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25TH INDIAN ASSOCIATION OF SOCIAL SCIENCE INSTITUTIONS

IASSI ANNUAL CONFERENCE

25-28 October 2026 | Nalanda University, Rajgir, Bihar

Summaries of the Conference Papers

Nālandā UNIVERSITY



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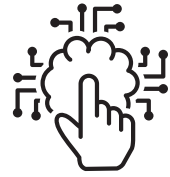
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Theme 1

DIGITAL FUTURES

Technology, Society, and Well-being in a Changing World

Digital Governance in Indian Agriculture: A Systematic Review of Government Digital Agriculture Schemes, Outcomes and Implementation Challenges

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The Government of India has accelerated the digital transformation of agriculture through technology-enabled initiatives encompassing productivity, market access, extension, financial inclusion, risk management, irrigation, mechanisation, and public service delivery. However, evidence on their effectiveness and implementation remains fragmented. This study systematically reviews the literature on Government of India digital agriculture schemes published between January 2015 and June 2026, following the PRISMA 2020 framework. Studies were identified from bibliographic databases and government sources, screened against predefined criteria, and appraised using the Mixed Methods Appraisal Tool. A total of 97 studies were included in the narrative synthesis. The evidence indicates that these initiatives have improved access to agricultural information, decision support, markets, financial services, irrigation, mechanization, and public services. However, outcomes vary across schemes, regions, and farming systems, and implementation remains constrained by high technology costs, fragmented landholdings, inadequate digital infrastructure, limited digital literacy, insufficient technical support, interoperability challenges, and data governance concerns. Evidence on newer initiatives, particularly the Digital Agriculture Mission and AgriStack, is limited, and long-term, comparative, and inclusion-focused evaluations are scarce. The findings highlight the need for interoperable infrastructure, inclusive access, institutional coordination, robust data governance, farmer capacity building, and rigorous long-term evaluation to ensure an equitable, resilient, and sustainable digital transformation of Indian agriculture.

Gender, AI and The Future of Work – The Gendered Impacts of AI on Livelihoods in BRICS Economies

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The expansion of artificial intelligence across global economies presents both opportunities and risks for gender equality in economic participation. While AI technologies promise to provide equal access to business tools, financial services, and entrepreneurship platforms, evidence suggests that women face disproportionate barriers to AI adoption and increased vulnerability to AI-driven job displacement. Existing research has documented gender disparities in digital access and technology sector participation, yet comprehensive analysis of AI's gendered impacts across emerging economies remains limited, particularly within the context of coordinated economic blocs.

This research examines the gendered impacts of artificial intelligence on livelihoods across BRICS economies, with a specific focus on China and India as the bloc's leading AI development centres. It analyses digital access, AI workforce representation, and employment patterns across Brazil, Russia, India, China, and South Africa. Findings present substantial gender disparities: women comprise only 22% of AI professionals globally, with BRICS countries showing similar underrepresentation despite varying workforce participation rates. Critically, 79% of women work in roles with high automation potential compared to 58% of men, indicating heightened vulnerability to AI-driven displacement.

China and India present contrasting case studies within the BRICS framework. China leads global AI investment at $119.3 billion, with 61.5% female labour force participation, yet demonstrates significant gender gaps in AI sector involvement. India ranks seventh globally in AI investment at $11.1 billion and shows strong generative AI adoption leadership, but faces digital gender divides with women comprising only 29.6% of AI platform enrollments.

Despite displacement risks, the research identifies enablement opportunities through AI-powered business tools, financial inclusion platforms, and entrepreneurship applications. BRICS countries' collective influence in AI investment and governance creates opportunities for establishing inclusive

development models that prioritise gender equality while maximising economic growth potential. The study contributes actionable insights for gender-responsive AI governance across emerging economies.

Examining the Factors That Influence Teachers' Adoption of a Gamification Approach in Indonesian EFL Classrooms: Korthagen's Onion Model

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Since the emergence of gamification, numerous studies have examined this phenomenon, especially in educational contexts. Research on gamification in education has reportedly increased by 20.61% annually. While previous studies have mainly focused on the impact of gamification on students, limited research has explored this approach from teachers' perspectives. To address this gap, this study examined Indonesian EFL teachers' perceptions of gamification and the factors that influence their decisions to employ it in their classrooms. Korthagen's Onion Model served as the theoretical framework, and 15 Indonesian EFL teachers volunteered to participate. Qualitative data were collected through semi-structured interviews and analysed thematically. The findings indicate that factors across the six layers of the Onion Model influence teachers' adoption of gamification. These factors include the availability of resources and technological support (environment); teachers' pedagogical practices (behaviour); technological and pedagogical competencies (competencies); beliefs about the effectiveness of gamification (beliefs); professional identity as educators (identity); and broader educational goals and values (mission).

The findings further suggest that teachers' decisions cannot be understood solely in terms of whether they consider gamification useful or engaging. Rather, implementation reflects the relationship between classroom conditions, teachers' knowledge and practices, and their underlying educational commitments. Contextual challenges, including large class sizes, unreliable internet access, and limited formal training, can constrain how teachers incorporate gamified activities into lessons. In response, teachers may rely on self-directed learning and informal online resources to develop their understanding and practical skills. Their perceptions are also shaped by concerns about whether gamification is suitable for their learners and whether it can support meaningful learning rather than simply add entertainment.

These considerations demonstrate that teachers do not adopt gamification as a uniform instructional technique; instead, they interpret and adapt it according to their professional contexts and pedagogical priorities.

This study contributes to the existing literature by applying the Onion Model to examine the interconnected contextual and personal dimensions of teachers' perceptions and practices. The findings suggest that effective support for gamification should extend beyond introducing digital tools or demonstrating classroom activities. Teacher education and professional development should also address pedagogical design, opportunities to build technological confidence, and opportunities for teachers to critically examine their beliefs and educational goals. At the institutional level, reliable infrastructure, accessible resources, and ongoing professional support may help teachers implement gamification more purposefully. By foregrounding teachers' experiences, this study offers insights for teacher training and educational policy aimed at developing sustainable, context-sensitive gamified learning environments.

Artificial Intelligence, Rural Youth and Social Well-being: A Conceptual Framework for an Inclusive Digital Future

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The rapid diffusion of Artificial Intelligence (AI), particularly generative AI and AI-enabled digital platforms, is transforming the institutional, economic and social organisation of contemporary societies. While AI has considerable potential to expand access to knowledge, education, employment, entrepreneurship and public services, its benefits remain conditioned by pre-existing inequalities in digital infrastructure, education, income, gender, caste, language and geographical location. In this context, rural youth constitute a particularly significant social group because their capacity to participate in the emerging AI-driven economy is shaped not merely by technological access but by the broader social and institutional conditions within which technology is encountered and utilised. This paper develops the concept of the "AI Capability Divide" to extend conventional understandings of the digital divide into the context of Artificial Intelligence. Drawing upon Amartya Sen's capability approach, the rapid diffusion of Artificial Intelligence (AI), particularly generative AI and AI-enabled digital platforms, is transforming the institutional, economic and social organisation of contemporary societies. While AI has considerable potential to expand access to knowledge, education,

employment, entrepreneurship and public services, its benefits remain conditioned by pre-existing inequalities in digital infrastructure, education, income, gender, caste, language and geographical location. In this context, rural youth constitute a particularly significant social group because their capacity to participate in the emerging AI-driven economy is shaped not merely by technological access but by the broader social and institutional conditions within which they encounter and use technology. This paper develops the concept of the "AI Capability Divide" to extend conventional understandings of the digital divide into the context of Artificial Intelligence. Drawing on Amartya Sen's capability approach, the paper concludes that an equitable AI transition requires a paradigmatic shift from access-centred digital inclusion to capability-centred and human-centred AI development. Rural youth should be recognised not merely as passive consumers of AI technologies but as agents, innovators, entrepreneurs and co-creators of India's digital transformation. An inclusive rural AI policy architecture must therefore integrate infrastructure, AI literacy, critical digital competencies, local-language accessibility, institutional support, ethical safeguards and opportunities for meaningful participation. Such an approach can enable AI to function not merely as an instrument of technological modernisation, but as a mechanism for expanding substantive freedoms, social participation and human well-being in rural India.

Digital Futures in Higher Education: AI Adoption and Educational Transformation in Bangladeshi Universities

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The rapid development of Artificial Intelligence (AI) is significantly transforming higher education by redefining teaching, learning, research, and academic communication. AI-powered instruments such as ChatGPT, Gemini, Copilot, and Grammarly have increasingly become integral to students' academic routines, presenting novel opportunities for customised learning, heightened productivity, and improved access to information. In Bangladesh, where universities are experiencing rapid digital transformation, the adoption

of AI has accelerated alongside the expansion of digital learning environments. Despite its growing prevalence, empirical evidence concerning the influence of AI on students' learning experiences, academic performance, and perceptions remains scarce. Therefore, this study investigates the extent of AI integration and its role in the educational transformation among university students in Bangladesh. The study employed a mixed-methods design involving undergraduate and postgraduate students from public and private universities in Bangladesh. Quantitative data were collected through a structured survey, and qualitative insights were gathered through in-depth interviews and Focus Group Discussions (FGDs). Descriptive and inferential statistical techniques were used to analyse the survey data, and thematic analysis was applied to the qualitative findings. The findings indicate that AI has become an integral component of students' academic experiences. The majority of participants reported utilising AI applications routinely for literature searches, assignment preparation, academic writing, language editing, coding support, brainstorming, and exam preparation. Students regarded AI as enhancing learning efficiency, expanding access to educational resources, facilitating self-directed learning, and encouraging creativity. Additionally, the findings suggest that AI helps mitigate learning obstacles by offering immediate academic assistance and tailored feedback. However, the research highlights several critical concerns. Excessive reliance on artificial intelligence risks undermining students' critical thinking, analytical reasoning, and autonomous problem-solving skills. Participants additionally articulated concerns related to academic integrity, plagiarism, misinformation, privacy, data security, and disparities in access to advanced AI technologies arising from digital and economic inequalities. Moreover, the lack of institutional policies and formal AI literacy training has generated uncertainty concerning the ethical and responsible application of artificial intelligence within academic environments. Moreover, the study suggests that artificial intelligence should be regarded as a supplementary educational instrument rather than a replacement for human learning and critical analysis. To optimise its educational advantages while minimising associated risks, the authority should formulate comprehensive AI governance frameworks, establish explicit guidelines for academic integrity, incorporate AI literacy into university curricula, offer faculty development programs focused on AI-supported pedagogy, and ensure equitable access to digital technologies. By providing empirical evidence from a developing country context, this study enhances the ongoing discourse on responsible AI implementation in higher education and emphasises the necessity of balancing technological innovation with educational quality, ethical standards, and student welfare.

Technological Pathways for Public Grievance Redressal: A Study of Grievances Lodged on the Sahyog Portal in Vaishali and West Champaran Districts of Tirhut Division, Bihar

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Bihar government's latest initiative towards public grievance redressal is charting pathways in demonstrating how technologically aided transparency has ensured time-bound accountability by government machinery. Bihar's Sahyog portal, launched on 11th May 2026, couples a thirty-day resolution deadline with an escalating sanction on the responsible Level 1 officer, and this paper asks whether that design produces substantive redress or principally accelerates administrative closure. The question is material because both study districts report resolution rates above ninety-five per cent (figures as of 31st July 2026), a disposal rate recorded by the disposing authority rather than an independently verified citizen outcome.

Launched in May 2026 as a single-window real-time monitoring system, Sahyog is supported by Sahyog Shivir camps convened across Bihar's 8,053 gram panchayats, a consequential programme design in a state where 88.7 per cent of the population was rural at the last census. Its accountability architecture is distinctive, where pendency triggers show-cause notices at ten, twenty and twenty-five days and an auto-generated suspension order on the thirty-first day, monitored from the Chief Minister's Office.

The study draws on internal district monitoring data to which the authors have access as officers responsible for Sahyog oversight in the two districts. West Champaran recorded 35,659 applications with 95.79 per cent resolution, and Vaishali recorded 10,513 with 95.94 per cent resolution (figures as of 31st July 2026). Analysis of transaction level records rather than published aggregates allows scrutiny of a flagship government initiative aimed at bringing government to the people.

These outcomes are read against the Bihar Right to Public Grievance Redressal Act, operational from June 2016 and often construed as a merely office-bound predecessor. It was envisioned as a rights-based, quasi-judicial framework with designated grievance redressal officers, sixty-day timelines, two appellate tiers and statutory monetary penalties. Sahyog thus marks a change in accountability logic, from adjudication with appeal to executive

monitoring with sanction, ensured digitally. Whether that exchange is favourable is an empirical question this paper aims to explore.

Our analysis examines departmental composition, the distribution of disposal intervals, recorded rejection grounds, closure remarks for boilerplate disposal, and relodging of substantively similar complaints. Reference periods are aligned across districts, and since applications on the portal presume access, applications are disaggregated by block and filing mode to test whether camp-based intermediation widens reach among marginalised claimants or reproduces existing gradients. Comparison extends to the 2016 Act's reported performance and to the Centralised Public Grievance Redress and Monitoring System (CPGRAMS).

Conceptually the paper applies the short-route and long-route accountability distinction of the World Development Report 2004, arguing that sanction-backed deadlines may improve timeliness while displacing quality. Its contribution is a transaction-level test of the disposal versus redress gap in India's most ambitious current state grievance platform.

The Witness That Cannot Speak: Forensic AI, Testimonial Incapacity, and Admissibility Reform Under India's New Criminal Law

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This article proposes the Testimonial Incapacity Doctrine (TID) as a new legal category for AI forensic evidence in Indian criminal proceedings. TID rests on a basic premise: AI systems are incapable of attestation. Attestation, the act that gives a certificate its legal weight, requires an epistemic agent capable of being wrong, capable of being held accountable, and capable of explaining the basis of a claim. No AI system meets these requirements. This is not a technical gap waiting for a better algorithm to close it. It is an inherent mismatch between the legal category and the object it is being applied to.

The article then proposes a three-layer admissibility architecture: a pre-deployment system validity verification, a mandatory output-specific reliability hearing at trial, and a non-delegable human accountability anchor. Each layer maps onto corresponding provisions of the BSA, the Bharatiya Nagarik Suraksha Sanhita 2023 (BNSS), and the Digital Personal Data Protection

Act 2023 (DPDPA). Draft statutory amendments are provided for all three statutes. The proposal is benchmarked against the United States Proposed Federal Rule of Evidence 707 (2025) and the European Union's AI Act (2024), and argues that India should borrow elements of both while transplanting neither wholesale. The US model presumes well-resourced defendants able to contest AI evidence with their own experts, an assumption that does not hold for most Indian litigants, and the EU's conformity-assessment infrastructure does not match India's institutional capacity.

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The article contends that TID is not merely an academic intervention but a model statute India can adopt directly. It draws on a real-world trigger: Delhi Police's 2024 deployment of facial recognition to identify protesters, with no judicial scrutiny of the match's reliability at any stage.

Digital Infrastructure and Women's MSME Formalisation in India: Role of Prevailing Business Environment in Inclusive Entrepreneurship

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Women-owned micro, small and medium enterprises (MSMEs) play a significant role in entrenching business participation and assisting in inclusive entrepreneurship development in India. Government of India initiative Udyam registration and the Udyam Assist platform play an important role in the formalisation of enterprises, mainly the major chunk of informal businesses, to make them formal through registration. Ministry of MSMEs data showed

that on the Udyam Assist platform, 70% of registered businesses are run by women. However, the formalisation of female-owned enterprises relied on the availability of digital infrastructure as well as the prevailing business environment. This study examines the state-level digital infrastructure in India and investigates its association with the formalisation of female-owned MSMEs by including prevailing business environment conditions such as economic development, labour-market conditions, and availability of financial intermediaries. Bihar is further examined as a regional case to describe available heterogeneity within the nation.

The empirical analysis is based on publicly available panel data on the government portal from 2022-2024, including 36 Indian States and Union Territories. For women's MSMEs, formalisation is calculated as the percentage of women-owned MSMEs among total MSME registrations for each State, sourced from the Udyam registration portal. Proxies for digital infrastructure used were internet-tele density, taken from TRAI data. For measuring business environment indicators, we used per-capita Net State Domestic Product (PCNSDP), Female labour-force participation, and, for robustness, the scheduled commercial bank credit-deposit ratio was also used. The analysis is performed on panel data using pooled regression techniques and fixed effects. For the study, state-level heterogeneity is particularly relevant for Bihar, using a comparative analysis of states based on actual women's MSMEs formalisation.

The baseline results do not provide statistical support for a positive association between internet tele-density and women's MSME formalisation. The pooled OLS estimate is negative and statistically insignificant, while the two-way: State and year fixed-effects estimate is positive but not statistically significant. However, State-only fixed- effects are positive and marginally significant at the 10% level ($p<0.1$) level. The mixed results indicate that internet-tele density alone offers weak and specification evidence. Thus motivating the extended models by incorporating prevailing business environment indicators.

The findings suggest that digital infrastructure should be used as an enabling condition within the prevailing business environment rather than a sufficient determinant of inclusive entrepreneurship. The financial intermediary environment in robustness indicated changes in the estimated relationship while financial and other conditions changed. Thus, this study offers policy implications for integrated digital, financial and institutional support for female entrepreneurs.

One Number, Many Counters: WhatsApp Governance and Stratified Citizenship in Andhra Pradesh's Digital State

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The paper examines Andhra Pradesh's Mana Mitra initiative as a significant transformation in the relationship between the Indian state and its citizens. Launched in January 2025 as India's first WhatsApp-based governance platform, Mana Mitra consolidates a wide range of public services through a single WhatsApp number. Rather than treating this development primarily as an administrative or technological innovation, the paper approaches it as a sociologically significant transformation of citizenship and state–society relations.

The central question is whether routing public services through a single, familiar digital interface genuinely expands access to the state or produces a new form of stratified citizenship in which access depends upon unequally distributed social and digital resources. The paper adopts an interpretive single-case study approach, drawing on official government communications, platform documentation, and public reporting. Launched with 161 government services, Mana Mitra expanded to more than 900 services across departments within approximately one year. Its "one number, many counters" design potentially lowers important barriers by allowing citizens to access services through an application they already use, without requiring separate portals, passwords, or repeated office visits.

However, the paper argues that convenience does not necessarily constitute inclusion. Effective engagement with the platform presupposes smartphone ownership, reliable connectivity, functional literacy, familiarity with digital interfaces, and confidence in navigating menu-driven systems. These capabilities are socially differentiated and unevenly distributed. Consequently, the same digital interface that simplifies access for some citizens may reproduce barriers for others.

The analysis draws on T.H. Marshall's conception of social citizenship and digital-divide scholarship to examine the gap between formally available rights and their substantive exercise. From this perspective, digitalisation

does not simply change how citizens receive services; it potentially changes the conditions under which citizenship rights can be practically exercised. The paper also considers the implications of delivering state services through a privately owned platform, particularly in relation to accountability, dependence, recourse, and the boundaries between public authority and private technological infrastructure.

The paper argues that digital inclusion must be understood beyond connectivity or technological availability. It requires attention to citizens' differentiated capacities to recognise, access, navigate, comprehend, and claim public services. Mana Mitra therefore provides a valuable case for understanding digital governance as a new terrain of citizenship, where the expansion of state reach can coexist with the reproduction of social inequality.

Location-Based Digital Platforms and Its Workers: A Study in Assam

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Rapid expansion and proliferation of Information and Communication Technology and digital technology have transformed the working style of the people. People have started to work online using digital platforms instead of physical work. These digital platforms may be online web-based platforms and location-based platforms for workers. In online web-based platforms, workers provide services to clients through digital mode or online, whereas in location-based digital platforms, workers provide services to clients physically in a specific geographical location.

The present article tries to examine the nature of employment in location-based digital platforms. It also tries to analyse the working status of the platform workers in location-based digital platforms. The study is purely based on primary data, and the primary data were collected through a sample survey using a structured schedule of questions from three urban locations in Assam, viz. Tezpur, Guwahati and Dibrugarh. The snowball sampling technique was used to collect the sample. From the study, it is found that the nature of employment on the platforms is informal and non-standard. The platforms provide task- or project-based, short-term work. The platform workers are treated as independent contractors. It is observed that most of the sample workers have less than 5 years of work experience. The majority of the workers had previous jobs that they left due to issues such as security

issues, earning issues, and others. Platform workers have no fixed working schedule. The platform workers have earned less than subsistence income. The platform companies must ensure that each worker working on digital platforms receives minimum remuneration for their work. The present study is limited only to delivery platforms and taxi platforms. The study may extend to other platforms, such as domestic service and home service, in the future.

Examining the Digital Accessibility of Tribal Women Entrepreneurs in Jharkhand

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In India's evolving economic landscape, women entrepreneurs play an increasingly crucial role in accelerating overall prosperity of the nation. Despite continuous government policies, schemes, and programmes, women entrepreneurs, particularly those from tribal community face several problems like limited access to credit, lack of information, low market linkages, absence of networks, cultural constraints, gender norms, etc. However, the growing use of digital technology has the potential to significantly address several of these issues. Digital services can improve their access to credit, information on government schemes, and training programmes. It may help them overcome barriers of distance and mobility. Digital platforms may strengthen their market linkages by allowing women entrepreneurs to directly connect with potential customers beyond their local village markets. In addition, social media platforms and online marketing websites may enable them to promote and sell their products to wider regional customers. To the best of my knowledge, there are limited studies examining this inter-linkage between women's empowerment through entrepreneurship and digital technology for tribal women of eastern India. The paper aims to fill this research gap and is based on the findings of a primary survey conducted in the tribal areas of Dumka and Ranchi in Jharkhand.

The primary objective of this paper is to examine the factors that can facilitate the empowerment of tribal women through successful entrepreneurial initiatives. The study emphasizes the preservation and utilization of indigenous resources, traditional knowledge, and skills as important means for integrating tribal women into the broader process of socio-economic development. It also seeks to assess the extent of accessibility

and use of digital technology among tribal communities for the promotion and growth of their entrepreneurial ventures. The paper is based on findings derived from quantitative interviews with 450 women along with 20 in-depth interviews and focus group discussions (FGDs) conducted with groups of women engaged in entrepreneurial activities. The findings reveal that many tribal women are interested in leveraging their traditional knowledge and skills to establish small business enterprises. They also have willingness to adopt digital technologies for marketing and selling their products. However, several challenges continue to hinder their progress, including limited access to finance, raw materials, and markets.

The study further highlights that, in certain regions, non-governmental organizations (NGOs) and government schemes have played a supportive role by providing skill development programmes, digital literacy training, and access to raw materials and machinery. Nevertheless, women residing in remote interior villages, located far from urban centres, often remain deprived of such opportunities and support systems. These areas continue to face significant infrastructural and institutional gaps, indicating a strong need for greater government intervention and sustained support to help women entrepreneurs maintain and expand their business initiatives.

Bridging the Gendered Digital Divide in India: Issues and Future Pathways

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Recently, the Government of India released the Comprehensive Modular Survey of the telecom sector. This has resulted in a renewed interest about the diffusion of ICTs in India. There is an increased push for digitisation with the aim of providing various digital infrastructure as a utility to citizens. With the proliferation of ICTs in the country, there has arisen a digital divide in India, which is not limited only to geographical factors, but there are other socio-economic and cultural factors which further accentuate this divide. In most developing countries, women encounter this divide, facing disproportionately larger barriers in accessing and using digital technologies. This paper attempts to analyse the nature and extent of the digital divide in India, which manifests itself across gender – the Gender Digital Divide (GDD). We seek to undertake a comprehensive assessment of the GDD in India, understanding its characteristics, dimensions, and socio-economic implications. Women are important collaborators in India achieving its

development goal (Viksit Bharat), and the barriers they face in availing the benefits of digitisation will hamper not only them but also the family, community and country. Hence, bridging the GDD and enabling women to improve their education and employment opportunities and outcomes is of pivotal importance for economic development. We find that while there have been notable improvements in access to ICTs for women, usage remains low, with different economic and non-economic factors contributing to it. Rural women and women from the marginalised sections have the least access, usage and skills when it comes to deriving benefits from ICTs. The wireless revolution has helped more women to be 'connected' and enjoy some financial autonomy via the use of UPI. However, when it comes to other skills, they fare much worse than men. Moreover, there exists a paucity of official data/resources to analyse the effects of different policies and programmes that directly or indirectly affect women's participation in the digital economy. Consequently, the paper will attempt to analyse the possible effects of existing policies on the GDD and conclude by offering some suggestions.

Lifelong Learning or Lifelong Pressure? Micro-Credentials, Employability, and Well-Being in Liquid Modernity

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The contemporary discourse surrounding micro-credentials presents them as flexible, accessible, and learner-centred pathways for lifelong learning. Positioned as responses to changing labour markets, micro-credentials promise to strengthen employability and support ongoing skills development. Yet their prominence cannot be understood solely as an educational innovation. This paper situates micro-credentials within the transformations associated with Zygmunt Bauman's concept of liquid modernity, in which institutions, occupational pathways, and expectations of security become increasingly fluid and uncertain.

Drawing on Bauman, the paper examines how labour-market instability, the expansion of gig and other precarious forms of work, and the weakening of stable career trajectories reshape the relationship between education and employment. A university degree remains important, but can no

longer be assumed to guarantee lasting occupational relevance. Educational achievement is increasingly expected to demonstrate not only what individuals have learned, but also their readiness to continue learning, adapting, and acquiring new skills. Micro-credentials respond through modular, targeted, and potentially stackable learning opportunities. However, their emphasis on continual updating may reinforce the expectation that individuals must repeatedly invest in themselves to remain competitive.

The paper develops the concept of credential precarity to describe persistent uncertainty about the adequacy, durability, and labour-market value of educational credentials. Unlike credential inflation, which highlights the diminishing distinction of qualifications as they become widespread, credential precarity foregrounds uncertainty about whether existing qualifications will remain sufficient or relevant. It offers a conceptual lens for examining how responsibility for maintaining employability increasingly shifts towards individuals. Read alongside scholarship on the individualization of risk and governmentality, this perspective illuminates how continuous learning can become a personal obligation, encouraging learners to monitor their skills, anticipate obsolescence, and treat employability as an ongoing project of self-management. The paper considers the implications of this shift for learner well-being. Although micro-credentials can widen access to learning and support professional development, the celebration of flexibility may obscure pressures associated with perpetual reskilling, self-improvement, and fear of falling behind. Lifelong learning may become lifelong pressure when participation is driven less by curiosity or personal growth than by the perceived necessity of avoiding labour-market exclusion. These pressures are not inherent to micro-credentials; they arise from the social and economic conditions in which flexible learning is promoted and experienced. Through theoretical analysis of relevant literature, the paper connects liquid modernity, changing employment relations, credentialing practices, and learner well- being. It argues for a balanced understanding of micro-credentials that recognizes their potential while questioning the individualization of employability responsibility. Higher education policy and practice should consider not only skills acquisition and employment outcomes, but also learner autonomy, well-being, and broader educational purposes. The paper concludes that lifelong learning should remain a meaningful opportunity for development rather than an unending requirement to prove one's employability.

Conundrum of Global North vs. Global South: In the Special Reference to the Regulation of Artificial Intelligence

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Artificial Intelligence (AI) is (re)shaping global politics with its evolving and indispensable nature and usage. It is becoming a new nuclear technology that all developed and developing nations wish to acquire during and post-Cold War era. Science and technology have always played a significant role in determining the foreign policy of any country. However, technology has never been considered as important as Realists consider power for the state and economic cooperation for liberals. Moreover, the critical thinkers of IR, who argue on core and periphery division on the basis of raw material vs industrialisation, somehow fail to acknowledge the role of technology in industrialisation. In the contemporary period, the technology has edge over other factors as the breakthrough in AI and emergence of Generative AI or autonomous AI. These emerging technologies are going to challenge conventional theory and foreign policy. From Data sovereignty to the digital divide, the conceptual debate between the North and the South would have different perspectives because of the complex characteristics of this technological revolution. In this realm, skills, data, chips, and semiconductors are materials and possession of these will be symbolised as power. Consequently, this could create a new supremacy race and challenge data sovereignty. Sovereignty is the power to make decisions and, in this case, to set norms and policies for regulating AI.

Global South would follow the EU AI Act, the USA model or the China model. What is the possibility of South-South cooperation in data sovereignty? How is it going to challenge the North vs Global South debate? The paper explores these issues through the theoretical framework of data sovereignty, analysing policy papers from the EU, the USA, China, and India. The paper further highlights the conundrums of regulating AI and why the Political Economy of AI is important for finding solutions to data sovereignty.

Is India Ready for Inclusive Futures in Robot-Assisted Surgery: A Narrative Review of Recent Media Coverage

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Robot-Assisted Surgery (RAS) has rapidly emerged as a prominent symbol of technological modernisation within India's healthcare sector. Newspapers, health magazines, and digital media are portraying it as a transformative innovation capable of redefining surgical care through artificial intelligence, indigenous manufacturing, telesurgery, and advanced minimally invasive techniques. The intensity of this coverage reflects not only growing interest in surgical technology but also broader aspirations concerning scientific progress, healthcare modernisation, and India's emergence as a global medical innovation hub. This article examines how these media narratives construct public understandings of robotic surgery and asks whether India is institutionally prepared for an inclusive future in RAS. Employing a narrative review methodology, the study analyses newspaper and magazine coverage published during August 2025– July 2026, supplemented by selected scholarly and institutional sources that provide historical, technological, and conceptual context. Rather than assessing the clinical effectiveness of robotic surgery, the article explores how media discourse frames India's readiness across four interrelated dimensions: technological readiness, health system readiness, human capital readiness, and inclusive access and societal outcomes. The review finds that media coverage is overwhelmingly optimistic, presenting robotic surgery as evidence of India's scientific advancement, technological self-reliance, expanding public-sector support, and growing international competitiveness. At the same time, recurring themes within the reporting reveal persistent concerns regarding affordability, dependence on global technology firms, uneven hospital infrastructure, financing, regulatory capacity, workforce development, and unequal access between public and private healthcare systems and between urban and rural India. These competing narratives demonstrate that technological innovation is embedded within broader questions of institutional capacity, state policy, market forces, and social equity. The article argues that readiness for robot-assisted surgery should therefore be understood not simply as the acquisition of sophisticated technologies but as a multidimensional process involving the interaction of technological innovation, health systems, governance, and inclusive development. By analysing media discourse as an important site through which emerging health technologies are promoted, debated, and legitimised, the article contributes to growing scholarship on the social dimensions of healthcare innovation in India. It concludes that while India

has made substantial progress in adopting and developing robotic surgical technologies, the realisation of an inclusive robotic future will depend less upon technological capability alone than upon the ability of public institutions and the healthcare system to translate innovation into equitable and accessible healthcare for all.

Digital Transformation and Sustainable Coffee Value Chains: Pathways to Inclusive Rural Development in India

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Digital transformation has been a factor in strengthening sustainable coffee value chains and contributing towards inclusive rural development in India. The Indian coffee industry has become increasingly important in terms of food production and employment generation, export income and rural livelihoods. Digital technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), blockchain, Geographic Information Systems (GIS), precision agriculture, digital advisory services and electronic marketplaces are revolutionising agricultural production and value chain management at the same time. Still, there is limited research on how digital transformation affects the coffee value chain and how it can be a catalyst for inclusive rural development in India.

The study employs a descriptive and analytical research design with official secondary data from the Coffee Board of India, the Ministry of Agriculture and Farmers' Welfare, NITI Aayog, FAO, the International Coffee Organisation, OECD and other government studies. Trend analysis, descriptive statistics, compound annual growth rate (CAGR), correlation analysis, and policy analysis are used to analyse coffee production, productivity, exports, market performance, value chain formation and the role of digital technologies at different stages of the coffee value chain.

The findings indicate that India's coffee sector has seen a steady rise in coffee-bearing area, production, productivity and export performance during the study period. Digital technologies have enhanced operational efficiency, resource utilisation, quality assurance, traceability, supply chain coordination, and market access, which has improved the competitiveness of Indian coffee in domestic and international markets. The Digital Agriculture Mission, AgriStack, Digital Public Infrastructure (DPI), and the Integrated Coffee Development Project have also helped accelerate the penetration of digital

technologies in the sector. The study also finds that digital transformation is a driver of inclusive rural development which will enhance farmers' incomes, employment opportunities, institutional coordination, market participation and diversification in livelihoods.

However, there are still challenges to digital transformation in India's coffee industry, including low digital literacy, small landholdings, financial constraints, coordination issues among institutions and climate-related risks. The study proposes to help expand rural digital infrastructure, improve skills and capacity-building programmes, improve precision agriculture and digital traceability systems, provide financial support for technology adoption, and promote institutional collaboration and entrepreneurship and innovation activities. The findings in this study show that digital transformation is a key driver for sustainable coffee value chains, and a driver of inclusive, resilient and technology-driven rural development in India, and therefore for agriculture to be competitive and sustainable in the future in India.

Employment and Dignity Under Beneficial Owners of Information, Automatic Identification and Surveillance Technology

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The paper captures the six epoch-making phases of the Information Technology (IT), automatic identification and surveillance industry in India and their ramifications for employment and dignity. The paper maps these phases and the emergence of the IT-era in India. Amid resistance from the trade unions, who were worried about the adverse impact of the IT industry on employment in the mid 1960s, the first phase began during 1955-1970, with the establishment of the Department of Electronics and the Electronics Corporation of India Limited. Today, there is a full-fledged Ministry of Electronics and Information Technology, which functions with the objective of rewriting India's landscape with e-government, e-industry, e-innovation, e-learning, e-security, e-inclusion, e-diplomacy and internet governance. It is promoting the internet, IT, IT-enabled services, electronic-biometric identification and semiconductor devices and laboratories. In the second phase, during 1970-1984, the government set up a committee in 1969 to examine the impact of automation on employment ahead of the establishment of the first software export zone, Santacruz Electronics Export Processing Zone in Mumbai in the 1970s. In the third phase, during 1984-1991, the New Computer Policy, Software Policy and Electronic Policy were adopted, and the Centre for Development

of Telematics laid the foundations for the growth of the IT industry in the country. Indian Railways adopted a computerised ticket reservation system while studying concerns regarding the possible negative impact of the IT policy on the structure of employment. In the fifth phase, during 1998-2005, the National Task Force on Information Technology and Software Development was constituted, Software Technology Parks of India were established in different cities and the Information Technology Act, 2000, the first e-commerce law, was enacted in pursuance of the resolution of the United Nations Commission on International Trade Law (UNCITRAL)'s Model Law on Electronic Commerce by the UN General Assembly in January 1997 for electronic transactions, e-commerce and e-governance. In this phase, Electronic Voting Machines (EVMs) replaced ballot papers for elections since the general elections of 2004. In the sixth phase, during 2005-2024, administrative approval was provided for the unique identification of all the residents of India, which is based on biometric technologies that measure and analyse human body characteristics, such as 'fingerprints', 'eye retinas and irises', 'voice patterns', 'facial patterns', 'hand measurements' and 'DNA' for authentication and automation purposes in the face of concerns regarding Artificial Intelligence (AI) replacing human workers with robot workers. The legitimate uses of computers in education, science, research, statistics and defence, as well as in commercial and industrial establishments, have been normalised and naturalised in this phase. The paper underlines that, in response to the need for legal protection of workers, the four labour codes- Code on Wages, Social Security Code, Industrial Relations Code, and the Occupational Safety Code-have been enacted in this very phase. Among other aspects, the paper infers that recognition of gig workers and platform workers as a separate class of workers by the Social Security Code of 2022 paves the way for ensuring labour rights, social security, and welfare programmes for platform workers. It can shift towards citizens, workers and employees and make beneficial owners of technologies subservient to the democratic consent of the citizens.

Digital Public Infrastructure as a Driver of Public Value Creation: A Conceptual Framework for Inclusive Governance

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Governments worldwide are increasingly adopting Digital Public Infrastructure (DPI), including digital ID systems, instant payment platforms, and consent-based data-sharing networks, to deliver welfare programs and public services. In mainstream policy debates, DPI is celebrated primarily for its technical

speed, fiscal savings, and ability to eliminate corruption. However, from a public administration standpoint, speed and cost reduction do not guarantee fair governance. When vital services like healthcare, pensions, and food rations rely solely on automated platforms, technical glitches, biometric mismatches, and rigid computer rules risk shutting out marginalised citizens who need state support the most.

