2005) for ignoring structural power. What is missing in Hakim, and what the Northeastern case makes visible, is that erotic value is not a property of individual bodies but a relational effect produced at the intersection of racial classification, gendered desire, and market structure.

2.3 Differential Inclusion and Necropolitics

Mezzadra and Neilson's (2013) concept of differential inclusion describes how migrant bodies are incorporated into political and economic systems not through full membership but through graduated modes of access that simultaneously include and subordinate. Northeastern migrants in Delhi are Indian citizens but are racially marked as not-quite-Indian, a condition that produces both exclusion (housing discrimination, street harassment, the 'chinky' slur) and perverse inclusion (premium erotic value precisely because of that otherness). They are included in Delhi's economy as racial others, and their inclusion is conditional on performing that otherness.

Mbembe's (2003) necropolitics extends Foucault's biopolitics to theorise conditions under which certain populations are consigned to 'death-worlds', zones of social death, disposability, and slow violence. We do not claim that the women we studied inhabit death-worlds in Mbembe's fullest sense. But we do argue that the conversion of racial phenotype into erotic commodity involves a form of slow necropolitical extraction: the women's bodies are valued precisely for the racial features that, in other contexts, mark them for discrimination, violence, and social exclusion. The intimacy economy does not liberate them from racial subordination; it monetises it. The same face that is spat at on the metro is kissed in the hotel room, and both acts emerge from the same racial logic. This is necropolitics operating not through sovereign killing but through the eroticisation of disposability.

3 Fieldwork: May 2025 to January 2026

3.1 Access and Positionality

As the first two authors, we are Northeastern women. This fact is both the condition of possibility for this research and its most significant methodological

complication. Our own phenotype, the same 'Mongoloid' features that constitute skin capital in the field we studied, granted us a degree of trust and legibility that a non-Northeastern researcher would almost certainly not have achieved. It also meant that we were, throughout the fieldwork, navigating the same racial field as our participants. We were called 'chinky' on the metro. We were asked by a landlord in Lajpat Nagar whether we were 'one of those spa girls.' These experiences are not incidental to the research; they are part of its data.

Fieldwork began in May 2025, when we relocated to a paying-guest accommodation in Munirka, a neighbourhood chosen because of its high concentration of Northeastern student-migrants and its proximity to several of the spa parlours and outcall networks we would eventually study. Access was mediated by a Mizo women's church fellowship group that operated an informal support network for Northeastern women in precarious situations. Over the first three months, we attended fellowship meetings, accompanied women on errands, shared meals, and gradually became known as 'the ones writing a paper.' By August 2025, we had been introduced to women who were, or had recently been, engaged in paid intimate labour.

3.2 Participants

Nineteen women participated in semi-structured interviews. All were from the three states of Manipur (nine), Nagaland (five), and Mizoram (five). Ages ranged from 19 to 29 (median: 23). All had migrated to Delhi for higher education; fourteen were currently enrolled in undergraduate or postgraduate programmes, three had dropped out, and two had completed degrees but remained in Delhi. Fifteen were actively engaged in paid intimate labour at the time of interview; four had exited within the previous eight months. All interviews were conducted between August 2025 and January 2026.

Monthly earnings from intimate labour ranged from INR 30,000 to INR 3,20,000 (median: approximately INR 90,000). For reference, the median starting salary for a recent graduate in Delhi is approximately INR 20,000-25,000 per month.

3.3 Data Collection

Interviews lasted between 90 minutes and four hours. Twelve were audio-recorded with consent; seven were documented through contemporaneous handwritten

notes. All were conducted in private settings chosen by the participant, typically a cafe, a park, or the participant's own room. Languages used were English, Mizo, and Meiteilon, often in rapid alternation within a single utterance.

In addition to interviews, I conducted approximately 350 hours of participant observation across the following sites:

- Three spa parlours in South and East Delhi (observation of front-of-house operations, waiting areas, and, on four occasions with explicit consent, post-session debriefs in staff rest areas);
- Five Telegram channels used for client solicitation and review (observed as a lurker; did not post or interact; channels ranged from 400 to 2,800 members);
- Informal social gatherings, shared meals, shopping trips, church meetings, where women discussed their work among trusted peers;
- Two rented flats used as incall locations (observed during off-hours only; I was never present during client sessions).

All names are pseudonyms. Identifying details (specific neighborhoods, institutional affiliations, and physical descriptions) have been altered or composited. Two participants requested that specific anecdotes be attributed to fabricated composite identities; I have honored this.

Note: The primary ethnographic fieldwork and participant observations detailed in this paper were conducted entirely by the first author [or specify initials, e.g., L.R.], while data analysis and theoretical framing were executed collaboratively by all co-authors.

Note: To ensure absolute confidentiality and protect the safety, legal status, and social well-being of all human subjects, strict anonymization protocols have been applied. All participant names used throughout this paper are pseudonyms, and all specific institutional, geographic, and physical identifiers have been carefully altered or composited.

3.4 Ethics and Discomfort

All participants were informed about the purposes of this study, and informed consent was taken. All names and location details presented here are anonymized. Several interviews contained descriptions of sexual acts, client behavior, and emotional states of such specificity that I experienced visceral distress during and

after them. I have retained this specificity in the analysis where it is analytically necessary, where sanitising the account would obscure the mechanism I am trying to describe. The reader should understand that explicitness is not gratuitous. It is the data. The discomfort it produces in the reader is itself analytically relevant: it is the discomfort the women manage professionally, every day, as a condition of their economic survival.

4 The Price of Phenotype

4.1 Rate Differentials

The most empirically unambiguous finding is economic. Northeastern women command substantially higher rates than non-Northeastern women operating at comparable tiers of Delhi's intimacy market. We triangulated this through three data sources: participant self-reports, rate cards observed in spa parlors, and pricing discussions on Telegram channels.

Table 1. Approximate rate ranges, mid-tier market segment, South/East Delhi, 2025. Based on participant reports (n=15), observed rate cards (n=3 establishments), and Telegram channel data (n=5 channels). 'GFE' = girlfriend experience.

Service category	NE women (INR)	Non-NE women (INR)
Spa 'full service' (1 hr)	5,000-15,000	2,000-6,000
Outcall (2-3 hrs)	10,000-25,000	5,000-12,000
Overnight 'GFE' package	20,000-60,000	8,000-25,000

4.2. What Clients Are Buying

The Telegram channels we observed provide a remarkably explicit record of what clients value and why. Reviews are structured around categories that foreground racial phenotype:

"FR [Field Report]: SP [Service Provider] name: Lily. State: Manipur. Complexion: very fair, proper chinky look. Body: slim, small frame, smooth skin. GFE level: 9/10. She wore the outfit I brought (school uniform). Didn't break character. Felt like dating a Korean girl. Worth every rupee. Will repeat."
Telegram channel review, observed October 2025

The language is instructive. 'Proper chinky look' indicates that the client is purchasing not sex in the abstract but sex with a body that displays specific racial

markers. 'Felt like dating a Korean girl' reveals the transnational fantasy structure: the client is not desiring a Manipuri woman as such but a racial image, Korean, Japanese, East Asian, that the Manipuri woman's phenotype is made to approximate. The 'school uniform' detail points to the intersection with anime and K-pop fetish cultures, which provide the specific visual scripts through which Northeastern bodies are consumed.

Bourdieu's field theory is illuminating here. The intimacy economy functions as a semi-autonomous field with its own internal logic of valuation. Within this field, racial phenotype operates as a form of capital that is misrecognised (in Bourdieu's technical sense) as erotic attractiveness. Clients do not say: 'I am paying a premium because of her racial features.' They say: 'She's hot,' 'She's exotic,' 'She's different.' The racial basis of the valuation is naturalised as personal preference. This misrecognition is essential to the field's functioning. If the racial structure were made explicit, the fantasy would collapse. The field depends on the denegation (Bourdieu, 1977) of its own logic.

5 Phenotypic Labour: Manufacturing the 'East Asian' Body

Skin capital, though ascribed, is not passively possessed. It must be activated through what we call **"phenotypic labor"**: the deliberate work of curating, enhancing, and performing one's racial appearance to maximise its market value. This labour has material, aesthetic, and affective dimensions.

5.1 The Material Regime

Participants described elaborate grooming regimes oriented not toward generic beauty standards but toward the amplification of racially specific features:

"I use Korean skincare, the 10-step routine, toner, essence, serum, everything. Not because I care about Korean skincare. Because my clients care. I need my skin to look like a K-drama actress. I spend maybe 4,000-5,000 a month on products. It's an investment. My skin is literally my income."

Ngaihulun, 22, Lunglei, Mizoram

"I got circle lenses, the coloured contacts that make your eyes look bigger, like anime eyes. I straighten my hair every two weeks. I bleach my arm hair. One client told me he didn't like body hair because 'Asian girls are supposed to be smooth.' I spent 12,000 on laser sessions after that. He didn't even become a regular."