This conceptual paper examines how DPI can move beyond narrow technical goals to create lasting "public value", an administrative standard that prioritises citizen dignity, democratic trust, procedural fairness, and social equity. Drawing upon public administration theory, the paper argues that sustainable digital statecraft requires equal alignment across three core areas: solid legal and democratic backing, reliable technical capacity, and fair socio-economic outcomes for every citizen. The paper identifies key structural problems in modern digital administration. One, Digital exclusion, where machine errors and connectivity gaps deny basic entitlements to vulnerable individuals; Two, Loss of frontline discretion, wherein frontline workers are being stripped of their judgment and forced to obey rigid computer decisions; and finally, heavy administrative burdens, which force citizens with limited digital literacy to spend time and money travelling to fix obscure database errors.

To solve these systemic problems, the paper introduces the Inclusive DPI Public Value Framework (IDPVF), which is built on four core pillars. One, Rights-based architectural design, ensuring systems protect user privacy, use open-source code, and legally mandate physical, offline alternatives so that a technology failure never denies an entitlement. Two, balanced institutional oversight, separating operational management from independent data-protection bodies and ombudsman offices to prevent surveillance and power abuse. Three, friction-free administration, restoring legal power to frontline caseworkers to override automated rejections and resolve data discrepancies on behalf of citizens. And four, participatory accountability, involving local communities, civil society, and grassroots groups in social audits of algorithms and public data logs.

Ultimately, the paper shows that digital public infrastructure must be governed as an open public common rather than a rigid sorting tool. By anchoring digital governance in constitutional due process and empathetic administration, governments can ensure technological progress serves human dignity and inclusive development.

Digital Readiness, Gig Work Participation and Employment Aspirations Among Undergraduate Students in Rural Assam

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The expansion of digital technologies and online platforms has transformed the nature of employment. It creates flexible, task-based and platform-mediated new employment opportunities for the youth. The growth of the gig economy in India has become a new platform of opportunities for youths. Among the undergraduate students, gig work may create new employment opportunities to earn additional income, acquire work experience and develop digital skills while continuing their education. However, participation in such work may be influenced by their digital access, digital capabilities, awareness of the gig economy and socio-economic circumstances. Despite the growing policy and academic interest in India.

gig economy, limited empirical attention has been given to digital readiness and gig-work aspirations among undergraduate students in rural Assam. The study highlights the coexistence of widespread basic digital access, limited formal digital preparation and emerging interest in platform-mediated employment among rural students in Assam. Against this background, the present study examines digital readiness and awareness of gig work, underscores current participation patterns and associated factors, and investigates students' perceptions of gig work as a future employment option.

The study uses primary cross-sectional data collected through a structured Google Forms questionnaire. In India, there is limited availability of secondary data on gig workers; the study focuses on a micro-level survey to examine digital readiness and participation in gig work among undergraduate students in rural areas of Lakhimpur and Dhemaji districts in Assam. The findings highlight a notable gap between basic digital access and preparedness for platform-mediated employment. The study shows widespread smartphone access, but only 21.1% of the respondents have access to computers or laptops, and only 28.1% have received formal digital-skills training. Among the respondents, only 38.6% of rural respondents had heard of the term gig economy, while 24.6% of the respondents were currently engaged in gig work such as online tutoring, freelancing, video editing, data entry, digital marketing, content creation and online selling.

The study highlights that students are engaged in gig work for additional income, financial independence, educational expenditure, work experience and skill development. However, low earnings, income instability, inadequate job security, internet connectivity problems and difficulties in balancing work with academic responsibilities are significant challenges which hinder participation in gig work. The study underscores that employment aspirations remained strongly oriented towards conventional pathways, particularly government employment. However, a substantial proportion of the respondents highlight the willingness to participate in gig work in the future. Responses at the district level also show uncertainty regarding gig work's potential to become a primary occupation or a reliable source of long- term income. According to the report, digital inclusion should include practical digital skills, awareness, dependable connectivity, and access to good employment possibilities in addition to smartphone access. Despite the small, non-representative sample limiting broader generalisation, the results offer preliminary evidence on the potential and limitations influencing rural students' engagement with the developing digital labour market in Assam.

Digital Futures and Inclusive Development: A Cross-Sectoral Analysis of Socio-Technical Integration and Human Wellbeing

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The parameters of human development and societal wellbeing are being fundamentally restructured by the global proliferation of Digital Public Infrastructure (DPI). Within contemporary macro-sociological frameworks, technological integration is increasingly conceptualised as a primary catalyst for structural empowerment rather than a mere administrative mechanism. This shift is evidenced by the rapid expansion of digital access; in India alone, the active internet user base reached 886 million in 2024. Consequently, a broad analytical framework is required to evaluate how these digital futures actively enhance societal cohesion and improve living standards across multiple domains.

A cross-sectoral analysis demonstrates the systemic advantages of this digital transition. In the healthcare sector, structural barriers to medical access are being systematically dismantled through national telemedicine initiatives. By September 2023, the Ministry of Health and Family Welfare's eSanjeevani platform successfully facilitated over 163 million remote

consultations, with the provider-assisted Ayushman Bharat - Health and Wellness Centre (AB-HWC) model accounting for over 93% of usage, directly improving health outcomes for rural demographics. Concurrently, within the educational sphere, knowledge acquisition is being democratised via mass digital platforms. The Government of India's SWAYAM portal recorded an enrolment of over 58 million (5.80 crore) students by January 2026, effectively bridging historical gaps in institutional access. Furthermore, economic mobility is being accelerated through digital financial inclusion. The Unified Payments Interface (UPI) processed a record 228 billion transactions in 2025, representing a 93.8% volume increase over a two-year period, providing historically unbanked populations with immediate access to formal economic structures.

These cross-sectoral advancements illustrate a decisive, positive shift towards inclusive human development. When essential services are digitised and scaled uniformly, the resulting efficiency directly augments individual wellbeing and social equity. Technological frameworks proactively mitigate traditional geographical and socioeconomic limitations. By enhancing digital capabilities, previously marginalised groups are provided with robust, highly accessible mechanisms for social participation and economic resilience. The integration of digital platforms into daily life thus functions as a structural equaliser.

In conclusion, achieving comprehensive societal wellbeing in a modern context is intrinsically linked to the affirmative expansion of digital futures. The optimistic trajectory of socio-technical systems indicates that technology is a vital, integrated component of contemporary human development. By synthesising multi-regional data and cross-sectoral trends, this conceptual paper establishes that the continuous evolution of digital infrastructure is essential for advancing global development goals.

Artificial Intelligence for Environmental Sustainability: Pathways to Green AI and Climate-Resilient Solutions

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Environmental sustainability is considered one of the most important issues around the globe because of biodiversity loss, environmental pollution, climate change, and depletion of natural resources. Artificial Intelligence is one such innovative solution that could possibly address the issues related to environmental sustainability by providing AI-driven environmental data

analysis, monitoring, forecasting, and evidence-based decision-making. Although there are plenty of papers on AI applications in individual environmental domains, very few papers have discussed AI applications along with Green AI guidelines, good governance, and climate resilience in the context of environmental sustainability. In order to address this knowledge gap, this study will focus on carrying out a narrative literature review on current AI developments towards environmental sustainability and also on the challenges and future scope of developing sustainable AI. The review is based on peer-reviewed journal papers, conference papers, and reliable reports.

Literature is critically analyzed and categorized under four themes: applications of AI in environmental sustainability, issues involved in using AI technology, pathways of Green AI in sustainable computing, and recent research avenues. It is clear from the results that the application of AI has greatly increased the ability to predict, monitor, forecasting, optimize resources, and make decisions that are resilient to the changing climate in various sectors like weather forecasting, renewable energy, precision farming, water resource management, waste management, biodiversity protection, and ecosystems restoration. The use of technologies like machine learning, deep learning, computer vision, remote sensing, geospatial intelligence, and the Internet of things allows better prediction, automated environmental monitoring, and optimization of resources. Nevertheless, the review reveals a number of challenges facing responsible AI applications. These challenges include high energy consumption by computations, carbon emissions due to large-scale AI models, low-quality data, algorithmic biases, and poor governance and digital infrastructure, especially in developing countries. In view of the synthesized findings, the current work emphasizes the potential of Green AI as an actionable route towards reconciling innovation and environmental concerns via energy-efficient algorithms, optimization of models, energy from renewable sources to power computing facilities, carbon-neutral computing, explainability, and responsible governance systems. This study also pinpoints some future trends such as Foundation Models for earth observation, Digital Twin approach, Edge AI, Nature-based Solutions, and citizen science as promising ways of developing environmentally resilient management practices. Through synthesis of new knowledge and findings in several environmental sectors into one sustainability perspective, this review serves as a handy source of information about sustainable application of AI in pursuit of SDGs.

Mainstreaming Data Governance: Leveraging Technology for Growth of Banks

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BFSI sector is growing, and so is the size, scale, and reach of banking, a critical enabler of economic growth. The adoption of digital banking, built on interoperable technology, broadband internet services, and India Stack, is driving digital transformation in the banking sector. The post-bank reform era could change the face of banks from legacy service providers to anytime, anywhere banking. Core banking architecture and the proliferation of alternative digital delivery channels have accelerated digital banking outreach, making a global mark in financial and digital inclusion. Innovations in financial inclusion driven by the exploration of the JAM trinity have won global acclaim.

Against this backdrop, the size and scale of the data pool expanded manyfold as services rolled out through internet banking, app-based banking, video, and digital streaming. Efficient digital modes on high-speed internet services worldwide have won the hearts of bank customers, who now use the UPI app for even micro-payment transactions, earning the awe and admiration of global financial experts. Many countries are collaborating with their payment counterparts to share technology platforms to replicate UPI-like services elsewhere. Banks' achievements in the digital space are immense, with fine-tuned, centralised loan processing centres working remotely by pooling talent. In the process, data volumes have grown significantly, and the need for data centres has expanded.

As data size grew, its protection, preservation, storage, retrievability, and privacy came under scrutiny. Accordingly, the Digital Personal Data Protection (DPDP) Act 2023 has been enacted, and its rules were rolled out in 2025, prescribing strict penalties for data compromises and leaks. Banks have been given a transition period to strengthen their data management strategies, controls, and monitoring. RBI recently came up with the Data Governance Framework (DGF), prescribing a certain pathway for the banks to maintain data sanctity and privacy. DPDP rules already prescribe heavy monetary penalties; the RBI's DGF mandates that banks strengthen governance rigour. The point is, as the data pool surges, the sensitivity towards its management must percolate down to the line management, and the data protection system has to percolate from the board and management level to mainstream its management at the grassroots level to ensure not only its protection but also harnessing the technology for growth and sustainability.

Spatial Frictions in Digital Commerce: A District-Level Analysis of Order Flows on ONDC

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India's Open Network for Digital Commerce (ONDC) was established with an explicit mandate to achieve geographic inclusiveness in digital trade. India's e-commerce market, dominated by closed proprietary platforms like Amazon and Flipkart, has historically concentrated economic activity in a handful of metropolitan districts. ONDC, introduced by DPIIT in 2022, was designed to break this concentration by enabling any seller or buyer to transact across a common open protocol. Whether open architecture alone is sufficient to achieve spatial equity remains an open and policy-relevant question. The issue of whether open protocols lead to geographic equalisation constitutes the empirical test posed by this study for the first time based on district-level order flow data. Based on ONDC dashboard data from 22 Indian states over April-July 2024, this paper utilises a fractional logit model. The dataset consists of 1,094 district-pair-month observations across 22 Indian states from April to July 2024. A fractional logit model is used as the preferred estimator given that the dependent variable (order share between district pairs) is bounded between zero and one. A state-level Elzinga-Hogarty analysis of intra- and inter-state trade flows (LOFI and LIFO) complements the regression framework by characterising the degree of market self-containment across states. Distance emerges as the primary and stable determinant of order flows not because the platform cannot link sellers and buyers at great distances, but because last-mile logistics costs make peripheral buyer districts less attractive destinations for sellers from further away. Second, flows between states (seller to buyer) outstrip those within the state when distance effects are controlled for- a counter-intuitive finding indicating that the most heavily trafficked channels in this network are not local, but rather interregional in nature, reversing the usual home bias prediction. Third, and importantly, an analysis of interactions between hubs and peripheries shows a pronounced structural imbalance: while sellers located on the periphery manage to sell to buyers located in metropolitan hubs, sellers in hub locations fail to deliver anything meaningful to buyers located on the periphery. The buyers located on the periphery have access to the platform but lack sufficient supply. The paper makes three contributions. It presents the first district-level empirical analysis of spatial order flows on ONDC. It proposes a frequency-based hub classification methodology that can be replicated using publicly available dashboard data. And it demonstrates that platform openness and logistics

infrastructure are separate problems, the former has been largely solved by ONDC, while the latter remains the binding constraint on geographic inclusion. Policy interventions should therefore focus on standardising last-mile delivery costs to peripheral districts and developing secondary hubs as regional distribution nodes, rather than further modifications to platform architecture.

Herd Mentality in Indian Stock Market: A Quantile Regression Analysis

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The study of herding bias is crucial in behavioural finance because investors often copy other people's actions, which results in group decisions that drive stock prices away from their intrinsic values. Even policymakers argue that the herd mentality among market participants exacerbates volatility, destabilises market forces and induces fragility in the financial system. In the wake of Covid-19, the application of behavioural finance has gained even greater significance worldwide. Therefore, the paper investigates this anomaly at the market and industry level using daily data for the full, pre- and post-COVID-19 periods from 1st January 2014 to 31st December 2021 in the Indian Stock Market. We employ Quantile regression (QR), a robust methodology, in comparison to ordinary least squares (OLS). Our study differs from previous papers on many fronts and contributes to the existing literature in some important ways, as it investigates herding behaviour both at the market and sectoral levels due to the sparse literature. We also explore herding asymmetry in market returns, trading volume and volatility in different time periods, both at the market and industry levels.

The empirical analysis finds evidence of herding behaviour at the market level in post-COVID-19 periods under bullish market conditions, low-volume states, and high-volatility market conditions at the higher tails of the quantile distribution. The presence of herding in a bullish market is due to the presence of excessive volatility, and in high trading volume is due to the presence of overconfident investors in the market.

In post Covid-19 period; the sectors like consumer durables, construction materials, Fast moving consumer goods, Oil & Gas and Power exhibit herding behaviour which focus on sell side herding. The various reasons for sell-side

herding behaviour include supply chain disruption due to lockdown, inflated product prices, and rising healthcare costs, which have led consumers to shift to saving mode as a precautionary measure. In the O&G sector, during post-COVID-19, there was a drop in oil prices due to oversupply and demand contraction owing to the complete lockdown in the first wave of COVID-19, which disrupted demand. The Power sector also sees a reduction in demand due to financial stress owing to large debt and disruptions to the power supply chain.

The presence of herding behaviour in the post Covid-19 period in the upper quantiles is of great concern to policymakers, as it can result in significant asset mispricing due to asymmetric information flowing in an imperfect information market. Consequently, it is vital to eliminate information asymmetry by giving easily accessible and cost-free information to the market participants. The continuous learning about market trends, investment strategies, and behavioural biases may help investors recognise the bias while making financial decisions. It is evident from our study that investors behave irrationally both in normal and during turmoil periods. Therefore, insights from this research may help market players and financial regulatory advisors to form appropriate decisions.

The application of ML & AI is a new domain of research which can be applied to measure different behavioural biases using techniques like support vector machines, neural networks, etc., which may provide better prediction of investor behaviour.

The Coach-up Catch-up: An Unfolding of a Digital Revolution Empowering PVTG Women in Pakur District of Jharkhand

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The Graduation Approach has emerged as one of the most effective interventions for supporting households living in extreme poverty, with coaching consistently identified as one of its defining and indispensable components. Unlike traditional social assistance, coaching provides structured, individualised support that strengthens participants' aspirations, decision-making, self-efficacy, and capacity to translate programme inputs into sustainable livelihood outcomes. Recent evidence also suggests that digital and mobile-based coaching applications can enhance coaching effectiveness by improving the consistency of service delivery, increasing participant engagement, supporting behaviour change, and strengthening

self-efficacy and resilience. However, despite the rapid expansion of digital tools in development programmes, empirical evidence on the effectiveness of application-supported coaching within Graduation programmes, particularly among Particularly Vulnerable Tribal Groups (PVTGs), remains limited. This study evaluates the effectiveness of the Coach-Up mobile application developed by Trickle Up through funding support from CISCO and the Whole Planet Foundation to support frontline coaches implementing the WISE III Graduation Programme among Paharia PVTG households in Littipara Block of Pakur district of Jharkhand.

A mixed-methods endline evaluation employed a quasi-experimental, dual comparative design combining baseline-endline assessment with cohort comparison. Cohort I received standard coaching, while Cohort II received coaching supported by the Coach-Up application. Quantitative data were collected from 479 participants and 23 coaches, complemented by focus group discussions, key informant interviews, coaching observations, and Most Significant Change (MSC) stories.

The findings demonstrate that application-supported coaching strengthened both psychosocial and livelihood-related outcomes. Compared with Cohort I, participants in Cohort II showed significantly higher understanding of pathways out of extreme poverty, government entitlements, livelihood planning, and SMART goal-setting. Participants exposed to the application were 3.8 times more likely to understand SMART goals and 1.5 times more likely to initiate action on their livelihood plans. Cohort II also demonstrated stronger self-esteem, self-efficacy, resilience, and personal agency, while each five-point increase in self-efficacy increased the likelihood of taking action by 32%. Furthermore, participants receiving application-supported coaching were 7.7 times more likely to identify their coach as a primary source of support, reflecting stronger coaching relationships and more diversified social support networks. Qualitative evidence further indicated that multimedia content, localised audio-visual materials, and structured coaching pathways improved participant engagement, confidence, and adoption of livelihood practices.

Although the study captures only early outcomes and cannot fully isolate the application's independent contribution from other programme components, it demonstrates that digitally enabled coaching can substantially strengthen last-mile programme delivery and offers a scalable approach for improving the effectiveness of Graduation programmes in remote and underserved settings.

Job Creation Among Females Through Increasing Employee Provident Fund (EPF) Accounts – A Case Study of Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)

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This paper examines the impact of the PMPRY scheme on women's participation in the labour force. With the scheme running widely, there is a need to study the impact of the scheme on the participation of women in the labour force, to find out the number of women beneficiaries of the scheme and to explore the ways of benefits. There is sufficient literature available on factors affecting Female Labour Force Participation in India, but there are scant reports available which deal with the effectiveness of the policies initiated/ implemented by the government. Thus, the objective of this study is to address the challenges faced in the effective implementation of this scheme and the other non-policy-related factors that pull women back from joining the workforce. The study used the Consumer Pyramids Household Survey (CPHS) by the Centre for Monitoring Indian Economy (CMIE) as a database for analysing variables such as education, marital status, past employment details, effective use of time, health and financial coverage provided using multiple discriminant analysis. The detailed analysis of the above-mentioned data sets portrayed the trend in female participation in work workforce, the relationship between level of education and the drop in women from the labour market and the reasons for the drop in female labour force participation. Thus, this paper elaborates on the government scheme from the perspective of women in the labour force and its effectiveness, as well as gaps in existing policy. To understand whether women are aware of the scheme and to the extent it has been availed by women, and if not, point out the reasons for the same. The study tries to quantify the impact of key policy and non-policy factors affecting female participation in the workforce. The outcome provides the loopholes in the policies and proposes ways in which these policies can act as a pull factor to women in the labour market.

Digital Renaissance and Impact of Algorithm on Adolescents

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European Renaissance was a period spanning 14th to 17th century characterized by conscious awakening towards glorious past which led to unprecedented advancements in art, science and culture. But today's digital renaissance refers to profound cultural, economic and technological transformation which acts as a double-edged sword: drastically lowering the barriers to human creativity while simultaneously altering core cognitive values. Latter is about how humans process information and sustain focus. It is based on generative artificial intelligence, blockchain, cloud infrastructure and spatial computing. We have actually moved from deep, sustained concentration capacities to rapid and fragmented processing. AI is affecting our critical literacy, transactive memory and neuroplastic adaptability. But the worst affect is seen on the teenagers in terms of profound disruption of their mental health. Algorithmic platforms are exploiting their sensitive developmental stage by providing artificial bursts of dopamine via likes, views and notifications. This constant pressure, frequently pushes their nervous system towards persistent cognitive burnout. Thus digital renaissance doesn't echo the same sentiments as medieval renaissance. In fact, AI driven by generative algorithms is not only addictive but is gradually inhibiting the cognitive abilities and originality of adolescents. This paper aims to study the impact of algorithm mediated systems on creativity of young people. It will also explore the influence of AI-curated digital environments on behavioral and emotional stability of teenagers.

Artificial intelligence has led to neurobiological hijacking and impaired impulse control among adolescents. Teenagers constantly compare their everyday lives to heavily edited and filtered images. This has led to unrealistic standard benchmarks and mood fallouts. Sleep loss due to constant digital addiction has diminished emotional stability and academic performance as a result of which it's becoming difficult for teenagers to process memories and regulate daily stress. We already notice shrinking average attention span and diminished empathy towards others.

This paper will analyze the impact of different digital platforms on adolescents. There are some obvious benefits like convenience, entertainment and personalized search. However, studies reveal participants' concerns for

their privacy, safety and trust online, which can have a significant impact on their creativity. This paper thus draws a parallel between mediaeval renaissance and digital renaissance and studies latter's impact on the creativity of adolescents. We argue that governments need to incorporate policies that require technologists and others to embed the safeguarding of children and young people. Also, literacy on the functioning of AI and its generative algorithms is important for this age group. It will empower them to steer digital architecture rather than being driven by it. Hence, this power dynamic is required where adolescents can dictate system rules rather than being manipulated by the system.

The Impact of Artificial Intelligence on Indian Economy: Prospects and Challenges

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This study assesses the impact of AI on the Indian economy. To do so, this study first examines the linkage between AI and economic growth by highlighting the review literature and presenting analysis based on available facts. Then, in the second stage, this paper investigates the impact of AI on employment. Third, this study also made a comparative analysis of India's position in the Human Development Index and the AI vibrancy index. Finally, to supplement the analysis, this study made an attempt to quantify the impact of AI on economic growth in India. The findings reveal that currently, macro- and micro-level evidence does not support the outweighing of the complementary effect by the substitution effect of AI on employment in India. However, from the job demand side, there might be a reduction in demand for non-AI-related jobs and an increase in AI-related jobs. This might lead to labour market inequality, which needs to be addressed by re-skilling and skilling of the Indian labour force in AI. Another important challenge is to address the demands of the rapidly increasing gig economy in India in the AI era, and ensure human-AI collaborations in gig platforms. Further, results show that along with remarkable growth and a high AI vibrancy index, India has also performed well in terms of growth of the HDI during 2017-2023 in comparison to the three major economies like the US, China and Germany. However, the loss in the value of HDI due to income and educational inequality is quite high

in India. Our analysis showed that HDI and inequality-adjusted HDI have a moderate to strong correlation with venture capital investments, especially in the education sector. Finally, by employing an ARDL model, the results revealed a long-run relationship between AI and economic growth. However, AI only positively affects economic growth in the long run but not in the short run. From the policy perspective, while the Government of India has taken proactive steps for AI-enabled schemes, greater emphasis on appropriate strategies is required to generate more employment with the help of AI.

Digital Bridges for India's Labour Economy: Technology as a Catalyst for Inclusive Development and National Prosperity

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India's labour economy is marked by a paradoxical mismatch: despite a workforce exceeding 500 million, millions remain unemployed or underemployed while employers struggle to find reliable manpower. This disconnect, highlighted by the Periodic Labour Force Survey (PLFS, June 2026) reporting an unemployment rate of 5.5% and a labour force participation rate of 54.4%, undermines productivity, delays projects, and constrains national growth. The persistence of informality—where over 80–85% of workers lack social security and verified contracts—further exacerbates wage insecurity and inefficiencies. Against this backdrop, digital platforms have emerged as potential bridges, reconfiguring India's labour markets through mobile-first access, vernacular interfaces, verified worker records, and transparent hiring processes.

This study critically examines the role of digital platforms in addressing labour market inefficiencies and fostering inclusive development. Drawing on global literature, national policy instruments, and platform-specific data, the paper situates India's labour challenges within the broader context of demographic shifts, digital adoption, and Vision 2047. A mixed-methods approach was employed, combining quantitative data (downloads, user ratings) with qualitative insights (interviews, thematic coding). Case studies of platforms such as Apna, workindia, Job_Hai, Naukri, Urban_Company, and eshram reveal adoption patterns and satisfaction levels across India's diverse labour ecosystem.

Findings indicate that private platforms dominate adoption and satisfaction, with millions of downloads and high ratings reflecting strong

user trust. In contrast, government-led platforms such as ASEEM (which is now discontinued) and NCS lag in usability and credibility, despite their policy importance. Informal and unemployed workers are increasingly absorbed into digital ecosystems, particularly through private apps designed for blue- and grey-collar employment. However, integration remains uneven, with government platforms struggling to scale and formalise workers effectively. This divergence underscores the gap between policy intent and user experience.

The study also identifies a critical exclusion: current digital platforms fail to adequately serve workers roaming in rural and urban areas who remain disconnected from structured demand. Farmers in rural regions often face acute labour shortages during peak agricultural seasons, while many workers simultaneously seek employment but cannot access opportunities at the right time. This paradox highlights the urgent need for a dedicated rural labour–demand platform that can match real-time agricultural and informal sector requirements with available workers. While ASEEM was envisioned as one such solution, its limited operational reach necessitates redesign and integration with existing systems like eShram.

Policy recommendations emphasise the importance of public–private partnerships, interoperability of databases, multilingual interfaces, and trust-building mechanisms to ensure inclusivity and transparency. Integrating skill development modules, gender-sensitive design, and employer incentives can further enhance adoption and impact. By systematically connecting informal workers to demand, India can achieve productivity gains, wage security, expanded social protection, and fiscal growth—aligning workforce transformation with Vision 2047.

Impact of Rainfall on India's Informal Economy: A Study on Digital Peer-to-Peer UPI Transaction Volume Using an ARDL Model

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This paper aims to assess the impact of rainfall on the UPI volume and value, addressing a significant gap in the literature on how rainfall behaviour dynamically affects digital payments. This, in turn, translates into short-run impacts on the income of several agents in the economy and provides benefits in the long run in economies like India. To conduct the study,

monthly data on UPI transaction volume, rainfall, IIP, CPI, and broadband subscribers were obtained from the NPCI, IMD, RBI, and TRAI databases for the period April 2021 to March 2026. An Autoregressive Distributed Lag with ECM has been applied. The study findings suggest there is a negative relationship between rainfall and peer-to-peer transaction volume in the short run, accounting for around 30% deviation from the true value on average, and a positive relationship in the long run, where a unit change in rainfall increases transactions by around 9.7% on average. The ECTt-1 term is negative, suggesting convergence toward the equilibrium path around 35% on average in the following months. The collected data and the study period are too limited to capture the true impact of relationships. Natural conditions cannot be changed at a broad level for the whole environment, but these small weather events affect day-to-day life and the way we use resources. Small weather impacts, i.e., rainfall, temperature, precipitation, etc., are significant in impacting lifestyle. Rainfall is one of those factors that impacts the informal economy in a significant way daily. This can be tackled using pragmatic policy implementation. For instance, informal sector day-to-day street vendors are forced to leave their homes and work in all conditions; adverse weather significantly reduces their income, which ultimately impacts their lifestyle. In India, where a large number of workers participate in the informal sector, it is necessary to tackle these types of conditions. For instance, if a marketplace is open, it will certainly be impacted by the rainfall. So, it is imperative to formalise these activities under some conditions so that a large number of societies benefit, especially workers from the small and informal sectors. The collected data and the study period are too limited to capture the true impact of relationships. Regional rainfall patterns vary across measurement parameters, which the study cannot capture.

Digital Transformation and Changing Consumer Behaviour in India: The Role of Demographics and Post-Pandemic Digital Adoption

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Digital transformation has significantly reshaped consumer behaviour in India, particularly through the rapid expansion of e-commerce, digital payments, mobile technologies, and social media. At the same time,

demographic diversity and post-pandemic changes in lifestyles, priorities, and risk perceptions have created substantial variations in consumer preferences and purchasing decisions. This study examines the major determinants of consumer behaviour in India, with particular emphasis on socio-demographic characteristics, digital adoption, cultural and social influences, brand trust, and post-pandemic behavioural changes. The study is based on both primary and secondary data. Primary data were collected through a structured questionnaire from 250 respondents across different demographic and geographical groups, of which 230 complete responses were considered for analysis, representing a 92% usable response rate. The sample includes consumers from urban, semi-urban, and rural areas with varied age, income, education, and occupational backgrounds. Descriptive statistics, chi-square tests, correlation analysis, regression analysis, and factor analysis were employed to examine the proposed hypotheses. The findings indicate that product quality, price sensitivity, and convenience are the most influential factors affecting consumer purchase decisions. Socio-demographic characteristics, particularly age, income, education, and location, significantly influence online purchasing and digital adoption. Digital adoption and trust in digital payment systems demonstrate a significant positive relationship with online purchase intention. Cultural and social influences, particularly family influence, are more prominent in high-involvement purchasing decisions, while peer influence is stronger for lifestyle-oriented products. The findings further reveal persistent post-pandemic changes, including greater health and safety consciousness, increased reliance on digital channels, and more cautious spending. Brand trust also emerges as a significant predictor of consumer loyalty and repeats purchase intention. Overall, the study highlights the increasingly digital, value-conscious, trust-oriented, and health-aware nature of Indian consumers and provides implications for businesses, marketers, and policymakers seeking to develop inclusive and consumer-centric strategies in India's evolving market.

The Impact of Digital Financial Services on Household Debt: A Large Panel Study Focusing on the Credit–Growth Procyclicality

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Since the 2000s, the increasing adoption of digital technologies for financial transactions, such as mobile payments, debit cards, and credit cards, has made it easier for people to make purchases and quietly changed household spending patterns. Digital technology can change both the velocity of money and people's intertemporal preferences. The easy availability of immediate cash not only smooths household consumption but also poses the risk of increasing household debt. Our paper studies the impact of digital payment usage on household debt across 64 countries, with 32 in each of the Emerging and Developing Economies and Advanced Economies groups. Generalised Methods of Moments (GMM) estimation is used to address potential endogeneity and the dynamic nature of the large panel. We use non-overlapping averages from 2014 to 2024 for three measures of digital transactions. Aside from digital payment variables, various macroeconomic factors, such as household consumption, inflation, internet usage, and the working population, have been controlled for. Our results show that the use of credit cards and digital payments has a significant positive impact on household debt, with digital payments having the largest impact. The working-age population plays a vital role in reducing a family's household debt as the family's income increases. Increases in internet use have a dampening effect on household debt, as people gain more knowledge of the credit market and the availability of lower-cost debt. Because household debt is persistent over time, debt from past years severely impacts the current period's debt. Our results align with the "Mental-Accounting" theory, that people spend-more when using credit or mobile payment methods than when using cash. The policy implications of this analysis are that, in the future, additional regulatory frameworks may be necessary to mitigate the default risks arising from this debt trap caused by higher spending resulting from the adoption of modern payment gateways.

Digital Platforms and Multi-Stakeholder Helix Ecosystems: The Microfoundations of Knowledge Creation and Resilience in Rural and Developing Economies

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This work is focused on the structural, organizational, and behavioural mechanisms through which digital platforms and open, multi-stakeholder innovation networks help to flourish localized knowledge creation and socio-economic resilience. It also explores the application of Triple, Quadruple, and Quintuple Helix architectures by integrating academia, industry, government, civil society, and the natural environment—within the rural, remote, and underprivileged economies of the Global South, aiming to bridge a widened developmental divide at different level.

Under traditional economic formation, these underdeveloped and suppressed segments of society have historically lagged far behind, deeply marginalized by systemic frameworks that inherently favour concentrated capital. Moreover, mainstream innovation scholarship has predominantly emphasized dense, urban, and resource-rich industrial clusters as the primary engines of growth. Conversely, this research highlights how secondary and disadvantaged regions are increasingly utilizing multi-sided digital systems to successfully "leapfrog" traditional, asset-heavy developmental trajectories, and effectively bypassing decades of costly legacy infrastructural hurdles and bottlenecks.

To uncover this dynamic, the paper applies a rigorous micro foundations lens. This analytical perspective uncovers how macro-level regional capacity and systemic shock-absorption capabilities do not merely manifest from top-down mandates. Instead, they emerge directly from micro-level human actions, actively shifting organizational routines, and the vital cultivation of shared cognitive, physical, or virtual environments—conceptually defined as Ba. By integrating Organizational Information Processing Theory (OIPT) with contemporary open innovation models, we construct a robust conceptual framework. This framework is specifically designed to analyse the operational realities of emerging localized ecosystems, including agile financial technology (FinTech) capabilities that democratize capital access, rapid supply chain realignments, and grassroots community networks across dynamic geographies like Southeast Asia and India.

Ultimately, the paper demonstrates that digital platforms serve as the foundational virtual architecture of Ba. Since, digital spaces is borderless,

distributed peripheral actors are empowered to interact, pool resources, and share their expertise isolated previously. After Adopting of these practices, they are now able to convert vulnerability into invincibility, tacit localized insights into systemic, and long-term regional resilience seamlessly. Such transformation proves the criticality under highly volatile macroeconomic conditions, directly equipping marginalized, resource-constrained communities with the essential agile frameworks required to combat severe external shocks, drive highly inclusive innovation, and secure sustainable, locally driven socio-economic development in a complex and unpredictable global landscape.

A Fuzzy Predictive Model to Predict the Basic Cause of Sleep Disorder in Elderly-An Early Diagnosis

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The troubling sleep disorder in the elderly is a major cause of distress and harmful after-effects. To predict sleep disorder causes and symptoms and to make their lives smoother, a study has been conducted, and the fuzzy tool is utilised. A primary survey of the elderly who are coming regularly to the hospitals generally for blood pressure, diabetes, depression, stroke and anxiety, etc., is done. They are been examined through normal gestures, their way of responding, and the hospitality they wish to get. The caregivers who are accompanying them are also questioned and surveyed. The major cause of many diseases has been found to be sleep disorders, sleep apnea, walking at night, etc. The different parameters of distress for different elderly are varied and never the same. Several causes have been analysed, and some are still too complicated to be handled or even known. A fuzzy Quality Function Deployment (QFD) approach has been analysed and proposed in this paper to filter needs and focus on the demand of elders to give them Healthy Happy Years (HHY) ahead. These are certain known syndromes and causes, though they are led by certain basic and tremendous causes which

shatter the whole lifestyle of a person. They are frightening, though they are not known and apparent. The short-term risks are likely to be overcome, but the longer effects are very troublesome and may even end in loss of life. Cardiovascular diseases, brain strokes, loss of concentration and many others are well-known possibilities of sleep disorders. These may also lead to accidents, falls, psychological problems and motor function disorders. This paper proposes for certain facts and solutions through a linguistic approach from patients as well as from caregivers and concerned persons to identify the major causes for sleep disorders and loss of cognitive function in the elderly. The early diagnosis of the problem may somehow lead to reducing the risk of suffering. In this paper, a fuzzy inference system is proposed to classify the basic causes of sleep disorders.

Digital Exclusion, Migration and Social Protection among Women in India's Informal Labour Economy: A Sociological Perspective on Brick-Kiln and Construction Workers

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India's rapid digital transformation has expanded access to financial services, welfare delivery, labour registration and public services. Yet digital inclusion remains socially differentiated, particularly among women migrant workers located within the informal labour economy. This paper examines digital exclusion and social protection among women engaged in brick-kiln and construction labour through the intersecting dimensions of gender, migration, class and informal employment.

The study adopts a sociological analytical approach based on secondary data and documentary evidence from government and international institutional sources. It conceptualises digital inequality at three levels: access to digital devices and connectivity, the capacity to use digital systems independently, and the ability to translate digital access into substantive social and economic benefits. Recent evidence illustrates the continuing gender divide. The GSMA Mobile Gender Gap Report 2025 found that women in low- and middle-income countries were 14% less likely than men to use mobile internet, while the gender gap in South Asia remained 32%, with approximately 330 million women in the region not using mobile internet in 2024. In India, World Bank data for 2024 show near gender parity in financial account ownership at 89%, but a substantial difference in digital-payment use 36% among women compared with 54% among men.

The paper argues that these figures reveal an important distinction between formal digital inclusion and substantive digital inclusion. For migrant women employed in brick kilns and construction, low and unstable incomes, geographical mobility, limited digital literacy and dependence on household members or intermediaries may restrict autonomous use of digitally mediated services. The paper therefore situates digital exclusion within wider structures of labour informality and gender inequality and argues for gender-sensitive digital literacy, worksite-based facilitation, portable social protection, assisted service delivery and recognition of migrant women as independent workers.