Kimkim, 20, Ukhrul, Manipur

The labour extends to the management of smell, taste, and voice. Three participants described altering their diets before client sessions:

"No ngari, no akhuni [fermented soybean], nothing with strong smell. I eat bland food, rice, dal, maybe some chicken. I chew mint gum. I spray Japanese cherry blossom perfume. I become scentless. Or rather, I become the scent they expect. A Northeastern girl who smells like Northeastern food breaks the fantasy. I have to smell like a department store."

Thangi, 27, Imphal, Manipur

This is phenotypic labour in its most literal form: the physical body is modified, maintained, and managed as an asset. It requires financial investment (cosmetics, treatments, clothing), temporal investment (hours of grooming), and a specific form of racial literacy, an understanding of which phenotypic features are valued, by whom, and how they can be amplified or approximated. Wacquant's boxers invest in their bodies through training; these women invest in their bodies through racialised aesthetic regimes. The logic is structurally identical. The content is radically different.

5.2 The Performative Dimension

Phenotypic labour extends beyond the material body to encompass what Goffman (1959) would call impression management, but impression management organised around racial signification. Participants described learning to perform a curated version of 'East Asianness' that corresponded to client fantasies:

"I downloaded K-dramas and watched them like homework. I learned the names of BTS members. I can say a few phrases in Korean, oppa, saranghae, basic stuff. One client wanted me to call him oppa during sex. I did. He tipped 5,000 extra. I don't even like K-pop. "

Malsawmi, 23, Aizawl, Mizoram

"There's a costume rotation. Schoolgirl uniform, the Japanese kind, with the short skirt. Qipao. Nurse outfit but the sexy version. 'Traditional Korean dress', a client bought me a hanbok once, but cheap, from Amazon. I have a drawer full of costumes. None of them are from my culture. Nobody has ever asked me to wear a puandum [Mizo traditional wrap]. Nobody wants that fantasy."

Lalmuanpuii, 23, Aizawl, Mizoram

The last observation is analytically crucial. The clients do not fetishise Northeastern culture. They fetishise Northeastern phenotype as a signifier for a different culture entirely, Korean, Japanese, Thai. The women's actual ethnic identities (Mizo, Meitei, Ao, Sumi) are irrelevant to the transaction; what matters is the visual surface. This is skin capital in its purest form: value inheres in the skin, not in anything beneath it. The self is irrelevant. Only the surface is purchased.

This produces a distinctive form of alienation, not Marx's alienation from the product of labour, but alienation from one's own phenotype. The face in the mirror belongs to the market. Lalmuanpuii again:

"Sometimes I look at myself after removing all the makeup and the lenses and I think, who is this? This face has made me maybe 15 lakhs in two years. But it doesn't feel like my face anymore. It feels like an asset. Like a shop. I live behind the shop."

6 Field Architecture: Platforms, Parlours, and the Infrastructure of Racial Desire

The intimacy economy in which skin capital circulates is not a unitary market but a structured field, in Bourdieu's sense, with its own positions, hierarchies, entry conditions, and logics of competition. We identified four interconnected sub-fields through which Northeastern women's intimate labour is organised and exchanged:

6.1 Spa parlours

Licensed as 'wellness centres' or 'Thai spa' (the word 'Thai' itself a racial signifier). The front of the house offers legitimate massage; the back rooms operate on a different tariff. In three establishments we observed, Northeastern women were explicitly segregated into a 'premium' section. One manager explained, without apparent irony: 'Customers pay more for NE girls. Fair skin, soft hands, the look. It's like business class and economy.'

6.2 Encrypted platforms

Telegram channels function as the primary digital infrastructure. Channels we observed ranged from 400 to 2,800 members. They operate through coded language ('SP' = service provider; 'FR' = field report; 'GFE' = girlfriend experience; 'CIM,' 'OWO,' 'BBBJ' = specific sexual acts). Northeastern women are tagged with

state-of-origin labels ('Manipuri,' 'Naga,' 'Mizo') that function as brand categories. New members require referrals. Channels are periodically purged and reconstituted.

6.3 Dating-app pipelines

Tinder, Bumble, and Hinge function as client-acquisition tools. Women maintain profiles with coded signals ('open-minded,' 'generous connections welcome'). The apps provide a veneer of voluntarism and romantic possibility that distinguishes this channel from more explicitly transactional platforms. Several participants described clients who insisted on the fiction that they had 'met on Tinder,' not purchased a service.

6.4 PG networks

Paying-guest accommodations in student neighbourhoods (Munirka, Satyaniketan, Humayanpur, Vijay Nagar) double as incall locations. Landlords are frequently complicit, charging above-market rents in exchange for discretion. Two participants described landlords who actively facilitated the economy, one by providing a 'client waiting area' (a chair in the hallway), another by offering to 'screen' clients through a WhatsApp group.

This layered infrastructure produces what we call structured invisibility: the economy is legible to participants and clients but illegible to outsiders, law enforcement, and, crucially, to the women's own families and academic communities. This is not mere secrecy. It is a systemic property of the field, maintained through encryption, coded language, spatial segregation, and the mutual interest of all parties (workers, clients, managers, landlords) in avoiding detection.

7 Living in the Double Bind: Dissociation, Agency, and the Limits of Choice

Mezzadra and Neilson's (2013) concept of differential inclusion is nowhere more visible than in the daily lives of my participants. They are included in Delhi's social fabric as racial others, discriminated against in housing, harassed on public transport, denied service at restaurants, and simultaneously included in Delhi's erotic economy as racial others, desired, paid premium rates, treated as 'exotic.'

The same phenotype that produces exclusion in one register produces inclusion in another. This is not a paradox. It is the structure of differential inclusion: the terms of incorporation are themselves the instruments of subordination.

"Monday to Friday I'm the 'chinky girl' who can't get an auto-rickshaw because drivers think I'm from some other country. Saturday night I'm the 'exotic beauty' who gets 30,000 for pretending to be someone's Korean girlfriend. Same face. Different price. Delhi loves my face and hates my face at the same time. I've stopped trying to make sense of it. I just make money from the contradiction."

Mercy, 24, Dimapur, Nagaland

The psychic cost of inhabiting this contradiction is severe. Fourteen of nineteen participants described symptoms consistent with dissociative experiences, a sense of splitting between the 'work self' and the 'real self' that extended beyond the pragmatic compartmentalisation common among sex workers globally (Sanders, 2005). What is distinctive here is that the dissociation is racial: it is not merely 'me at work' versus 'me at home' but 'the version of my race they desire' versus 'the version of my race I live.'

"When I'm with a client I become... empty. Not sad, not happy. Empty. Like my face is a screen and they're watching their own movie on it. I'm behind the screen. Sometimes after, when they leave, it takes me an hour to come back. I sit on the bed and I don't know who I am. Not dramatically. Literally. For a moment I genuinely don't know if I'm Hoihnu or the character I was playing. Then I shower, I eat, I call my mother, and I'm me again. Until next time."

Hoihnu, 25, Kangpokpi, Manipur

This resonates with Du Bois's (1903) double consciousness, the 'sense of always looking at one's self through the eyes of others', but with a material twist. Du Bois described a phenomenological condition; what we are documenting is a labour condition. The double consciousness is not simply experienced; it is performed for pay. It is the work itself. Skin capital can only be converted into economic capital through the sustained performance of self-as-other, and this performance exacts a dissociative toll that constitutes what we would describe, following Mbembe (2003), as a form of slow social death, not the annihilation of the body but the

gradual erosion of the self's coherence under the weight of its own commodification.

And yet, and this 'and yet' is essential, the women are not simply crushed by this structure. They navigate it with intelligence, calculation, and dark humour. They set prices, refuse clients, choose when to enter and exit the economy, invest their earnings in education and family. Several participants described their intimate labour in explicitly entrepreneurial terms:

"This is a business. My face is the product. My body is the factory. I am the CEO. I don't need a pimp; I don't need a manager. I have a phone, I have Telegram, I have a good moisturizer. That's my startup. Three years, I save enough to go home and open a cafe in Aizawl. That's the exit strategy. I'm not a victim. I'm an entrepreneur operating in a racist market. I didn't create the racism. I'm just... monetizing it."

Zovi, 26, Aizawl, Mizoram

To dismiss this as false consciousness would be analytically lazy. To celebrate it as uncomplicated empowerment would be politically naive. What is required is a framework that can hold both: the genuine agency of strategic calculation and the structural coercion of a racial economy that limits the options within which that agency operates. Skin capital names exactly this: a form of capital that is real, it produces real economic returns, and yet is extracted from a condition of racial subordination that the women did not choose and cannot, individually, dismantle.

8 Conclusion

We conclude with a theoretical provocation. If we take the concept of skin capital seriously, and if racial phenotype functions within this field as a convertible, deployable, and value-generating asset, then it must also be understood as a means of production. In classical Marxian terms, the means of production are the instruments through which labour produces value. In the economy we have described, the Northeastern woman's face, eyes, skin, bone structure, and hair constitute the instrument through which intimate labour generates economic value. She does not merely use her body to work; her racialised appearance itself becomes productive. The phenotype is not simply an attribute of the worker but a productive asset embedded within the labour process.

This proposition has significant theoretical implications. If phenotype functions as a means of production, then the women who possess it occupy a distinctive structural position. Unlike the classical proletariat, they possess the productive asset through which value is generated, yet unlike the bourgeoisie, this possession derives solely from racialisation. They are simultaneously owners and dispossessed. Their capital is inseparable from the stigma through which it acquires value. The same phenotype that creates economic opportunity also exposes them to discrimination, stereotyping, and exclusion.

We argue that existing sociological vocabularies remain inadequate to fully explain this condition. Concepts such as sex work, racial discrimination, emotional labour, and bodily capital each illuminate part of the phenomenon, but none captures its entirety. Skin capital is therefore proposed as a preliminary conceptual framework to describe the point at which race becomes labour, labour becomes capital, and capital becomes a strategy of survival, rendering simple binaries of agency and coercion increasingly inadequate.

At the time of writing, the nineteen women we interviewed continue to negotiate these realities. Some remain in intimate labour, others have exited, but all continue to carry the racialised phenotype that is simultaneously their economic resource and social burden. It is within this contradiction that the analytical value of skin capital ultimately resides.

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Gender-Inclusive, Community-Driven Climate Action in Raigad, Maharashtra: The Conference of Panchayats as a Methodological Pathway for Climate Governance in the Global South

Manjula Bharathy¹

Abstract

This article examines the Conference of Panchayats (CoP-R) in Raigad, Maharashtra, as an innovative model of gender-inclusive and community-driven climate governance rooted in decentralised democracy. Anchored in the principles of Decolonisation, Indigenisation, and Localisation (DIL), the initiative repositions Panchayats as active co-designers of climate action rather than passive implementers. Drawing on participatory deliberations across Gram Panchayats, it demonstrates how indigenous knowledge, women's leadership, and local ecological priorities can shape resilient climate strategies. The article argues that integrating community agency, social justice, and institutional collaboration offers a replicable methodological pathway for climate governance across the Global South.

Keywords: Climate Governance; Panchayati Raj; Community-Led Adaptation; Gender-Inclusive Development; Decolonisation, Indigenisation and Localisation

1 Introduction

The Conference of Panchayats (CoP) represents a pioneering experiment in locally-led climate action, designed to reposition India's Panchayats as legitimate actors in climate governance. Inspired by the UN's Conference of Parties (COP), CoP was to create a decentralised, democratic platform where grassroots voices

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could deliberate on resilience and adaptation. It was conceived as a Global South response to Global North climate dialogues, foregrounding locally led action and strengthening the constitutional voices of Panchayats—the third tier of governance—as central actors in shaping climate plans. Building on this foundation, CoP (R) in Raigad 2026 has been designed by the School of Habitat Studies (SoHS) , Tata Institute of Social Sciences (TISS), with Asar , and supported by the University of Toronto India Foundation (UTIF). It is one of Maharashtra’s first gender-inclusive, community-driven climate action plans, working under the aegis of the State Climate Action Cell (SCAC). CoP (R) is emerging as an important methodological intervention in formulating Raigad’s district climate action plan, strengthening and capacitating local governance institutions across multiple tiers. By embedding the Sustainable Development Goals (SDGs) into local planning and anchoring its philosophy in Decolonisation, Indigenisation, and Localisation (DIL), CoP demonstrates how community-centred pathways can serve as a Global South response to climate governance, rooted in justice and local agency.

2 The Initial Phase and Journey of CoP

The Conference of Panchayats (CoP) emerged as a pioneering experiment in locally-led climate action, initiated by Asar and the Policy & Development Advisory Group (PDAG) between 2022 and 2024. CoP sought to create a sub-national democratic platform where India’s Panchayats—the closest governance institutions to rural communities—could deliberate on climate resilience and adaptation. The initial phase, CoP 1.0, began in Jharkhand with state-level discussions in Ranchi (March 2022) and a national consultation in June 2022. These early dialogues highlighted pressing issues such as declining agricultural productivity, groundwater depletion, deforestation, and pollution from coal mining. Panchayats underscored the need for autonomy, technical support, and revitalisation of traditional practices, positioning themselves as legitimate actors in climate governance rather than mere implementers of top-down schemes. Building on this foundation, CoP 2.0 expanded across Bokaro, Dumka, Chaibasa, and Daltonganj, deepening the focus on just transitions and vulnerable communities. Evidence generation on climate-induced migration, capacity building for PRI leaders, and decentralised

renewable energy emerged as priorities. By 2024, the journey extended to Bihar, where consultations in Jamui addressed the dual crises of floods in the north and droughts in the south, stressing gender-sensitive approaches and utilisation of MGNREGA and DMFT funds. In Maharashtra's Beed district, over 30 PRI representatives convened to deliberate on agroecology, climate finance, and migration, with the Block Development Officer emphasising the importance of linking Panchayat planning with climate finance. Across these phases, CoP established Panchayats as legitimate actors in climate governance, documented indigenous practices, and amplified grassroots voices. Its journey demonstrated that resilience must be rooted in local realities, indigenous knowledge, and community ownership, laying the groundwork for the evolution of CoP (R) in Raigad 2026

3 The Conference of Panchayat [CoP (R)] in Raigad, Maharashtra

3.1 Philosophy - From Dil se to DIL

The philosophy of the Conference of Panchayats (CoP (R) in Raigad 2026, formulated by SoHS, TISS is anchored in the idea that climate governance must emerge dil se—from the heart. Unlike technocratic frameworks that reduce climate action to metrics and targets, CoP(R) insists that dialogue must begin with lived emotions, vulnerabilities, and aspirations. Communities speak of water scarcity, migration anxieties, and memories of forests not as abstract data points but as felt realities. This heartfelt grounding evolves into the DIL philosophy—Decolonisation, Indigenisation, and Localisation. Decolonisation challenges top-down, extractive models of governance by reclaiming Panchayats as producers of knowledge and co-architects of solutions. Indigenisation validates ecological wisdom embedded in oral traditions, tribal art, and sustainable practices, while critically recovering those that remain socially inclusive. Localisation reframes global frameworks like the SDGs through local socio-cultural realities, ensuring that climate action resonates with community aspirations (IPCC,2022). Together, DIL transforms CoP (R) into a philosophical project of justice, where climate resilience is inseparable from epistemic justice, gender justice, and ecological sustainability.

3.2 The redefined Vision of CoP - Towards Deliberative Democracy

The vision of CoP (R) marks a departure from the earlier CoP, moving beyond dialogue into deliberative democracy and activating the meso tier of governance at the block level. Panchayats, historically limited to implementing schemes, are repositioned as legitimate actors in climate governance, capable of designing, monitoring, and evaluating local climate plans. This vision is rooted in the principle of subsidiarity, where decisions are made at the lowest competent level, ensuring that ‘governance is not imposed but co-produced’ (MoPR,2019). By embedding deliberation into the organisational structure of Local Governance Institutions (LGIs), CoP (R) envisions LGIs as laboratories of democratic innovation. Here, climate justice, resilience, and sustainability are woven into everyday governance. The vision also emphasises inclusivity: women’s leadership in Gram Sabhas, youth participation in resilience strategies, and tribal communities’ rights in forest stewardship. By localising SDGs—such as poverty alleviation, gender equality, clean water, and climate action— CoP (R) assures that global commitments are translated into practical, community-owned interventions. This vision positions Raigad’s Panchayats not as passive recipients of policy but as co-designers of transformative climate governance.

4 Methodology - Structured Pathways of Co-Production

The methodology of CoP (R) is designed to operationalize deliberative democracy through a structured, replicable process. It begins with Pre-CoP Mapping, where Gram Panchayats within the selected block identify priority issues such as water scarcity, migration, forest governance, and gender equity. These issues are then brought into Block-Level Deliberation, where facilitated discussions distil common thematic areas. A Detailed Issue Analysis links local experiences with structural challenges, while Indigenous Practices & Resources are documented to ensure solutions are rooted in cultural memory and ecological heritage. The process culminates in a Solution Matrix, integrating GP activities with block-level interventions, which is then presented to block officials for alignment. Collaborative program design follows, where administrators, Panchayats, and communities co-develop replicable development programs. Finally, consensus is

achieved among officials, elected LGIs, Village Development Committees, and community representatives, moving from dialogue to actionable interventions. This methodology ensures that CoP(R) is not a one-time event but a continuous process of co-production, embedding resilience into democratic structures.