MOOCs for Mobilising Higher Education: Students' Perspective in India

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MOOCs in India, despite increasing technological affordability, have still not been that popular in mainstream education, primarily due to the problems in integrating them into teaching-learning transactions. Although the popularity of MOOCs surged during the Covid-19 pandemic and it became a very popular term thereafter, the efficacy of MOOCs offered through SWAYAM in India requires careful investigation. The study is based on an empirical investigation into the functioning of SWAYAM MOOCs under the National MOOC Coordinator—Indira Gandhi National Open University (IGNOU). Secondary information for this study was sourced from journals articles, websites and government documents. The collected data were analysed using simple statistical tools like percentage. The finding of the study reveals that while MOOCs have been able to introduce Self-Directed Learning (SDL) as well as mobilizing higher education in India, its overall success, raising questions about the actual mobilisation of Indian higher education through online learning. However, the long-term practical impact of this study can be visualised in terms of how the SWAYAM MOOCs could strengthen and standardise the Indian education systems by unlocking myriad learning opportunities. Finally, it has been found that the MOOCs helped the students to develop their skills in different ways. The online learning system helped the learners to develop their learning abilities, learning skills, listening skills, communication skills computer skills, technical skills etc. Even the students expressed that this type of online learning system could be considered a more flexible and effective way of instruction that helped the learners to understand the course materials more clearly than face-to-face courses in a class. However,

the students also expressed their concern about the challenges that were faced by them while accessing the MOOCs. Regarding the hurdles in terms of accessing online devices during normal as well as pandemic situations, the majority of the students (88.2%) revealed that poor internet connectivity in the locality was the most responsible factor that hindered their access to online support services, followed by problems like lack of electricity (11.1%), lack of proper digital services and also factors like ignorance of using ICT-based tools on the art of the students. Very few students expressed that, due to time constraints, fatigue, and being overloaded in the job sector, students also had to leave the course before completion. In fact, from the study, it was found that internet connectivity and electricity facilities were comparatively lower in the village areas than in the urban areas, which is sure to create a digital divide among the people of the country. If we look at the challenges of adopting and implementing MOOCs in the Indian Context, it has been seen that in the industrial and techno-based era, MOOCs have emerged as one of the most potential tools for offering quality learning opportunities to the entire world. It is observed that, country-wise, various national digital platforms have evolved as a result of the explosion of knowledge and technology in both developed and developing countries. In the case of India too, it is observed that the policy makers and education providers seem to be emphasising more on the implementation of online courses in a virtual learning environment. But in the real sense, due to the variations and availability of adequate resources in different parts of the country, the outcome or the success rate of such online courses is yet to be fully assessed in India. Additionally, the findings and recommendations of this study could help in formulating effective guidelines for proper implementation of MOOCs in post-COVID-19 contexts, ensuring maximum benefits for the learners.

Riskier Times, Smarter Systems: Leapfrogging Disaster Resilience and Climate Adaptation through the Full AI Stack

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The decades ahead will be riskier than the ones behind us. Heat is accumulating in the atmosphere, the cryosphere, the oceans and on land, and it is already changing how hazards behave: heatwaves that last longer, monsoons that arrive late and withdraw abruptly, cyclones that intensify within hours, and Himalayan glaciers that thin a little more every year.

These changes rarely stay inside one sector. When a power grid fails, water supply, telecommunications and hospital services tend to fail with it, so the losses surface at the same time in the health of the planet, the safety of people and the stability of economies. The Global South will carry the heaviest share of this burden, and India perhaps most of all, given its large outdoor workforce, monsoon-dependent farming, densely settled coastline and rivers fed by retreating ice.

This conceptual paper asks what artificial intelligence can realistically offer in response. It starts by widening the lens. Public debate tends to equate AI with large language models, compute and semiconductors, but for adaptation a more useful picture is a layered stack of infrastructure, data, models, agents and applications, each doing a distinct job in the journey from raw observation to protective action on the ground. Drawing on recent writing by the author on AI for a hotter India, on fast-tracking the Sendai Framework targets, and on GeoAI tools that trace cascading infrastructure failures, the paper builds a framework around three converging capabilities. Image intelligence reveals risk while it is still forming. Language intelligence turns forecasts into advice that district officials, health workers and farmers can act on. Decision intelligence lets planners test options before scarce resources are committed. Experience from Bangladesh and Odisha suggests that the gains depend less on how sophisticated a model is than on how tightly it is wired into early warning, social protection and the day-to-day running of critical infrastructure.

The paper closes with four pathways through which India and the wider Global South could leapfrog: building on digital public infrastructure, requiring cross-sector cascade modelling in risk governance, investing in sovereign data and compute, and designing hybrid systems that keep human judgment and local knowledge at the centre. Taken together, these point to a shift from prediction to protection, and from relief after disasters to action before them.

State-Level Trends and Patterns of Digital Financial Fraud in India: A Comparative Analysis

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Financial inclusion initiatives and the promotion of digital payments have significantly strengthened the payment ecosystem, leading to the expansion of digital financial services in India. However, this has also led to a considerable

rise in cyber-enabled financial fraud, which could have serious ramifications for people's financial well-being. Effective policy interventions, such as promoting digital financial literacy and addressing factors that determine financial fraud victimisation, will be effective only if there is a clear understanding of the spatial distribution and temporal trends of financial fraud.

This paper explores regional patterns of digital financial fraud across Indian states and the extent of state-level financial losses. The paper uses data from FY 2020-21 to FY 2024-25, as reported by banks to the RBI, along with NCRB data, to examine trends and patterns across states and union territories and to identify regional disparities. This analysis is extended by computing crime rates and crime per capita, recovery rates, conducting trend analysis, presenting descriptive statistics, and conducting a thematic analysis of interstate variations in fraud prevalence. The data analysis will be performed in Stata version 19.

The study is motivated by the consensus in the literature that digital financial literacy can play an important role in enabling individuals to recognise, avoid, and respond to online fraud effectively. Although the paper does not attempt to establish a causal relationship between digital financial literacy and fraud victimisation, it provides macro-level evidence on fraud victimisation and sets the stage for future research.

The evidence from this paper could be used to identify high-risk regions, map and recognise patterns of cyber financial fraud in the country, and conduct a state-level analysis of financial loss, which would be an asset for future research on digital financial literacy and financial fraud. This evidence-based synthesis could complement targeted awareness campaigns, financial education literature and national, regional and state-specific policy interventions. Therefore, the paper enriches the growing evidence base on digital finance, cyber-enabled frauds, and consumer protection.

Mahā Devanāgarī: A Unified Unicode and IPA-Compliant Script Extension Framework for Indigenous Language Preservation, Multilingual Phonetic Rendering, and Digital Humanities

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The Devanagari script serves as the primary writing system for Sanskrit, Hindi, Marathi, Nepali, and numerous indigenous South Asian languages. However, international character encoding standards—specifically the standard

Unicode Devanagari block (U+0900–U+097F)—suffer from severe structural bottlenecks when representing sub-syllabic phonetic nuances, complex pitch contours, non-Indo-Aryan phonemes, and non-native loanwords. This digital limitation renders regional dialects, tribal oral traditions, and esoteric texts computationally invisible or distorted, forcing researchers to rely on Latin-centric transliteration systems (IAST/IPA).

This paper introduces Mahā Devanāgarī, an extended typographical and digital character-encoding framework designed to bridge classical Indic graphemics with the International Phonetic Alphabet (IPA). Drawing upon micro-temporal acoustic concepts found in classical śikṣā treatises and tantric acoustic traditions (including discussions of fractional mātrā units in texts such as the Vijñānabhairava Tantra), the proposed framework introduces systemic additions across three core modules:

Extended Diacritic & Micro-Temporal Matrix: Introduces combining diacritics capable of encoding sub-syllabic fractional mātrā durations (from 1/16th down to 1/512th of a mātrā), enabling fine phonetic notation for oral field recordings.

12-Tier Pitch and Tone Encoding System: Standardises numerical and contour pitch modifiers (covering high level 55, high rising 35, low falling 21, sharp falling 51, and Vedic svara registers like udātta, anudātta, svarita, and pratihata), enabling full transcription of tonal Indic and Sino-Tibetan languages.

Consonantal Extensions & Nuqta Mechanics: Expands standard single-nuqta mechanics (U+093C) into multi-positional modifiers, incorporating dedicated graphemes for jihvāmūlīya (/x/), upadhmānīya (/f/), pharyngealization (U+1CD5), and alveolar plosives found in Toda, Shina, Arabic, and European languages.

By establishing a deterministic 1:1 mapping between digital codepoints and IPA values, Mahā Devanāgarī resolves character fragmentation in Natural Language Processing (NLP) and Large Language Model (LLM) tokenisation. Aligned with the "Digital Futures" theme, this open-architecture infrastructure empowers social scientists, computational linguists, and field transcribers to natively digitise endangered oral traditions and preserve vulnerable indigenous knowledge systems.

Digital Exhaustion: Reimagining Workplace Well-Being Amid Constant Connectivity

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The rapid expansion of digital communication technologies has transformed the modern workplace into a highly connected environment where employees are expected to remain accessible across platforms, time zones, and working hours. While this shift has enhanced flexibility, collaboration, and productivity, it has also given rise to a less visible but increasingly significant challenge: digital exhaustion. This condition refers to the cognitive, emotional, and physical fatigue resulting from sustained exposure to constant notifications, virtual meetings, rapid message exchanges, and the pressure to remain continuously responsive. In many organisations, connectivity has moved from being a convenience to becoming an implicit expectation, often at the expense of concentration, recovery, and psychological well-being.

This paper examines digital exhaustion as an emerging workplace well-being issue and explores how organisations can respond through more sustainable digital work practices. It argues that the problem is not simply an individual inability to cope with technology, but a structural concern embedded in workplace culture, communication norms, and performance expectations. Employees who are repeatedly interrupted, expected to multitask across digital channels, and denied meaningful boundaries between work and personal time are more vulnerable to stress, disengagement, reduced productivity, and burnout. As a result, workplace well-being must be reimagined to account for the hidden costs of always-on connectivity.

The paper proposes a broader approach to well-being that includes organisational policies promoting digital boundaries, realistic response expectations, meeting discipline, and protected focus time. It also emphasises the role of leadership in modelling healthy digital behaviour and normalising periods of disconnection. In addition, the study highlights the importance of digital literacy and self-management strategies that help employees navigate technology without becoming overwhelmed by it. By combining individual support with organisational redesign, companies can create healthier and more resilient work environments.

Ultimately, this research positions digital exhaustion as a critical concern for the future of work. Reimagining workplace well-being in the digital age requires balancing technological efficiency with human sustainability, ensuring that constant connectivity does not erode employee health, engagement, and long-term organisational performance.

Single-Agent Adaptation Outperforms Multi-Agent Coordination in Foundation Curriculum Sequencing: Simulation Evidence

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Artificial intelligence (AI)-driven curriculum sequencing has emerged as a promising approach for supporting personalised learning pathways in competency-based higher education. By dynamically adapting instructional sequences to learner progress, AI-based systems have the potential to improve learning efficiency, optimise resource utilisation, and reduce unnecessary repetition. However, empirical evidence comparing the effectiveness of sophisticated multi-agent adaptive architectures with simpler single-agent adaptive approaches remains limited, particularly in foundation programmes that serve academically diverse learners under constrained instructional resources. This study investigated whether adaptive AI-driven sequencing improves learner progression relative to conventional fixed curriculum pathways and whether multi-agent coordination provides additional benefits over single-agent adaptation within realistic instructional budget constraints. A competency-based foundation curriculum was modelled as a directed acyclic graph consisting of 147 interconnected competencies spanning academic literacy, quantitative reasoning, digital fluency, and self-regulated learning. The simulation framework incorporated prerequisite dependencies, indexed open educational resources, stochastic mastery updates, learner-specific learning and retention parameters, and bounded instructional time. Three curriculum sequencing strategies were evaluated: a fixed-sequence baseline reflecting traditional curriculum delivery, a single-agent adaptive system that selected the next competency using a minimum estimated time-to-mastery heuristic, and a multi-agent system in which domain-specialised agents negotiated competency selection through a competitive bidding mechanism. Performance was evaluated across 5,000 synthetic learners representing heterogeneous

preparedness levels and learning characteristics. The single-agent adaptive approach achieved the highest completion rate (0.192) and the lowest mean time-to-mastery (438.8 hours), outperforming the fixed-sequence baseline (completion rate = 0.176; mean time-to-mastery = 444.9 hours). In contrast, the multi-agent system produced the lowest completion rate (0.161) and a mean time-to-mastery of 445.0 hours, underperforming both alternative approaches. Statistical analysis showed that multi-agent sequencing was significantly slower than fixed sequencing ($d = -0.19$, $p < .001$) and single-agent adaptation ($d = -0.37$, $p < .001$), while also demonstrating the lowest instructional efficiency at 17.01 competencies completed per 100 instructional hours. Furthermore, the completion gap between well-prepared and underprepared learners increased from 0.020 under fixed sequencing to 0.027 under the multi-agent architecture, indicating that additional coordination complexity may disproportionately disadvantage learners requiring greater instructional support. These findings suggest that, within competency-based foundation education, simpler single-agent adaptive sequencing offers greater efficiency and learner progression than both fixed curriculum pathways and more complex multi-agent coordination mechanisms. The study contributes a reproducible simulation framework for systematically evaluating AI-driven curriculum sequencing architectures and provides practical evidence that increased algorithmic complexity does not necessarily translate into improved educational outcomes.

From Collective Will to Computational Assemblages: AI and the Future of Constituent Power

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What makes the human "human" has long been tied to capacities such as action, imagination, symbolic meaning-making, and world-building. Hannah Arendt, in The Human Condition, situates the human not simply as a biological entity but as a being who appears in plurality, capable of initiating action and sustaining a shared world through speech, judgment, and mutual recognition. Johan Huizinga, in Homo Ludens, deepens this by suggesting that the human emerges through play, through rule-making, boundary-setting, and a creative engagement that produces culture. Together, these perspectives underline that the human is neither defined solely by

rationality nor by consciousness in an abstract sense but by its capacity to construct shared realities, act collectively, and generate meaning that outlives individual intention.

Against this background, the rise of artificial intelligence poses a profound challenge. What makes AI different from the human? For Kissinger in The Age of AI, AI is a non-human intelligence that neither reasons through human cognitive models nor shares human historicity. It operates without intentionality, without consciousness, and without world-building in the human sense, yet still produces outcomes that shape human decision-making.

Boyle's The Line illustrates this shift: algorithmic systems now draw boundaries, classify populations, and constitute new forms of ordering with opaque epistemologies. Unlike humans, AI does not act politically, but it reorganises the conditions under which humans can act. These transformations deeply affect how we imagine the collective. Traditionally, the collective "the people" emerges through shared symbolic frameworks, normative commitments, and the capacity for joint action. This is the terrain of Negri's "multitude," Spang's theorisation of constituent power as a generative political moment, and Kalyvas's emphasis on the foundational force that creates new constitutional orders. The collective is therefore human-centred, grounded in speech, conflict, rupture, and an assertion of common world-building.

The core question therefore emerges: Will the human remain human, and can human agency within constituent power be protected in the age of AI? This paper therefore argues that the most fundamental exercise of political agency constituent power is increasingly being hollowed out in the age of artificial intelligence. The people, historically understood as the founding subject of political order, are progressively replaced by data-driven populations, predictive models, and algorithmic classifications that precede deliberation and bypass collective intentionality. By bringing together Arendt's conception of action and plurality, Huizinga's account of play and creativity, Searle's theory of social reality, and the constituent power framework developed by Negri, Kalyvas, and Spang, the paper adopts a conceptual and interpretive method to trace how AI reconfigures the ontology of the political itself. Rather than offering policy solutions, the paper emphasises critical theory as a method of interruption, i.e. making visible how algorithmic systems normalise the erosion of constituent power and why reclaiming human authorship of the political remains an urgent task.

Reorienting Indian Education Towards Innovation, Entrepreneurship and Employment in the Age of Artificial Intelligence

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Indian education stands at an inflexion point. For nearly three decades, the information technology industry absorbed a large share of English-speaking graduates and, in doing so, indirectly financed the growth of real estate, retail, and urban consumption across Tier 1 and Tier 2 cities. This dependence is now under strain. Generative AI and automation are steadily taking over routine coding, testing, and support work, which are precisely the entry-level tasks that once absorbed thousands of freshers every year. As a result, large IT firms have visibly slowed campus hiring, and entry-level recruitment has fallen sharply through 2025 and 2026, with many engineering graduates facing longer job searches or settling for roles far below their qualification level. This is not a temporary slowdown but a structural shift in how the industry creates jobs at the bottom of the pyramid.

This paper argues that Indian education cannot continue to treat IT employment as its default outcome. The country needs a parallel and deliberate push toward manufacturing, product innovation, and entrepreneurship, and educational institutions like schools, colleges, and universities must actively lead this transition rather than passively wait for the labour market to correct itself. Being conceptual and critical-analytical in nature, the paper draws on secondary sources like government reports, industry surveys, and existing scholarship rather than primary survey data, and builds its argument through structured reasoning rather than empirical testing.

The paper examines five interlinked questions in sequence: first, where Indian education currently stands and what assumptions still shape it; second, why manufacturing must grow alongside IT as a credible source of mass employment; third, how curricula across levels can build applied, real-world skills and an entrepreneurial mindset rather than rote qualification; fourth, why entrepreneurs and small manufacturers deserve the same social respect and institutional support currently reserved for government job holders; and fifth, why the pull of government employment remains so strong among young Indians, and what would need to change to shift that preference. At every stage, the paper specifies which level of education is implicated and

identifies precisely what needs to change at that level, rather than treating "education reform" as one undifferentiated block.

AI Chatbots as Dhamma Teachers: The Role of LLMs in Transmitting Pali Canon Teachings and 'Dhammapadaṭṭhakathā' Stories Online

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Generative artificial intelligence has started to be used to mediate religious knowledge, providing answers to doctrinal questions, translations of passages, summaries of scriptures, and retellings of traditional narratives, among other tasks, through conversational systems. This is of special significance for Theravāda Buddhism as the Pāli Canon and its commentarial literature are disseminated online in various languages and institutions and at various levels of religious training. This is a conceptual paper that explores the possibility of the use of large language model (LLM) chatbots as responsible Dhamma teachers in the context of passing on canonical teachings and stories from the Dhammapadaṭṭhakathā. It poses the question of what happens to access, interpretation and religious authority when AI is conversational, and what are the necessary protections to ensure that there is no distortion of the text. In this study, a critical narrative review and textual analysis approach are used. It introduces Buddhist studies scholarship on the Pāli textual tradition and digital religion into the discussion on current research on large language models, hallucination, low-resource languages and retrieval-augmented generation. Four educational strengths are identified through the analysis: Continuous Access, Conversational Explanation, Multilingual mediation and Adaptive retelling. These can assist users to find teachings, to compare translations, to learn Pāli words and to tackle the narrative material at an appropriate level of difficulty. The same systems, however, can fabricate verses or sources, blend the canonical and the commentarial, elide stories from their ethical and karmic context, and smooth over the rough edges between different translations and present the smoothness of the interpretation as fact. These mistakes can be particularly grave if users regard an anthropomorphic chatbot as a spiritual leader. The paper states that rather than being considered an independent Dhamma teacher, an LLM should be considered a digital study assistant. A responsible Buddhist Chatbot should employ a verified textual corpus, retrieval-based answers, cite the passage,

label the canonical, commentarial and modern explanatory text, preserve key Pāli terms, make uncertainty statements, have privacy protections and be reviewed by Pāli scholars and qualified monastics. It should also steer people away from asking questions that relate to their personal crises, meditation problems, Vinaya issues or any disputed doctrine to human teachers. The proposed source lineage model provides a viable approach to technological access and textual fidelity and accountable religious interpretation. The study contributes to the debates on digital religion by demonstrating that the question of whether or not AI can communicate Buddhist content is not the only one at stake, but also one of authority, provenance and ethical responsibility when Dhamma is communicated through a probabilistic system.

Aesthetic Surveillance: Investigating Privacy, Identity, and Biopolitical Governance in Body-Monitoring Wearables

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Wearable technology has quickly become a part of our everyday lives, from smartwatches to skin-worn sensors. By tracking our movements, heartbeat, sleeping patterns and more, these devices offer us better health and convenience. The study analyses how their design aesthetics, fashionable appearance and frequent disguise as clothing help turn what is, in principle, constant observation of the body into a norm. Using principles from surveillance studies, biopolitics and design theory, we will show how wearables make health tracking appealing. Thanks to their minimalist designs, trendy straps and invisible sensors, tracking is not usually perceived as surveillance.

Furthermore, the paper highlights individuals' resistance through their privacy policies, the limited use of devices or refusal to wear them. The paper discusses the potential of monitoring tools to influence people's experiences. The notion of aesthetic surveillance reveals an important aspect of this change. Surveillance works not due to its explicit application but rather due to its integration into attractive messages of health, beauty, efficiency and self-development. It studies, on the one hand, how wearables provide new ways for users to learn more and make better choices regarding their health and, on the other hand, how wearables increase our involvement in a world that makes our bodies a subject of data extraction. In a democratic society, people must be allowed to use technology to know themselves without technology being the ultimate authority regarding a person's identity. Wearable technology

can help a person take care of their health; however, the legal framework is there to ensure that the quantified body does not replace a being with its own will. The right regulatory goal in this regard should not be to ban wearable technology but rather to ensure freedom, so that measurement is a tool but not a requirement for being a citizen, an employee, receiving medical help or participating in any social life.

The paper implements a doctrinal and comparative legal methodology to analyse the effectiveness of existing legislation and regulations in the realm of data protection, including, specifically, the right to privacy entrenched in the Constitution of India by the ruling in K.S. Puttaswamy v. Union of India, the Digital Personal Data Protection Act of 2023 and the Digital Personal Data Protection Rules of 2025. Insights from the comparative research of legislative acts such as the General Data Protection Regulation (GDPR) and the Artificial Intelligence Act (AIA), as well as relevant trends in privacy protection legislation in the US, are employed to identify the advantages and disadvantages of various regulatory regimes. The analysis of the results claims that traditional methods of informing parties to transactions and safeguarding data are not enough to cope with the threats posed by constant monitoring of human behaviour, inference-making and other coercive practices of data processing. In the end, the paper asserts that the protection of privacy in the time of wearables should go beyond confidentiality and information control.

Technology and Social Reproduction: A Case of Jamshedpur

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Technology can generally be understood as increasing automation, digitalisation, the usage of artificial intelligence, global positioning systems, the Internet of Things, cloud technology, logarithms, etc. in the workplace (point of production) and society (point of reproduction). Using technology for enhance skills and production output is not new; it has happened for centuries. Contemporary technology differs in speed and vigour from that of earlier times.

Social reproduction entails producing and sustaining labour power. Since labour power is inherently linked to workers, it becomes exhausted over time and requires replenishment for use the next day. Society (including family) helps in the regaining process of labour power through providing food, shelter, adequate sleep and recreation. Labour power is constantly renewed on a daily basis and across generations. Various reproductive activities, including

child-rearing, education, and household maintenance, facilitate the constant renewal of labour power on a daily and intergenerational basis. Technology affects both factories and society. Factories have implemented automation, and the increased surveillance and digitalisation have directly impacted their operations by automation, increased surveillance, digitalisation, etc. Consequently, the patterns of employment and profiles of workers have drastically changed in the past forty years. Social reproduction, which includes both society and family, is directly affected by the technological changes in society and family, as well as the corresponding effects of altered shop floors. These developments have transformed urban social life, necessitating their consideration in understanding contemporary social realities and in future planning and policymaking for the future. Jamshedpur, a city in Jharkhand, is also affected. This paper describes these effects on the social and family life of Jamshedpur and how and to what extent it is different from earlier periods (prior to 1990). Methodologically, participant observation and interviews with old and new generations have been utilised to account for the changes in the theoretical concept of social reproduction theory.



Theme 2

CULTURE AND DEVELOPMENT

The Architecture of Aromas: The Taste of Displacement and the Tactical Resilience of Partition Refugees

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> *"For those who were displaced, the home is not a place that exists in the present, but a sensory map carried in the mind, often preserved in the weight of a utensil or the smell of a spice."*
>
> —Aanchal Malhotra, Remnants of a Separation (Malhotra, 2017).

Beneath the soot-stained rafters of ageing urban stalls lies a defiant geography of flavour, where the act of cooking serves as a final, sensory bridge to a homeland severed by the borders of 1947. This paper explores the long-lost culinary vestiges - "The Ghost Kitchen" - the consulates of the displaced, and the secret ingredient as a vessel of postmemory, connecting descendants to an unknown land. In the wake of radical displacement, refugees from East Bengal and West Punjab translocated culinary maps, carrying recipes, spice blends, and cooking techniques across a border that recognised no such inheritance. In the absence of land and legal protection, this intersection of material precarity and affective resilience replicated the defiant act of sensory citizenship of "Opar Bangla," turning the kitchen into the one territory that displacement could not fully seize. Drawing upon Arjun Appadurai's gastropolitics (Appadurai, 1981), Marianne Hirsch's postmemory (Hirsch, 2012), and Paul Ricoeur's notions of memory (Ricoeur, 2004), this research reframes the resilience of the cook, perhaps a third-generation descendant, as an act of historical continuity - linking the manifestation of a homeland, geopolitically erased, and anchoring a community to its roots through taste, smell, and ritual repetition rather than documentation. The paper further interrogates the precarity of heritage margins - where these stalls are categorised as encroachments, facing the dual threats of gentrification and the bulldozer of urban beautification, their survival treated as an obstacle to development rather than evidence of it. This research aims to portray the "kitchen" as a site of tactical resilience and the refugee not as a passive subject of history, but as an active curator of a living museum, ensuring the fragmented memories of 1947 continue to nourish and haunt the social fabric of the urban world. They stand as living proof that even in the most fragile spaces, memory and resilience are a form of power that nourishes both the individual and the social fabric of the future.

Reclaiming the Episteme – Decolonising Indian Knowledge Traditions in Development Discourse

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Decolonisation as a field of study has grown widely in Western academia, African studies, and Latin American critical theory. Yet in India, this literature remains surprisingly underexplored. This is puzzling, given India's long colonial history and its rich store of indigenous knowledge systems, from Vedantic philosophy and Buddhist logic to tribal worldviews and local, everyday knowledge, much of which was pushed aside, devalued, or absorbed into colonial and later "modernisation" frameworks. This paper argues that the lack of attention to decolonial theory in Indian academic and policy spaces is not accidental. It reflects deeper, ongoing patterns: institutions still shaped by colonial-era administrative habits, universities that continue to privilege Western ways of knowing, and development models that treat indigenous knowledge as decorative rather than as something central to how development should actually work.

It looks at how India's formal institutions and informal ones have shaped, and often blocked, efforts to bring indigenous knowledge back into development planning and public conversation. It also explores the ongoing tension between development frameworks designed elsewhere, often built on Western ideas of progress and rationality and local cultural knowledge that may offer more grounded and sustainable solutions. Using examples from areas such as natural resource management, education policy, and community institutions, the paper shows how indigenous knowledge continues to be treated as secondary, even though it has clear value for environmental sustainability and social well-being.

The paper also makes the point that decolonisation in India cannot simply borrow frameworks built for other postcolonial countries. It needs to grapple with India's own layered history, including internal forms of colonial-style control, caste-based exclusion from knowledge and education, and hierarchies between languages. By drawing attention to this overlooked connection between decolonial theory and Indian development institutions, the paper hopes to start a deeper conversation about what a truly decolonised development approach could look like in India one that neither idealises indigenous knowledge nor treats it as outdated, but recognises it as a genuine and necessary partner in shaping India's development path forward.

Monasteries as Institutions of Cultural Diplomacy: A Case Study of Buddhist Monasteries in BodhGaya

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Bodhgaya, honoured as the site of the enlightenment of Lord Buddha, has evolved into a global centre of Buddhist pilgrimage and cross-cultural engagement. Beyond their religious importance, the international Buddhist monasteries in Bodhgaya have emerged as key establishments of cultural diplomacy, promoting transnational networks and nourishing India's civilisational ties with Buddhist-pluralistic countries. This paper examines how monasteries such as the Royal Thai Monastery, Tergar Monastery, Indosan Nippon Japanese Temple, Royal Bhutan Monastery and Vietnamese Phat Quoc Tu Monastery function as spaces of cultural exchange, heritage preservation, educational collaboration and people-to-people diplomacy.

Using a qualitative case study approach based on field observations, interviews and documentary analysis, the study explores the role of these monasteries in promoting Buddhist values, intercultural dialogue and shared historical memory. It argues that while these institutions preserve the distinct cultural traditions of their respective countries, they simultaneously reinforce Bodhgaya's identity as a shared global Buddhist heritage site. Their activities—including religious festivals, meditation programmes, language instruction, academic exchanges and community outreach—contribute to local socio-economic development through tourism, employment generation and cultural entrepreneurship.

Furthermore, the investigation situates these monasteries within the wider framework of India's Act East Policy and Buddhist Circuit strategies. It highlights how countries such as Japan, Bhutan, Vietnam and Thailand have employed institutional support in Bodhgaya to project their cultural identities while nurturing mutual amity. For example, the Royal Thai Monastery's distinctive Thai-style architecture and community service initiatives, the Japanese temple's emphasis on peace education, and the Bhutanese monastery's incorporation of Himalayan Buddhism provide distinctive examples of cultural representation. The research also finds that these monasteries facilitate Track II diplomacy by bringing together international scholars, monks and pilgrims, thereby creating informal platforms for dialogue. Despite challenges such as administrative oversight, land management and balancing commercialisation with devotion, these monastic organisations continue to serve as major cultural links.

The paper further contends that Buddhist monasteries act as non-state diplomatic actors, complementing India's soft power strategy by strengthening cultural connectivity between India and Southeast Asia. By positioning monasteries at the intersection of religion, culture, diplomacy and development, the study contributes to understanding how sacred institutions can advance sustainable cultural relations and regional cooperation in the twenty-first century.

The Role of Bulk Waste Generators in Strengthening Circular Economy in Urban Solid Waste Management: Evidence from Ahmedabad

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Rapid urbanisation, economic growth, and changing consumption patterns have substantially increased municipal solid waste generation in Indian cities, creating significant environmental and governance challenges. Although the Solid Waste Management Rules, 2026 identify Bulk Waste Generators (BWGs) as critical stakeholders responsible for source segregation and decentralised waste processing, implementation remains uneven and empirical evidence on their waste management practices is limited. Existing research has largely focused on household waste management and municipal collection systems, with comparatively little attention given to institutional and commercial establishments that generate significant quantities of waste. This study addresses this gap by examining the characteristics, waste management practices, regulatory compliance, and circular economy potential of BWGs in Ahmedabad, one of India's rapidly expanding metropolitan cities.

To address these objectives, the study adopted an exploratory research design integrating spatial analysis, field surveys, and institutional assessment. Five municipal wards representing different urban contexts were selected through a stratified sampling framework. A GIS-based mapping exercise

identified 222 institutional and commercial establishments, followed by field verification to identify 47 confirmed Bulk Waste Generators producing more than 50 kg of waste per day. Structured questionnaires collected information on establishment profiles, waste generation characteristics, segregation practices, collection systems, infrastructure, regulatory compliance, circular economy initiatives, and operational challenges. Quantitative analysis was complemented by field observations to understand spatial and institutional variations across different categories of establishments.

The findings demonstrate considerable heterogeneity in waste generation and management practices across establishment types and locations. Commercial complexes, hotels, office complexes, and wholesale markets constitute the largest contributors to bulk waste generation, with commercial complexes accounting for the greatest proportion of establishments generating over 100 kg of waste per day. While municipal collection services remain the primary waste collection mechanism, source segregation practices differ significantly. Hotels and office complexes exhibit comparatively high segregation rates, whereas commercial complexes and shopping malls display poor compliance despite generating the highest waste volumes. Spatial analysis identifies Jamalpur and Thaltej as the major waste-generating wards, although Thaltej demonstrates comparatively stronger institutional arrangements, better infrastructure, and higher awareness levels. Furthermore, the study reveals low awareness of the Solid Waste Management Rules, 2026 and the newly introduced Extended Bulk Waste Generator Responsibility (EBWGR), limited maintenance of waste records, and minimal adoption of on-site processing technologies. Behavioural barriers, fragmented management structures, inadequate staff training, and weak institutional coordination emerge as more significant constraints than regulatory enforcement alone.

In light of these findings, strengthening urban solid waste management requires a transition from collection-oriented approaches towards integrated governance frameworks that promote decentralised waste processing, behavioural change, and institutional accountability. The findings suggest that municipalities should prioritise GIS-based identification and monitoring of BWGs, strengthen implementation of the Extended Bulk Waste Generator Responsibility framework, improve compliance through regular training and awareness programmes, and introduce financial and technical incentives for decentralised composting and biomethanation. Special policy attention is required for multi-tenant commercial establishments where fragmented ownership and management significantly constrain effective waste segregation and compliance. By providing one of the first empirical assessments of BWGs

under the Solid Waste Management Rules, 2026, this research contributes to the growing discourse on circular economy transitions and offers practical policy recommendations for improving urban waste governance in rapidly urbanising cities.

Health Expenditure and Economic Growth: The Mediating Role of Child Mortality in ECOWAS

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Health is an essential indicator of a country's socio-economic development, and insufficient investment in it has directly affected the country's output capacity, further lowering income. The present study examines the relationship among health expenditure (government, private, external, and out-of-pocket), child mortality, fertility rate, improved sanitation, total population, gross capital formation, and economic growth across ECOWAS member states. For this purpose, the study relies on panel data for the period of 2000 to 2022. The analysis applied Pooled Ordinary Least Squares Estimators, the Fixed Effects Model (FEM), the Random Effects Model (REM), the Hausman test, and the Johansen Cointegration test. After careful analysis of the data, one can conclude that the random-effects results indicate that government expenditure, fertility, capital formation, sanitation, and population dynamics are key determinants of economic growth. The strong explanatory power and meaningful variance attributed to cross-sectional effects indicate that the RE model provides an efficient framework when the assumption of no correlation between unit-specific effects and regressors holds. Furthermore, the Johnson Cointegration test results provide strong evidence of multiple cointegrating vectors among the variables. Specifically, the null hypothesis of no cointegration (r = 0) is decisively rejected, as the trace statistic (349.02) substantially exceeds the 5 per cent critical value (285.14), with a p-value of 0.0000. Similarly, the hypotheses of at most one and at most two cointegrating equations are also rejected at conventional significance levels, indicating the existence of several long-run relationships. Therefore, the study suggests that ECOWAS governments focus more on enhancing the Effectiveness of Government Expenditure, addressing demographic pressures through integrated policies, and adopting a Long-Term Investment and Infrastructure Strategy.

Matrilineal Futures: Khasi Society and the Power of Indigenous Knowledge in a Warming World

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As the world grapples with accelerating climate change, the need to look beyond technocentric solutions and rediscover traditional ecological wisdom has become urgent. Indigenous knowledge systems offer invaluable insights into sustainable living, biodiversity conservation and resilience in the face of uncertainty. The Khasi community of Meghalaya, one of the world's few matrilineal societies, presents a compelling case in which cultural identity, gendered social organisation and ecological practices intersect to provide pathways for climate adaptation. From living root bridges that withstand floods to sacred groves that protect biodiversity, Khasi practices embody centuries of climate-responsive wisdom. These practices resonate with those of other Indigenous communities worldwide—from the M□ori of New Zealand to the Inuit in the Arctic—who have similarly preserved ecological resilience through knowledge systems rooted in cultural traditions.

This paper situates Khasi society within broader debates on climate adaptation and justice, exploring how matrilineal structures and Indigenous practices can inform inclusive and sustainable futures. Drawing upon secondary data and comparative case studies, it seeks to highlight the relevance of Indigenous ecological wisdom in a warming world and its potential integration into contemporary climate policy and diplomacy. The study has four objectives: to examine the role of Khasi matrilineal traditions and Indigenous practices in shaping climate adaptation and resilience; to analyse how community-based knowledge systems, such as sacred groves and living root bridges, contribute to ecological sustainability; to compare Khasi practices with selected global Indigenous case studies to identify convergences and divergences in resilience strategies; and to critically evaluate how Indigenous ecological wisdom can be integrated into climate change policy and global climate justice frameworks.