5 The Sudhagad Block-Level Conference of Panchayats CoP 1 (R),

5.1 Setting the Context

The Sudhagad Block-Level Conference of Panchayats, convened on 29 April 2026 at the Maratha Hall in Pali, organised by TISS, Asar, and Waatavaran marked a significant milestone in participatory climate governance. Session II, the core deliberative space of the day, brought together representatives from fifteen Gram Panchayats into structured breakout groups on forests, water, gender, and livelihoods. This format moved beyond token participation, enabling elected representatives and community members to articulate lived experiences of climate stress, diagnose structural barriers, and co-produce actionable demands. The methodology—issue mapping, root cause analysis, documentation of indigenous solutions, and democratic formulation of action points—ensured that the voices of tribal wadis, forest-dependent households, and women's collectives were not only heard but translated into governance mandates. The session demonstrated that communities in Sudhagad possess both the knowledge and agency to articulate precise, evidence-based demands. The responsibility now lies with block and district administrations to receive these demands as serious governance priorities, co-designing implementation pathways in the spirit of decentralised democracy.

5.2 Integrative Framework - The Role of the 5As and Justice Orientation

CoP (R) operationalises its vision through the **5As framework**—Academicians, Activists, Administrators, Artists, and Amplifiers. Each group plays a distinct but interconnected role in shaping participatory climate governance.

- **Academicians** - At Raigad, the School of Habitat Studies, TISS, represented the academic community, co-designing the vision, methodology, and structure of CoP (R). Their role was to provide analytical depth, policy framing, and methodological rigor.

- **Activists** - Organisations like Waatavaran and Asar facilitated the convening of meetings and discussions, mobilising voices and ensuring accountability.
- **Administrators** - Local officials including the Tehsildar, Agricultural Officer, and Block Development Officer of Pali actively engaged with community deliberations, signalling readiness to work with Panchayats in addressing issues raised at the block level.
- **Artists** - Community groups, especially Katkari tribal collectives, brought indigenous and creative expressions into the climate dialogues, ensuring cultural resonance.
- **Amplifiers (Media)** - Baimanus, the community media team, documented and amplified voices through digital spaces, extending narratives into the public sphere.

Gender justice ensures women's leadership is central; epistemic justice values lived knowledge alongside scientific data; and climate justice recognises differentiated vulnerabilities and historical responsibilities. Community resilience, therefore, is not passive coping but active intervention, rooted in collective agency and counter-hegemonic consciousness. By mobilising Gram Sabhas, SHGs, and VDCs, CoP (R) revitalises indigenous practices like rainwater harvesting, seed conservation, and forest stewardship. In doing so, CoP (R) transforms climate governance into a participatory, rights-based process that empowers communities to shape equitable and sustainable futures. This integrative framework ensured holistic participation, "making climate discourse culturally resonant and politically accountable" (UNFCCC, 1992). At its core, CoP (R) embeds **justice as a non-negotiable element**. Climate action must embody a just transition, equitably sharing burdens and benefits (IIED, 2019)

6 Community Knowledge and Forest-Water Nexus

The breakout groups revealed the depth of community ecological knowledge and its relevance to climate resilience. In Chive Tribal Wadi, participants highlighted the absence of rainwater harvesting infrastructure despite adequate rainfall, underscoring the need for contour trenches, bunds, and forest ponds. Simultaneously, they lamented the erosion of seed sovereignty, with traditional

millets like Nachni reduced to marginal cultivation. Forest livelihoods—wild vegetables, fruits, and seasonal produce—are increasingly threatened by deforestation and recurrent fires. Women, as custodians of traditional ecological knowledge, bear disproportionate burdens of water collection and resource gathering, yet their knowledge transmission remains unsupported (UN Women, 2020). Vandroshi Tribal Wadi echoed similar concerns, demanding solar-powered water systems, filtered supply, and storage tanks, while also foregrounding gendered vulnerabilities such as child marriage, inadequate maternity care, and lack of vocational training. These narratives illustrate how water insecurity, forest degradation, and gender inequality intersect to produce compounded vulnerabilities, while simultaneously offering pathways rooted in indigenous practices and community solidarity.

7 Agriculture, Health, and Gendered Vulnerabilities

The deliberations from Aptawane, Siddheshwar, and Thanale villages highlighted the paradox of high rainfall coupled with post-monsoon water crises. Communities demanded deepening of lakes and bund construction through *Shramdaan* to retain runoff. Restrictions on forest access and confiscation of tribal tools undercut constitutional entitlements, while pending land claims perpetuate insecurity. Women's health crises—linked to firewood dependence, indoor air pollution, and poor menstrual hygiene—were foregrounded alongside calls for solar stoves and LPG connections. Thanale's repeated forest fire losses underscored the urgency of equipping Community Forest Rights Management Committees with machinery and protocols for prevention and rapid response. Across these villages, women's livelihoods remain precarious, with limited vocational training and absence of small enterprise development. The proposed action points—ranging from soil conservation and agro-ecological farming to vocational programmes for women—reflect a holistic understanding of climate vulnerability that integrates ecological, social, and gendered dimensions.

8 Towards Participatory Climate Governance

The final presentations from Kavelawadi, Dudhani, and Pachhapur reinforced the urgency of participatory climate governance. Erratic rainfall patterns have disrupted agricultural calendars, driving migration and eroding community cohesion. Forest degradation and recurrent fires compound vulnerabilities, while post-Diwali water crises persist due to inadequate storage infrastructure. Women's participation in Gram Sabhas remains structurally limited, risking gender-blind climate planning. Communities demanded rain gauges for evidence-based agriculture, RCC bunds and percolation tanks for water security, and quotas for women's voices in governance. Pachhapur's proposals—mobilising participatory funding for watershed works, vocational training to reduce migration, and equalising wage rates—illustrate the integration of social justice into climate action. Taken together, the Sudhagad CoP (R) demonstrates that grassroots communities are not passive recipients of policy but active co-designers of climate solutions. Their negotiated agendas—rooted in lived experience, ecological knowledge, and gendered realities—offer a transformative pathway for decentralised climate governance.

9 Conclusion

The Conference of Panchayats (CoP R - Raigad 2026) demonstrates that climate governance must be re-imagined as a community-centred pathway, where resilience is co-designed and co-produced with those most affected. By anchoring its philosophy in Decolonisation, Indigenisation, and Localisation (DIL), CoP (R) challenges technocratic, top-down models and restores agency to Panchayats as self-governing republics. Decolonisation dismantles extractive governance frameworks, positioning local institutions as producers of knowledge and architects of solutions. Indigenisation validates ecological wisdom embedded in oral traditions, seed conservation, and forest stewardship, ensuring that adaptation strategies are rooted in cultural memory and ecological sustainability. Localisation reframes the Sustainable Development Goals (SDGs) through the lived realities of communities, translating global commitments into practical interventions on poverty, hunger, gender equality, water security, and climate action

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The Age of Migration: International Population Movements in the Modern World

Mayank Kumar¹

Abstract

This review is of the most recent version of The Age of Migration, a book that has informed our thinking about global migration over the past 30 years. The authors present a good argument that migration is not simply an economic factor or a personal decision. It is connected to capitalism, colonialism, and governments. The book is strong in policy comparison and theory, but it could use more on gender, climate change, and the influence of technology on migration in modern times. Nevertheless, it is a book worth reading by those concerned with migration.

Keywords: Migration, Globalization, Labor Markets, Policy Analysis, Displacement

1 Introduction

The Age of Migration has been the book to refer to since 1993 for understanding why people cross borders. The sixth edition changes the analysis to reflect the current moment, when migration debates are more prevalent than ever. Castles, de Haas, and Miller make a valid point: migration is not arbitrary. It adheres to tendencies shaped by the functioning of the global economy, the power of those in control, and the policies governments adopt.

The book walks through migration trends, explains various theories, examines what drives people to move, and explores how states try to control these flows. Each chapter builds on the last. What makes this book different from others is its refusal of simple explanations. Yes, people move for jobs. But they also move because of family connections, political violence, environmental disasters, and historical ties

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between countries. Understanding migration means seeing all these pieces together.

2 What Works Well

The strongest part of this book is its connection of migration to globalisation. The authors show that while money and goods flow freely across borders, people can't. This creates problems. Companies want cheap labour from abroad, but voters want closed borders. Governments end up with contradictory policies that satisfy no one. This tension runs throughout the book and helps explain why migration policy so often fails.

For policy researchers in India, the chapters on labour migration are handy. The book discusses temporary worker programs, circular migration, and bilateral agreements. These issues matter for Indian workers in the Gulf, Southeast Asia, and beyond. India sends millions of workers abroad each year, and the remittances they send back support entire regions. Yet we don't have good frameworks for understanding how this system works or what happens when it breaks down. This book provides those frameworks.

The comparative approach is another strength. By looking at many countries, the authors show that there's no single right way to manage migration. What works in Canada might fail in Germany—context matters. For India, which is both a significant source of emigrants and increasingly a destination for migrants from Bangladesh, Nepal, and Myanmar, this comparative lens is valuable. We can learn from others' mistakes without copying their solutions.