The study employs a qualitative approach based on secondary data drawn from scholarly articles, government reports and ethnographic accounts. It

adopts a case study method focused primarily on the Khasi Hills of Meghalaya, supplemented by comparative references to global Indigenous communities such as the M□ori of Aotearoa (New Zealand) and the Inuit of the Arctic. Data sources include environmental policy documents, anthropological studies and secondary datasets on biodiversity and adaptation practices. The analysis follows a thematic content framework, categorising practices under three dimensions: ecological sustainability, cultural continuity and social inclusion. This methodology enables a cross-cultural synthesis that situates Khasi ecological wisdom within global debates on climate resilience.

The findings highlight the role of Khasi matrilineal resilience in shaping ecological practices. Khasi society, structured around matrilineal inheritance, places women at the centre of household and community decision-making. This gendered orientation creates a sociocultural environment in which ecological practices are deeply embedded in daily life. Sacred groves, managed collectively, serve as biodiversity reservoirs and carbon sinks. Similarly, the iconic living root bridges, developed through generations of Indigenous bioarchitecture, symbolise resilience against floods and soil erosion. These practices illustrate how cultural continuity and ecological adaptability are intertwined in Khasi society.

Comparative insights indicate that Khasi strategies align with global Indigenous practices. For instance, M□ori traditional fisheries management reflects sustainable resource use based on community rights, while Inuit knowledge of sea ice provides survival strategies in changing Arctic conditions. Despite contextual differences, these communities share a commitment to ecological reciprocity, the intergenerational transmission of knowledge and community-led governance. Such practices challenge dominant narratives of climate adaptation that rely excessively on technological or market-driven solutions.

Indigenous practices not only enhance ecological resilience but also address questions of justice and identity. The Khasi matrilineal model challenges patriarchal norms by foregrounding women's roles in ecological stewardship, contributing to more inclusive adaptation strategies. Globally, Indigenous communities demand recognition of their ecological knowledge within international climate frameworks, highlighting power asymmetries in knowledge production and policymaking. This underscores the need to view Indigenous knowledge as both an epistemic authority and a form of political agency.

Despite their resilience, Indigenous systems face pressures from globalisation, state-led development projects and climate-induced disruptions. In Meghalaya, rapid urbanisation threatens sacred groves and alters traditional community governance structures. Internationally, Indigenous voices are often marginalised in climate negotiations. However, incorporating Indigenous ecological wisdom into climate diplomacy—whether through participatory forest governance, recognition of community rights or the integration of traditional knowledge into adaptation planning—offers a pathway to more equitable climate futures.

The case of Khasi society demonstrates that climate adaptation cannot be reduced to technical fixes; it is deeply cultural, gendered and embedded in community practices. By drawing parallels with Indigenous communities worldwide, this study emphasises that the survival of cultural traditions is inseparable from the survival of ecosystems. Indigenous knowledge must be understood not as a relic of the past but as a living, evolving system that can inform future climate policies.

With the growing pace of climate change, the restrictions of techno-centric and market-based approaches to adaptation have become more apparent, which has led to a new surge of interest in Indigenous Ecological Knowledge (IEK). The knowledge systems held by indigenous peoples in the world are culturally-based and propagate ecological sustainability, biodiversity and climate resilience. The paper presents the Khasi people of Meghalaya, one of the few matrilineal societies in the world, as a unique example of culturally-based climate adaptation.

The study uses a qualitative data-based and secondary-data-based methodology to analyse sacred grove conservation and the building of living root bridges as nature-based adaptation strategies to improve biodiversity and control microclimates and exposure to disasters. These are examined using three dimensions, they include ecological sustainability, cultural continuity and social inclusion. A comparison is made between the Indigenous communities of the M□ori of Aotearoa (New Zealand) and the Inuit of the Arctic to place Khasi wisdom in climate resilience discussions on a global scale.

The results indicate that the matrilineal social organisation of the Khasi places women at the core of ecological stewardship, which contributes to adaptive ecological processes being inclusive and community-driven. In the context of Indigenous peoples of the world, the principles of intergenerational

transmission of knowledge, collective governance, and ecological reciprocity are shared as the most important sources of resilience. Nevertheless, these systems are under mounting pressure due to urbanisation, globalisation, and marginalisation of Indigenous voices in climate policymaking.

Recognition, Caste, and Justice in Indian Secularism

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This paper examines the possibilities and limits of recognition as a framework for understanding Indian secularism, with particular attention to caste and religion. Recognition is often understood as essential to dignity, equal citizenship, and the accommodation of difference in plural societies. On the one hand, although caste identity can become a source of pride, solidarity, or humiliation, caste as an imposed status based on birth misrecognises individuals by assigning social status and moral worth according to their caste. On the other hand, religion-based identity can produce misrecognition when religious minorities are constructed as outsiders, denying them an equal claim to belonging and citizenship. Thus, while caste-based misrecognition is rooted in the hierarchical valuation of persons within a social order, religious misrecognition arises through the exclusion of certain communities from the imagined boundaries of the political and social community. Hence, caste-based misrecognition requires the transformation of an identity system grounded in hierarchy and rejection of this sort of imposed identity; religious misrecognition requires the recognition and protection of identities that are excluded from mainstream society. This distinction suggests that recognition cannot operate as a uniform principle: it must critically assess whether an identity claim protects dignity and equal citizenship or reproduces relations of domination.

In other words, recognition is necessary for justice in a plural society because dignity, belonging, and equal citizenship depend partly on how individuals and communities are socially regarded. Yet recognition cannot simply affirm existing identities and cultural forms, because some identities are constituted within relations of hierarchy and domination. The caste system makes this problem particularly visible. Drawing on Ambedkar's critique of caste and his insistence on annihilating caste, the paper argues for a critical conception of recognition that protects legitimate claims to identity, dignity, and belonging while refusing to legitimise the hierarchical norms and structures that produce unequal status.

Canon Formation and Translation of Kāmaśāstra: Institutional Power of The Colony and Politics of Othering the Self

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The Western obsession with the antiquity of the Indian past is often a move to museumize the tradition, rendering it a "dead" object of study. It now becomes necessary to dwell in the ambiguity of the past; This ambiguity is not a lack of clarity, but a site of overshadowing of the past with Western influences where tman, the brahman and the ariraconverge without the colonial need for compartmentalisation. When translation came, it brought with it a bias- the belief that the truth of a culture resides solely in its written script. In doing so, they failed to translate the shitya of erotics. In the Indian tradition, kma is not merely sexuality in the modern biological sense; it is a space for serious academic enquiry. While being a milestone texts in human anatomy engaged in sexual relations among other fields, the tradition has also remained a very important text in LGBTQ+ history, treating of members as "tritiya praktih" or of the third-natured.

The tradition received deserving recognition and respect in the Indian gurukul system, being taught alongside the Dharmastra and Nitistra to young students. It was the arrival of the Western paranoia and interest in the art of Indian erotica, coupled with the efforts of Victorian Indologist Sir Richard Francis Burton, that turned the Indian textual tradition into a parody for the West. This was largely due to translation efforts; While translation ostensibly "recovers" the text for a global audience, it frequently subjects the interiority of the tradition to a lithic reductionism, transforming living traditions into static artefacts of "literature."

The thesis shall make an effort to investigate how translation and canon formation reclassify Sanskrit kma texts from aesthetic- philosophical literature into ethnographic or obscene material, thereby producing otherness through genre rather than content. This claim aligns with Helgesson and Vermeulen's theory of World Literature canon formation and the role institutions play in it. By studying the transition from stra to "canon", the thesis questions if the erotic text, once translated and "canonised", loses its capacity to function as a site of mnemonic creativity, becoming an object of a bypassed past instead.

Role of Customary Governance in Ensuring SDGs in North East India: A Case Study of Karbi Anglong and Dima Hasao in Assam

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Sustainability is often discussed in terms of policy measures, technical advancements, and economic reforms. But in many indigenous communities, sustainability has existed for many years through the practice of customary institutions that help govern society, its relationship with the environment, and the community. In Assam, especially in Sixth Schedule regions like Karbi Anglong and Dima Hasao, customary institutions still play a crucial part in ensuring inclusive governance, environmental conservation, conflict resolution, and welfare of the community. This study highlights the contributions of these customary institutions to the achievement of UN SDGs. It emphasises that instead of substituting customary institutions with the contemporary administration, sustainable development in Northeast India needs to acknowledge the complementary role of indigenous institutions and local knowledge. The study analyses how the constitutional framework of the Sixth Schedule facilitated the customary institutions to coexist simultaneously with Autonomous District Councils, creating a unique model of governance combining constitutional democracy with indigenous practices. By using a qualitative method based on secondary sources such as government reports, constitutional provisions, scholarly literature and international policy documents, the study examines the contribution of customary governance to a number of Sustainable Development Goals, particularly SDGs 1 (No Poverty), 2 (Zero Hunger), 5 (Gender Equality), 10 (Reduced Inequalities), 11 (Sustainable Cities and Communities), 13 (Climate Action), 15 (Life on Land) and 16 (Peace, Justice and Strong Institutions). The analysis is guided by Participatory Governance Theory, Common-Pool Resource Theory and Sustainable Development Theory, which provides the theoretical and conceptual basis for understanding how indigenous institutions and practices promote sustainable development. The findings emphasise that customary governance strengthens democratic participation, secures communal land rights, conserves biodiversity, supports sustainable livelihoods and reinforces social cohesion through local institutions. At the same time, several challenges are identified which affect the long-

term effectiveness of these institutions, such as increasing modernisation, administrative constraints, demographic change and the gradual erosion of customary practices. The study argues that strengthening cooperation between customary institutions and formal governance mechanisms can strengthen the implementation of Sustainable Development Goals while safeguarding indigenous identity and promoting development in Assam's Sixth Schedule areas.

Sattra Institutions and the Economy: An Inquiry into Institutional Management, Income and State Relations

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Mahapurush Srimanta Sankaradeva, the great saint-scholar, established the "Ek Sarana Nama Dharma" sect in 16th-century Assam to promote devotion to Vishnu while advocating against cruel animal sacrifices and caste discrimination. Sankaradeva, along with his chief disciple Madhabdeva and other apostles, organised the movement into the foundation of the Sattra institutions, which became central to the cultural and religious transformation in Assam akin to the Western Reformation. Sattras served as monasteries and also as educational institutions, securing Neo-Vaishnavism and promoting democratic values and inclusivity.

The management of the Sattras evolved over time, from simple arrangements on voluntary alms and basic prayer services into a structured system. Under able leaders, prayer services were systematically divided, tithes and contributions were introduced, and specialised departments emerged, overseen by the head of the Sattra in modern times.

Economically, Sattras sustained themselves through traditional and contemporary sources of income. Their primary source of income was generated from extensive land grants – ranging from revenue-free to half-free acreage originally granted during the monarchical period and later confirmed through procedures by the British administration – as well as through tithes and occasional offerings from the Sattra disciples.

Furthermore, the historical trajectory of the Sattra pictures an inclusive relation with the ruling state powers. The Sattra-state relation transmitted from initial royal hostilities to deep institutional patronages, official court gradation and administrative integration. The relationship continued through

the colonial period and has materialised through statutory mechanisms in the modern period, with the state consistently acting as a patron and protector of the Sattra institutions that have shaped the identity of the society for a long time.

Despite Sattra's historical resilience and status as the vital custodian of Assamese society and its identity, the art, literature, and the moral and social values, modern-day Sattras continue to face severe contemporary challenges threatening their long-term sustainability,

Folklore, Built Environment, and Epistemological Shifts: Mapping the Dynamics of Cultural Change and Intergenerational Knowledge Transmission Among the Kol Tribe of Anuppur, Madhya Pradesh

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The Kol tribe is among the oldest and most significant Indigenous communities of central India and constitutes one of the major tribal populations of Madhya Pradesh. In Anuppur district, where extensive coal reserves have encouraged rapid industrial and economic development, the traditional social and cultural landscape of Kol society has undergone profound transformation.

Historically, the Kol community maintained a livelihood centred on agriculture, forest-based activities, and a rich system of indigenous knowledge transmitted orally across generations. Folklore, ritual practices, oral narratives, songs, myths, ecological knowledge, and traditional architectural practices formed an integrated cultural system that shaped collective identity and guided everyday life. However, increasing industrialisation, expansion of coal mining, modernisation, state-led development interventions, formal education, migration, and technological advancement have contributed to notable shifts in traditional modes of knowledge production and cultural transmission. This study examines the relationship between folklore, the built environment, and changing epistemological frameworks among the Kol tribe of Anuppur district. It focuses on how cultural meanings embedded in traditional settlements, spatial organisation, housing patterns, sacred landscapes, and community institutions are being transformed under the influence of contemporary

development processes. The research explores folklore not merely as stories and oral traditions but as a dynamic repository of collective memory and indigenous knowledge that informs social relationships, environmental understanding, and cultural values. Particular attention is given to the ways in which traditional knowledge is communicated between generations and how these mechanisms are being challenged by changing economic aspirations and new forms of social mobility. The research adopts a qualitative and ethnographic approach. Data will be collected through participant observation, informal conversations, in-depth interviews, and case-study-based spatial mapping of selected Kol settlements.

These methods will help document the cultural significance of built spaces and analyse the interaction between physical environments and knowledge systems. The study also investigates the perspectives of both older and younger generations to understand the emergence of intergenerational differences in cultural practices, value systems, and knowledge retention.

Preliminary observations indicate that the gradual shift from agriculture to wage labour, particularly in mining-related sectors, has altered traditional lifestyles and reduced opportunities for the transmission of indigenous knowledge within families and communities. Modern educational institutions and digital technologies have expanded access to new forms of knowledge but have simultaneously contributed to the marginalisation of local traditions and oral learning practices. As younger generations increasingly engage with external cultural influences, many forms of folklore, customary practices, and community-based knowledge are experiencing decline. This process reflects a broader epistemological shift in which indigenous ways of knowing are being replaced, modified, or reinterpreted within modern socio-economic contexts. The study contributes to ongoing discussions on cultural change, heritage preservation, and Indigenous knowledge systems by highlighting the interconnectedness of folklore, spatial environments, and social transformation. It argues that understanding changes in the built environment is essential for documenting broader cultural transitions within tribal societies. The findings are expected to provide valuable insights for researchers, policymakers, and development practitioners concerned with safeguarding intangible cultural heritage while promoting inclusive and culturally sensitive development. Ultimately, the research emphasises the importance of preserving intergenerational knowledge transmission as a vital component of cultural continuity and tribal identity in a rapidly changing world.

Early Marriage: Socio-Cultural and Economic Contexts of Matrimonial Decision-Making in Jharkhand

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Parts of India still witness a high incidence of child marriage, although there has been a drastic decline across the country over the last couple of decades. It persists more prominently in some communities and regions. In rural Jharkhand, 36% of women aged 20–24 were married before the age of 18 (NFHS-5). This presentation is based on ongoing research on child marriage in rural Jharkhand by the Behavioural Insights Unit-Jharkhand, a collaboration between the Institute for Human Development (IHD) and UNICEF to generate evidence and insights to delay early marriages and respond to their adverse consequences.

The dominant policy discourse on child marriage in India is shaped by one form of marriage prevalent in caste society. These are parental- or family-arranged marriages, in which the marrying couple have limited or no say in the choice of partner (Jejeebhoy, 2019; UNFPA-UNICEF, 2019; Mehra and Nandy, 2020; UNICEF, 2023). This discourse does not consider consensual 'love marriages or self-arranged marriages among adolescents, which are more common in Scheduled Tribe (ST) communities, or the rarer instances among caste groups that defy 'social norms. This variation in the prevalence of early marriage is partly accompanied by differences in the decision-making roles of the couples involved.

Situating early marriage within the institution of marriage, rather than viewing it as a 'standalone practice' shaped by particular social norms (John, 2021), we argue that age at marriage is shaped by the marriage market, which is influenced by a complex set of factors and contradictory pressures. These include 'modern' considerations of education and education-related employment, on the one hand, and the symbolic performance of gender, whereby women are seen as custodians of family honour and caste purity in a hierarchical society, through gendered practices and control of women's sexuality, on the other (Srinivas, 1977; Dube, 1996; Andrist and Desai, 2010; John, 2021).

Drawing on qualitative field research on early marriages in rural areas of Jharkhand, this presentation explores contemporary early marriages through the intersecting lenses of gender, caste and community, alongside economic, educational and employment conditions.

Structural Fragility and Devaluation of Labour: A Socio-Economic Analysis of Income and Employment in The Banaras Handloom Industry

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The Banaras handloom industry operates through a decentralised putting-out production system in which the household functions simultaneously as a residence, production unit, source of fixed capital, and reservoir of unpaid labour. Although the finished Banarasi textile commands considerable cultural and commercial value, the households responsible for its production remain economically precarious. This paper examines how the organisation of production systematically conceals the full labour and cost requirements of handloom weaving, with particular attention to the pre-loom and post-loom activities performed by women. These activities include bobbin winding, thread sorting, yarn preparation, loom assistance, cutting, finishing, and other allied tasks that are indispensable to production but are frequently classified as domestic assistance rather than productive labour. This classificatory invisibility excludes women from formal labour recognition while simultaneously reducing the recorded cost of producing the final commodity.

Drawing on primary field data collected in the Banaras handloom clusters during 2024–2025, the study develops the concept of Productive Uncompensated Labour (PUL) and operationalises its economic value through a replacement-cost method. Women's allied labour is valued using the notified monthly minimum wage for an unskilled worker in Varanasi's District II category. Based on an estimated contribution of four hours per day for 28 days per month and an imputed hourly wage of approximately ₹38, the monthly value of women's unpaid labour is calculated at ₹4,256. When this amount is combined with ₹1,100 in household-borne production overheads, including electricity, loom maintenance, workspace use, tools, and local movement, the total hidden production cost reaches ₹5,356 per month. Against a reported nominal monthly income of ₹10,000, the primary weaver's real economic income falls to ₹4,644, representing an income devaluation of 53.56 per cent.

Shadow wage, or an unpriced structural subsidy absorbed by the weaving household and indirectly appropriated by master weavers and merchants through depressed piece rates. Women's unpaid labour does not merely supplement household income; it lowers the apparent supply price of the

final product and sustains an otherwise economically unviable production arrangement. The findings therefore connect gendered labour invisibility with monopsonistic wage determination, household cost externalisation, and the erosion of the primary male weaver's real earnings. The study concludes that policy must move beyond welfare-based recognition toward the explicit internalisation of allied labour and household production costs within piece-rate determination and product-pricing frameworks.

Animal Allegories and Cultural Identity in the Book of Dede Korkut

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The Book of Dede Korkut is one of the foundational texts of Turkic oral literature, preserving the historical memory, ethical values, and cultural worldview of the Oghuz Turks. While previous scholarship has primarily examined the epic from historical, folkloric, and mythological perspectives, comparatively little attention has been paid to the role of animal allegories in shaping cultural identity. This paper argues that animal representations in the Book of Dede Korkut function not merely as narrative motifs but as symbolic Expressions of collective memory, social values, and the cultural imagination of the Turkic world.

Employing a qualitative textual analysis informed by comparative literature, cultural studies, and symbolic interpretation, this study examines the allegorical significance of key animals, including the wolf, horse, bull, falcon, deer, ram, and other recurring creatures throughout the epic narratives. These animal figures embody virtues central to Oghuz society, such as courage, loyalty, wisdom, honour, leadership, and spiritual guidance. Rather than serving decorative or purely descriptive purposes, they establish a symbolic language through which the epic constructs ideals of heroism, kinship, and communal identity.

The analysis further demonstrates that the symbolic functions of these animals reveal a remarkable continuity between pre-Islamic Turkic beliefs and the Islamic moral framework reflected in the written version of the Book of Dede Korkut. Sacred animals, hunting imagery, and human–animal relationships preserve elements of ancient Turkic cosmology while simultaneously reinforcing values such as justice, sacrifice, hospitality, and social solidarity. In this respect, animal allegories operate as cultural codes that transmit shared beliefs and historical consciousness across generations, strengthening the continuity of Turkic cultural identity.

The study also highlights the inseparable relationship between humans, animals, and the natural environment in the nomadic worldview represented in the epic. Animals are portrayed as companions, protectors, guides, and symbols of authority, reflecting an ecological understanding of culture in which identity is constructed through interaction with nature rather than in opposition to it. This perspective broadens existing interpretations of the Book of Dede Korkut by emphasising its ecological and symbolic dimensions.

Assessing the Impact of Tourism on Economic Development in Far Western Province of Nepal

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Tourism has increasingly been put forward as a developmental opportunity for the peripheral and economically marginal areas of developing countries. In Nepal, despite the significant contribution of tourism to the national income and employment, the distribution of these results is uneven across the country, being especially in remote provinces, like the Far Western Province. This paper is based on an empirical investigation of the role of tourism in the economic development of Far Western Nepal that uses primary survey data from 385 tourism stakeholders and hotel owners in nine districts. The study is based on the tourism-led growth hypothesis and the theory of regional development, which justifies the adoption of a comprehensive quantitative framework consisting of descriptive statistics, reliability tests, mean score analysis, one-sample t-tests, estimation of the effect size, correlation analysis, and analysis of comparisons between districts. Findings indicate that there is a strong agreement on the role of tourism in the economic development of the region, growth of local business, entrepreneurship and foreign-exchange earnings, with statistically significant and substantively large impacts. However, the study finds spatial differences in tourism benefits between Terai and hill districts, highlighting the contribution of infrastructure, accessibility, and market integration. The paper concludes that tourism is a critical contributor to the economy of Far Western Nepal, but its effectiveness should be based on region-specific, inclusive, and policy-supported interventions.

Beyond Yoga and Bollywood: Temple Diplomacy as Spatial Soft Power in India's Foreign Policy

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This paper examines temple diplomacy as an under-theorised dimension of India's soft power strategy. While existing scholarship has focused predominantly on popular cultural exports- yoga, Bollywood, cuisine, and democratic values- the role of sacred spaces- temples, monasteries, pilgrimage circuits, and heritage sites- as active instruments of foreign policy has received little systematic attention. This paper addresses that gap by introducing the concept of temple diplomacy: the strategic use of sacred spaces across Hindu, Buddhist, Sikh, and Jain traditions as instruments of soft power in India's foreign policy.

The paper develops an integrated conceptual framework drawing on four theoretical pillars. First, Joseph Nye's soft power framework is extended to argue that attraction can be spatially grounded, that physical spaces imbued with religious and historical significance generate forms of cultural influence that differ qualitatively from those produced by media or popular culture. Second, the civilisational identity is examined, showing how India's foreign policy presents the country not merely as a modern nation-state but as a living civilisation with continuous cultural traditions, transforming sacred spaces into international symbols of historical depth and cultural continuity. Third, drawing on Lefebvre's insight that space carries political meaning, the paper argues that sacred architecture constitutes a distinct form of symbolic power. Fourth, Simon Anholt's nation branding framework shows how temple diplomacy contributes to India's international reputation through substantive actions rather than communication campaigns alone.

Using a qualitative methodology based on purposive case selection and discourse analysis, the paper examines four cases representing different dimensions of temple diplomacy. The ASI's restoration of Ta Prohm at Angkor Wat in Cambodia illustrates how heritage conservation can generate cultural credibility and support regional diplomatic objectives under India's Act East Policy. The Buddhist Circuit, encompassing Bodh Gaya, Sarnath, and Kushinagar, demonstrates how sacred sites create channels for cultural and spiritual engagement with Buddhist-majority countries across Asia. The BAPS Hindu Mandir in Abu Dhabi, inaugurated in February 2024, shows how diaspora temples serve overseas Indian communities and project India's civilisational identity internationally. Finally, domestic projects including the Kashi Vishwanath Corridor and Ram Mandir Ayodhya illustrate how

heritage redevelopment generates global visibility through media and diaspora networks.

Cross-case analysis reveals that temple diplomacy operates through physical presence, collective memory, and civilisational symbolism in ways that media-based diplomacy cannot replicate. However, the paper also identifies significant limitations. The effectiveness of temple diplomacy depends on its perceived cultural authenticity and inclusivity. Projects associated with partisan political agendas risk being received internationally as expressions of nationalism rather than civilisational heritage, undermining their soft power value. Additional challenges include the difficulty of measuring symbolic outcomes, the risk of over-politicisation, competition from China I. Buddhist diplomacy, and the tendency toward selective historical narration.

The paper concludes that temple diplomacy represents a distinctive modality of spatial soft power capable of generating cultural credibility and diplomatic goodwill. As a unified analytical framework integrating heritage diplomacy, religious diplomacy, and nation branding, it offers practitioners a more comprehensive understanding of how India deploys sacred space in foreign policy.

Cultivating Conscience: Ethics, Justice, and the Philosophy of Care in Indian Agriculture

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India's agrarian transformation, propelled by the Green Revolution, market liberalisation, and more recently digital and biotechnological innovation, has been evaluated almost exclusively through the lens of productivity, income, and growth. Yet beneath these technical and economic metrics lie unresolved ethical and philosophical questions: What do societies owe to those who cultivate the land? How should the burdens of ecological limits, climate volatility, and market risk be distributed between farmers, the state, and the market? And what forms of knowledge and autonomy deserve recognition in an agricultural system increasingly shaped by corporate seed patents, algorithmic advisory tools, and centralised policy design? This paper undertakes a conceptual inquiry into the ethical foundations of Indian agricultural policy and practice, arguing that recurring agrarian distress, reflected in indebtedness, ecological degradation, and farmer suicides, is not merely a policy failure but a symptom of a deeper moral impoverishment in how agriculture is conceived and governed.

Drawing on Amartya Sen and Martha Nussbaum's capability approach, the paper reframes farmer wellbeing beyond income and yield to encompass dignity, security, and the freedom to pursue a life of value. It engages the moral-economy tradition associated with James Scott and A. V. Chayanov to recover the ethical logic of subsistence and risk-sharing that market-oriented reforms often override. It further draws on land and environmental ethics, following Aldo Leopold's notion of the "land community," to interrogate the treatment of soil, water, and biodiversity as mere inputs rather than objects of stewardship and intergenerational obligation. Finally, the paper considers the bioethics of agricultural biotechnology, including genetically modified crops, seed patenting, and precision-agriculture platforms, as sites where questions of autonomy, consent, and indigenous knowledge are contested.

Synthesising these strands, the paper proposes an integrative framework it terms an "ethics of agrarian care," holding together distributive justice (fair access to land, credit, and markets), ecological justice (sustainable stewardship of shared resources), and epistemic justice (recognition of farmers' own knowledge alongside scientific expertise). This framework is used to critically examine major instruments of Indian agricultural governance, including minimum support prices, loan waivers, input subsidies, and extension systems, asking whether they function as genuine supports for farmer autonomy or as forms of paternalism that obscure structural inequities. The paper also considers regional variation, noting how ethical tensions around land, water, and credit manifest differently across states with divergent agrarian histories and ecological endowments.

The Influence of Amaravati Art Tradition on Sri Lankan Art and Sculptures

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The Amaravathi art tradition originated in the modern Andhra and Telangana regions around 200 BC, during the Satavahana dynasty. Places like Amaravathi, Nagarjunakonda, and Jaggayapeta have rich Buddhist artistic remains. This tradition had spread to Sri Lanka and other regions. The objective of this paper is to examine the form of the connection between the Amaravathi art tradition and Sri Lankan art. The data are analysed using

literature sources and a qualitative approach. Various similarities and some differences have been noticed between the remains of the two countries. The Stupa Architecture part, named "Ayeka", the Naga and Nagini figures, carved with one or more hoods art, the standing form of the Buddha statues, crafts of kalasa, nidhi, gana, moonstone, and jathaka story-depicted panels are the best examples that represent the spread of Amaravathi tradition in Sri Lanka. But some differences are also noted, such as "Ayaka pillars" in the Amarawathi stupa evolving into a brick structure called "wahalkada" in Sri Lankan stupas, and local craftsmen attempting to build large-scale Buddha statues rather than the Indian Amarawathi statues. In Indian Amarawathi, artists tried to decorate every single space, including the dome of the stupa, and stone panels are packed and overcrowded with depictions, but Sri Lankan artists limited decorations to "wahalkada", and spaces are used freely, which can be attributed to the influence of Theravada Buddhist philosophy. The raw material also shifted from white marble to granite, suggesting local craftsmen had started creating art pieces with locally available materials. Finally, it can be understood that Sri Lankan artists did not merely imitate these artistic traditions but also adapted and modified them to align with local traditions and beliefs. Over time, it has been recognised as a unique identity.

A Study on The Contemporary Form of The Wood Carving Industry: Based on The Village of Handessa

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This study examines the contemporary form of the traditional wood carving industry in Handessa village, Udunuwara, Kandy District, Sri Lanka. Wood carving has long been an important element of the cultural heritage of Handessa and has provided a source of livelihood for local families. However, the industry is undergoing significant changes due to modernisation, globalisation, changing consumer preferences, educational aspirations, and the declining interest of younger generations in traditional occupations. Against this background, the study aims to identify contemporary trends in the wood carving industry and examine the major challenges affecting its continuity. A qualitative research approach was adopted to understand the experiences and perspectives of people connected with the industry. Primary data were collected through in-depth interviews and observation, while relevant research

studies and online sources were used as secondary data. 17 male and female participants were selected through purposive sampling, and the collected data were analyzed using descriptive qualitative analysis. The findings indicate that wood carving has gradually shifted from its traditional religious and architectural functions toward commercially oriented production. Artisans increasingly produce decorative items, jewellery boxes, souvenirs, and other products for local and foreign consumers. While these changes have created new income and employment opportunities, the industry faces significant challenges, including low returns to artisans, dependence on intermediaries, limited market access, competition from substitute products, and declining youth participation. Overall, the study demonstrates that although wood carving remains an important source of cultural identity and rural livelihood in Handessa, its continuity is increasingly uncertain. Strengthening market opportunities, supporting artisans, and encouraging younger generations to engage with the craft are essential for sustaining this valuable cultural tradition.

Socio-Economic Contributions of Navajeevan Cooperative and Its Impact on Poverty Reduction in Kailali District, Nepal

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Health expenditure, defined as the financial resources allocated by governments and the private sector to prevent and treat disease, serves as a critical policy instrument for strengthening health systems. Sufficient investment in health services, infrastructure and preventive care improves population health, enhances human capital and contributes to economic performance. This study addresses the central research question: How does health expenditure influence economic growth through its impact on child mortality rates in ECOWAS countries? The relationship between health expenditure and economic growth is multifaceted and may be mediated by intermediate outcomes, such as reductions in child mortality. In ECOWAS, where child mortality rates remain among the highest globally, understanding this mediating role is particularly important. Increased health expenditure can improve maternal and child health services, vaccination coverage and nutrition programmes, thereby reducing child mortality. Lower

child mortality not only results in healthier populations but also expands individual capabilities, enabling greater participation in education and the workforce. This expansion ultimately increases future workforce capacity and productivity, thereby supporting sustainable economic growth. The findings of this study may inform future ECOWAS budget negotiations by encouraging targeted investments that optimise health expenditure for maximum economic and social benefit. Although the significance of these linkages is widely recognised, empirical evidence from ECOWAS remains limited, fragmented or primarily focused on direct relationships between health spending and economic growth (Oche & Mah, 2020).

Health is an essential indicator of a country's socio-economic development, and insufficient investment in it has directly affected the country's output capacity, further lowering income. The present study examines the relationships among health expenditure (government, private, external and out-of-pocket), child mortality, fertility rates, improved sanitation, total population, gross capital formation and economic growth across ECOWAS member states. For this purpose, the study relies on panel data for the period from 2000 to 2022. The analysis employs pooled ordinary least squares (OLS) estimation, the fixed-effects model (FEM) and the random-effects model (REM), as well as the Hausman test and the Johansen cointegration test. Following a careful analysis of the data, the study concludes that the random-effects results indicate that government expenditure, fertility, capital formation, sanitation and population dynamics are key determinants of economic growth. The strong explanatory power and substantial variance attributed to cross-sectional effects indicate that the RE model provides an efficient framework when the assumption of no correlation between unit-specific effects and regressors holds. Furthermore, the Johansen cointegration test results provide strong evidence of multiple cointegrating vectors among the variables. Specifically, the null hypothesis of no cointegration ($r = 0$) is decisively rejected, as the trace statistic (349.02) substantially exceeds the 5% critical value (285.14), with a p-value of 0.0000. Similarly, the hypotheses of at most one and at most two cointegrating equations are also rejected at conventional significance levels, indicating the existence of several long-run relationships. Therefore, the study recommends that ECOWAS governments focus on enhancing the effectiveness of government expenditure, addressing demographic pressures through integrated policies, and adopting a long-term investment and infrastructure strategy.

Transformation of Jharkhand's Folk Literature Through Digital Humanities

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As science and technology advance, the way we live is continually changing at both the individual and socio-cultural levels. Though change is unavoidable, it is natural for each individual, organisation, community, and society to protect their habits and cultural practices in the age of global digitalisation.

For generations, people have passed down their cultural memory, values, and cosmology through songs, myths, folktales, ceremonial chants, and proverbs. Elders, storytellers, and ritual specialists have been the major caretakers of this oral tradition, ensuring that collective memory is preserved through performative expression rather than formal documentation. Every act of storytelling or song performance is both an artistic and a social event that connects people to their community and the environment that supports them.

Jharkhand's literature reflects diverse cultural legacies. This approach offers unique insights into society's histories, beliefs, and struggles through oral traditions, myths, folktales, and literary expressions. Literature provides insight into the social, political, and economic realities of these societies, while also preserving their cultural past. This lens examines how modernisation, globalisation, and socio-political changes affect societies. The literature has a considerable impact on mainstream discourse, providing a unique perspective and cultural history that is often overlooked.

The change in Jharkhand's folk literature in the light of globalisation and digital humanities is an innovative connection between traditional cultural expression and recent technological achievements. Various Indigenous communities in Jharkhand, like the Santhal, Oraon, and Munda, have long used oral storytelling, song, and dance to maintain their cultural legacy. However, with the introduction of globalisation and digital technology, these time-honoured traditions confront both threats and opportunities. While global influences may jeopardise the validity of indigenous narratives, digital platforms provide new opportunities to preserve, share, and promote these folk traditions to a larger, global audience. The emergence of digital humanities technologies provides a fresh means to document, archive, and

reinterpret Jharkhand's folk literature, opening up new avenues for its evolution. The aim of the study is to analyse the impact of globalisation on Jharkhand's folk literature and investigate how digital humanities contribute to preserving and sharing folk traditions.

The methodology involves secondary data analysis, drawing from existing scholarly articles, ethnographic studies, and digital archives related to Jharkhand's folk literature. This research will help understand the dynamics between traditional narratives and modern technological influences on indigenous storytelling.

Asymmetry of Institutional Preparedness for Language Policy – A Critique of NEP 2020 and PARAKH in Forging Linguistic, National, and Economic Identity – Insights from UDISE+

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Language has been deeply tied to the very fabric of India as a nation. It continues to determine the socio-political and economic landscape at an individual level in terms of opportunity and is a key fulcrum of India's developing national identity. Language and economic development are intertwined, because the language regime of a society shapes who can access education, work, and mobility, and thereby who can participate in growth.

This paper seeks to evaluate the hurdles in India's linguistic development journey through a critical lens given that the National Education Policy's (2020) bilingual switch around Grade 6, and regional language ambition appears difficult to implement effectively in practice. India currently lacks sufficient capacity to teach STEM subjects in multiple languages, and there is no visible, large-scale plan for sustained capacity building to train teachers and develop the required instructional infrastructure.

The policy also sits very uneasily with India's labour market realities. Social and economic mobility continues to depend heavily on English; high-quality employment growth is concentrated in the private sector and multinational firms, where regional languages do not yet carry any meaningful and comparable weight for upward job mobility. With abysmal pay and weak professional support, it is unreasonable to expect large numbers of skilled educators to enter or remain in the system, especially when they are expected to deliver complex STEM teaching in multiple languages. These efforts are also impeded by the efforts of the larger union government trying to enforce

a linguistic national identity. Although debates surrounding linguistic identity are deeply political, this work examines documented government orders and policy measures that indicate efforts toward the promotion of a national linguistic identity with implications for regional language identities.

Unfortunately, India's economic mobility is deeply tied to English as an equaliser across linguistic divides. Pushing vernacular only or complex three-language mandates without addressing structural inequities risks locking marginalised students out of high-value labour markets.

Drawing on educational survey data such as UDISE+ on teacher-student ratios, availability of textbooks in regional languages, and pedagogical training metrics, this paper seeks to establish that the current Indian education system, even with full implementation of NEP 2020, is not ready to meaningfully transform India into a nation of pluralistic linguistic identities in a way that ensures upward social and economic mobility; rather, the policy in its present form will only act as an obstacle for youth seeking meaningful employment and stronger academic outcomes.

Diversity and Regional Economic Growth: The Case of Indian Districts

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Diversity and economic growth are deeply interconnected in contemporary economies. Diversity can stimulate innovation, improve decision-making, and enhance productivity by bringing together varied perspectives and capabilities. However, its economic consequences remain contested in the literature.

Most cross-country studies identify a negative relationship between diversity and growth, commonly referred to as the "diversity debit hypothesis." In contrast, many sub-national studies report positive effects, emphasising the potential "diversity dividend" associated with creativity, complementarities, and knowledge spillovers. This poses an unresolved puzzle.

This study aims to examine the relationship between diversity and economic growth across Indian districts and attempt to understand this puzzle in the Indian backdrop. India offers a particularly important context given its vast population and exceptional social heterogeneity, as regional evidence on the diversity-growth nexus remains scarce. Using data from the 2011 Census of India, the study constructs measures of religious and

linguistic diversity, including both fractionalization and polarisation indices. District-level economic activity and growth are proxied using Nighttime Light (NTL) data.

The study first evaluates the suitability of NTL as a proxy for district-level economic performance by examining its relationship with official district GDP estimates for select states. The results indicate a strong and statistically significant association between NTL and GDDP. Further, the empirical analysis reveals that religious diversity has a significant impact on NTL growth. Religious fractionalization positively affects growth, whereas religious polarisation has a negative effect. Linguistic diversity displays similar directional patterns, although some estimates are statistically insignificant. These effects are more evident for long-term growth rates than for short-term growth rates. The study also finds evidence supporting the convergence hypothesis, with districts having lower initial luminosity experiencing faster subsequent growth. The study finds evidence for the presence of spatial autocorrelation in the districts, using Moran's I. Then, using the Spatial Error Model and the Spatial Lag Model, the study accounts for the spatial dependence. However, the results remain the same.

Overall, the findings suggest that the economic effects of diversity are nuanced and context-dependent, highlighting the need for further research into the channels through which diversity influences growth. The study concludes by highlighting some limitations, outlining the future scope of work, and suggesting policy measures.

Culture, Marginality, and Development: Lived Experiences of Female Tea Garden Workers in Bangladesh

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Culture plays a central role in shaping people's everyday lives, social relationships, and development opportunities. In Bangladesh, tea garden communities represent one of the country's most historically marginalised populations, possessing distinct cultural identities, traditions, and social institutions while simultaneously experiencing persistent socioeconomic

exclusion. Although previous studies have primarily examined the health and economic conditions of tea garden workers, limited attention has been paid to how culture interacts with development processes and influences the everyday experiences of female tea garden workers. This study explores the intersections of culture, gender, and development through the lived experiences of female tea garden workers in Sylhet, Bangladesh. The study adopted a qualitative research design using in-depth interviews and Focus Group Discussions (FGDs) with female tea garden workers. Data were analysed thematically to understand participants' perceptions of community life, cultural values, gender relations, livelihoods, access to education and healthcare, decision-making processes, and aspirations for social and economic mobility. The findings reveal that the lives of female tea garden workers are shaped by a complex interaction of cultural traditions, labour relations, gender norms, and structural inequalities. Strong community solidarity, shared cultural practices, and collective identities provide important sources of social support and resilience. At the same time, deeply embedded patriarchal norms, early marriage, limited educational opportunities, restricted mobility, and intergenerational poverty constrain women's capabilities and participation in development processes. Participants described how economic insecurity, inadequate public services, and limited institutional recognition reinforce their social exclusion despite their significant contribution to Bangladesh's tea industry. The study also found that many women are negotiating traditional cultural expectations while increasingly valuing education, healthcare, and greater participation in household and community decision-making, reflecting gradual social change within tea garden communities. The findings suggest that development interventions cannot succeed without acknowledging the cultural contexts in which marginalised communities live. Rather than treating culture as a barrier to development, policies should recognise community knowledge, strengthen local institutions, promote culturally responsive education and healthcare, and expand opportunities for women's empowerment and participation. An inclusive development approach that integrates cultural identity with social justice and economic opportunities is essential for improving the well-being of tea garden communities. By foregrounding the voices of female tea garden workers, this study contributes to broader discussions on culture and development, demonstrating how culturally informed and context-sensitive policies can promote equitable and sustainable development among historically marginalised populations in Bangladesh.

Service Sector Employment and Social Inequalities in India: A Caste-Based Analysis

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The path of India's economic development is influenced by its shift in dependency from the traditional to the modern sector. The surge of the tertiary sector has outpaced the growth rate of the conventional sectors in the post-reform period. In recent years, the service sector has been the prime dominator of economic development, although historically the traditional sector has provided the most to India's national income; now, the service sector accounts for more than half of the country's overall output (Das and Parida, 2012), however, the lion's share of the population is still employed in the traditional sectors. With the most appreciated expansion of the tertiary sector in India, many opportunities of employment for all genders and social groups have been brought about; however, this has also attracted attention to the ongoing problems of gender and caste inequality in the workforce. India is a secular nation, distinguished by its comprehensive inclusion of all castes, creeds, traditions, and civilisations; different cultures and norms are posited in different parts of the country, differing in degrees of economic engagement and changing views on different social groups and their roles, attributing their frictional role-play in employment scenarios in the recent time frame. The study focuses on the long-standing dispute over discrimination between reserved and unreserved social groups and the regional disparities of the service industries in India using data from the Periodic Labour Force Survey (PLFS 2023–2024). The study aims to understand the contributions of cultural, economic, and institutional variables in influencing the involvement of reserved and unreserved individuals in various sectors, besides geographical differences across the country. To understand the labour market segmentation and the role of social stratification in the service sector, the entire study is divided into two parts. The descriptive part portrays trends and inequalities of the socio-economic setting from a viewpoint of caste and regional disputes in India, and to examine how well the service industry satisfied factors like inequality in wage earnings, age group, education levels and other socio-economic factors like gender and social groups, the Heck-probit model is considered, framed with certain demographic and socio-economic variables. Furthermore, whether the caste-based reservation system alters the service-sector employment scenario is another focus of our paper. To draw concluding

remarks on the caste debate and its possible impacts from the socio-economic and demographic variables causing discrimination in the labour market for services, we applied the multivariate decomposition technique suggested by Myeong-Su Yun. (2004). The descriptive and regression results capture the gender and caste barriers pertaining to service sector employment; additionally, cultural differences in various regions alter the employment dynamics for various castes and genders. The caste-based reservation system typically affects the employment scenario just like the public sector does, creating more spaces for the reserved people to enter the force, irrespective of experience. Several socio-economic factors like number of children, age, marital status, and educational qualifications explain the gap.

A Study on The Impact of The Vishnupad Corridor Project on Gaya's Sacred Geography and Local Communities

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Under the Government of India's flagship PRASHAD (Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive), Gaya has recently been chosen as one of the several religious centres in India for the Pilgrim Corridor Project. These projects largely involve upgrading religious sites into world-class destinations for spiritual tourism. The Project aims to boost not just tourism and the economy but also preserve and restore ancient temples, improve the visitor experience by reducing congestion, improving accessibility and adding modern amenities to these spaces. The Vishnupada Corridor Project is a 2,390 Crore mega-project that will create a highly connected, streamlined, aesthetic transit network to accommodate global and national pilgrims. However, this paper argues that the state's technocratic and commercial approach to the religious experience of pilgrimage compromises the unique sacred geography of Gaya in which the famous ritual of shraddha is embedded. By focusing on monetised, sanitised linear corridors, the project reduces Gaya's expansive ancient sacred geography into a narrow hyper-visible corridor. This state-led transformation threatens to marginalise the deeply local, decentralised nature of ancestral pilgrimage (pinda dana) that has defined Gaya's landscape for over a millennium.

This study will examine two aspects of the corridor project. First, it looks at the erasure of small ancient shrines and traditional neighbourhoods - historic built spaces that will be demolished to create bigger roads and

an approach corridor. Moreover, it will examine the dozens of ancient vedis (sacrificial altars) that fall outside the core development corridor and will continue to suffer from infrastructural neglect, structural deterioration and administrative oversight. Thus, the study will highlight how the proposed corridor will lead to a spatial contraction and destruction of Gaya's sacred geography. Secondly, the paper examines how these radical transformations to the built heritage impact the local population's ontological security or sense of well-being, psychological continuity and an existential sense of belonging anchored in familiar physical environments. This paper will demonstrate how the wholesale demolition of old neighbourhoods and traditional vernacular architecture fundamentally threatens the local community's connection to history, custom and spatial memory.

The paper analyses the colonial records of Francis Buchanan-Hamilton and Alexander Cunningham alongside foundational works on Gaya by L.P. Vidyarthi and Rana P.B. Singh. These show that the pinda dana was an elaborate multi-day pilgrimage journey across a constellation of vedis that included ancient hills, tanks, trees and shrines which were spread across Gaya. Over time, modern constraints have compressed this practice to a few days or even a single day. This paper contends that the corridor project institutionalises and accelerates this compression.

The methodology employed will include qualitative field interviews, community surveys and site observations within affected neighbourhoods. A geospatial analysis of the vedis falling outside the bounds of the proposed corridor will also be conducted to assess the number of ancient sites and vedis being left outside the state's development project. Ultimately, the paper proposes a shift from corridor to decentralised heritage landscape planning, participation of local communities and stakeholders in planning and execution and ensuring that decongestion of religious sites and promotion of spiritual tourism does not come at the cost of authentic, vernacular religious experience.

There is No Hindu, There is No Musalman: The Ad Dharm Movement, Sikh Egalitarianism, and the Unresolved Contradiction of Caste in Punjab

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Guru Nanak (the founder of Sikhism) and the Guru Granth Sahib alike propagate messages of oneness, universal equality, and Seva or service.

Sikhism is thus ideologically positioned as a decisive rejection of the caste hierarchy, institutionalised perhaps most visibly in the 'langar' or communal kitchen. Yet by the nineteenth century, caste divides had pervaded thoroughly through Punjabi society through endogamous marriage practices, separation of public spaces, and concentration of religious authority amongst dominant castes. The Punjabi context then presents a unique juxtaposition in the form of sacred scripture that includes compositions by Dalit saints and daily practices of segregation at the intersection of religion and caste.

This paper traces how this contradiction itself produced the Ad Dharm movement, which framed Punjab's Dalits not as 'untouchable'/ 'low-caste' Hindus or Sikhs, but as the Adi people - a distinct community with an ancient religion predating Brahmanical hierarchy altogether. The 1931 Census, in which nearly 419,000 people registered 'Ad Dharm' as their religion, stands as one of colonial India's most significant acts of collective Dalit self-identification.

This paper situates the movement alongside Ambedkar's nationwide anti-caste project and draws convergence amongst the lessons from the two: that inclusion within a pre-existing framework of faith did not structurally undo caste hierarchy or its material conditions; and that meaningful identity assertion implied rejecting the terms of this inclusion entirely, rather than seeking redressal or accommodation within it. Drawing contemporary parallels in the two-gurudwara phenomenon in Punjabi villages, the 2009 assassination attempt on the head of the Dera Sach Khand Ballan (spiritual centre of Ad Dharm and Ravidassia communities) and the concomitant Ravidassia movement, the paper poses unresolved questions around the prevalence and manifestation of caste in India.

Finally, the paper addresses the entanglements between religious assertion, political recognition, and structural change - and the inextricable nature of the three as reflected in anti-caste projects over the country. It opens with a slightly personal note on the author's social location as an upper-caste woman raised on an unexamined faith in the Langar's egalitarianism, and draws to a close by returning to this unearned privilege of dominant communities, and what it costs to continually treat Dalit assertion as a 'threat' to existing institutions - rather than as evidence that those institutions never resolved the contradiction, they were founded to eliminate.

Medieval Bengali literature and its influence on the living dance traditions of Bengal: Ritual, Philosophy and Performance

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Bengal possesses a rich and diverse cultural heritage in which literature, religion, philosophy, ritual, music, and performance have developed through continuous interaction. If we talk about Bengal, historically it encompasses both West Bengal and East Bengal (currently known as the distinct country Bangladesh). Various archaeological sites, sculptures, festivals, rituals, literary works, and dance-dramas provide living evidence of the glorious historical and cultural affinity between West Bengal and Bangladesh. Two distinct countries (India & Bangladesh) portray shared philosophical ideas through various facets. Dance is another cultural staple that creates cohesion among countries. Throughout the history of undivided Bengal (West Bengal & Bangladesh), numerous empires emerged, and diverse religions flourished under the realm of various dynasties. Bengal's diverse festivals, rituals, iconography, and folk performances reflect a profound religious influence, seamlessly intertwining with various cultural philosophies. This paper examines the influence of early and medieval Bengali literary traditions- particularly the Charyapada and Mangala Kavya- on the ritualistic, philosophical, and performative dimensions of living dance traditions of Bengal. The Charyapada, associated with Buddhist Sahajayana and Vajrayana traditions, reflects concepts of spiritual realisation, bodily discipline, and esoteric practice. The Mangala Kavya represents the synthesis of indigenous, non-Vedic, and mainstream religious traditions through mythology, ritual worship, and community participation. These literary and philosophical elements can be examined through living performance traditions such as Gambhira or Gomira of North Bengal, the Gajan festival of Bankura, and the masked Chhaudance of Purulia. Their masks, ritual contexts, movement vocabularies, music, mythological narratives, and collective participation demonstrate the continuing transformation of textual and religious ideas into embodied cultural practices. The study argues that these dance traditions function as living repositories of Bengal's philosophical and ritual memory. By connecting textual sources with performance practices, the research highlights processes of cultural continuity, adaptation, transmission, and transformation within Bengal's intangible cultural heritage.

Beyond the Sacred Enclosure: Monastic Life, Political Economy, and Generational Identity at a Tibetan Tantric Monastery in Exile

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This paper draws on a month-long ethnographic fieldwork at a Gyuto tantric monastery in Dharamshala, which is dedicated to the Gelugpa tradition of Tibetan Buddhism. The findings recorded at the monastery position it as a religio-political institution embedded within a complex social network. Tibetan monastery in exile is best understood not as a bounded ritual enclave but as an entangled institution, one in which doctrine, discipline, donor economy, and generational memory continuously act on one another rather than occupying isolated segments of monastic life. Moreover, monasteries, especially in the context of Tibetan Buddhism, serve as nodal points for epistemic production, cultural preservation, community formation, and cohesion. The Gompas (Tibetan monasteries) exert considerable influence over the lives and social relations of the Tibetan community, as well as guiding their political choices. Similarly, the role of lamas in navigating the lay-monastic interface is evident in how they nurture and train young novices, while also fulfilling their social obligations as ritual masters and Dharma protectors through ritual performances that serve the lay(sponsors) community in the hour of need. These interlinkages were explored in detail during a month-long ethnographic fieldwork at the Gyuto Tantric monastery at Dharamshala. Furthermore, three empirical findings anchor the argument, including a generational split between the nostalgia-bound devotion of older exiles and the more transactional engagement of those born in exile; the disciplinary architecture surrounding child novitiates; and the monastery's quiet dependence on foreign donor economies, visible in the uneven enforcement of its own ritual rules. Read alongside the varied career paths of its lay staff, and an extended exchange with an elderly interlocutor over the meaning of homeland, these findings extend existing scholarship on Tibetan monasticism and diaspora and argue against treating exile monasteries as static custodians of tradition, instead recognising their idiosyncratic dynamism in sustaining and strengthening the collective consciousness of the Tibetan community.

Sarna Sthal and Indigenous Worldview: A Study in Brambe, Ranchi

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'Sarna Sthal' is a sacred place for the tribals where the supreme deity is worshipped. This is actually a sacred patch of forest, also called a sacred grove, where village deities or spirits reside. This place is protected and preserved by several tribal communities like Munda, Oraon, Ho, Santhal, Kharia and Bhumij. There are various shared sets of beliefs, values, practices and interpretations associated with Sarna Sthal by the tribals of India, which are transmitted across generations. It is a place of interconnectedness between human beings and the natural environment where prayers touch the supreme power. Therefore, the entire culturally shared framework through which people perceive, interpret and give meaning to their natural and spiritual surroundings is called the community's worldview. The study area is Brambe, a village located in Ranchi district of Jharkhand. The study in Brambe Sarna Sthal aims to highlight the worldview of the native tribal community, i.e., the Oraons of that region, about the underlying rituals and customs in Sarna worship. The study deals with several aspects associated with Sarna Sthal, such as symbolism, community cohesion, and cultural transmission. As this study is based on a qualitative approach and primary data, participant observation and the interview method are selected for data collection. The present study reveals that the Sarna Sthal represent much more than a physical place of worship, as it embodies the broader worldview of the Oraon community and their understanding of the relationship between human, nature, the spiritual world and society. Different rituals and natural elements have symbolic value and indicate a deep relationship and understanding of natural laws by the indigenous people. The offerings, sacrifices and collective participation indicate that religious practice is concerned not only with individual devotion but also promotes a harmonious relationship with the community and nature. The participation of women and children in the Sarna sthal indicates the intergenerational transmission of beliefs, values and traditions. Thus, Sarna sthal also acts as the centre of cultural preservation among the Oraons. The study reflects the dynamic and nature-centred worldview of the Oraon community.

Learning and Legislation: Divergent Conceptions of Social Order in Asian Traditions and Liberal Modernity

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Discussions comparing modern liberal political thought with Asian traditions foreground the contrast between equality and hierarchy. Modern political philosophy is often seen as progressive, since it affords dignity and equality to every individual. By contrast, Asian traditions are often portrayed as hierarchical, traditional, and regimented, sometimes sacrificing or being indifferent to the dignity of the individual. This paper suggests that such descriptions obscure more than they illuminate. Underlying this debate is a stark difference between the two regarding what society is for in the first place. In Asian traditions, society exists to establish multiple sites of learning that aid in forming individuals and cultivating virtues. Liberal political philosophy has a different starting point: it sees society's role as striving toward legislation, regulation, enforcement, and adjudication among already free and equal individuals. In this sense, hierarchical relationships in Asian traditions have a distinct telos of learning and are not simply developing toward the realisation of free and equal individuals. These differences imply that the network of concepts involved in organising social life in Asian traditions, as compared to modern liberal political thought, may be incommensurable.

To demonstrate this, the paper engages Indian, Confucian, and Buddhist traditions in conversation with the liberal lineage from Locke to Kant to Rawls. By examining the textual base of the Asian corpus, which includes the Upaniṣads, the Bhagavad Gītā, the Manusmṛti, the Guru Gītā, the Analects, the Great Learning, Xunzi, Mencius, and the Buddhist Vinaya, a consistent pattern emerges. Here, the person is not a finished, autonomous agent, but almost always a person in the making through the learning they accrue through relationships, discipline, guidance, and transmission. Hence, gurusiṣya, parent–child, and expert–novice relationships carry enormous weight in these traditions not because of inherited privilege, but as background conditions for learning to take place.

After this analysis, the paper turns to practical domains and examines whether traditional sites of learning such as temples, martial arts lineages,

monastic communities, and dance and music lineages retain this learning focus, or whether they have come under stress in today's world. Moving beyond the superfluous hierarchy-versus-equality dichotomy, which assumes equality as a baseline, the paper asks a prior question: what conception of society makes asymmetrical relationships seem indispensable in the first place? The argument is that many Asian traditions organise social life around learning, while liberal modernity organises it around legislation. What looks like a disagreement over values, then, is better understood as a disagreement over different lifeworlds: two different ways of building a social order from the ground up.

Gender, Social Stratification, and Inclusive Development: Women's Labour Force Participation in India and South Africa

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Inclusive development is best assessed by examining the progress of the most disadvantaged groups, with women from marginalised communities remaining among the most vulnerable. This study compares India and South Africa, where social stratification is organised around caste and race, respectively, to understand how gender and social disadvantage jointly constrain women's workforce participation—a key indicator of economic inclusion. Using Demographic and Health Survey (DHS) data for 2016, the analysis explores social composition, vulnerability indicators and determinants of women's labour force participation through descriptive statistics and logistic regression.

The findings reveal stark contrasts in social composition: while India's population is more evenly distributed across caste groups, South Africa's is overwhelmingly Black/African (86.8%). Vulnerability indicators highlight that women in India's Scheduled Castes (SC) and Scheduled Tribes (ST) experience higher levels of severe physical and sexual violence than other groups, while South African women report higher levels of emotional violence, with White women being the least vulnerable and most economically empowered.

Educational attainment diverges sharply: South Africa has near-universal literacy and high levels of secondary education, while in India, large proportions of ST women remain illiterate and few attain higher education. Wealth distribution also differs, with poverty concentrated among Africans in South Africa and among STs in India. Residential patterns show that

India's population is predominantly rural, while South Africa's is largely urban, except among Africans. Employment patterns reflect these divides: in India, ST women have the highest participation, largely in low-productivity agriculture, while in South Africa, White women dominate professional sectors, with African and Coloured women concentrated in domestic work.

Logistic regression results underscore these structural differences. In India, women with primary and secondary education are less likely to work than those with no education, reflecting a U-shaped relationship in which economic necessity drives uneducated women into informal work, while higher education restores participation by opening up formal opportunities. Wealth negatively affects participation, with richer women being less likely to work, and social stratification shows that ST women are more likely to participate than OBC or forward-caste women. In South Africa, higher education more than doubles the odds of working, wealth is positively correlated with workforce entry, and White and Coloured women are more likely to work than Black/African women. Urban residence has only marginal effects in both contexts.

Overall, the study highlights differences in the labour market structures of the two economies. While women's employment in India is largely necessity-driven, shaped by poverty and social disadvantage, in South Africa it is more opportunity-driven, reflecting access to education, wealth and formal employment. Social stratification remains a critical determinant in both countries, although its mechanisms differ: caste-based necessity in India versus race-based opportunity structures in South Africa. These findings emphasise that inclusive development requires not only addressing economic inequalities but also dismantling entrenched social hierarchies that limit women's meaningful participation in the labour force.

Older Than the Law: Mandatory CSR and The Inherited Infrastructure of Giving in The Bhilwara Textile Cluster (Rajasthan)

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India became, with the Companies Act 2013, the first country in the world to impose a legal obligation of corporate social responsibility: companies above certain thresholds of net worth, turnover or profit must spend 2 per cent of their average net profits on social activities. Yet this legal innovation arrived in a country where corporate generosity had been organised for generations

around religious conceptions of giving, family prestige and community obligation. This paper asks what a legal obligation of responsibility does to a system of giving that is older than the law. Does mandatory CSR transform inherited practices of merchant philanthropy, or is it absorbed by them?

The question is examined through the case of Bhilwara, a city of around 400,000 inhabitants in southern Rajasthan and one of India's major textile clusters, where nearly 700 firms of all sizes coexist: 21 large companies subject to the CSR obligation and more than 600 small and medium-sized enterprises exempt from it. The study, conducted since 2023, draws on around 40 open interviews with entrepreneurs and with managers of institutions receiving corporate donations, and on information collected from a questionnaire survey of 80 local textile entrepreneurs drawn from a database of 649 enterprises built from local and regional professional associations.

The findings show that the term CSR carries a dual meaning in Bhilwara. It designates a legal category, with its committees, reporting requirements and registered implementing agencies; and it designates a much older moral economy of giving, rooted in religious duty and family prestige. The two do not coincide: entrepreneurs subject to the law consider the 2 per cent requirement onerous, yet voluntarily spend larger sums outside it; firms of all sizes fund temples, festivals and pilgrimages that the law explicitly excludes; and exempt SMEs practise an active CSR of their own. Across company sizes, implementation rests on institutions embedded in local society: temples and religious trusts, schools and hospitals, NGOs, and the city's Rotary and Lions clubs. The paper proposes the notion of delegated CSR to describe this configuration, in which firms retain the funding and the symbolic credit of social action while its design and implementation rest with intermediary institutions often older than the firms themselves, and older than the law.

Perspectives on India's Partition from North-East of India: Belongingness and Citizenship

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The Indian subcontinent was geographically divided through a political partition of the land. The process of decolonisation that heralded the beginning of a new chapter of India's independence came along with a

painful event of bloodshed, forced migration and displacement. British rule in India ended with the final handing over of the creation of a new country, Pakistan. This new country was divided between East and West, with India in between. Such a geographical division shaped much of the post-colonial politics and socio-linguistic landscape of the region. Division, a manmade decision, was based on an identity politics of religion. The demographic divide was based on religion, which had an influence on the creation of territories. Identities and geographies cannot be fused together. As a result, the areas that found themselves in a new country were displaced from their kith and kin. To date, the study of partition has been seen from the perspective of the regions that came under the colonial knife: Bengal and Punjab. It also has to be noted that a huge consequence of this partition shaped and influenced the political issues of India's northeast. With the formation of East Pakistan and the subsequent creation of Bangladesh, there was a huge influx of refugees into the North East of India. Though the division was based on religion, it had political, social and linguistic ramifications. This also created a historical discord between the Bengalis (refugees from East Pakistan and Bangladesh) and the native Assamese population. It impacted the economy, culture and practices. Over the years, tensions also arose and escalated as Assam was a bordering state. The influx of refugees and illegal migrants brought up the issue of the NRC (National Register of Citizens) in 1951, which again became a debate in 2016 with the formation of a new government. Along with the NRC, there were other laws and codes that were implemented in Assam. Specifically, the Assam Accord, 1985, brought up the issue of hyphenated citizenship, focusing on Assam and India. While the normative nature of laws focuses on the issue of legality, the lived experiences have different stories to share. In this paper, two researchers debate issues of identity, culture, ethnicity and nation from their vantage points of representing both Assamese and Bengali identities. In order to undertake this work, we will focus on spaces created and recreated through political decisions. The methodology of the paper will be based on auto-ethnography, following a process of dialogue between two individuals: representing the voice of an Assamese from Upper Assam, India and another voice shaped by the voice of a descendant of East Bengal of Colonial British India (present-day Bangladesh), a Bengali from Delhi, India.

Gender Wage Inequality in India: Trends, Determinants and Decomposition Analysis

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Despite decades of policy changes and rising awareness of gender equality issues, gender pay disparity is a problem which is deeply entrenched in structural inequalities and Indian labour market discrimination. In this paper, the persistence, dynamics, and determinants of gender wage disparity in India over a period of four decades (1983–2023-24) are analysed. By using the nationally representative data from the Employment and Unemployment Surveys (EUS) and Periodic Labour Force Surveys (PLFS) and employing the technique of Blinder-Oaxaca, the study analyses the proportion of the wage gap explained by observable (education, experience, etc.) and unobservable (usually perceived as discrimination) factors.

The three major research questions addressed in this study include how wide the gender wage gap is over time, what determines its magnitude, and whether women's labour position in terms of earnings is a "sticky floor" or a "glass ceiling". Results indicate a U-shaped trend in the total gender wage gap: after improving steadily from 47.71 per cent in 1983–84 to a peak of 67.71 per cent in 2020–21, the female-to-male wage ratio declined again, with women earning only 63.1 per cent of men's wages by 2023–24. The wage gap is driven by differential returns on investments made in education and experience, as well as occupational segregation. It is observed that both sticky floor effects for poor women and glass ceiling effects for highly skilled women are contributing to the problem. Intersectional vulnerability is identified in the form of married women, SC/ST and minority women, and informal sector women. It is important to highlight the fact that in spite of having equal or even superior qualifications compared to male counterparts, women continue to earn significantly lower wages, especially in senior positions and technical jobs. The study finds that mere economic growth will not help overcome the gender wage gap problem in India.

Rural Women's Empowerment: Problems and Possibilities

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Empowerment is a process of internal and external change. The internal process refers to an individual's ability to make decisions to solve problems, while external change refers to the ability to apply knowledge. It is a two-way process in which we empower others and become empowered ourselves. Robert Adams (1996) defines empowerment as "the capacity of individuals, groups and/or communities to take control of their circumstances, exercise power and achieve their own goals, and the process by which, individually and collectively, they are able to help themselves and others to maximise the quality of their lives". The World Bank defines empowerment as "enhancing the capacity of poor people to influence the state institutions that affect their lives, by strengthening their participation in political processes and local decision-making".[1] Women's empowerment includes their sense of self-worth and their ability to make their own decisions.

In other words, women's empowerment can be understood as comprising five components: a sense of self-worth, the right to make choices, the right to make decisions within and outside the family, and the capacity to bring about social change at the social and economic levels. Rural women are involved in agricultural activities, particularly planting, weeding, harvesting, drying, threshing, winnowing and storing field crops. They face various challenges, including unequal access to productive resources and limited access to education, credit and social protection, as well as inequality. Several initiatives have been implemented to address these challenges, including the Support to Training and Employment Programme for Women (STEP), Mahila e-Haat, Trade Related Entrepreneurship Assistance and Development (TREAD), Stand-Up India and Rashtriya Mahila Kosh (RMK) by the Government of India; Mahila Udyami Yojana by IDBI; the SBI Stree Shakti Package; and the Priyadarshini Yojana by the Bank of India. The research paper discusses various aspects of rural women's empowerment to explore possibilities for enhancing their capabilities.

Exploring Economic Growth Through the Lens of Social and Financial Inclusion

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The analysis is based on a balanced panel dataset of 166 countries from Africa, Asia, Europe, the Americas, and Oceania covering the period 2005–2023. Two multidimensional indices of Social Inclusion (SII) and Financial Inclusion (FII) are constructed using a two-stage Principal Component Analysis (PCA). Panel regression models are then used to examine the individual, non-linear, and joint effects of social and financial inclusion on GDP growth, while controlling for population growth and institutional quality. The study also introduces the idea of a global growth ceiling, represented by the 90th percentile of GDP growth, to examine whether inclusive development can help countries achieve higher growth.The findings show that the relationship between inclusion and economic growth is not linear. Social inclusion follows an inverted U-shaped pattern. At the early stage, improving access to education, healthcare, public services, and social participation increases productivity and supports economic growth. However, after a certain level, the additional contribution of social inclusion becomes smaller, and further growth depends more on productivity, innovation, and institutional improvements. Financial inclusion follows a U-shaped relationship. In the initial stage, expanding access to financial services may not improve growth because of weak financial systems and inefficient use of credit. As financial markets become more developed, financial inclusion begins to promote investment, entrepreneurship, and economic growth. The study further finds that social and financial inclusion are more effective when they develop together. Their combined effect has a stronger positive influence on growth than their separate effects, suggesting that balanced progress in both dimensions is essential for long-term development. However, this relationship differs across regions. The effects are stronger in some continents than others, indicating that economic structure, institutional quality, and regional conditions influence how inclusion contributes to growth.

Overall, the study concludes that inclusive development should not focus only on expanding access to social services or financial services independently. Sustainable economic growth requires coordinated progress in both social and

financial inclusion, supported by strong institutions and effective governance. The findings suggest that governments should design integrated policies that improve human development, expand financial opportunities, and strengthen institutions so that inclusion can translate into higher and more sustainable economic growth.

Sacred Infrastructure, Contested Territory: Urban Redevelopment and the Reordering of Commercial Space in Ayodhya Dham

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The present study examines the relationship between large-scale infrastructure development and the reorganisation of informal commercial space in Ayodhya, India, following the January 2024 consecration of the Ram Mandir. Drawing on ethnographic fieldwork conducted along the city's primary pilgrimage corridor, from the railway station at Ayodhya Dham Junction to the ghats of the Saryu River, the researcher analyses how state-led redevelopment has restructured the spatial distribution of commercial opportunity between hereditary local traders and migrant outsider vendors. The principal interventions under examination are the Ram Path ceremonial corridor, the Saryu Riverfront beautification and ghat reconstruction, the formalisation of vending zones, and the expansion of transport infrastructure. Engaging the literatures on sacred urbanism, infrastructure studies, and the political economy of gentrification, the study develops the concept of 'sacred infrastructure' to describe redevelopment projects that are simultaneously devotional, touristic, and capital-accumulative in their logic. It is argued that infrastructure in Ayodhya does not merely facilitate the pilgrimage economy but actively reorders it, producing a rent gap that displaces lower-capital local actors even as it expands aggregate commercial volume. The study contributes to urban and regional economics by demonstrating how religious infrastructure operates as a distinct mode of spatial accumulation, and to urban sociology by showing how caste, kinship, and ritual legitimacy interact with formal planning categories to determine who benefits from urban transformation. A final section reflects comparatively on Varanasi and Tirupati in order to situate the Ayodhya case within the wider scholarship on pilgrimage-city restructuring. Future research might usefully extend this analysis through systematic quantitative documentation of rent trajectories and vendor turnover across the corridor studied here, through comparative ethnographic work across other Indian pilgrimage cities undergoing redevelopment, and

through closer attention to the specific experiences and strategies of migrant vendors, a population whose structural vulnerability is considerable and whose voices remain substantially absent from both academic and policy discussions of the Ayodhya transformation.

Bhojpuri Vivaah Geet as Living Repositories of Traditional Folk Practices

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Oral traditions constitute a significant repository of cultural memory, preserving the collective experiences, beliefs, rituals, and social practices of the community through oral transmission. Among the Bhojpuri folk songs, Vivaah Geet (marriage songs) occupy a central position as performative expressions that embody the cultural ethos of Bhojpuri-speaking society. This paper examines Bhojpuri marriage songs as oral archives that function as reservoirs of indigenous knowledge, ritual practices, and community memory. This paper will study the folk songs as carriers of oral traditions, perpetuated across generations through ritual performances and collective participation, particularly by women who have traditionally served as the primary custodians of these traditions. In Bhojpuri weddings, every ritual, from haldi, matkor, imli ghotai, parichhawan, gaari, to bidaai, is accompanied by specific songs that encode symbolic meanings, emotional expressions, social values, and cultural continuity. These songs not only enhance the performative dimension of marriage ceremonies but also preserve traditional customs and reinforce communal identity. The paper further highlights the contemporary challenges threatening the survival of Bhojpuri VivaahGeet. With rapid urbanisation, migration, and changing lifestyles, traditional wedding practices have transformed significantly. Earlier, these folk songs were collectively performed in village courtyards where women from the family and neighbourhood gathered to participate in ritual singing. These common spaces encouraged oral transmission and cultural continuity. However, the migration of families to urban centres and the shift from open courtyards to apartments and flats have reduced these shared cultural spaces. Weddings today are increasingly organised as commercial events in banquet halls, party lawns, and farmhouses, where Bollywood music often replaces ritualistic folk performances. Since many Bhojpuri folk songs were never systematically documented, this transition has accelerated their erosion from living cultural practice. The study accentuates the urgent need for documentation, preservation, and revival of Bhojpuri marriage songs as an

important form of intangible cultural heritage. All the Bhojpuri folk song excerpts discussed in this paper were collected through fieldwork conducted during marriage ceremonies in Karja Village, Bhojpur and Ara district in Bihar, where oral performances by women singers served as primary sources for documenting the living tradition of Bhojpuri folk culture.

Reporting in the Mother Tongue: Regional-Language Journalism as a Mediator of Cultural Identity and Development Discourse in Bihar

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Walk into most newsstands in Muzaffarpur or Darbhanga, and the papers on offer are almost all in Hindi, even though the conversation happening around that newsstand is more likely in Maithili or Bajjika. This gap between the language people speak and the language the press writes in is the starting point for this paper. Bihar's official languages are Hindi and Urdu, but its lived languages, Maithili, Bhojpuri, Magahi, Angika, and Bajjika, are spoken by tens of millions of people who mostly encounter their news in a register that isn't quite their own. What happens to development communication, welfare information, health advisories, civic messaging, when it travels through that gap? This paper doesn't try to answer that with a survey or an experiment. Instead, it works descriptively, piecing together circulation data, trade-press interviews with editors, and existing research on Bihar's literacy and information environment, to sketch how the state's journalism handles (or doesn't handle) its own linguistic diversity. Three patterns stand out. Bihar's biggest newspapers, Hindustan, Dainik Jagran, Dainik Bhaskar, and Prabhat Khabar, are overwhelmingly Hindi, and where they do adjust for local dialect, it tends to be a matter of word choice rather than a genuine shift in editorial language. A smaller, less commercially visible model exists too: outlets like Khabar Lahariya publish in dialect directly, including a Bajjika edition read in Sitamarhi, and this looks like a fuller kind of cultural mediation than anything the mainstream press attempts. And beneath both models sits a rural population that much journalism, in any language, simply doesn't reach: recent research on Bihar's youth found only about one in five had internet access, alongside striking levels of health misinformation. Put together, these patterns suggest that language in Bihar's press isn't a cosmetic choice. It shapes who trusts development

information enough to act on it. The paper closes with a proposal for the interview- and content-analysis-based fieldwork needed to test these observations properly.