3 What's Missing

The book refers to the gender, however it does not go deeper. Women do not migrate as other men do. They are employed in house service, care, nursing, and teaching. Much attention should be paid to their experiences of being exploited, trafficked, and separated with their families. The few isolated cases are not sufficient in case women constitute almost half of all international migrants.

The same is done to climate change. The authors admit that the environmental disasters make people move but they do not fully incorporate this to their central argument. As the coastal lands are sinking and the farmlands are being killed by

drought, and other strange weather patterns become the norm, the migration of the climate will continue expanding. This has to be central and not peripheral in future editions.

The book also fails to highlight the changes in migration brought by technology. Migrants can now cross boundaries using their smartphones, remit money back home instantly or keep in touch with their family. The digital platforms pair employees with companies in different nations. Protests and mutual aid are held in WhatsApp groups. The information (and misinformation) on the migration routes is disseminated through social media. These aren't minor details. They are changing the nature of migration.

Finally, the book relies heavily on examples from Europe, North America, and Australia. Migration between developing countries gets less coverage. Yet most migration occurs within regions, not from poor to rich countries. Bangladeshis move to India, Nicaraguans to Costa Rica, Zimbabweans to South Africa. These movements follow different patterns, creating additional challenges. The book would be stronger if it took South-South migration more seriously.

4 Should You Read It?

Yes, absolutely. Despite its gaps, this remains the best single-volume introduction to migration studies. The writing is clear, the arguments are well-supported, and the policy insights are practical. Students will find it accessible. Researchers will find it comprehensive. Policymakers will find it relevant.

For Indian readers specifically, the book offers tools for thinking about our own migration challenges. We're dealing with the return of workers from the Gulf during COVID-19, the National Register of Citizens controversy, and debates over illegal immigration from Bangladesh. We're also becoming a destination country as our economy grows. Understanding migration as a global process, not just an Indian problem, helps us see these issues more clearly.

The book won't answer every question. It won't tell you precisely what policy India should adopt. But it will help you ask better questions and avoid simplistic answers. In a field full of heated opinions and poor data, that's worth a lot.

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Women and Work in India: Challenges, Opportunities and Perspectives for Policy

Vibhuti Patel¹

Abstract

This book review examines Women and Work in India: Challenges, Opportunities and Perspectives for Policy, an edited volume that provides a comprehensive analysis of the structural, social, and economic barriers shaping women's labour force participation in India. Covering themes such as unpaid care work, employment trends, time-use surveys, platform work, caste and gender inequalities, and social protection, the volume integrates empirical evidence with policy-oriented analysis. The review highlights the book's contribution to gender economics by exposing the invisibility of women's work while proposing inclusive, evidence-based policy frameworks to enhance employment opportunities, labour rights, social protection, and gender-responsive development in India.

Keywords: Women's Labour Force Participation, Gender Economics, Unpaid Care Work, Social Protection, Labour Market

This edited volume by renowned economists encompasses across 24 chapters, well researched and analytically robust inquiry blended with extensive primary and secondary empirical datasets to deconstruct the structural, cultural, and methodological barriers that persistently keeps Indian women's labour force participation rate abysmally low. The chapters address important concerns regarding changing contours of paid and unpaid work of women's work, drawing on the latest data and information on gender based division of labour, unpaid domestic and care work and recommend evidence-based policies and grounded strategies to improve remunerative employment opportunities, humane work condition, digitisation and platform based work, labour standards and legal

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safeguards. In terms of theoretical perspective, this scholarly anthology deconstructs core concepts of gender economics such as invisible work, care economy, gender norms in the current macro, meso and micro economic contexts of rural and urban India. Most important contribution of the book is a fine balance of diagnostic metrics with practical policy frameworks on 4 thematic areas- limitations of existing official measurement of women's work in capturing women's unpaid family labour and care work; trends and changing patterns in women's employment from 1983 to 2025 and the paradox of improved educational status of women not improving job opportunities; insights from time-use studies in diverse geographies and critical assessment of the gig/platform economy and the formal childcare sector.

In Part I, Chapter 1: Understanding Women's Work in India: Introduction to the Volume by Alakh N. Sharma, Vandana Upadhyay, and Aasha Kapur Mehta provide framework and set the tone of the volume.

Part II: Measuring Women's Work has 3 chapters. The 2nd chapter by G.C. Manna bring the fore conceptual and operational biases in the data sets provided by National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Government of India with regards to measurement issues in estimating work participation of women and in valuing their unpaid domestic work and care-giving services. Chapter 3 authored by Aasha Kapur Mehta and Sanjay Pratap provides eagle's eye view of meta data of census reports and several NSSO Rounds over last 5 decades on work participation of women, identify reasons for underestimation of women's contribution to the economy by conducting field based surveys of multiple activities done by women in the urban, rural and tribal areas and show the pathway to rectifying the invisibility of women's work so that "the disproportionate burden borne by women with regard to cooking, cleaning and caring for children, the elderly, and the ill also needs to be acknowledged, visibilised, reduced and redistributed both within and outside the home." (p. 53). Chapter 4 by Balwant Singh Mehta is based on a Public Perception Survey in the context of The National Capital Territory (NCT) of Delhi and show that both supply and demand side factors such as gender norms, unpaid family work of domestic and care duties, income and education effects, limited suitable job options,

mobility challenges, unsafe and unfriendly work environments are responsible factors; and recommends more gender responsive, data-informed, and women-centric interventions.

Part III: Time Use Studies and Special Geographies deals with technical aspects of measurement of women's work and show the alternative to overcome the "invisibility" of women's economic contribution to non-market care work and market economy. Chapter 5, coauthored by N. Neetha and Indrani Mazumdar is based on field based Time Use Survey (TUS) within a Labour Force Survey (LFS) survey on Women's Work in Haryana and based on its conceptual and methodological learnings point out 'the limitations of the sectoral/occupational data in periodic labour force participation rate and flag the need for generating additional data to understand gendered concentrations in various occupational classes.' (p. 95). Chapter 6: Gender and Work in Mountain Economies: Results from a Time Use Survey from Across Twelve Himalayan States by Vandana Upadhyay and Kanchan Devi provide valuable insights on women- specific arduous activities of food gathering and food production, seasonal income-generating activities, asset holding patterns, non-timber forest produce collection, and agricultural operations at the household level in the context of ecological degradation and capitalist transitions that disproportionately increase the physical workload and time poverty of women in the mountainous terrain. Chapter 7 authored by Deepak K. Mishra and Sweta Tripathy also profiles an illuminating scenario of interplay of capitalist transition and gendered labour in the hill economics of North East India. Chapter 8 contributed by Indira Hirway comprehensively analyses shortfalls in the Time Use Surveys (TUS) in terms of accurately capturing women's work and stresses upon the making TUS full-proof as the TUS data are "important inputs in designing macroeconomic policies and macroeconomic modelling, and thereby support integration of gender in the mainstream economy to promote inclusive development" (p. 175).

Part IV: Trends and Patterns in Employment and Work has 3 chapters.

Chapter 9 Alakh N. Sharma and Balwant Singh Mehta captures Trend and Pattern of Women's Work in India for the period of 1983 to 2024 and highlight that 'Educated

young women continue to face high unemployment because of skill mismatch and limited availability of quality and aspirational jobs.’(179) revealed in gender gaps in NEET (Not in Education, Employment, or Training) statistics. Chapter 10 by Bidisha Mondal, Sona Mitra, Prakriti Sharma, and Aneek Chowdhury gives nuanced analysis of demand side opportunities of Women’s Self-Employment in India. Chapter 11 by Bishwanath Goldar and Suresh Chand Aggarwal shows that ways of increasing Workforce Participation of women in India by employment generation in Non-Agricultural Activities.

Part V: Caste and Religion bring out many uncomfortable truths of ground research conducted with intersectional perspective that includes multiple marginalities and vulnerabilities of based on caste, class and religion in chapter 12 titled, ‘Gender Discrimination in Employment in Indian Labour Market: Decomposition by Castes and Religion’ by Panchanan Das as well as in chapter 13 by Nisha Srivastava and Rahul Ranjan on continuity and change in caste-based differences in women’s employment.

Part VI: Motherhood, Care Penalties and Gender Responsive Care, discusses the current discourses among gender economists, legal luminaries and policy makers nationally and globally in chapter 14 by Anupama Uppal and Amandeep Kaur which contextualises gender discrimination in wages and employment in India at the backdrop of overarching Care Penalty and Chapter 15 by Sreerupa, Jahnvi Andharia, and Tanisha Dasgupta that envisions Gender Responsive Models for Balancing Universal and Contextual Childcare Needs Beyond “One-Size Fits All”.