The Role of Buddhism and Bodhgaya in India's Soft Power Diplomacy

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India's soft power diplomacy has emerged as a vital instrument in shaping its global engagement, drawing upon its rich civilizational heritage, philosophical traditions, and cultural diversity. Among its most influential resources is Buddhism, a transnational spiritual tradition that originated in India and continues to connect the country with large parts of Asia and beyond. This paper examines how India strategically employs Buddhist heritage as a tool of soft power, with a particular focus on Bodh Gaya—the sacred site associated with the enlightenment of Gautama Buddha.

The study explores three interrelated dimensions of diplomacy. First, cultural diplomacy, where Buddhist philosophy, art, and shared heritage foster civilizational bonds with countries such as Sri Lanka, Vietnam, Japan, Thailand, and Myanmar. Second, public diplomacy highlights the importance of Buddhist heritage in strengthening people-to-people relations among these countries. Third, tourism diplomacy.

Today is the age of information, social media and the people's perception, where branding and image-making are becoming an increasingly important aspect of soft power. India, having a strong cultural heritage, especially through the tangible and intangible Buddhist heritage, is utilising this soft power push through cultural linkages with these countries from time immemorial. Civilizational heritage and cultural linkages have always been important aspects of India's soft power diplomacy in countries like Sri Lanka, Vietnam, Cambodia, Thailand and Myanmar.

It is a qualitative study that explores three interrelated dimensions of soft power diplomacy, i.e. cultural diplomacy, public diplomacy and tourist diplomacy. It primarily focuses on the role of Bodh Gaya – a historical site where Gautama Buddha attained enlightenment. Drawing inputs from primary and secondary data, it aims to investigate whether India commands power over opinion among these countries and what role Buddhist culture, Bodh Gaya and heritage diplomacy play in it.

The Politics of the Plate: Dietary Culture, Institutional Power and the Battle Over School Nutrition Programmes

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Never is a school meal just a meal. Behind the numbers of calories consumed, children enrolled, and anaemia averted under India's Mid-Day Meal (MDM) scheme is a deeply cultural landscape where competing visions of development, community, and child welfare converge. This paper problematizes the MDM as a mere technocratic delivery mechanism. It considers it as a dynamic cultural institution in which local dietary practices, caste and religious sensibilities, and the state's developmental aspirations are regularly negotiated, contested and reconfigured. The analysis is structured around three tightly interwoven tensions. First, the universal logic of nutritional science always meets culturally specific foodways: ideas of ritual purity, vegetarianism, and caste-based commensality have a profound impact on the acceptability of menus, and the school canteen becomes a miniature of India's unreasoned pluralism. Second, these intersections explode in public disagreements, most vividly in the never-ending political skirmishes over eggs, meat, or even pungent ingredients like onion and garlic, political conflicts that usually take precedence over purely nutritional ones, where children's bodies are used as territory for claiming cultural sovereignty and majoritarian identity. Third, these conflicts are mediated by a dense institutional structure: Supreme Court decisions, decentralised Panchayati Raj decision-making processes, influential mass-feeding religious institutions such as Akshaya Patra, and the everyday agency of the Self-Help Group cooks as they come together to figure out what to feed the children, and whose cultural values are being institutionalised in the process. By treating the MDM as a site of cultural governance, the paper reveals that the failure to engage seriously with the politics of food undermines both nutritional uptake and the inclusive, secular ideals that public institutions ought to embody. A development agenda blind to the cultural meaning of food will always fall short of its own promise.

From Heritage to Development: Public Perceptions of the Contemporary Relevance of Indic Knowledge Systems for India's Viksit Bharat 2047 Vision

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India's Viksit Bharat 2047 Vision has renewed policy interest in exploring the contribution of Indic Knowledge Systems (IKS) to sustainable economic

development. While existing scholarship has extensively documented the historical, philosophical and cultural significance of IKS, limited empirical evidence exists regarding how the general public perceives its contemporary developmental relevance. This study addresses this gap by examining public perceptions of IKS across multiple development pathways and comparing these perceptions with those of experienced IKS practitioners.

The study employed a cross-sectional vignette-based survey involving 3,000 members of the general public and 500 IKS practitioners representing diverse Indic knowledge domains. Six development-oriented vignettes were designed to assess perceptions relating to entrepreneurship, employment and skill development, regional livelihoods, tourism and the experience economy, digital and artificial intelligence (AI)-enabled services, and international market development. Data were analysed using descriptive statistics, repeated measures analysis of variance (ANOVA) and independent-samples t-tests.

The findings reveal that respondents expressed very high appreciation for the cultural significance of IKS (Mean = 6.26/7) and recognised its potential to contribute to employment generation, entrepreneurship and economic development (overall developmental potential Mean = 5.42/7). However, confidence declined substantially regarding the adequacy of contemporary research, scientific evidence and implementation readiness (overall contemporary readiness Mean = 3.70/7). Significant differences were observed across development pathways ($F = 132.47$, $p < 0.001$), with tourism and the experience economy (Mean = 5.91) and entrepreneurship (Mean = 5.77) receiving the strongest public support, while digital and AI-enabled applications (Mean = 4.92) and export promotion (Mean = 5.11) received comparatively lower evaluations. Compared with the public, IKS practitioners reported significantly higher confidence across all dimensions ($p < 0.001$), while also emphasising the need for stronger interdisciplinary research, scientific validation and contemporary contextualisation.

Self-Help Groups as Economic and Cultural Institutions of Rural Development: Evidence from Assam

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Women's empowerment has emerged as a critical pathway towards achieving inclusive and sustainable rural development. However, in many rural

communities, women's participation in economic, social, and political life continues to be constrained by deeply embedded patriarchal norms, limited access to financial resources, restricted mobility, and inadequate livelihood opportunities. Within this context, Self-Help Groups (SHGs) established under the National Rural Livelihood Mission (NRLM) have evolved beyond their conventional role as microfinance institutions to become community-based cultural institutions that foster collective action, strengthen women's agency, and facilitate socio-cultural transformation. This study examines the contribution of SHGs in promoting women's socio-economic empowerment and explores how these institutions reshape social norms, preserve indigenous livelihoods, and enhance community participation in rural Assam.

The study adopts a descriptive research design and is based on primary data collected from 192 women members of SHGs through a structured interview schedule. The analysis focuses on the demographic profile of the respondents, entrepreneurial activities, financial inclusion, asset creation, and multiple dimensions of women's empowerment, including personal, economic, social, educational, and political empowerment. The findings reveal that most respondents belong to economically disadvantaged households with relatively low educational attainment and are actively engaged in diverse livelihood activities such as agriculture, livestock rearing, handloom, handicrafts, tailoring, food processing, and vegetable cultivation. These traditional occupations not only generate income but also represent indigenous knowledge systems and cultural practices that contribute to the sustainability of rural communities. The study finds that SHG membership has significantly improved financial inclusion by expanding access to savings accounts, institutional credit, banking services, insurance, and other formal financial mechanisms. More importantly, the findings demonstrate that financial inclusion represents only one dimension of a broader process of socio-cultural transformation. Participation in SHGs has enhanced women's self-confidence, communication skills, financial literacy, leadership capacity, and decision-making ability within households and communities. Regular collective interactions have strengthened social capital, encouraged community participation, increased awareness of democratic processes, and enhanced women's participation in Gram Sabha meetings and local governance. SHGs have also contributed to preserving traditional livelihood practices by enabling women to collectively develop and commercialise locally embedded economic activities.

The study concludes that SHGs function as community-based cultural institutions that challenge patriarchal norms, foster collective identity, strengthen women's agency, and promote culturally grounded rural

development. By integrating economic opportunities with social participation, indigenous knowledge, and community leadership, SHGs contribute to inclusive development that extends beyond income enhancement to encompass social justice, cultural sustainability, and grassroots democratic participation. The study underscores the need for development policies that recognise community institutions as catalysts for both cultural transformation and sustainable rural development.

Social Mobility, Living Standard and Cultural Identity: Evidence from the Santal Community in West Bengal

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Social mobility plays a critical role in reducing socio-economic inequality by improving educational attainment, occupational status and living standards. However, among Indigenous communities, the pace of social mobility is often slow, and the process may also raise concerns regarding cultural continuity and identity. For Indigenous communities, social mobility often involves migration from traditional settlements to urban or semi-urban areas. Such mobility may improve an individual's living standards but simultaneously expose them to a new social and cultural environment. Individuals may experience a dual identity, and continuous interaction with the dominant culture may lead to the diversification of Indigenous culture. Against this backdrop, this study examines the patterns, determinants and consequences of intergenerational social mobility through education and occupation among the Santal community in West Bengal, with particular emphasis on its effects on living standards and cultural practices. Intergenerational mobility was assessed using transition probability matrices, while logistic regression was employed to explore the determinants of educational and occupational mobility. Furthermore, the impacts of social mobility on multidimensional poverty and cultural practices were estimated using the difference-in-differences approach.

The findings reveal substantial upward educational mobility among the Santal community, with improvements particularly pronounced among groups with low educational qualifications. However, occupational mobility is found to be limited, indicating that improvements in education have not been fully translated into better employment opportunities. Consequently, unemployment remains a concern among the present generation. Factors such

as respondents' age, fathers' educational attainment and parental guidance significantly influence educational mobility, whereas occupational mobility is determined by respondents' age. Difference-in-differences estimates suggest that occupational mobility and migration significantly improve household living standards, whereas educational mobility alone has no statistically significant effect. This finding suggests that educational improvements may require complementary employment opportunities and economic resources to bring about significant changes in living standards. In contrast, the study finds that social mobility does not significantly influence changes in cultural practices, implying that the observed decline in cultural attachment among the younger generation is driven more by broader processes of urbanisation, modernisation and social exposure than by mobility itself.

Overall, the study finds differing rates of educational and occupational mobility among the Santal community. Effective policy interventions should reduce the gap between educational and occupational mobility and strengthen the transition from education to decent employment through vocational training, counselling and digital access. At the same time, preserving Indigenous cultural identity requires dedicated social and policy interventions alongside development initiatives.

Informal Cultural Institutions as Mediators of Development: The District-Level Family Systems Index as a Translation Device in Migration-Affected Bihar

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This paper presents findings from an exploratory pilot study that develops and tests a transparent mixed-methods protocol for constructing the district-Level Family Systems Index (DFSI) in migration-affected Bihar. The study addresses a persistent gap in culturally endogenous measurement by treating Maithili and Bhojpuri oral-performative traditions not as supplementary heritage but as primary epistemic inputs that constitute informal cultural institutions (kutumba). These institutions mediate household resilience and internal contestation under conditions of circular migration, caste hierarchies, and gendered care burdens.

Drawing on a stratified pilot sample of 120 households across four districts (Darbhanga, Madhubani, Chhapra, and Bhojpur), supplemented by expert interviews and kinship mapping, the study constructs a 0–100

formative composite index by integrating approximately sixty cultural items with re-specified Circumplex, McMaster, and Bowen frameworks. All index construction rules, weighting decisions (40/30/30), normalisation procedures, and sensitivity specifications are fully specified in the main text to ensure reproducibility. Descriptive patterns reveal higher cohesion and flexibility scores in Maithili-field districts, consistent with denser ritual participation, while Bhojpuri districts show greater role flexibility alongside intergenerational penalties. A dominant "group-strong-resilient" typology characterises 68% of households, yet internal contestations along caste and gender lines persist even within high-cohesion configurations.

The DFSI functions as a heuristic translation device that renders informal cultural institutions legible as measurable development infrastructure without displacing indigenous epistemologies. By centring emic data and explicitly accounting for internal stratification, the protocol advances debates on decolonial measurement and equitable governance in eastern India. Limitations include the small per-district sample, cross-sectional design, and bounded generalisability; the study therefore positions the DFSI as a methodological template and foundation for future larger-scale validation rather than a ready policy instrument.

his work forms part of the ongoing ICSSR-funded project (Application No. ICSSR-FFSI-2025-1406) on "Kutumb as Cultural Capital: Strengthening Maithili and Bhojpuri Families in Bihar with Stories and Resilience Tools." The pilot contributes to the IASSI theme by demonstrating how informal cultural institutions can be systematically operationalised to inform culturally resonant interventions under India's Amrit Kaal 2047 vision while maintaining analytical transparency and epistemic integrity.

Student Representatives and Internal Committees: Exploring Negotiation Process in the Higher Education Institutions of Delhi/NCR

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An increasing body of research documents the unfavourable experiences of students subjected to gender-based sexual harassment within higher education institutions. This evidence suggests that formal reporting procedures have failed to ensure transparency and justice for affected individuals. Media coverage and empirical studies further indicate that redress mechanisms in

higher education institutions are characterised by a lack of transparency, bias, and crises in the exercise of institutional autonomy within due process. As a result, victims of sexual harassment have to come out in public through social media to seek validation, bypass failing institutions, and build community support. Empirical investigations primarily focus on students' access to redress mechanisms, their experiences with these procedures, and the functioning of Internal Committees (ICs), including issues of access, autonomy, and participation in due process. On the other hand, there is a cluster of studies documenting the experiences of the Internal Committee members dealing with the socio-psychological pressure and challenges. In accordance with the University Grants Commission (Prevention, Prohibition, and Redressal of Sexual Harassment of Women Employees and Students in Higher Educational Institutions) Regulations, 2015, the Internal Committee (IC) is mandated to incorporate student representatives to guarantee the equitable management of student-related grievances. Student representation typically pertains to individuals elected or appointed to advocate for the collective interests within formal governance structures, rather than merely lodging individual complaints. Within India's higher education framework, student representation in redress mechanisms has predominantly been regarded as a limited aspect of formal inclusion, alongside broader issues concerning the operation of Internal Committees (ICs), access, autonomy, and participatory rights in due process. Thus, this paper examines whether student representatives influence the complaint process, how they affect the efficiency and fairness of complaint resolution, and their perceptions of their roles in this context. The research employs a qualitative methodology to examine the responses and engagement of student representatives in the prevention and redress processes, as well as their negotiation of institutional hierarchies concerning issues of sexual harassment. Empirical data were gathered via semi-structured interviews with twelve student members of the IC at higher education institutions in Delhi.

Sanskrit-German Intellectual Encounters: Translation as a Medium of Knowledge Formation in Nineteenth Century Germany

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The nineteenth century witnessed an unprecedented intellectual engagement between Germany and India, facilitated largely through the translation of Sanskrit texts into European languages. This paper examines how the

translation of Sanskrit literary, philosophical, and religious works functioned as a significant medium of knowledge formation in nineteenth-century Germany. Moving beyond the conventional understanding of translation as a linguistic exercise, the study explores its role in shaping German intellectual traditions, literary aesthetics, comparative philology, and cultural self-perception.

The nineteenth century marked a significant phase in the history of intellectual and cultural exchanges between Europe and India. Among the European nations that engaged deeply with Indian knowledge traditions, Germany occupied a distinctive position. Unlike Britain, whose interest in India was closely associated with colonial administration and governance, German engagement with India emerged primarily through philosophical curiosity, linguistic inquiry, literary appreciation, and the search for cultural origins (Wilhelm 395–397).

Translation played a crucial role in this process. It was not merely a linguistic exercise aimed at transferring meaning from one language to another; rather, it functioned as a medium through which knowledge, ideas, and cultural perceptions travelled across civilizational boundaries. Through translations of Sanskrit literary, philosophical, and religious texts, German intellectuals encountered alternative conceptions of language, literature, religion, and history (Pollock 112–114).

The roots of this intellectual encounter can be traced to the late eighteenth century when European interest in Sanskrit began to grow. The publication of Sir William Jones's English translation of Kālidāsa's Śakuntalā in 1789 attracted considerable attention among European readers. Johann Wolfgang von Goethe expressed profound admiration for Śakuntalā, considering it a literary masterpiece. Goethe's appreciation of the text symbolised a broader German fascination with Indian literature and marked the beginning of a sustained intellectual engagement with Sanskrit traditions (Schino and Sykes 92–95). The emergence of German Romanticism further strengthened this interest. Romantic thinkers sought alternatives to the rationalism and classicism of the Enlightenment. In their search for spiritual depth and cultural authenticity, many German intellectuals turned towards India, which they perceived as a repository of ancient wisdom and cultural richness (Marchand 21–25).

One of the most influential figures in this process was Friedrich Schlegel, whose seminal work Über die Sprache und Weisheit der Indier (1808) profoundly influenced German perceptions of India. Schlegel argued that Sanskrit represented one of the oldest and most sophisticated linguistic

traditions in the world and emphasised its significance for understanding the origins of European languages and cultures (Schlegel 45–61). The intellectual significance of Sanskrit translations extended beyond linguistics. The translation and interpretation of Indian religious and philosophical texts influenced debates concerning religion, mythology, comparative civilisation, and cultural identity. The works of Max Müller further institutionalised Sanskrit studies in Europe through his translations of the Rig Veda and his editorial work on The Sacred Books of the East (Müller vii–xii).

Value Chain Governance and the barriers to upgrading in the Large Cardamom Agricultural Sector in Sikkim: A Case Study of Hee Gaon, West Sikkim

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Large Cardamom (Amomum Subulatum Roxb.) is a major profit crop of the Eastern Himalayan region of Sikkim. Sikkim is the largest producer and has a monopoly as an exporter of large cardamom. Sikkim has not been able to move out of the "buyer-dominated market" of large cardamom and into a "seller-dominated market", largely influenced by middlemen. This study employs Gereffi's framework of Value Chain Governance using the primary data from 120 large cardamom cultivators of Sikkim. This study tries to look into the farmers' selling decisions between middlemen and the NERAMAC auctions, incorporating the Captive Governance and Market Governance between the former and the latter. In the current scenario, the farmers are deciding to withdraw from selling to the formal marketing institutions, namely NERAMAC auctions, due to institutional delays and quality loss due to long waiting periods, thereby reducing farmers' income. Ultimately, this leads the farmers to captive governance, where selling decisions are made by middlemen who provide instant cash to farmers in need. For upgradation of the large cardamom agricultural sector, it is important to address the institutional failure and enhance the post-harvest mechanism for an enhanced farmer-centric Global Value Chain.

At present, the large cardamom agricultural sector is dominated by Captive Governance with the partial presence of market governance. The primary survey data reveals that the growers of large cardamom depend upon the informal institutions, which is very much in resonance with the

illustration of Gereffi et al. (2005), the Kenya -UK vegetable trade. The global spices sector is day by day striving towards a more standardised setup. For example, the large cardamom industrial expansion, such as oil extraction from large cardamom pods, demands the absence of high-quality large cardamom post - harvest products. The large cardamom sector could face a stricter value chain in the near future. In order to meet these specifications, the buyers may structurally shift towards a modular governance. In this context, the Kenyan Vegetable case serves as a learning experience for the large cardamom producers. If the large cardamom smallholder farmers do not have the necessary capital, such as better modern curing chambers. In the future, the chain may shift to hierarchical governance where the large companies may own the large cardamom estates, leading to the ousting of the smallholder farmers.

From Information to Knowledge: Community Radio as a Knowledge Intermediary for Climate Adaptation in Rural India: Evidence from the Shubh Kal Initiative in Bundelkhand, India

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Climate adaptation depends not only on scientific advances but also on the ability of communities to access, interpret, and apply climate knowledge in ways that are relevant to their local contexts. In many climate-vulnerable regions, however, communication remains one of the weakest links in adaptation planning. Scientific information often fails to reach rural communities in forms that are understandable, accessible, or actionable, while indigenous knowledge systems remain inadequately integrated into formal adaptation processes. This gap is particularly evident in Bundelkhand, India, where recurrent droughts, erratic rainfall, declining groundwater levels, and widespread dependence on rain-fed agriculture have heightened vulnerability to climate change. This study looks at Shubh Kal, a project that uses community radio to help people understand and deal with climate change. It was broadcast on Radio Bundelkhand and brought together scientists, farmers, and policymakers to share ideas and learn from each other.

The project used a special approach to communication, where people from the local community were involved in creating the radio programs and giving feedback. This helped to make sure that the information about climate change was relevant and useful to the people listening. The study

found that Shubh Kal was successful in creating a space for people to talk and learn from each other, and that it helped to bridge the gap between scientific research and the needs of the local community. By working together, the project was able to turn scientific information into something that was useful and meaningful to the people who needed it most. This approach to communication is important because it helps to make sure that people have the information they need to adapt to climate change and make their communities more resilient. This study shows that community radio is not just about sharing information, but also about working together to create knowledge, building trust, and helping people learn from each other.

The example of Radio Bundelkhand demonstrates how community media can help people adapt to climate change by creating local communication systems that combine scientific facts with community insights. By doing so, community radio becomes a key player in managing climate change, rather than just a tool for spreading development messages. It plays a crucial role in bringing people together to address climate issues, making it a vital part of the solution.



Theme 3

HEALTH AND NUTRITION IN INDIA'S DEVELOPMENT

Beyond Healthcare Access: Assessing the Completeness of Maternal, Newborn and Child Healthcare during the First 1,000 Days in Tribal Regions of India

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Improving maternal, newborn and child health remains central to India's development agenda, particularly in tribal regions where socio-economic disadvantages and geographical constraints shape access to healthcare and nutrition services. Although public programmes have expanded maternal and child healthcare, the utilisation of individual services does not necessarily translate into comprehensive care throughout the first 1,000 days of life. This paper examines the completeness of maternal, newborn and child healthcare across successive stages of care among women in the tribal regions of Jharkhand and Odisha.

The study uses primary household survey data collected from women with children aged 24–36 months, capturing their experiences during pregnancy, childbirth and the first two years of childcare. The survey covers 987 women across Jharkhand and Odisha, of whom approximately 74% belong to Scheduled Tribes. To assess the comprehensiveness of care, a Content-Adjusted Continuity of Care Score (CACCS) is constructed across five stages: pregnancy and antenatal care, childbirth, early postnatal care, infant care during 0–6 months, and childcare during 6–24 months. Each stage score is calculated by averaging its constituent service indicators, and the overall CACCS is derived by assigning equal weights to the five stage scores. The index ranges from 0 to 100, with higher values indicating greater completeness of the measured healthcare and nutrition-related services.

Preliminary findings reveal substantial variation in the proportion of women achieving complete scores across stages. While 78.30% achieved the maximum score for childbirth care, the corresponding proportions were 59.01% for antenatal care and 67.55% for early postnatal care. The proportion was lowest during the first six months after childbirth (54.07%), despite the importance of this period for breastfeeding, newborn care and maternal nutrition. In contrast, 90.84% achieved maximum scores for childcare during 6–24 months. Notably, only 20.74% of women with valid overall CACCS values

achieved the maximum composite score, indicating that completeness at individual stages does not necessarily extend across the entire continuum of care.

Maternal Continuum-of-Care Completion and Socioeconomic Inequalities in Rural Konkan, Maharashtra: Evidence from NFHS-5

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Maharashtra is widely regarded as a strong-performing Indian state in maternal health, yet aggregate success in institutional delivery may conceal discontinuities across the wider maternal-care pathway. This study looks into the accomplishment of the maternal Continuum of Care model among the women of rural Kokan regions and uses unit-level data from NFHS-5. The weighted sample for descriptive analysis for this study was 3,917 women, and logistic regression was conducted on 2,530 eligible records, of which 2,456 complete cases were retained, and the remaining 74 records were classified as missing.Full continuity is defined as a woman receiving three essential, unbroken stages of maternity services which includes receiving at least 4+ antenatal visits, Institutional deliveries and receiving postnatal care within 48 hours of delivery. Survey-weighted descriptive estimates are used to measure stage-wise coverage and conditional retention. A survey-adjusted binary logistic regression model estimates the association of maternal education, household wealth, social group, religion, health-insurance coverage, perceived distance-related difficulty, and district of residence with full continuity. It also considers whether observed differences persist after adjustment for measured characteristics.

Only 16.9% of women completed all three components. Institutional-delivery coverage (20.5%) exceeded coverage of four or more antenatal visits (17.9%), indicating that women did not enter or progress through the maternal-care pathway uniformly. Delivery-to-postnatal retention was comparatively high overall (95.1%) but varied across districts, reaching 90.1% in Ratnagiri and 98.6% in Palghar. After analysis it was found that, women with only school-level education or no formal education had far lower odds of finishing the entire continuum than women with higher education after adjustment. While health insurance coverage was positively correlated with

completion, women in the poorest wealth group and reserved social groups also showed lower probabilities. district-level disparities remained significant. These results imply that maternal care continuity in rural Konkan is not guaranteed by institutional delivery alone. Stronger prenatal care, prompt postpartum follow-up, financial security, and equity-focused district and community actions should all be incorporated into policies.

Silent Exposure: The Awareness-Exposure Gap in Household Air Pollution and Its Health Consequences in Rural Eastern India

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Household Air Pollution (HAP) from incomplete combustion of solid fuel remains a leading environmental and health burden in rural India, yet the persistence of this issue is poorly understood. The existing studies focus on HAP exposure, health outcomes and household awareness separately rather than together. The paper draws on primary household survey data from 1,278 households in rural eastern India to examine whether the use of solid fuel manifests consistently across actual household air pollution (HAP), perceived HAP, objective lung function measured through spirometry, and self-reported respiratory symptoms. It further investigates whether these indicators diverge and, if so, what this pattern of divergence reveals about the awareness–exposure gap and its consequences for pulmonary health. This study employs a triangulation approach that simultaneously measures all four outcome variables using least squares, ordinary least squares, ordered logit and logistic regression approaches. Controlling for the same set of confounders across models allows us to compare what households actually face against what they believe, feel and report. Results show that solid fuel use sharply raises indoor pollution, worsens lung function and increases respiratory symptoms- three independent outcomes that converge on the same conclusion of real, measurable harm. In contrast, they perceive less HAP, not more. This awareness-exposure gap is strongest among those who indulge in cooking activity primarily, the elderly, smokers and the chronically ill. We further find that a significant share of lung impairment occurs without any symptoms, meaning that health surveys based on self-reported symptoms and self-reported health alone are likely to miss a

substantial portion of the true disease burden. Policies could be framed in a way that ensures three things move together: making the actual risk visible to those who rely on solid fuel, actively screening lung health rather than waiting for symptoms to appear and making the switch to clean fuel genuinely affordable and convenient.

Social Isolation and Psychological Well-Being in Adults: A Narrative Review

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Social isolation is an increasingly recognised psychosocial concern that may significantly influence psychological well-being among adults. This narrative review examines existing literature on the relationship between social isolation and psychological well-being, with particular emphasis on emotional health, life satisfaction, self-esteem, and interpersonal functioning. Social isolation, characterised by limited social interactions and restricted social networks, may be associated with increased psychological distress, depressive symptoms, anxiety, and reduced overall well-being. The reviewed literature also highlights the distinction between objective social isolation and subjective loneliness, suggesting that the quantity of social interactions and the perceived quality of social relationships may independently influence psychological outcomes. Factors such as age, gender, socioeconomic status, living arrangements, social support, and coping strategies may further shape the relationship between social isolation and well-being. Meaningful interpersonal relationships, community participation, and perceived social support appear to play important protective roles in promoting psychological adjustment and resilience. The narrative analysis emphasises that the relationship between social isolation and psychological well-being is complex and may be influenced by individual differences and broader social and cultural contexts. It also identifies the importance of interventions aimed at strengthening social connectedness and improving access to supportive social environments. The review concludes that understanding the psychological implications of social isolation is essential for developing effective mental health promotion strategies and highlights the need for further longitudinal and culturally diverse research to clarify the direction and mechanisms of this relationship.

The Role of Media in Creating Awareness and Access to Health and Nutrition Schemes Among Rural Communities in India

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This paper deals with evaluating and establishing the role of media in creating awareness and facilitating access to health and nutrition schemes in rural areas of the country. Health services and facilities, healthcare access, sanitation, and nutrition awareness have been a matter of great concern in countries like India and across the globe. The poor, vulnerable groups, and socially lower castes and tribes are more deprived of welfare services than the general and more empowered sections of society. The Indian government has launched several schemes for primary healthcare, maternal and child health, food security, nutrition, and general health services.

Media is a vital link between government health and nutrition institutions, authorised agencies, and the common rural people. Television, radio, newspapers, online digital media, social media, and mobile phones have played a significant role in making the masses aware of the government's health and nutrition schemes. These electronic and digital media tools can reach out to more people in a short time rather than personal conversations and one-to-one counselling. However, people in rural areas still rely on JEEVIKA DIDI and ASHA WORKERS. The presence of government hospitals and allied institutions is vital in rural areas.

This research aims to assess the various roles performed by media in creating awareness about government health and nutrition schemes among rural communities. The paper will also highlight the mode of media rural people prefer and the possible constraints in using it among the rural population. In addition, the study aims to identify and comprehend the influence of language, social media, cell phones, and other digital modes of communication on the health awareness level of the rural masses.

The paper employs a qualitative, descriptive and analytical methodology based mainly on secondary sources, including earlier research studies, WHO and UNESCO publications, Government of India documents, policy materials and academic literature.

The study argues for a model of rural health communication that combines mass media, digital communication, and trusted local communicators rather than the traditional model of using just mass media.

Reimagining Urban Health and Planning in Bihar: Towards Equitable, Inclusive and Responsive Primary Healthcare

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Increased urbanisation in Bihar is reshaping the health needs of urban populations, mainly vulnerable settlements, low-income neighbourhoods, and other high-risk areas. Uneven access to essential health services, gaps in the identification of vulnerable populations, and limited integration of health considerations into urban planning highlight the need for a more coordinated and evidence-driven approach to urban health governance.

This paper explores the potential of integrating urban planning with primary healthcare delivery under the National Urban Health Mission (NUHM), with a focus on strengthening Urban Primary Health Centres (UPHCs) in Bihar. It proposes a framework that combines vulnerability assessment, health service gap analysis, a city health action plan, and increased community engagement to identify vulnerable areas and address barriers to healthcare. The approach also emphasises stronger convergence among health departments, Urban Local Bodies (ULBs), other departments, and community-level platforms to improve outreach, service utilisation, and accountability.

Drawing on implementation experiences and emerging practices from urban health initiatives in different geographies, the paper seeks to demonstrate how local evidence can inform micro-planning, resource allocation, and context-specific interventions. It argues that integrating health vulnerability into urban planning processes can help cities move from facility-centric service delivery towards a more proactive, inclusive, and population-responsive model of primary healthcare.

The paper concludes by proposing actionable strategies for institutionalising urban health planning in Bihar, with the broader objective of reducing inequities in healthcare access and building healthier, more resilient cities.

Self-Compassion, Mindful Eating, Eating Attitudes, and Well-Being Among Emerging Adults: An Exploratory Study

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Emerging adulthood is a significant developmental period characterised by changes in lifestyle, eating patterns, emotional experiences, and psychological well-being. Academic pressure, changing routines, financial constraints, and the widespread availability of convenience foods may encourage emerging adults to adopt automatic, unmindful eating patterns rather than engaging in deliberate and attentive food choices. During this stage, self-compassion, mindful eating, and eating attitudes play a significant role in shaping the overall well-being of emerging adults. Therefore, this study examines the relationship between self-compassion, mindful eating, eating attitudes, and well-being.

The study employs a descriptive research design and random sampling method to collect the data. A self-structured questionnaire was administered to 150 emerging adults aged between 19 and 30. The collected data were analysed using descriptive statistics (frequency, percentage, mean, and standard deviation) to summarise respondent characteristics and inferential statistics to test the hypothesis.

The findings of the study show that Self-Compassion, Mindful Eating and Eating Attitudes are positively associated with the well-being of emerging adults. The study finds that mindful eating acts as a mediator between self-compassion and well-being among emerging adults and shows how self-relational and eating-related behaviour collectively shapes their well-being.

Undernutrition and Obesity: Socioeconomic Inequalities among Tribal Adults in India

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Scheduled Tribe populations in India are experiencing an epidemiological transition in which persistent undernutrition coexists with growing

cardiometabolic risks. Although tribal communities have often been viewed as relatively protected from lifestyle-related diseases because of traditional diets and physically demanding livelihoods, evidence indicates increasing burdens of obesity, hypertension and diabetes alongside chronic energy deficiency (Kshatriya & Acharya, 2016; Shriraam et al., 2021). Poverty, limited dietary diversity and labour-intensive livelihoods continue to contribute to undernutrition, while socioeconomic advancement, dietary change and urbanisation may increase exposure to energy-dense foods and sedentary lifestyles (Vennam et al., 2024). At the same time, limited access to screening and healthcare contributes to substantial levels of undiagnosed hypertension and diabetes among tribal communities (Sathiyanarayanan et al., 2019). Despite growing evidence of nutritional and cardiometabolic risk among Scheduled Tribe populations, limited attention has been given to the socioeconomic and age disparities in these risks. This study therefore examines socioeconomic inequalities in nutritional and cardiometabolic health among Scheduled Tribe adults aged 45 years and above in India. The study used Wave 1 of the Longitudinal Ageing Study in India (LASI), 2017–18, comprising 10,680 Scheduled Tribe adults aged 45 years and above. Descriptive analyses were complemented by multinomial and logistic regression models to assess socioeconomic differentials in nutritional and cardiometabolic outcomes. To examine whether these inequalities varied across the life course, interaction terms between age groups and monthly household consumption quintiles were incorporated. Further, adjusted predicted probabilities were estimated to assess the variation in socioeconomic inequalities across age groups. The findings show substantial socioeconomic inequalities in nutritional health among Scheduled Tribe adults. Underweight was considerably more common among adults in the poorest household consumption quintile, affecting approximately 43%, compared with about 19% among adults in the richest quintile. In contrast, overweight increased from approximately 4% among adults in the poorest households to 26% among those in the richest households, while obesity increased from about 1% to 6%. Central obesity also increased markedly across the socioeconomic distribution, from approximately 19% among the poorest adults to 43% among the richest. Diagnosed diabetes showed a similar socioeconomic gradient, increasing from approximately 2% among adults in the poorest quintile to more than 9% among those in the richest quintile. Age-specific analyses showed that adults aged 75 years and above had a substantially higher probability of underweight across socioeconomic groups than adults aged 45–59 years. At the same time, obesity was more likely among adults from richer households, particularly among younger older adults. The

double burden of nutritional and cardiometabolic risk among Scheduled Tribe adults reflects differentiated health transitions across socioeconomic groups and age. Poorer adults, particularly at older ages, experience greater undernutrition, whereas wealthier adults have higher levels of overweight, obesity, central obesity and diabetes. Socioeconomic inequalities in health among Scheduled Tribes are multidimensional and vary across age; therefore, policy responses should move beyond poverty-related undernutrition to address emerging cardiometabolic risks. Age- and socioeconomic-specific strategies combining nutritional support for disadvantaged older adults with prevention and management of cardiometabolic conditions among high-risk groups may better reduce health inequalities among Scheduled Tribe populations in India.

Family Planning Use, Self-Reported Sexually Transmitted Infections (STI) and Other Reproductive Problems Among Women in India

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Reproductive morbidity among women remains a critical public health challenge in India, disproportionately affecting women's health. This study evaluates family planning use and its association with reproductive morbidity among women in India.

The study uses data from three rounds of the National Family Health Survey (NFHS-3, 2005–06; NFHS-4, 2015–16; and NFHS-5, 2019–21) to examine the association between family planning use and self-reported sexually transmitted infections (STIs) and reproductive morbidities among women aged 15–49 years in India. Individual Recode (IR) files were used, with reproductive morbidity defined by the presence of genital sores or ulcers or genital discharge. Explanatory variables included family planning methods, age, caste, education, religion, wealth, geographical region and place of residence. Descriptive statistics, bivariate analysis, chi-squared tests and binary logistic regression were employed to assess prevalence, socio-economic differentials and associations. Additionally, propensity score matching (PSM) was applied to address potential selection bias by estimating the average treatment effect on the treated (ATT), average treatment effect on the untreated (ATU) and average treatment effect (ATE).

The findings reveal an increasing prevalence of self-reported STIs and other reproductive morbidities among women in India between NFHS-3 and NFHS-5. Women using modern spacing and traditional family planning methods reported higher levels of both outcomes than non-users. Logistic regression analysis confirmed that these associations persisted after adjusting for socio-economic and demographic characteristics, particularly among users of modern spacing methods. Reproductive health problems also varied by age, education, religion, caste, wealth and geographical region, with higher prevalence generally observed among older women and in the central, northern and north-eastern regions. Propensity score matching further demonstrated significant differences in reported STIs and other reproductive morbidities between family planning users and matched non-users. Overall, the findings highlight the need to integrate reproductive health screening, counselling and infection prevention into family planning services, while recognising that the observed associations do not necessarily establish causation.