Part VII: Women Workers in the Platform Economy and Global Value Chains expose the deplorable realities of digital platform work (gig work) which is glorified as a flexible solution for home-bound women. Chapter 16 by Anwesha Ghosh highlights a lack of social protection, work place safety, social security, women’s vulnerability to monopsonistic market structures, and profound atomisation of Women Platform Workers in India and recommends concrete Policy Strategies for their recognition as ‘employees’ and legislative provision for collective bargaining. Chapter 17 by Dev Nathan, S. Rahul, Shikha Silliman Bhattacharjee, and Govind

Kelkar deconstructs monopsony capitalism in the global supply chain that thrives on gender inequality and precarity of labour.

Part VIII: Education and Employment highlights the gender differentials in returns to education, burgeoning informal sector that thrives on cheap labour of women. Chapter 18 by Jeemol Unni and Ravikiran Naik gender differences in returns to education mismatch in the urban labour market in India both in formal and informal sectors. Chapter 19 by Ravi Srivastav presents a gendered temporal analysis of NEET (Not in Education, Employment, or Training) among youth (aged 15 to 29 years) in India and suggests that India needs gender sensitive policies to reduce the unpaid work and care burden of unpaid work, improve the safety of women in work- places and safe mobility from home to educational institutions and work, creches and supportive ecosystem. Chapter 20 by Jajati Keshari Parida and Akankshya Satapathy discuss the U shape hypothesis in the Indian Context and show the relationship of low work participation of women due to and economic growth penalty in India.

Part IX: Policy Perspectives is dedicated to the policy measures needed to enhance women's workforce participation in all sectors of the economy, specific intervention strategies for rural, peri urban and metropolitan contexts and role of the state in generation of public employment and ensuring dignity, safety and social protection for the scheme workers (such as anganwadi workers and ASHAs). Chapter 21 by Dipa Sinha critically reflects on women's work and the critical role of the state for ensuring decent public employment in India. In chapter 22, Ellina Samantroy delineates gender responsive policy perspective and way forward for ensuring social protection for women workers in India. In chapter 23, K. P. Kannan and G. Raveendran share an inspiring story of the impact of Kerala's Kudumbashree System in addressing Poverty and promoting women's collective agency and enhancing capability for dignity and improved quality of life. Chapter 24 by Aasha Kapur Mehta, Alakh N. Sharma, and Vandana Upadhyay carve out a pathway to address multi-pronged challenges faced by women in the social constructed labour market by creating and institutionalising an architecture of universal access to robust social protection based on the foundation of gender justice

This volume is a valuable resource for researchers, students and teachers of women's studies/gender studies, policy makers and gender-trainers, civil society organisations, development practitioners and scholars of labour economics, employment research, and development studies.

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Alakh N. Sharma, Aasha Kapur Mehta, and Vandana Upadhyay (ed.s) (2026) Women and Work in India: Challenges, Opportunities and Perspectives for Policy, Singapore: Springer Nature, 2026.
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Structural Constraints and Strategic Trade-offs in India's Artificial Intelligence Strategy

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Abstract

This paper analyses India's artificial intelligence strategy using the Economic Survey 2025-26 and Budget 2026-27 as complementary policy texts. It conceptualises AI as a strategic economic variable influencing productivity, employment and industrial structure. The paper identifies structural constraints in the global AI ecosystem, particularly the concentration of compute and capital and evaluates key trade-offs between productivity and employment, openness and autonomy, and innovation and regulation. It finds that while policy intent is evolving, implementation gaps persist. The paper argues that a bottom up, application driven and development-oriented approach offers the most viable pathway for aligning AI with India's economic realities.

Keywords: Artificial Intelligence, Economic Survey 2025-26, AI Policy, Budget 2026-27.

1 Introduction

Artificial Intelligence is emerging as a general purpose technology that has the potential to transform economies in the same way as electricity, the internet and industrial machinery did in previous eras. It is expected to influence productivity, employment patterns, industrial organisation, global value chains and even the strategic balance between nations. As AI adoption increases across sectors such as services, manufacturing, healthcare, education and governance countries are no longer only discussing whether AI should be adopted but how it should be adopted and who will control its development, deployment and economic benefits. For a

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country like India, which is a labour abundant economy with resource constraints but strong human capital and digital infrastructure the way AI is adopted will determine whether it becomes a tool for inclusive growth and employment generation or a source of jobless growth and technological dependence. Therefore, understanding the economic implications of AI and designing an appropriate national strategy has become an important policy priority.

In this context, Chapter 14 of the Economic Survey 2025-26, titled “Evolution of the AI Ecosystem in India: The Way Forward” becomes important because it does not look at AI merely as a technological innovation but as an economic and strategic policy issue. The chapter examines the structure of the global AI ecosystem, the constraints and trade-offs that India faces in adopting AI and the need for a development oriented and bottom up approach to AI adoption that aligns with India's economic realities. It argues that India should not attempt to replicate the frontier AI model of advanced economies, which is capital and resource intensive but should instead focus on application driven AI development, open and interoperable systems and human capital development. The chapter therefore sets the direction for how India should position itself in the AI era and how AI can be used as a tool for productivity growth, employment generation and inclusive development.

2 Artificial Intelligence in India's Economic Context

The chapter begins by explaining how the global conversation around AI has evolved from speculation about future possibilities to actual adoption across firms and sectors. Earlier discussions on AI focused largely on preparedness in terms of skills, infrastructure and institutional readiness but the current phase is characterised by actual deployment and experimentation across organisations. Evidence presented in the chapter shows that a large proportion of firms globally are already using AI in at least one business function and many are in the process of scaling their use across their organisations. This shift indicates that AI is no longer a distant technology but an active economic force that is beginning to influence productivity, business processes and organisational structures.

However, the chapter makes an important distinction between AI usage and AI development. While AI adoption may become widespread, the development of

advanced foundational models remains highly concentrated because it requires large amounts of capital, computing power, data, energy and specialised talent. This creates structural imbalances in the global AI ecosystem where a few firms and countries control the frontier of AI development while many others participate primarily as users. This concentration raises concerns about technological dependence, market power and supply chain vulnerabilities which are particularly relevant for countries like India that must decide how to position themselves within this ecosystem.

The chapter also addresses the labour market implications of AI noting that early evidence does not show large-scale job losses due to AI adoption. Instead, the evidence suggests that AI initially complements labour as firms integrate new technologies into their workflows. However, the chapter warns that this does not eliminate long-term risks. The analysis presented shows that while employment levels may not fall immediately the responsiveness of employment to output growth may decline over time implying that economic growth may generate fewer jobs in the future. This suggests that AI may gradually reduce the labour intensity of growth rather than causing immediate unemployment which is a significant concern for a labour abundant country like India.

3 Asymmetries and Trade-offs in the AI Ecosystem

A major analytical contribution of the chapter is the identification of structural asymmetries and trade-offs that define the global AI ecosystem and constrain policy choices for India. The chapter argues that these asymmetries are structural outcomes of how AI is financed, developed and deployed and therefore India's AI strategy must be designed with these constraints in mind.

One of the most important asymmetries discussed is between frontier model development and application based AI development. Frontier model development requires massive investments in computing infrastructure and specialised hardware, making it accessible only to a few large firms globally. For India, attempting to compete directly in frontier model development would require extremely high fiscal and infrastructural investments. Therefore, the policy trade-off lies between investing scarce resources in frontier AI development or focusing on application-specific AI systems that address domestic economic needs.

Another important trade-off discussed in the chapter is between productivity and employment. AI increases the productivity of capital relative to labour, which may encourage firms to automate tasks, especially in low-value service sectors. Rapid adoption of AI may therefore increase productivity but may also reduce employment absorption in certain sectors. On the other hand, delaying AI adoption to protect jobs may reduce competitiveness and trap firms in low productivity growth. Therefore, the policy challenge is not whether AI should be adopted, but how to pace its adoption in a way that allows labour markets to adjust.

The chapter also discusses the trade-off between open and proprietary AI models. Proprietary models provide high performance but create dependence and reduce transparency, while open-source models allow collaboration, adaptability and lower entry barriers but require coordination and quality control. The chapter suggests that India should promote open and interoperable systems so that innovation can be widely distributed and the value created from domestic data and innovation remains within the country.

Another key constraint discussed is the resource intensity of AI infrastructure. AI data centres require large amounts of electricity, water and capital investment and global experiences show that rapid expansion of AI infrastructure can strain energy systems and financial systems. For India where power, finance and water are limited resources, indiscriminate scaling of compute infrastructure would involve significant opportunity costs. This strengthens the argument for smaller, task specific AI models and decentralised computing systems rather than centralised, compute intensive AI development.

The chapter also highlights the trade-off between regulation and innovation and between strategic autonomy and global integration. Excessive regulation may stifle innovation, while lack of regulation may create risks and reduce trust in AI systems. Similarly, complete technological self sufficiency is neither feasible nor efficient but overdependence on foreign AI systems may create strategic vulnerabilities. Therefore, India must balance openness with strategic control.