The study also found that family planning users had higher odds of reporting STIs and reproductive morbidities than non-users, even after adjusting for socio-economic and demographic factors and applying propensity score matching. Older women showed higher odds of reproductive health problems, while higher educational attainment was associated with lower reproductive morbidity. Significant social, religious and regional disparities were also observed. The findings highlight the need to integrate reproductive health screening, contraceptive counselling, hygiene awareness and infection prevention into family planning programmes to improve women's reproductive health in India.

The study highlights a significant association between family planning use and self-reported STIs and reproductive morbidities among women in India, alongside substantial socio-economic, demographic and regional disparities. The findings emphasise the need to integrate reproductive health screening, counselling and infection prevention into family planning programmes, particularly for older women, less educated women and those living in disadvantaged regions. Improving reproductive health awareness, access to quality healthcare and safe contraceptive practices is essential, while future research should investigate causal relationships using longitudinal and clinical data.

Negotiating Absence: Left-Behind Women & Maternal Health System in Madhubani District, Bihar, India

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Bihar is among the weakest performing Indian states on maternal and child health indicators, the central pillars of Sustainable Development Goal 3. The region, particularly North Bihar, the focal area the study looks at, witnesses large-scale internal male out-migration for wage employment, driven majorly by economic distress. They leave behind families, including their wives, which the contemporary literature frames as 'left-behind women' who must negotiate a distinct identity within their village, community and household. The migrants send back remittances in the average range of ₹5,000-₹10,000 per month, which the family largely survives on. The small but emerging body of existing research on these women tends to categorise their health outcomes as 'poor' in general terms, but rarely elaborates much on their reproductive and maternal health specifically. The insight lag is even more pronounced in the actual navigation of village health systems in practice by these women. The study intends to ask how maternal health-seeking environments are reconfigured in the case of sustained male migration, and how such an environment interacts with the gap between maternal health entitlements, as designed on paper, and how they are actually delivered on the ground. It also looks at the multi-dimensional nature of vulnerability, commonly attributed to left-behind women, explained by other, more entrenched axes of social position- caste and household composition (nuclear versus extended).

The study draws on qualitative fieldwork conducted in two villages, Bijai and Bahera, in Madhubani district of Bihar, boasting long histories of semi-permanent and seasonal male labour migration. Data were mainly gathered through 05 case narratives of the left-behind women, 03 focus group discussions across caste groups, and 05 in-depth interviews with health and nutrition workers. The data underwent thematic coding to evaluate disparities between official entitlements and actual service delivery. Two findings stood out across both sites. Frontline workers like Accredited Social Health Activists (ASHAs), Auxiliary Nurse Midwives (ANMs) and caste. Landless Dalit women described exclusion from shared water sources (village commons) and temples. Household composition (extended versus nuclear) mediated this further, with mothers-in-law co-residence leading to stricter remittance control and disbursal, while women in nuclear households retained control themselves. Male child preference, meanwhile, was described as close to universal by women and their families, but their ability to act on it through illegal sex

determination appeared gated more by proximity to cost than by the strength of the preference itself. Second, the region's maternal health entitlement gap was also found to be produced at the point of frontline implementation, where workers themselves are poorly compensated and unsupported, consistently breaking down delivery because of conditions outside their control- sub-centres without electricity or a washroom or supervisory visits that recorded grievances without resolving them. In both villages, women described the direct consequence of this in similar terms, where services promised as free carried informal costs, which eroded their trust in public facilities enough to push them toward costlier private care.

Impact of Public Expenditure on Human Development in India

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The true engine of growth within any economy relies on its people. Their ability to contribute productively to society is linked to their skill levels, health, and overall well-being. This report dives into government spending on Education, Health, and Skill Development to understand how social sectors mould the capabilities of Indians. Human Capital Theory and Sen's Capability Approach provided the framework for analysis. The findings indicate that social spending impacts more than just the headline GDP figures. Rather, it increases the Actual Happiness of individuals by providing them with a better quality of life. Income increases matter when they are accompanied by increases in happiness. Due to insufficient granular data, it was difficult to make conclusive empirical claims. However, after thorough analysis of documents such as the Economic Survey of India (2025-2026), Human Development Survey reports, Periodic Labour Force Survey, Household Consumption Expenditure Survey, and Budget Documents released over the years, we can safely infer that as literacy levels go up, as Indians become healthier, and as more Indians join the workforce in meaningful work, government expenditure in these sectors has increased. Project initiatives such as PM SHRI Schools, Ayushman Bharat, PM-JAY, and education overhauls under the National Education Policy 2020 have laid the groundwork for human capital development.

Looking closer, gains in human development tie directly to education, health, and income, which are the main parts of the HDI. Still, advances

differ sharply from one region to another. In places like Kerala, stronger results come after years spent building schools, clinics, and responsive institutions, which contrasts with areas such as Bihar. New ways of tracking what government spending achieves, including India's Output Outcome Monitoring Framework and Odisha's BETA tool, have sharpened oversight and reshaped resource use. It turns out pouring more money into systems does little unless planning matches real needs, execution stays focused, and support reaches those who benefit least today. Yet, systemic blockages remain, especially regarding unequal educational results and limited public health money. Although government funds raised basic social markers, actual progress differs wildly across local zones. Such gaps show that merely raising budget spending fails, since the main issue involves improving how money is used and running administration better. Quality counts as much as volume when handling core services families need daily. Going ahead, creating real chance needs sending assets to backward places, matching school lessons with work needs, and separating medical care from location or wealth. Common growth finally rests on making steady, strong help webs throughout the whole nation.

Low Enrolment and High Dropout Among Children with Disabilities in India: Evidence from the NSS 76th Round and UDISE+ 2023-24

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The expansion of schooling in India over the past three decades is widely regarded as a major developmental achievement. Near-universal elementary enrolment, the Right of Children to Free and Compulsory Education Act, 2009, and an extensive education management information system suggest that access to schooling has largely been achieved. However, these aggregate indicators conceal the persistent educational exclusion of children with disabilities (CWD), also referred to as children with special needs (CWSN) in Indian administrative records. These children continue to experience lower enrolment, higher dropout rates, and substantial barriers to entering school.

This chapter argues that educational exclusion among children with disabilities cannot be explained primarily by household poverty. Although economic disadvantage matters, exclusion is more strongly associated with disability severity, school accessibility, institutional preparedness, and transitions across educational stages. Thus, exclusion reflects not only household constraints but also the inability of educational institutions

to accommodate diverse needs. Understanding these patterns requires examining both children within and outside the schooling system and assessing the institutional conditions that facilitate or constrain their participation.

To address these issues, the chapter combines two complementary data sources. The seventy-sixth round of the National Sample Survey (NSS 76), conducted between July and December 2018, provides household-level information on children with disabilities, including enrolment status, dropout, functional difficulties, and socioeconomic characteristics. The Unified District Information System for Education Plus (UDISE+) for 2023–24, maintained by the Ministry of Education, provides school-level information on institutional readiness, including physical accessibility features. Integrating these datasets enables a joint examination of household-level constraints and supply-side barriers, addressing limitations inherent in relying exclusively on either household surveys or administrative school records.

The analysis addresses three research questions: first, what is the extent of non-enrolment and out-of-school status among children with disabilities aged 5–19 years, and how does household survey evidence modify the picture derived from administrative data? Second, how does dropout risk vary across educational stages and according to the severity of functional difficulties? Third, how does interstate variation in educational participation relate to institutional conversion factors, as conceptualised by the capability approach? By examining the interaction between individual capabilities and institutional conditions, the chapter highlights how formal entitlements to education may fail to translate into actual educational participation. The findings aim to inform more inclusive policies that address accessibility barriers and strengthen the capacity of schools to ensure equitable educational opportunities for children with disabilities in India.

Nutritional Well-being Among the Tribal Communities in Assam: Determinants and Policy Implications

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The study assessed and analysed the nutritional status of tribal adult individuals, taking samples from the Karbi Anglong and Dhemaji districts of Assam. It applied BMI, a widely used anthropometric tool, to assess the nutritional status of tribal people. The study found that slightly more than

half of the respondents had a normal BMI, but more than one-third of them were overweight, which indicates that tribal adults are more prone to being overweight rather than underweight. The prevalence of underweight was relatively higher in Karbi Anglong, a hilly district, compared to the Dhemaji district. A gender-wise analysis showed that tribal females are more prone to being overweight than their male counterparts. Among females, overweight was more prevalent among married and widowed women. Age-wise analysis showed that the prevalence of overweight was higher among individuals aged 42-52 years. This can be attributed to their food habits and fasting activities. It was found that a higher proportion of people who ate three meals a day had a normal BMI compared to others. The linkage between family size and BMI showed that the prevalence of normal weight was higher among individuals who had a family size of more than 6 members. The prevalence of overweight was higher among those individuals who had more than 3 earning members in their households. Furthermore, it was found that the prevalence of overweight was higher among individuals with higher monthly family income, which implies that higher income propels overnutrition. The relationship between education and BMI showed a positive relationship. However, the study also indicated that an increase in education enhances the chances of an individual being overweight. The regression results showed that socio-economic and demographic factors, such as the number of earning members, house ownership and years of education, increase the odds of being overweight. Conversely, an increase in the education level was found to lower the prevalence of underweight among tribal individuals. However, marital status (being unmarried) was likely to increase the chance of being underweight. Since people of higher ages and married females are more prone to being overweight, awareness should be raised among them about the harmful effects of being overweight. There is a need to promote a healthy lifestyle and physical activities among tribal women, as well as encourage them to consume a balanced diet. The problem of overweight among tribal women necessitates greater awareness about the consumption of quality and diverse diets under the pressure of changing consumption patterns and nutritional transitions. Health promotion programs should be focused on married individuals. Equitable and affordable public health programs should focus on individuals from the poorest households with very little or no formal education to address nutritional issues. Improvements in household food security status and dietary diversity, along with creating better employment opportunities, are some of the necessary actions for ensuring proper nutritional status among the tribal population.

Interaction between Public and Private Health Care Providers: Shaping Equity, Quality, and Affordability of Health Services Across Urban and Rural India

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India's health-care system is characterised by the coexistence of an extensive public health network and a rapidly expanding private health sector. While the public sector is expected to ensure universal, equitable, and affordable health care, the private sector has become the dominant provider of outpatient and inpatient services. The interaction between these two sectors plays a crucial role in determining the accessibility, quality, and affordability of health services, particularly across the diverse urban and rural regions of the country. This paper examines the nature of public-private interactions and their implications for achieving equitable and efficient health-care delivery in India.

The study adopts a descriptive and analytical approach based on secondary data collected from government reports, National Family Health Surveys (NFHS), National Sample Surveys (NSS), the National Health Accounts, and published research. It analyses variations in service utilisation, infrastructure availability, health expenditure, and quality of care between urban and rural areas. Special attention is given to the implementation of public-private partnerships (PPPs), health insurance programmes such as Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), and state-level innovations aimed at improving health outcomes.

The findings reveal that the public sector continues to play a vital role in preventive care, immunisation, maternal and child health services, and disease surveillance, especially in rural and underserved areas. However, inadequate infrastructure, shortages of medical personnel, and uneven quality of services often compel patients to seek treatment from private providers. The private sector contributes significantly by expanding access to specialised medical care, introducing advanced technologies, and reducing waiting times. Nevertheless, the predominance of out-of-pocket expenditure, high treatment costs, and variations in service quality frequently create financial hardship, particularly for economically weaker households.

The study highlights that effective collaboration between public and private providers can improve health-care delivery when supported by transparent regulatory frameworks, quality assurance mechanisms,

and equitable financing arrangements. Public-private partnerships have demonstrated positive outcomes in diagnostic services, emergency care, telemedicine, and specialised treatments in several states. At the same time, inadequate regulation and weak accountability can lead to over-medicalisation, unnecessary procedures, and inequitable access to quality care.

The paper argues that achieving Universal Health Coverage (UHC) requires strengthening the public health system while strategically engaging the private sector under well-defined governance mechanisms. Policy measures should include increased public investment in primary health care, standardisation of treatment protocols, strengthened accreditation and monitoring systems, expansion of digital health infrastructure, and improved financial protection through comprehensive health insurance. Greater coordination between public and private providers, coupled with stronger referral systems and integrated health information platforms, can significantly enhance continuity of care and reduce regional disparities.

Implementation and Evaluation of a Structured Epilepsy Registry for Improving Clinical Follow-up and Continuity of Care

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Epilepsy is a chronic neurological disorder that requires constant treatment and monitoring. In rural settings, however, the management of patients with epilepsy is often difficult. This is due to a lack of consistent records and failure to track medication and follow-up. This has led to gaps in patient care. The aim of this study was to find out if the establishment of a structured epilepsy care registry would enhance the care processes and monitoring of treatment. This was a quality improvement study with a total sample of 300 patients with epilepsy. The process of documentation was evaluated in the baseline period and was followed by a structured epilepsy care registry. Further, patient counselling was offered, and seizure diaries were implemented as part of the intervention. Among the 300 patients included, focal epilepsy was the most common seizure type (30%). Following implementation of the structured epilepsy care registry, significant improvements were observed across all quality indicators. Documentation of seizure frequency increased from 24.0% to 80.7%, medication adherence from 16.7% to 84.7%, patient counselling from 20.3% to 78.7%, follow-up compliance from 19.3% to

79.0%, and emergency preparedness from 27.0% to 67.0%. McNemar's test demonstrated statistically significant improvements across all outcomes (χ^2 = 78.67–189.03; all exact $p < 0.001$), confirming the effectiveness of the registry in improving documentation, treatment monitoring, and continuity of epilepsy care. The introduction of a structured epilepsy registry proved to be both practical and effective in improving key aspects of care, including documentation, adherence monitoring, and follow-up. Even in resource-limited rural settings, such simple, structured approaches can significantly enhance the quality and continuity of chronic disease management.

Public Distribution System and Household Food Security in Odisha, India: Evidence from a Chronically Deprived Region

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Food insecurity is widely recognised as a major global issue despite several government interventions. This study evaluates the impact of India's Public Distribution System (PDS) on household food security in the Kalahandi–Balangir–Koraput (KBK) region of Odisha, comprising the eight districts of Kalahandi, Balangir, Koraput, Rayagada, Nabarangpur, Nuapada, Malkangiri and Sonepur. The region is characterised by high poverty rates, widespread malnutrition, poor market integration and restricted access to alternative food sources, making these challenges particularly pronounced. Household food security is affected by PDS participation through several interconnected pathways.

Using primary household survey data, the study randomly selected 400 households, comprising 298 PDS beneficiary households and 102 non-beneficiary households, and employed a propensity score matching (PSM) approach. Diagnostic checks were performed to assess the common support condition and post-matching covariate balance between the treatment and control groups to determine the robustness of the PSM results. To assess the degree of overlap and the presence of a common support region before matching, the density distributions of predicted propensity scores for both the treatment group (PDS beneficiaries) and the control group (eligible non-beneficiaries) were examined visually. To further assess the robustness of the matching procedure, a balancing property test was conducted to verify whether the distribution of covariates was statistically similar between the

treatment and control groups after matching. The study estimates the effects of PDS participation while accounting for selection bias.

The findings show that PDS participation significantly enhances household food security by easing food expenditure pressures, reducing the proportion of income allocated to food and improving per capita calorie availability. The findings indicate that the PDS supports food security in several ways. By reducing households' reliance on market food purchases, programme participation relieves financial strain and frees up funds for other necessities. Additionally, by increasing the availability of staple foods, access to subsidised food grains improves nutritional adequacy, which is particularly crucial for low-income households. Taken together, these outcomes highlight the importance of food-based social protection in stabilising consumption and reducing nutritional deficiencies. These findings highlight the importance of subsidised food transfers in alleviating economic and nutritional vulnerability in structurally disadvantaged regions. The study contributes region-specific evidence to the broader literature on food-based social protection and underscores the continued relevance of strengthening the PDS as a key policy instrument for addressing food insecurity in India's poorest regions.

Digitalisation of PDS - Social exclusion and Marginalisation in the State of Chhattisgarh

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India's Public Distribution System (PDS) is considered one of the largest food security programmes in the world. The PDS has been digitalised since 2012 through its linkage with the Aadhaar biometric unique identification system. Chhattisgarh has been a pioneer in reforming its PDS to ensure food security. In this context, the digitalisation of the PDS as part of government

policy in Chhattisgarh (for example, CORE PDS, Aadhaar-linked ration cards, automated grain tracking, smart ration cards, electronic point-of-sale (ePoS) machines and smart grain ATMs) is being positioned as particularly beneficial for reducing grain leakage, improving supply chain transparency and empowering beneficiaries by allowing them to purchase rations from any fair price shop (FPS).

FPS owners must use an electronic point-of-sale (ePoS) machine to distribute rations to beneficiaries. Beneficiaries undergo biometric authentication using the machine, which displays the quantity of rations allocated to their family for that month. In doing so, many beneficiaries face technical difficulties, such as fingerprint scanning failures. This particularly affects daily wage earners and destitute elderly people because of faded or worn fingerprints. In such cases, specific alternatives are available, such as adding a nominee or undergoing an iris scan. Moreover, if these options do not work, beneficiaries must make repeated visits to FPS outlets to access their monthly rations, which may still not guarantee access. Digitalisation has not eased access to rations for the poor; instead, it often excludes those in need because of authentication failures. Such technical and administrative flaws, along with systemic errors, lead to the exclusion of needy families. Furthermore, the freeze on issuing new ration cards has aggravated the exclusion of the most marginalised. Today, beneficiaries live in constant fear that if they fail to access their rations for three months, for whatever reason, they may be automatically deleted from the system and classified as "ghost card holders". Moreover, the PDS is a welfare provision that holds deep emotional significance for the poor, motivating them to access their rations regularly.

This paper examines the potential impact of digital PDS systems on access to food and food security among rural tribal communities and marginalised, low-income urban communities in Chhattisgarh. Our findings show that the mandatory integration of Aadhaar-linked PDS and the digitalisation of various PDS services have not necessarily streamlined the programme or increased its efficiency. Instead, they have contributed to the exclusion of vulnerable communities that are already food insecure. This indicates that technological change does not occur in a vacuum but directly intersects with existing social inequalities.

A Review of Related Literature on Informal Workers in the Healthcare Sector of Assam

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The informal or unorganised sector constitutes the backbone of India's economy, employing over 90 per cent of the country's workforce. The unorganised sector comprises informal, unregistered economic activities where labour laws and social protections are largely absent. They are disproportionately concentrated in low-paid, labour-intensive occupations with minimal job security, no social protection, and wages that frequently fall below statutory minimums. In India, the healthcare sector, despite being one of the fastest-growing sectors of the Indian Economy, increasingly relies on a diverse group of informal workers who perform essential functions in hospitals, primary health centres, community health programmes and other healthcare institutions. These workers include Accredited Social Health Activists (ASHA), contractual nurses, auxiliary nurse midwives (ANMs), ward attendants, sanitation workers, ambulance personnel, laboratory assistants, community health volunteers and other support staff. Despite their vital role in delivering care, many of these workers lack formal employment status and job stability, unpredictable pay, limited prospects for professional growth and insufficient legal safeguards. In Assam, where geographic challenges, frequent flooding and rural-urban divides hinder access to healthcare, the role of informal health workers becomes especially vital for maintaining essential medical services across the state. The primary objective of this paper is to review the existing literature on informal workers in the healthcare sector, to identify the awareness and access to labour laws, welfare schemes and social security measures among the labourers of the healthcare sector and to analyse the banking and financial accessibility of workers in the unorganised health sector. This study will adopt a quantitative approach using descriptive statistics, and additionally it will also employ non-parametric inferential tests like the Mann-Whitney U test and Kruskal-Wallis tests to evaluate disparities in income and social security access across various employment types.

This review paper synthesises findings from peer-reviewed journal articles, government reports, conference papers and publications by national and international organisations. This paper discusses the concept of the unorganised sector, the changing pattern of informal employment in the

healthcare sector, major socio-economic and occupational challenges, and banking and financial accessibility for workers. Evidence from previous studies indicates that informal workers frequently experience low wages, employment insecurity, heavy workload, work-life imbalance, and limited social and financial security.

The review further identifies a notable shortage of literature focusing specifically on Assam's informal healthcare workforce. Existing research mainly focuses on ASHA workers and nursing professionals, while several other categories of health workers remain under-researched. This paper highlights that strengthening employment conditions, expanding social protection, and awareness regarding financial accessibility are essential for enhancing the efficiency and sustainability of India's healthcare system. These findings emphasise an urgent need for targeted government intervention, policy frameworks to institutionalise minimum wage standards and provide welfare protection for this essential segment of the healthcare workforce.

Mindful Eating Among College Students: Assessing Awareness, Practice, And Linkages with Sustainable Development Goals (SDGs)

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Mindful eating has emerged as a promising approach to promoting healthier eating behaviours, enhancing individual well-being, and encouraging sustainable consumption practices. Rooted in the broader concept of mindfulness, it involves paying deliberate attention to the sensory experiences of eating, internal hunger and satiety cues, and food-related choices without judgment. In contemporary lifestyles characterised by busy schedules, academic pressures, and increased dependence on convenience foods, mindful eating has gained relevance as a means of fostering greater awareness and intentionality in dietary practices. The present study aims to assess the level of awareness and practice of mindful eating among college students and examine its

conceptual linkages with sustainability and the achievement of the Sustainable Development Goals (SDGs). The study adopts a descriptive research design and employs a random sampling method to collect primary data from 150 college students studying at multiple universities. Data were collected using a self-structured questionnaire designed to capture information regarding respondents' demographic characteristics, awareness of mindful eating, and related eating practices. The collected data were analysed using descriptive statistical techniques, including frequency, percentage, mean, and standard deviation, to summarise respondents' characteristics and assess patterns of awareness and practice. Inferential statistical techniques, particularly Analysis of Variance (ANOVA), were employed to test the research hypothesis and examine the statistical significance of the observed results. The statistical findings indicate a considerable presence of mindful eating awareness and practice among college students. The calculated F-value of 110.108 substantially exceeds the corresponding critical F-value, while the p-value is below the 0.05 significance level. Accordingly, the null hypothesis is rejected, indicating a statistically significant result for the comparison examined. These findings highlight the importance of understanding mindful eating as a behavioural phenomenon that may vary across individual and demographic characteristics. They also emphasise the relevance of examining students' eating awareness and practices within the broader context of their educational and lifestyle environments. Furthermore, the study extends the discussion of mindful eating beyond individual health and psychological well-being by exploring its conceptual relationship with sustainability. Mindful eating may encourage reduced food waste, more intentional food choices, greater appreciation of food resources, and reduced impulsive consumption. These behavioral pathways are conceptually aligned with SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action). However, these sustainability linkages represent conceptual implications rather than directly measured environmental outcomes. The study contributes to the growing literature on mindful eating among college students and highlights its potential relevance to health promotion and sustainable consumption. It recommends that educational institutions consider integrating mindful eating awareness into student wellness programs, nutrition education, and campus sustainability initiatives. Overall, the study underscores the importance of cultivating mindful eating practices among young adults as a potential means of supporting individual well-being and broader sustainability objectives. Key Words: Mindful Eating, Sustainability and Sustainable Development Goals (SDGs).

Development from the Ground Up: Education, Health, Nutrition and Social Protection in India's Development Journey

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Development is often measured through declining poverty, rising incomes and improvements in education. Yet, for families working in Rajasthan's sandstone quarries, these gains remain fragile when the breadwinner cannot breathe and the household cannot afford adequate food. This paper argues that health and nutrition are not separate welfare concerns but the foundations upon which sustainable development, livelihood security and human dignity depend.

Drawing on government data, published research and documented experiences of mining communities, the paper examines the interconnected challenges of silicosis, tuberculosis and undernutrition in Rajasthan. The National Family Health Survey (NFHS-5, 2019–21) recorded a decline in child stunting in Rajasthan from 39.1% to 31.8%. However, anaemia affected 71.5% of children aged 6–59 months and 54.4% of women aged 15–49 years, revealing the persistence of hidden hunger despite improvements in child growth.

Silicosis, caused by inhalation of respirable crystalline silica dust, remains a serious occupational hazard in sandstone mining. Although preventable through wet drilling, dust extraction and appropriate protective measures, the disease causes irreversible lung damage. Research among sandstone workers in Jodhpur has documented substantial respiratory morbidity, including silicosis and silico-tuberculosis. Evidence also indicates that people with silicosis face approximately four times the risk of developing tuberculosis. When illness reduces a worker's earning capacity, medical expenses rise and household income falls, forcing families to reduce food expenditure. Undernutrition further weakens immunity, increasing vulnerability to infection and delaying recovery. Women and children bear a disproportionate share of these consequences through inadequate diets, anaemia, disrupted education and increased care responsibilities.

The paper highlights the importance of integrating nutrition into occupational health interventions. Evidence from India's RATIONS trial, published in The Lancet in 2023, demonstrated that nutritional support for tuberculosis patients and their household contacts reduced tuberculosis incidence among family members. Yet, comparable systematic nutritional support remains lacking for silicosis-affected households. Rajasthan's silicosis

compensation and rehabilitation framework represents an important policy commitment, but delays in accessing assistance can deepen household deprivation.

The paper proposes an integrated, household-centred approach comprising eight linked actions: eliminating workplace dust; strengthening early silicosis screening; integrating tuberculosis and silicosis detection; extending nutritional support to silicosis patients; connecting families with food security schemes, Anganwadi services and school meals; addressing anaemia among women and children; strengthening women's livelihoods; and expediting pending compensation and welfare claims.

Government departments, industry, civil society and medical institutions must coordinate these interventions and measure success through actual health and nutrition outcomes rather than activities completed. The paper concludes that development cannot be considered complete when workers remain breathless and their families go hungry. Protecting both breath and bread is essential to ensuring that economic progress reaches

Ultimately, the measure of development must be not only how much a country produces or how many people rise above the poverty line, but also whether workers can earn a living without sacrificing their health and whether their families can access adequate, nutritious food. Integrating occupational health, nutrition and social protection is therefore not an optional welfare measure; it is essential to building a more equitable and sustainable development pathway.

DBT and Mukhyamantri Maiyan Samman Yojna: A Way Forward Towards Social Protection and Women Empowerment – A Case Study of Jharkhand

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Women's empowerment and their overall economic performance can be assessed through the Female Labour Participation Rate (FLPR). The Female Labour Participation Rate for those aged 15 years and above stood at 32.8% in May 2026. At the national level, rural female LFPR rose from 24.6% to 41.5% while urban LFPR rose modestly from 20.4% to 25.4% according to an observational analysis of the PLFS from 2027-18 to 2022-23. Women's participation in the labour force, despite some improvement in certain sectors,

still faces complex and persistent challenges and continues to be influenced by various socio- cultural and political factors. According to the Jharkhand Economic Survey 2023-24, in the last five-year period between 2017-18 and 2022-23, the labour force participation rate for all age groups between 15 and 59 years, both among males and females, both among youth and adults and both in rural and urban areas in Jharkhand, has increased at an average annual rate of 5.3%. Women in Jharkhand are subject to multiple forms of vulnerability arising due to poverty, unemployment, gender discrimination, poor health, low education and limited access to financial resources. Rural women, especially those belonging to tribal communities, are engaged in informal sectors and are subject to social exclusion and economic insecurity. The Maiyan Samman Yojna, launched by the government of Jharkhand in 2024, addresses these vulnerabilities by providing Direct Benefit Transfer (DBT) to eligible women aged between 18 and 50 years. The initial benefit was 1000 rupees per month, which was later upgraded to 2500 rupees per month. The scheme aims to strengthen women's economic security by ensuring a regular source of income. The total number of beneficiaries is approximately 56.61 lakh women across Jharkhand. By transferring the benefits directly to the beneficiaries' bank accounts, the scheme promotes financial inclusion, transparency and accountability, minimising leakages in the delivery of benefits. The paper's main objective is to analyse the financial independence of women in Jharkhand since the inception of the scheme, to study the social performance of women in family and society, and to evaluate the enhancement of employment opportunities. Women empowerment is an economic necessity. Cash transfers to women in low- and middle-income groups enhance household wellbeing, food security, family health and education. Cash transfers through DBT in the Maiyan Samman Yojna of Jharkhand have become a game changer to empower women through financial independence and self-employment opportunities.

From Menstrual Leave to Menstrual Dignity: Evidence from Informal Women Workers in Assam

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In recent times, it has been observed that Menstrual health has emerged as a workplace rights and gender equality issue. However, the Supreme Court

of India recently rejected a petition for mandatory paid menstrual leave, shifting the debate from legal entitlement to the need for comprehensive workplace policies that at the same time ensure women's dignity without adversely affecting their employability. The present study examines the menstrual hygiene challenges faced by women employed in the informal sector. Assam was selected as the study area due to its relatively low utilisation of funds under the Menstrual Hygiene Scheme, with Kamrup Metro district chosen for its high concentration of informal employment. Primary data were collected from 180 women workers across six informal occupations: street vendors, domestic workers, construction workers, beauty parlour employees, sales girls, and tea garden workers and 20 employers. The Garrett Ranking Technique was employed to identify the major workplace constraints, while employer awareness was assessed using a five-point Likert scale. In-depth interviews with employers were further analysed through thematic analysis.

The Garrett ranking revealed that lack of flexible working hours (mean score 78.24), inadequate sanitation facilities (76.22), and the absence of women's support mechanisms (74.96) were the most significant constraints during menstruation. In contrast, paid menstrual leave ranked eighth, suggesting that women prioritise access to hygienic infrastructure, privacy, and workplace flexibility over additional leave. Employers demonstrated only moderate awareness of menstrual hygiene needs but limited understanding of legal responsibilities and workplace accommodation.

The study argues that improving menstrual hygiene infrastructure, introducing flexible work arrangements, and strengthening employer accountability are more practical and inclusive strategies for promoting menstrual dignity in the informal sector and minimising the risk of unintended gender discrimination in employment.

Economic-Epidemiology, Herd Immunity, and Optimal Control Theory: A Model for Pandemic Mitigation and Implications for Future Pandemics

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Balancing public health and economic stability during pandemics remains one of society's major challenges. In the debate over COVID-19 mitigation,

two distinct approaches have been proposed. One is the Great Barrington Declaration, which advocates for allowing low-risk populations to resume normal activities to mitigate broader socioeconomic and public health harms. On the other hand, the John Snow Memorandum emphasises stringent restrictions to minimise mortality, advocating for a phased reopening dependent on the availability of effective vaccines or therapeutics.

This paper develops a data-driven optimal control framework to optimise this trade-off in COVID-19 responses. Theoretically, we propose a Generalised SEIR (GSEIR) model enhanced with optimal control theory, incorporating exposed populations and multi-wave dynamics to design adaptive lockdown strategies. We derive cost-minimising solutions by integrating workforce losses and fatality costs, and we empirically analyse projections using a Logistic growth model for robust GSEIR forecasting. Applied to Indian and global data, our analysis examines the phase transition in optimal control strategies from suppression to mitigation. The Key findings demonstrate the delicate equilibrium between containment strictness and economic activity, underscoring the importance of herd immunity and real-time monitoring. Unlike prior work, we unify economic-epidemiological trade-offs within an optimal control framework while grounding predictions in empirical validation.

We extend the mathematical theory in SIR modelling for pandemics and introduce a Generalised SEIR model. The classical SIR model is a specific instance of this GSEIR model, which integrates various distinct features. Key contributions include: GSEIR being an integrative model capturing pandemic data across distinct waves over time and, unlike classical SIR models, GSEIR solutions yield time-varying parameters that evolve dynamically. The dynamic profiles reflect the influence of policy decisions and public awareness regarding measures such as social distancing, lockdowns, medications, vaccinations, and other interventions. While classical SIR models present initial-value problems without ensuring end conditions for susceptible, infected, and removed functions, our proposed GSEIR model addresses both initial and final conditions effectively. By bridging theory and practical relevance, we present strategies for future pandemics, protecting populations without undermining economies. By prioritising both public health and economic resilience, the paper comes up with suggestions for mitigating socio-economic disruptions during health crises.

Awareness and Adoption of ABDM among Rural Households: Empirical Evidence from Nabinagar Block of Aurangabad District (Bihar)

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Do the more than 50 crore ABHA registrations reported at the national level translate into meaningful access to digital health services in remote areas? This study moves beyond top-down administrative figures to examine the implementation of the Ayushman Bharat Digital Mission (ABDM) in rural Bihar. Drawing on a survey of 384 rural households in Nabinagar block, Aurangabad district, it measures functional awareness, patterns of use, digital-skill constraints, and the socio-economic factors associated with adoption. The analysis combines composite indices, chi-square testing, Spearman's rank correlation, and multiple linear regression. The findings reveal a marked gap between administrative expansion and meaningful individual use. Composite functional awareness is only 23.75%, and just 15.10% of respondents understand the purpose of an ABHA card. Although 57% of surveyed households possess an ABHA ID, only 26% report self-creation, while 47% report creation through a hospital or health facility. Operational capability is the principal constraint: 89% cannot install health applications, 84% cannot navigate QR codes without assistance, and 77% cannot process one-time passwords independently. Non-vernacular interfaces (67%), inadequate digital skills (57%), and poor connectivity (46%) further restrict routine use. Education is significantly associated with awareness ($\chi 2 = 142.68$, $p < 0.001$), while digital literacy ($\beta = 5.640$), internet access ($\beta = 4.210$), and awareness ($\beta = 4.980$) are major determinants of adoption ($R2 = 0.584$, $p < 0.001$). Registration alone is therefore insufficient to close the rural digital-health divide; assisted-digital help desks, local-language voice interfaces, and village-level digital-literacy programmes are also required.

Assessing the Nutritional Status of the Children in Rajasthan

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Child nutrition is a critical indicator of human development and plays a fundamental role in determining physical growth, cognitive development, educational achievement and future productivity. Despite sustained policy

interventions and nutrition programs, gender disparities in child nutrition continue to remain a major public health concern in several Indian states. The prevalence of malnutrition in Rajasthan is extremely high, and it performs very badly as compared to other Indian states. Henceforth, the present study aims to assess the nutrition level of children in Rajasthan across different socio- economic and regional settings.

The study is based on secondary data obtained from the National Family Health Survey (NFHS-3, 2005–06; NFHS-4, 2015–16; and NFHS-5, 2019–21), supplemented by reports from the Ministry of Health and Family Welfare, NITI Aayog, UNICEF, and other Government of India agencies. A descriptive and analytical research design has been adopted to examine trends and gender-based disparities in key nutritional indicators. The analysis focuses on stunting, wasting, underweight, anaemia, dietary diversity and selected socio-economic determinants influencing children's nutritional outcomes.

The findings reveal a gradual improvement in child nutrition across successive NFHS survey rounds; however, substantial gender-wise and regional disparities persist. Malnutrition, particularly anaemia and undernutrition, continues to affect a considerable proportion of children, with variation associated with maternal education, household income and place of residence. Stunting and underweight prevalence declined by 5 percentage points and 3 percentage points (2006 to 2016) and further declined by 7 percentage points and 9 percentage points, respectively, from 2016 to 2020. Anaemia declined by 10 percentage points from 2006 to 2016 but increased by 11 percentage points from 2016 to 2021. The eastern districts present the highest burden of stunting, wasting and anaemia according to NFHS-5 among children below 5 years. Underweight children below 5 years of age were also found to highest in the eastern districts of Rajasthan. Jodhpur was found to have the highest obesity rate among the children. Dhaulpur showed the worst performance among all the districts in reducing obesity among the children, while Pali district performed the best in reducing obesity. 23 per cent of children were born with low birth weight (NFHS-4). The highest percentage below ideal weight-for-age was reported for Baran district during NFHS-5. On the other hand, counselling for child growth doubled in 2019-20 compared to 2005-06. The study highlights the need for gender-sensitive, evidence-based, and region-specific nutrition policies to reduce inequalities and improve child health outcomes.