4 A Development-Oriented Approach to AI

The chapter argues that AI should be treated as a strategic economic priority because it will influence not only productivity and growth but also labour markets,

foreign policy and national security. Indigenous AI development is therefore important not just for technological progress but also for economic resilience and strategic autonomy.

One of the central arguments of the chapter is that India should adopt a bottom-up approach to AI development rather than a top-down frontier model approach. The bottom-up approach focuses on sector-specific AI applications developed across sectors such as agriculture, healthcare, education, manufacturing and public administration. This approach aligns with India's strengths including a large pool of technical talent, a strong digital public infrastructure and diverse domestic datasets while also taking into account India's constraints in compute infrastructure and capital availability.

The chapter emphasises that small, application-specific AI models are more suitable for India because they are computationally efficient, easier to deploy and can run on existing hardware such as smartphones and personal computers. This allows AI adoption to spread across sectors without requiring massive investments in data centres and compute infrastructure. It also allows innovation to emerge from a wide range of actors including startups, research institutions, public agencies and local governments rather than being concentrated in a few large firms.

The chapter also emphasises the importance of open-source and open-weight AI models. Open innovation allows India to achieve more with limited resources, reduces dependence on foreign proprietary systems and lowers entry barriers for domestic developers. The government's role in this ecosystem should be that of an enabler and coordinator by providing shared infrastructure, datasets, standards and platforms for collaboration, similar to India's digital public infrastructure model.

5 Human Capital for AI

The chapter highlights that AI development requires both algorithmic knowledge and software engineering capability and much of this knowledge is tacit and gained through practical experience rather than formal education alone. Therefore, India's education and skilling systems must evolve to include industry

collaboration, apprenticeships, flexible degree structures and early exposure to work experience.

The chapter proposes integrating education and work experience through structured apprenticeship and fellowship programs so that students gain practical experience while studying. The broader argument is that education systems must adapt to the changing nature of work in an AI-driven economy.

The chapter also makes an important conceptual argument that AI will change the nature of human work. As AI takes over routine cognitive tasks such as information retrieval and summarisation, human workers will increasingly be valued for judgement, problem-solving, domain expertise and the ability to design and manage complex systems. Therefore, education policy should focus more on foundational skills such as reasoning, communication, problem-solving and adaptability rather than narrow technical specialisation.

6 Governance, Institutional Architecture and Data

The chapter argues that AI governance must be phased and adaptive. Instead of imposing strict regulations immediately, policymakers should allow experimentation, then scale successful applications and introduce binding regulations where risks are high. The government's role should be to enable and coordinate rather than directly control innovation.

The chapter proposes the creation of an AI Economic Council that would monitor AI adoption, assess labour market impacts and guide the pace of AI deployment so that economic disruption is minimised and the benefits of AI are widely distributed. The underlying principle is that AI should serve human welfare and economic inclusion rather than replace labour indiscriminately.

The chapter also treats data as a strategic economic resource. India's large digital population generates significant amounts of data which can become a major source of economic value in the AI economy. However, the chapter argues that data governance should not focus only on data localisation but on ensuring that the economic value generated from domestic data benefits the country. Therefore, India's data governance framework should allow cross-border data flows while ensuring accountability, regulatory visibility and domestic value retention.

India's AI ecosystem is characterised by a striking paradox enormous human capital on one side and thin institutional and infrastructure depth on the other. The country contributes roughly 20% of the world's semiconductor design engineers and hosts over 1,700 Global Capability Centres. Nearly 90% of startups launched in 2024-25 incorporated AI into their products or services and the broader IT/ITeS sector generates revenues of approximately \$283 billion annually, accounting for around 7% of GDP. The domestic semiconductor design ecosystem generates cumulative annual revenue of less than ₹150 crore a figure that is almost incongruent with the talent it is built upon. Most intellectual property generated by Indian design engineers is owned by foreign corporations rather than Indian companies. This structural gap between talent and ownership defines the challenge that the 2026-27 budget attempts, in part, to address.

7 Budget Allocation Towards the India AI Mission

The India AI Mission launched in March 2024 with an approved outlay of ₹10,300 crore, received an allocation of ₹1,000 crore in Budget 2026-27, an increase from the revised estimate of ₹800 crore in the preceding year. On paper, this signal continued commitment. In practice, the mission has struggled with a persistent utilisation problem fund usage has remained below 50% since inception, a pattern that raises serious questions about absorptive capacity rather than financial intent. The mission is structured around seven pillars: compute capacity, a datasets platform, applications development, startup financing, an AI Innovation Centre for indigenous model development, the FutureSkills programme and a Safe and Trusted AI governance framework. The compute pillar is the most tangible in progress terms. India's national GPU capacity crossed 38,000 units by December 2025 and a further addition of 20,000 GPUs was announced in February 2026. While this represents real infrastructure growth it must be contextualised against the fact that training a single frontier AI model today can require tens of thousands of GPUs running for weeks meaning India's compute base, while growing, remains well below the threshold for sovereign foundational model development.

The underutilisation of funds is not simply an administrative failure. It reflects a structural design issue common to several MeITY schemes: incentives are disbursed only after predefined targets are met, which means money remains unspent not

because projects are absent but because the disbursement architecture is back loaded. Addressing this mechanism is as important as increasing the allocation itself.

8 The Data Centre Tax Holiday: A Long Horizon Structural Intervention

The most consequential AI-related provision in Budget 2026-27 is arguably not a direct expenditure but a tax policy decision, namely the proposal to extend a tax holiday until 2047 for eligible foreign cloud service providers that operate through India based data centre infrastructure. This exemption covers income from global cloud operations routed through Indian data centres, provided that services to Indian customers are delivered through an Indian reseller entity, thereby keeping domestic economic activity within the tax net.

The reasoning behind this measure is grounded in the nature of AI infrastructure itself. Data centres are the physical layer on which all AI computation rests training models, running inference, storing datasets and serving applications all depend on data centre capacity. India's current data centre capacity stands at approximately 1,280 MW with projections pointing to a four to five times increase by 2030. Investments of nearly USD 70 billion are already underway in the sector, with an additional USD 90 billion in announced projects. The 2047 tax horizon is designed to match the long capital cycles and high upfront costs that characterise this sector, giving global cloud providers the investment certainty needed to commit infrastructure to India.

The United States has issued executive orders to accelerate data centre permitting. Chinese firms are aggressively building overseas data centre capacity. In this environment, India's tax framework is intended to make the country a credible long-term destination for digital infrastructure that would otherwise flow to Singapore, Malaysia or the Gulf.

For domestic operations, the framework retains taxability Indian data centre company and the Indian reseller entity continue to be taxed as normal domestic companies. Where the Indian data centre is a related entity of the foreign company operating as a cost-plus centre, a 15% margin on cost has been proposed, offering transfer pricing clarity that had previously created uncertainty.

9 India Semiconductor Mission 2.0 and the Component Manufacturing Push

Semiconductors are the physical substrate of all AI computing every GPU, memory chip and AI accelerator traces back to the semiconductor supply chain. India's position in this chain remains marginal. Chips represent the country's single largest electronics trade deficit at approximately \$23.5 billion in 2024. It is within this context that the Budget announces India Semiconductor Mission 2.0 with an allocation of ₹1,000 crore for 2026-27.

ISM 2.0 is oriented differently from its predecessor. While the original ISM focused on attracting semiconductor fabs and assembly facilities with ten projects now approved representing a cumulative investment of ₹1.6 lakh crore the second phase turns attention toward the upstream: semiconductor equipment manufacturing within India, production of materials used in semiconductor fabrication, development of full-stack Indian semiconductor intellectual property and talent ecosystem strengthening.

This upstream orientation is strategically sound because equipment and materials represent higher value addition and greater strategic leverage than assembly. Taiwan's dominance in semiconductor manufacturing is underpinned not just by its fabs but by decades of accumulated equipment and materials capability. However, the ₹1,000 crore allocation is modest relative to the scale of investment required and returns from this phase will take years to materialise.

Complementing this is the expanded Electronics Component Manufacturing Scheme, whose total outlay was raised from approximately ₹22,000 crore to ₹40,000 crore in this budget, with ₹1,500 crore allocated for 2026-27. Components account for 42% of global electronics production value but only 9% of India's. The scheme targets sub-assemblies, bare components and capital equipment precisely the categories that India must develop to reduce its import dependence and increase the domestic value added in electronics that underpin AI hardware.

10 IT Services Simplification and the Safe Harbour Reforms

India's IT services sector the largest immediate interface between the Indian economy and AI received a set of tax simplification measures in Budget 2026-27 that are significant both in their practical effect and in their signal. All categories

of IT services, including software development, IT enabled services, knowledge process outsourcing and contract R&D, have been consolidated under a single category with a common safe harbour margin of 15.5%. The threshold for availing safe harbour has been raised from ₹300 crore to ₹2,000 crore, substantially expanding the number of companies that can benefit without extensive transfer pricing documentation. The Unilateral Advance Pricing Agreement process for IT services has also been fast tracked.

These measures address a structural vulnerability of the IT sector that the budget context makes acute. India's software exports are concentrated in the US and EU 70% of exports flow to these two markets and AI driven automation is disrupting the entry level and mid level service segments that form the base of the pyramid. Geopolitical tensions, stricter visa regimes and data localisation pressures compound this exposure. Reducing the compliance and tax burden on IT companies is a form of defensive support preserving competitiveness in a sector undergoing structural stress while it adapts to an AI augmented service model.

11 Future Plans and the Direction of India's AI Strategy

India appears to be pursuing a layered approach building physical infrastructure through data centres and semiconductor fabs, strengthening the component and material base through Electronics Components Manufacturing Scheme (ECMS) and ISM 2.0 developing indigenous AI capability through the India AI Mission and preserving the IT services sector's competitiveness through tax simplification while the 2047 tax horizon signals that policymakers understand this is a generational effort, not a five year plan.

The Economic Survey 2025-26's advocacy for open source AI models is particularly significant as a forward looking orientation. Proprietary models concentrate AI power in a handful of global firms and create strategic dependence precisely the pattern India has experienced in semiconductors and must not repeat in AI. Open models offer lower entry barriers, greater adaptability and align well with India's large open source developer community. The India AI Innovation Centre's mandate to develop indigenous Large Multimodal Models trained on Indian datasets is the institutional expression of this orientation, though it remains nascent.

The most consequential unresolved question for India's AI future is whether the country can transition from being a deployer of AI applying foreign models to domestic problems to being a developer of foundational AI systems. The budget's investments in compute, data platforms and indigenous model development are necessary conditions for that transition. But they are not sufficient as long as the gap between allocation and utilisation persists, the talent pipeline remains misaligned with industry needs and the regulatory framework around AI privacy, security and intellectual property remains undefined.

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The Macroeconomics of Precarity: Redesigning India's Labor Reallocation Through Institutional Buffers

Madhu Swaraj¹

Abstract

India faces a stark macroeconomic paradox: robust aggregate GDP growth alongside severe structural vulnerabilities within its youth labor market. Volatile consumption trends mask a deep crisis of labor precarity, underemployment, and educated youth distress. Millions are trapped in a non-productive “waiting economy” of competitive examination loops or unstable gig roles lacking social security. Simultaneously, critical public sectors suffer from acute workforce deficits. This article proposes a data-driven, gender-inclusive reallocation framework. By utilizing Digital Public Infrastructure, the state can dynamically absorb underutilized human capital into public service gaps, securing sustainable livelihoods. State-backed reallocative frameworks successfully absorb underemployed youth into stable livelihoods.

Keywords: Youth Unemployment, Precarity, Digital Public Infrastructure, Public Service Delivery, India.

1 Introduction: The Growth-Precarity Reality

On paper, India's macroeconomy looks spectacular. The Union Ministry of Finance continuously celebrates surging GDP numbers and a massive boom in youth-led consumption expenditure. Yet, these numbers tell a deceptive story. The record-breaking spending among India's younger generation is largely volatile and transient, failing to reflect stable, long-term disposable income. Beneath this shiny surface lies an agonizing crisis of underemployed graduates and systemic economic vulnerability.

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Classic human capital models assume that getting a degree automatically boosts an individual's productivity and earnings (Becker, 1964). However, our current formal market cannot produce secure, high-quality jobs at the scale required. This failure breaks that link, causing high educational attainment to paradoxically trap individuals in a stagnant "waiting economy" (Azim Premji University, 2023).

2 The Real Cost of a Stuck Workforce

This waiting economy forces millions of qualified youth to spend their best working years stuck in endless loops of preparing for public exams. They do this because they fear private-sector volatility. Those who do enter the workforce end up heavily concentrated in informal roles or digital gig platforms. According to the NITI Aayog Report on India's Booming Gig and Platform Economy, India's gig workforce hit 7.7 million in 2020-21 and is on track to triple to 23.5 million by 2030 (NITI Aayog, 2022).

While the latest Periodic Labour Force Survey (PLFS) Annual Report boasts a marginal dip in the national youth unemployment rate to 9.9%, it reveals that urban youth unemployment remains stuck at a brutal 13.6% (MoSPI, 2024). Left without institutional safety nets, these young workers live under extreme income anxiety. Their skills rot away during long periods of frictional unemployment. This economic stress transforms an active demographic asset into a massive societal liability.

Optimistic analysts celebrate this demographic spending wave, but the permanent income hypothesis reminds us that consumption fueled by unstable, gig-dependent income behaves fundamentally differently than consumption sustained by formal, secured wages (Friedman, 1957).

3 Ground Reality: Disconnection in the Rajasthan Model

To see how these macroeconomic frictions hit the ground, let's look at Rajasthan. Field observations in coaching hubs like Jaipur's Gopalpura Bypass or Kota uncover deep economic anxiety among youth. Interviews with local aspirants reveal a profound sense of temporal loss—what youth call "preparation fatigue"—where the fear of corporate layoffs makes five years of exam failure seem safer than a corporate desk job.

The state government attempted to address this stagnation by introducing the Rajasthan Youth Policy 2026 and a matching Employment Policy, aiming to create 15 lakh job opportunities by March 2029. The core of this strategy relies on an AI-driven digital upgrade—the Employment Exchange Management System (EEMS 2.0) portal—designed to link job seekers with institutional roles.

Yet, field validation shows a glaring disconnect: despite smart online portals, the state's massive underutilized human capital remains completely unlinked from actual institutional shortages. Short-term, ad-hoc contract positions continue to dominate, offering no fixed social safety nets, medical care, or long-term career paths. This gap confirms that digital portals alone cannot solve deep structural labor anxieties without direct state-backed reallocation mechanisms.

4 The Institutional Understaffing Crisis

While the supply side of the labor market wastes away in exam halls, the demand side faces a massive public service deficit. Vital administrative and pedagogical sectors operate with chronic staff shortages. Data from the [Unified District Information System for Education Plus \(UDISE+\)](#), uncovers an alarming institutional irony: even though India crossed a historic milestone of 10.12 million school teachers, roughly 9.83 lakh sanctioned teaching posts remain empty—meaning one in seven teaching positions is completely vacant (Ministry of Education, 2024).

In addition, UDISE+ analytics from IndiaSpend show that the number of non-teaching staff shrunk by 22% to just 720,000 (Ministry of Education, 2024). This leaves a meager ratio of only one non-teaching staff member for every 14 teachers (Ministry of Education, 2024). As a result, public school teachers spend their days drowned in administrative data entry instead of lecturing. This administrative burden destroys classroom instructional time and harms foundational student learning outcomes, threatening India's progress toward Sustainable Development Goal 4 (Quality Education).

5 Long-Term Macro Risks of Doing Nothing

Ignoring this structural mismatch invites fiscal disaster. This precarious, under-earning young workforce will eventually age out of the market. They will hit their senior years without personal savings, formal pensions, or healthcare safety

nets. The resulting geriatric healthcare burden will collapse state budgets. Short-term stipends or ad-hoc cash transfers are weak fixes. They fail to bridge the deep gap between labor supply and institutional demand. Looking globally, research on the middle-income trap warns that aggressively formalizing labor structures is a mandatory step to prevent long-term economic stagnation and crushing dependency ratios (Gill & Kharas, 2007).

6 Policy Roadmap: State-Backed Institutional Buffers

To break this cycle, India must build formal, socially secured reallocative frameworks that serve as dynamic institutional buffers. Drawing lessons from regional portals like Rajasthan's EEMS 2.0 system, the state can establish a self-sustaining reallocative mechanism:

- **Use Existing Digital Infrastructure:** Repurpose the National Career Service (NCS) Portal to map regional youth surpluses directly to localized public service vacancies in real time.
- **Deploy Formal Public Service Contracts:** Move distressed youth out of volatile gig setups and into structured public service contracts that guarantee baseline social protections, health coverage, and regulated wages.
- **Target the Administrative Burden:** Position this newly reallocated workforce to handle the routine administrative and data-entry loads currently crushing public professionals like teachers and frontline healthcare workers.
- **Account for Regional Gender Gaps:** Integrate Time Use Survey (TUS) metrics to account for regional time-use constraints and unpaid care burdens (MoSPI, 2024). This allows the state to build hyper-local, flexible matching slots that actively boost female labor force participation.

7 Conclusion

Moving workers out of precarious, informal roles into structured public service contracts does more than fill empty desks. It stabilizes permanent income and expands domestic market demand from the ground up. Financing formal social security is not a welfare drain; it is a highly productive macroeconomic

investment. By building robust institutional buffers, India can turn structural labor anxiety into stable, macro-level livelihoods, locking in its demographic dividend before the clock runs out.

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