Regular but Insecure: Employment Protection Deficits among Salaried Women in India

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Regular wage or salaried work is commonly treated as relatively secure employment, although a monthly salary does not necessarily provide documented tenure, paid leave or social protection. This paper measures those three employment-protection deficits among non-agricultural regular salaried women aged 15-59 in India using the nationally representative Periodic Labour Force Survey 2025. The indicators are examined separately and combined into a cumulative insecurity score. A score of three identifies women who lack a written contract, paid-leave eligibility and every specified social-security benefit. The analysis uses survey-weighted proportions, population totals, design-based logistic regression, average adjusted predictions and a survey-weighted model of log monthly earnings. Among women with known enterprise size, 55.7 per cent lacked a written employment contract, and 44.4 per cent were ineligible for paid leave. In the principal security sample, 55.0 per cent received none of the specified social-security benefits, 66.5 per cent experienced at least one protection deficit and 35.7 per cent lacked all three. The weighted totals correspond to about 19.0 million women with at least one deficit and 10.2 million with severe insecurity. Education, technical qualifications and enterprise size were closely associated with protection. After adjustment for worker, workplace and state characteristics, women educated up to primary level had 5.56 times the odds of severe insecurity observed among women educated to graduate level or above, while women in enterprises with fewer than six workers had 5.74 times the odds observed in enterprises with at least 20 workers. Adjusted probabilities were highest in domestic household employment and arts and personal services, and lowest in public administration. The earnings results reveal an equally sharp gradient. Relative to otherwise similar women secure on all three dimensions, monthly earnings were 28.5 per cent lower among women with one deficit, 46.0 per cent lower among those with two and 47.6 per cent lower among those lacking all three protections. Excluding domestic household employment and adding occupation to the model did not remove the main education and enterprise-size gradients. These cross-sectional estimates are associational rather than causal. They nevertheless show that regular salaried status is an incomplete measure of job quality and identify small enterprises and selected service industries as priorities for contract documentation, benefit enrolment and enforcement.

Ensuring Human Security through Universal Health Coverage: A Study of the Ayushman Bharat Programme.

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The growth of the economy and consequent development of the nation in general are based upon development of the social indicators and equitable distribution of the fruits of development. Ayushman Bharat Programme [ABP], a flagship health reform program, was introduced in 2018-19 to reform the Indian health care system by holistically addressing healthcare needs of the population and reducing the triple burden of disease: infection, malnutrition and maternal health. This scheme provided affordable health care using technology, which was a major relief to the poor, with a funding plan of a 60:40 ratio between the centre and state. The emphasis is now to move from healthcare to disease prevention by spreading awareness. The health and wellness centres [HWCs] being introduced through the public-private partnership model aim to achieve the aforementioned objectives. Private sector participation through corporate social responsibility funding is expected to play a significant role in this endeavour.

India's economic growth over the last three and a half decades did not address the pertinent issues of equitable and affordable healthcare access. Hence, to address this issue, the Ayushman Bharat Programme was adopted, which provided universal health coverage in India. The issue is health inequity in India. ABP is based on a care approach that aims to reduce health inequity and address the issue of out-of-pocket expenditure and distress sale of property to avail healthcare by providing insurance of five lakhs. This flagship scheme is based on two interlinked concepts such as introducing healthcare infrastructure & insurance (PM-JAY), which is the largest health insurance scheme in the world. While there is no one-stop solution, both the centre and the state governments can make a significant difference in the lives of the common citizen and the marginalised population by providing healthcare at an affordable cost and a comprehensive health insurance package.

This study attempts to examine the genesis of the Ayushman Bharat Programme introduced at the three levels of healthcare in India- primary, secondary and tertiary that aims to achieve the visionary goal of universal health coverage. Nevertheless, it remains to be seen whether ABP has succeeded in meeting the cherished goals of providing universal health coverage and addressing the longstanding challenges facing the Indian healthcare system.

Beyond Modern Medicine: Drivers and Barriers of AYUSH Utilisation in the Western Indian Himalayas

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This study examines the factors affecting the utilisation of AYUSH systems and the barriers to their adoption in the Western Indian Himalayan Region. AYUSH, comprising Ayurveda, Yoga, Unani, Siddha, Homeopathy, and other traditional healthcare systems, plays an important role in preventive and curative healthcare practices in India, particularly in culturally and geographically diverse Himalayan regions. Robust statistical and econometric methods have been used to analyse the study. The study utilises a logit regression model to identify the socio-economic, demographic, cultural, and regional determinants influencing AYUSH utilisation, while the Pearson Chi-square (χ^2) test is employed to examine the association between barriers and AYUSH adoption. The findings reveal that awareness regarding AYUSH systems is the most significant determinant positively influencing utilisation. Variables such as age, education, marital status, rural residence, and religious affiliation also significantly affect healthcare-seeking behaviour. Hindu and Buddhist communities exhibit relatively higher utilisation due to stronger cultural and traditional attachment to indigenous healthcare systems. The study also finds that tribal communities show relatively high dependence on AYUSH systems due to their close linkage with the knowledge of medicinal plants, indigenous medicine, and nature-based healing systems. In contrast, larger households and labour-oriented occupational groups show relatively lower utilisation. The study further identifies awareness, accessibility, perception, and need-based barriers as major constraints to AYUSH adoption, with need- based barriers showing the strongest association with non-utilisation. The study highlights the importance of improving awareness, strengthening healthcare infrastructure, and promoting scientifically validated AYUSH practices for enhancing healthcare accessibility and utilisation in the Himalayan region. Additionally, implementing AYUSH preventive healthcare programs in schools and communities, promoting research on medicinal plants and indigenous knowledge, and integrating AYUSH services into primary healthcare systems can all help increase

acceptance and utilisation of healthcare services. Economically vulnerable and labour-oriented households should receive special attention in terms of inexpensive and accessible healthcare services.

Global Cost-of-Illness Evidence on Thalassemia: A Review of Healthcare Expenditure and Implications for India

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Thalassemia is a major inherited blood disorder characterised by defective haemoglobin production, resulting in chronic anaemia and the need for lifelong treatment, including regular blood transfusions and iron chelation therapy. It imposes a substantial economic and healthcare burden worldwide, particularly in low- and middle-income countries. Despite advances in treatment, long-term management remains costly and resource-intensive, placing considerable financial and social pressure on patients and their families. The economic burden extends beyond direct medical expenses to include non-medical and indirect costs, such as transportation expenses and loss of workdays, which may contribute to catastrophic health expenditure and household impoverishment. Against this background, the present study aims to systematically synthesise global evidence on the cost of illness and healthcare expenditure associated with thalassemia and examine its implications for the Indian healthcare system.

A systematic review was conducted using empirical studies published between 2010 and 2025 and retrieved from Scopus, PubMed, and EBSCO databases. Studies reporting direct medical, direct non-medical, and indirect costs, along with healthcare access-related issues, were included. Reported costs were converted into United States Dollars (USD) and adjusted to 2023 values to facilitate comparability across studies. Descriptive statistical analysis was employed to summarise the cost data.

Preliminary findings indicate substantial variation in the annual cost of thalassemia management across different healthcare settings. Blood transfusions and iron chelation therapy accounted for approximately 60–80% of direct medical costs in most studies. However, relatively few studies assessed direct non-medical and indirect costs, and their inclusion increased the estimated total annual economic burden by approximately

20–40% compared with direct medical costs alone. These findings suggest that estimates based solely on direct medical expenditure may underestimate the overall economic burden of thalassemia on patients and their families.

The study highlights the considerable economic burden associated with lifelong thalassemia care and the importance of incorporating both medical and non-medical costs into economic assessments. In the Indian context, where comprehensive evidence on the economic burden of thalassemia remains limited, the findings underscore the need to strengthen financial protection mechanisms, decentralise access to quality treatment services, and expand effective prevention strategies. The study provides useful evidence for healthcare providers, non-governmental organisations, and policymakers to develop targeted interventions, improve equitable access to healthcare services, and reduce the financial burden on affected households.

Endowment or Discrimination? Religion and the Gender Gap in Household Education Expenditure in West Bengal

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While economists have long explored the connection between religion and economic conduct, recent attention has shifted to how religion impacts women's educational attainment. Globally, there is a widespread perception, often supported by anecdotal evidence, that Islamic beliefs result in stronger gender discrimination and wider educational gender gaps. However, there is a distinct lack of household-level evidence in developing countries to verify the true nature of this discrimination. This study investigates whether the gender gap in household educational expenditure is homogeneous in its nature and degree across different religious groups in West Bengal, India.

The research utilises unit-level data from the National Sample Survey Office (NSSO) 75th Round (2017–2018), which is the most recent round providing exhaustive data on household educational expenditure, religion, and gender. The study employs two primary analytical frameworks. The Relative Gap Ratio (RGR) is used as a baseline measure to calculate the percentage difference in average annual educational spending between male and female students. The Blinder-Oaxaca Decomposition is a statistical method applied to separate the expenditure gap into two distinct parts: the "endowment effect"

(differences arising from household characteristics like income or parental education) and the "unexplained effect" (differential treatment based purely on gender, acting as a proxy for discrimination).

The statistical analysis yielded several insights that challenge conventional assumptions regarding religion and gender dynamics. Across almost all socioeconomic strata, households consistently spend a higher average amount on male students than female students. Contrary to the hypothesis that Muslim households harbour stronger biases against women's education, the Blinder-Oaxaca decomposition reveals that the "unexplained" discrimination effect is significantly larger among Hindu households. In urban areas, pure discrimination accounts for 56% of the total expenditure difference for Hindus, compared to only 20% for Muslims. Among the poorest quartile of Muslim households, the RGR is negative, indicating that these families actually spend more on girls' education than boys'. The authors suggest this occurs because boys in this demographic frequently drop out early for economic reasons, leaving resources for highly motivated girls who remain in school. The most crucial finding is that the vast majority of the educational expenditure gap between genders is driven by the endowment effect rather than pure gender discrimination.

The study concludes that differences in household socioeconomic characteristics dictate the gender gap in education far more heavily than inherent religious discrimination. Consequently, government interventions must move beyond simply building educational facilities or offering basic scholarships for girls. To truly bridge the gender gap, policymakers must target the slow but steady improvement of differential household endowment characteristics across the board.

Using Metrics Based on Squared Deviations to Measure Child Malnutrition: An Analysis of Temporal Change and Construct Validity at The Sub-National Levels in India

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Drawing on the literature on poverty measurement, studies have highlighted the limitations of using the headcount ratio (H) to measure child undernutrition, defined as the proportion of children whose anthropometric z-scores fall below the stipulated cut-off (Sen and Sengupta, 1983; Swain, 2008; Mishra

and Mishra, 2009). Earlier work has suggested using the Mean of Squared Deprivation Gaps (MSDG), defined as:

$$U(w; z^*) = 1/n \Sigma i (gi/z^*) 2$$

where i = 1, 2, . . ., q, w = (w 1 , w 2 , . . ., w n) is a vector of nutritional z-scores in increasing order, z* = -2, the cut-off z-score for undernutrition, g i = $|z^* - wi|$ is the nutritional shortfall of the i th child, n and q are the total number of children and the number of undernourished children respectively. While g reflects the depth of undernutrition, squaring g means that the shortfall itself is used as the weight for each undernourished child (Mukhopadhyay 2011, 2016a).

This study proposes that, if greater emphasis is placed on the severity of undernutrition, the cut-off for severe undernutrition, z*=-3z^*=-3, may be used. This can be calculated using any anthropometric indicator, namely height-for-age, weight-for-age or weight-for-height. Alternatively, to measure aggregate overnutrition, an analogous metric, the Mean of Squared Overnutrition Gaps (MSOG), may be formulated using z*=+2z^*=+2 for weight-for-height. Following Foster et al. (1984), the existing literature has formulated a modified version of the concentration index (CI), the most commonly used indicator of group inequality in health (Wagstaff et al., 1989, 1991; Kakwani et al., 1997; O'Donnell et al., 2008). Defining subgroups by wealth quintiles, Mukhopadhyay (2011) found that the relative rankings of Indian states according to the CI and the CI based on MSDG (CI-MSDG), the new metric, differed substantially for some states.

The high and persistent burden of child undernutrition in India is characterised by substantial inter- and intra-state inequalities. The current focus of nutrition policy in India is on improving outcomes at the district level, using headcount ratios of moderate and severe undernutrition as the principal monitorable indicators. However, a decline in H may be disturbingly accompanied by an increase in MSDG (Mukhopadhyay, 2016a). This study argues that using metrics based on the entire distribution of malnutrition among children at the subnational level would yield additional and important insights for policy.

This study aims to (a) establish a typology of Indian states and districts by mapping temporal changes in the double burden of child malnutrition and inequalities in it, with respect to (i) MSOG and H for overweight among children, (ii) MSDG and H for child undernutrition, and (iii) CI-MSDG and the standard versions of the CI for child undernutrition; and (b) examine the construct validity of MSDG for child undernutrition in India. This is done by

examining whether MSDG can be explained by the standard determinants of undernutrition at the subnational level. Controlling for standard correlates, the study explores how dietary diversity is associated with H and MSDG. Focusing on rural districts, it also examines the pathways between agriculture and nutrition, as captured by H and MSDG, using production diversity scores. The study has innovatively constructed panel datasets at the subnational level using various data sources on child undernutrition, dietary diversity, production diversity, health infrastructure and other standard determinants of child undernutrition.

The policy relevance of this study is threefold. First, by establishing a typology of states and districts according to the burden of malnutrition, it will help monitor temporal changes in undernutrition and overnutrition. Second, the metrics capturing the mean of squared deviations may not move in tandem with H. This would warrant closer examination of the tails of the nutritional distribution. This has immediate policy relevance, since NFHS-5 shows a substantial rise in the incidence of overweight among children in most of the states for which data are available. Third, by examining the construct validity of MSDG and CI-MSDG, the study will add to the existing range of valid nutrition security indicators. These metrics would be applicable in different contexts and would also enable cross-country comparisons of progress towards reducing malnutrition.

Transition in (In)Equality of Opportunity in Child Nutrition: A Decomposition Analysis Using Panel Data from India

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The literature on implications of early childhood circumstances on later-age outcomes is evolving. Disadvantage experienced in infancy and in early childhood often persists or evolves over time and also constrains future opportunities. While a large body of research has documented inequalities in child nutrition during early childhood, most existing studies rely on cross-sectional data and provide limited evidence on how inequality of opportunity evolves as children grow older. Understanding whether inequality in children's health widens as children age, based on evidence from longitudinal data, is a crucial step in identifying how early life

circumstances shape later outcomes. Therefore, this study examines how nutritional inequality rooted in early childhood circumstances evolves as a child transitions from early to middle childhood. Therefore, this study examines how nutritional inequality rooted in early childhood circumstances evolves as a child transitions from early (0-5 years) to middle childhood (6-12 years). We constructed a population cohort born between 2000 and 2005 from the 2019 India Human Development Survey panel dataset to measure ex-ante IOp in nutritional outcomes at two stages of childhood. We measure inequality in terms of access to adequate nutrition by applying the Human Opportunity Index, D-index and Shapley decomposition. The findings indicate that gender disparities shift across childhood, with boys experiencing more disadvantage in early childhood and girls facing greater disadvantage during middle childhood. The contribution of maternal characteristics, socioeconomic status, religion, and sex of the child to IOp has increased. Our analysis reveals that EOp in child nutrition remains far from achieved in India, as early-life circumstances continue to drive unequal nutritional outcomes. This highlights the importance of adopting a life-course perspective to better understand the gender disparity in nutritional outcomes. The findings of the study underscore the need for policies that address early-life circumstances and simultaneously invest later to reduce inequality of opportunity in child nutrition across childhood. The findings of the study provide longitudinal evidence with important implications for both policy and future research on equitable child development.

Social Protection and Livelihood Insecurity Among Transgender Persons in India

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Social protection is generally understood as support that helps people deal with poverty, risks and difficult situations in life. In India, there has been growing attention to the welfare and protection of transgender persons. The National Legal Services Authority v. Union of India judgment in 2014 recognised the rights of transgender persons, followed by the Transgender Persons (Protection of Rights) Act, 2019. Since then, the government has introduced different measures for transgender persons under the SMILE scheme. These include healthcare, skill development and livelihood support, identity-related services, protection measures and safe shelters through Garima Greh.

This paper asks: What does social protection mean for transgender persons, and how far do these measures respond to the difficulties they face in securing and maintaining a livelihood? This question is important because livelihood insecurity among transgender persons is not only about having or not having a job. Family rejection, lack of safe housing, discrimination, limited access to education and healthcare, and difficulties in finding and keeping work can affect their ability to sustain a livelihood. These difficulties can also make it harder for transgender persons to deal with periods of unemployment, unstable work and other changes in their economic lives.

The paper is conceptual and brings together the social protection literature with research on transgender persons and livelihoods. It looks at social protection as more than help during immediate hardship. It also considers whether such support can help people deal with future risks and improve their chances of finding or sustaining a livelihood. The paper then looks at India's current policy measures, with particular attention to the SMILE scheme and Garima Greh. Garima Greh is important to this discussion because it provides shelter and basic needs, as well as healthcare, counselling, skill development, and support for employment and other livelihood opportunities.

Factors Affecting Patient Satisfaction Level of Primary Healthcare Services Among Rural Elderly in Goa, India

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Patient satisfaction is considered to be a prime indicator of the quality and efficiency of healthcare services. This is true, especially in the context of primary health care services provided by the state in rural areas in India. Goa, one of the economically advanced small states of India, has an elderly population of 17.2 per cent of its total population. With the rising trend in population ageing, the need for robust healthcare has increased. Given the fact that elderly patients need more peripheral healthcare than the rest of the population, the present study attempts to identify the level of patient satisfaction among elderly residing in rural Goa. It also identifies the factors associated with the same, the barriers to effective patient satisfaction and resulting out-of-pocket expenditure. Using a cross-sectional purposive

sampling design, a sample of 200 respondents aged 60 and above across seven talukas of rural Goa was selected. Data were collected through a community survey using a validated 21-item Patient Satisfaction Scale, with informed consent obtained from the elderly respondents. Data were analysed using Jamovi software. Considering the non-normality of the data distribution reported by the Shapiro-Wilk test, non-parametric tests were used. The results of the chi-square and Mann-Whitney U tests show that demographic factors such as age and gender have no association with patient satisfaction levels. On the other hand, factors such as social category, income level, education, number of morbidities, out-of-pocket expenditure, confidence in private healthcare providers, and barriers faced while seeking treatment, like ineffective treatment, overcrowding and bad behaviour, were the most determining factors in patient satisfaction levels in rural Goa. The elderly population in rural Goa need better-quality healthcare. They deserve effective treatment from public primary health care service providers. This will enhance their patient satisfaction levels and reduce their economic burden of out-of-pocket expenditure.

Child Malnutrition Beyond Food Availability: Maternal Roles, Women's Work and Food Choice Dynamics

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Nutritional deficiencies among children in India have moved beyond being a basic problem to a more complex and multidimensional issue where cases of malnutrition, vitamin or mineral deficiencies, and obesity exist simultaneously within the same household. Mother-child pairs experience the triple burden effect, i.e., an overweight or obese mother, an undernourished child, and micronutrient malnutrition, vitamin and mineral deficiency disorders, or hidden hunger. In this research, we used primary survey data collected from 203 households in five slums of Kolkata – Beliaghata, Jorabagan, Kumartuli, Tangra, and Tollygunge. These slums were selected using stratified random sampling. We also use secondary data for 62,339 children aged between 6–23 months from the National Family Health Survey (NFHS-5). Using these data, we explore how factors such as maternal education, employment status,

decision-making autonomy, media exposure to food-related advertisements, and participation in government nutritional programmes can influence Minimum Dietary Diversity (MDD) among children. MDD is a categorical proxy indicator developed by WHO and UNICEF to measure the quality of infant and young child diets through the lens of micronutrient adequacy, micronutrient balance, and overall structural quality. Using survey-weighted logistic regression and average marginal effects, this study finds from NFHS-5 data that only 20.15% achieve Minimum Dietary Diversity. One of the most interesting findings is that after including maternal employment and media exposure, the standard socioeconomic status (SES) variables, i.e., household wealth, maternal education, place of residence (urban/rural), and household decision-making autonomy, all became insignificant. Our findings also challenge the literature, which shows that poverty or education mainly explains the problem of child malnutrition. Thus, we can say that standard SES variables never actually affect a child 's diet directly, but they affect it indirectly. With the help of the survey conducted in Kolkata, we can complement our findings from NFHS-5 data. Our findings from the survey explain why employment matters (73% of mothers say their income improves child welfare, with food/nutrition being the top spending category), why media exposure is double-edged (74% of children demand advertised food even as media also transmits nutrition information), and capture institutional variables like Anganwadi access that NFHS-5 could not assess due to near-universal coverage in the national sample.

Security for Older Persons with Disabilities in India - A Whole-of-Society Approach

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The world's population is not expanding, but is also growing older. India is no exception. Unfortunately, the needs and challenges faced by older persons with disabilities are poorly understood and often left unaddressed. Academic studies indicate that social stigma associated with elderly disabled persons persists, and they clearly struggle to enjoy human rights. Fortunately, the 2020 United Nations Convention on the Rights of Persons with Disabilities specifically addressed the human rights and needs of older persons with disabilities. However, the discourses on disability and ageing are usually approached separately. Ageing and disability are both global phenomena. The debate about the rights of older persons with disabilities is connected

to improving the enabling environment for older persons with disabilities – no one left behind. Unfortunately, there has been limited research into this area. International experts in a range of disciplines suggest that bridges in research, policy, and practice across the two fields are critical to address both demographic ageing and the longevity of those ageing with long-standing disability. The history of disability and ageing in India is shaped by cultural, social, and legislative developments over time. Population census and NSSO data indicate that the prevalence of disability among the elderly is high in India. It is higher among the disadvantaged groups of society. Social exclusion and isolation are normal practices for older persons with disabilities. Older women with disabilities face heightened vulnerabilities. Since disability is a major concern among the elderly population, there is no exclusive scheme or programme particularly meant for OPwDs. Addressing the inadequacy of the existing policy and welfare measures is urgent. Outlook changed. The focus is on social protection for older persons with disabilities. Usually, social security for this group of people in India is supported through central and state welfare initiatives, prominently including the National Social Assistance Programme (NSAP), Rashtriya Vayoshri Yojana (RVY), and Atal Vayo Abhudaya Yojana (AVYAY). However, the engagement of diverse groups across society, including government, civil society, the private sector, academia, and individuals – a whole-of-society approach - is needed to justify the needs of older persons with disabilities. The primacy, however, lies with humanitarian policy and practice. Lately, the Indian polity has realised that to reach the vision of ViksitBharat@2047, no one should be left behind.

Peri-Urban Health and the Problem of Statistical Invisibility

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Global health governance remains trapped in a rigid rural–urban binary, yet the fastest-growing form of settlement is the peri-urban zone. In North 24 Parganas, West Bengal, India, these spaces are governed through a "politics of ambiguity". This study argues that the state's reliance on "fossilised" 2011 administrative boundaries is not a passive data gap but a form of "strategic ignorance": a governance technology used to manage surplus populations by deferring responsibility and creating a "statistical mask" that obscures localised distress.

The study employs a critical secondary analysis of Census 2011, NFHS-5 and SRS/CRS 2023 data. These findings are grounded in exploratory ethnographic reconnaissance conducted in 2025 and mobility tracing in the Ashokenagar–Habra peripheries. By comparing 78 misclassified "rural" Census Towns (CTs) with material urban realities, the research uses ground-truthing to examine spatial theory and reveal a "crisis of the denominator", in which administrative maps conflict with lived peri-urban struggles.

Fieldwork and data analysis reveal a deepening crisis concealed by aggregated averages. First, the statistical mask of survival is evident in the fact that, while institutional births reached 97.5%, child stunting simultaneously increased from 23.8% to 32.4% between NFHS-4 and NFHS-5. The study argues that this demonstrates how the state manages basic "survival" through immunisation while neglecting "care" through nutrition. Second, cartographic censorship occurs in areas where "no one owns the land", where severe dengue outbreaks occur amid systematic under-reporting, with doctors reportedly facing pressure to omit diagnoses, thereby maintaining jurisdictional opacity. Third, the "loop of deferral" demonstrates "scalar escalation". Financial hardship occurs when digital health insurance under Swasthya Sathi fails because of a "failure of portability" at the peri-urban fringe, shifting the material burden of care onto households. Fourth, high-cost care is "unbundled" into a predatory private market, with C-sections accounting for 91.5% of deliveries in the private sector compared with 35.5% in the public sector. This turns healthcare into a mechanism of land decapitalisation for low-income households. With only 30.7% insurance coverage, residents become "split subjects": citizens when receiving vaccines but consumers when seeking survival.

To build future-oriented health systems, the study argues that the "epistemological violence" of binary classification must be challenged. It calls for the recognition of peri-urban spaces as a permanent political technology designed to diffuse state obligations. Realising "data justice" requires a shift towards settlement-based governance and "dynamic sampling frames" that align health service provision with the actual lived density of transitional populations.

Status of Agriculture Growth and Its Impact on Food and Nutritional Security in India

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This paper analyses the food and nutritional security status of India. All the data and discussions of this study are based on secondary data. For foodgrain production, foodgrain productivity and foodgrain availability, data are related to the years 2010- 11 to 2021-22 and for Global Hunger Index data are related to the years 2011 to 2023, up to the latest Global Hunger Index report 2023. According to the findings of the study, Foodgrain production has registered a 35.2 per cent increase in 2021-22 over 2010-11. Foodgrain productivity has increased by an average of 13.8 per cent as a compound growth rate during this period, and over 2010-11 it has increased by 25.2 per cent in 2021-22. The per capita per year in kg. Net availability of foodgrain increased by 15.2 per cent, and the per capita per day net availability of foodgrain increased by 15.0 per cent during this study period. The situation of food and nutritional security in India is the reverse of this scenario. A large number of people in India are suffering from hunger and malnutrition. According to the latest Global Hunger Index Report 2025, India is at 102nd position among 123 nations. There is a huge gap and disconnect between food grain production, food grain productivity and food grain availability and the real hungry and malnourished people in India in the food delivery system for the poor in India. This is justified by the scheme of five kg. Cereal distribution to the 800 million poor of India and the need for extension of this scheme for the next five years to the 800 million poor of India. This study and the Global Hunger Index Report 2025 reveal the existence of a large number of hungry and malnourished people in India. The existence of the scheme of five kg. Cereal distribution to the 800 million poor of India and the need for extension of this scheme for the next five years to the 800 million poor of India.

Special efforts for overall increase in foodgrain production; investment in the agriculture sector should also be increased. Childhood-level focused Food security programs, a more efficient and realistic Food delivery system reachable to the right hungry people, and improvement in Post-harvest agricultural activities, transportation, storage and service delivery. Food security schemes and programs with a realistic approach. Not for political

purposes, these are some suggestions for the improvement in the status of food and nutritional security in India. They suggestion may be helpful in combating the serious problem of food and nutritional insecurity in India.

Socio-Economic Costs of Road Traffic Injuries among Two-Wheeler Riders in Kerala: A Human Capital Approach

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Road Traffic Crashes (RTCs) are a severe public health crisis in developing countries, with two-wheeler riders facing disproportionately high risks and incidence of fatalities in India. The state of Kerala has a unique socio-economic and transportation scenario in India, characterised by high vehicular density, rapid motorisation, heterogeneous traffic, and a ribbon-development urbanisation pattern. Kerala recorded 48,091 RTCs in 2023, ranking third among Indian states with the highest number of crashes, accounting for 10% of the total RTCs in the country. The study evaluates the socio-economic cost of two-wheeler RTCs in Kerala and the influence of injury severity, treatment hospital type, and occupation of the victim on the cost of RTCs incurred by Two-Wheeler Riders (TWR).

The primary survey data for the study were collected from a sample of 300 across Thiruvananthapuram and Ernakulam districts. A multi-stage stratified sampling design was employed for primary data collection across three stages. The quantitative analysis was conducted using independent samples t-tests, one-way Analysis of Variance (ANOVA), and the Human Capital Approach to quantify direct, indirect, and intangible costs of RTCs. In the current study, the socio-economic cost of RTCs is divided into three main categories: direct costs, indirect costs, and intangible costs. The direct costs encompass medical costs (inpatient hospitalisation expenses, outpatient care, nursing assistance, and ongoing physiotherapy), non-medical expenses (ambulance transport and caregiver out-of-pocket costs), and vehicle repair costs. The indirect costs were calculated using the Human Capital Approach to measure lost working time and income, separating short-term losses (lost wages during hospitalisation and recovery) from long-term losses (future income loss resulting from permanent physical disability and reduced working capacity). Finally, the intangible costs capture non-financial losses, including

the physical pain, grief, and suffering experienced by RTC victims and their families.

Two-wheeler RTCs cause immense socio-economic costs to victims, and the current study estimates an overall mean RTC cost of ₹17.88 lakhs per victim suffering major to grievous RTCs. The cost is predominantly driven by indirect costs due to loss of productivity and future earnings resulting from permanent and temporary disabilities induced by RTCs. The severity of injury, treatment hospital type, and occupation of the victim were observed to significantly influence the cost of RTCs incurred by Two-Wheeler Riders (TWR).

Digital Access and Antenatal Care Utilisation in India: Evidence from a Generalised Structural Equation Model

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Digital technologies are increasingly becoming part of the health information and service environment in India. Internet connectivity can facilitate access to health information, communication with health workers and healthcare providers, and awareness of available maternal health services. However, digital access remains strongly differentiated by socioeconomic characteristics, raising questions about whether digital connectivity is associated with maternal healthcare utilisation beyond existing socioeconomic inequalities. This study examines the association between digital access and utilisation of at least four antenatal care (ANC) visits among women in India, with particular attention to the distinction between internet access and mobile-phone use.

The study uses data from the National Family Health Survey-5 (NFHS-5). The analytical sample comprises 25,660 women with complete information on ANC utilisation, internet access, mobile-phone use, education, household wealth, caste, place of residence and age. The outcome is a binary indicator identifying women who received at least four ANC visits. Digital access is measured using two indicators: access to the internet and use of a mobile phone. The analysis employs a survey-adjusted generalised structural equation model (GSEM) with a Bernoulli family and logit link. The model estimates the socioeconomic determinants of internet access and its association with ANC utilisation, while controlling for education, wealth, caste, rural-urban residence and age. Parallel and combined specifications are estimated to distinguish the association of internet access from that of mobile-phone use. Odds ratios and average marginal effects (AMEs) are reported for substantive interpretation.

The findings reveal substantial socioeconomic inequalities in digital access. Internet access is strongly associated with education and household wealth, with the likelihood of access increasing substantially across educational and wealth categories. Rural residence is negatively associated with internet access, indicating that digital inequalities continue to reflect broader socioeconomic and spatial disparities.

Internet access is positively and significantly associated with ANC utilisation. In the internet-only specification, women with internet access have 1.164 times higher odds of receiving at least four ANC visits (95% CI: 1.050–1.277; p<0.001). The corresponding AME indicates a 3.41 percentage-point higher predicted probability of adequate ANC utilisation (95% CI: 1.22–5.60; p=0.002). In contrast, mobile-phone use is not significantly associated with ANC utilisation after adjustment for socioeconomic and demographic characteristics (OR=0.991; 95% CI: 0.910–1.071; p=0.820). When internet access and mobile-phone use are included simultaneously, internet access remains significantly associated with ANC utilisation (OR=1.187; 95% CI: 1.068–1.307; p=0.001), with an AME of 3.86 percentage points, whereas mobile-phone use remains statistically insignificant (OR=0.945; p=0.190).

State-Level Disparities in Maternal and Child Health Service Utilisation in India: A Spatial and Socio-Economic Analysis Using NFHS Data

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Maternal and Child Health have always been prioritised in India. However, despite making sincere policies in this area, the performance of the nation remains unacceptably poor, with large regional disparities. In this context, the present paper, using secondary data sources from the Census 2011, the National Family Health Survey (NFHS-1 to NFHS-5) and unit-level data from the Demographic and Health Survey (2019-21), tries to identify areas with low utilisation of maternal and child health services across the nation. Further, using state-level data which has been compiled from NFHS-5 national fact sheets covering 636,699 households, 724,115 women, and 101,839 men, a composite index of Maternal and Child Health has been constructed. The Index of Maternal and Child Health were constructed using three maternal indicators

(mothers receiving at least 4 antenatal care visits, institutional births & family planning methods used) and one child health indicator (vaccination of children in the age group 12-23 months based on the information on the vaccination card). The extent of utilisation of MCH services across the nation has been analysed using the Maternal and Child Health Index. Further a composite health vulnerability index has also been created to identify most and least vulnerable states. It has been found that the North Eastern regions of the country, like Nagaland, Meghalaya & Manipur, are particularly far behind in utilising MCH services. Bihar appears to be one of the low performing states with a ranking of 34 in offering these services. Also, except for Odisha, performance of other Empowered Action Group states like Chhattisgarh, Jharkhand, Rajasthan, Uttar Pradesh, Madhya Pradesh and Uttarakhand is less than satisfactory. Health Vulnerability Index, which includes anaemia among females and four indicators related to child health- child anaemia, stunting, wasting and underweight- the performance of northeastern states has been quite appreciable. Bihar, Jharkhand, Madhya Pradesh, and Gujarat continue to be among the most health-vulnerable states. Further, from the analysis of unit-level data, it has been found that level of education, age, place of residence, wealth quintile, caste, region, and birth order are some important variables which are significantly affect access to and utilisation of maternal and child care services. Thus, regional variations in utilisation of MCH services are highly dependent on socio-economic and demographic factors. Also, it can be concluded that policy interventions are required for improving the availability and utilisation of MCH services in Northeastern and EAG states. It can further be concluded that improvement in socio-economic and demographic variables which are significantly affecting the utilisation of maternal health care services will further help in increasing their access to women and children across the nation.

Health, Nutrition and Colonial Development: Western Medicine, Public Health and the Making of a Productive Population in British Ceylon and India, c. 1850–1900

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In the nineteenth century, colonial attitudes towards development were spread across many sectors, but health and nutrition were considered one of the most important. In British India and Ceylon, the introduction of Western medicine, public health systems, sanitation, vaccination, hospitals and disease control were some of the projects that were integrated as part of a larger mission to improve the health and welfare of the colonial population. These

interventions were also closely linked to the objectives of labour productivity, economic expansion, military needs and the administrative objectives of the colonial state. This paper aims to compare the relationship between health, nutrition, Western medicine and colonial development in British Ceylon in a larger South Asian context, with the contemporary Indian experience.

Therefore, focusing primarily on nineteenth-century Ceylon, it examines the role of colonial medical institutions and public health policies in relation to plantation labour, urban populations, epidemics and economically important communities. It focuses in particular on sanitation, cholera, smallpox, malaria, vaccination, hospital construction, plantation medical services and the nutritional status of the labouring population. These developments are also compared with selected experiences in British India to demonstrate similarities and differences in colonial management of health and human productivity.

This paper argues that the welfare seen in colonial health policy was a mixture of medical intervention and economic control. Sanitation, vaccination, epidemic control and access to Western medical institutions brought about major changes in the public health system. However, services were still very uneven in terms of coverage and access. Particularly in plantation economies, imperial rule was increasingly concerned with the health of workers in terms of the efficiency of the workforce. At the same time, colonial medical policies challenged or ignored indigenous medical systems and indigenous knowledge of health, food, and nutrition in these countries. By linking medical history with development history, the paper shows that colonial development was not just an economic process. It also involved attempts to regulate the human body, disease, labour, and nutrition. Thus, comparing Sri Lanka and India gives us a broader picture of why health was such an important aspect of colonial rule and development in nineteenth-century South Asia, and is a valuable investment for the present and the future.

Maternal and Nutritional Health among Scheduled Tribe Women in Northeast India: An Inter-State Analysis

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Scheduled Tribe women constitute an important but disadvantaged population group in India, with persistent concerns relating to maternal healthcare and nutritional status. These concerns are particularly relevant in Northeast

India, where differences in terrain, healthcare infrastructure, socioeconomic conditions and access to health services may contribute to variations in health outcomes across states. Although the Northeastern states are often considered together, considerable differences may exist in the health conditions of Scheduled Tribe women within the region. This study examines inter-state variations in maternal healthcare and nutritional health among Scheduled Tribe women in Northeast India using data from the National Family Health Survey-5 (NFHS-5).

The study considers selected indicators of maternal healthcare, including four or more antenatal care visits, institutional delivery, skilled birth attendance, postnatal care within 48 hours of delivery and consumption of iron–folic acid tablets. Nutritional health is assessed using body mass index, anaemia and obesity. The analysis also examines differences according to education, household wealth, employment, health insurance coverage and rural–urban residence. A Maternal Care Index and a Nutritional Health Index are constructed to summarise the different dimensions of maternal healthcare and nutritional health and to facilitate comparison across states and socioeconomic groups.

The results show marked differences in maternal healthcare utilisation and nutritional outcomes among Scheduled Tribe women across the Northeastern states. Differences are also observed across wealth groups and between rural and urban women. The findings indicate that the health situation of Scheduled Tribe women cannot be adequately understood from regional averages alone, as the extent and nature of disadvantage vary considerably across states and socioeconomic groups. The study suggests that policies for improving maternal and nutritional health among Scheduled Tribe women need to recognise these differences and give greater attention to states and population groups facing relatively poorer outcomes. Strengthening access to maternal healthcare, improving nutritional support and extending financial and health protection to disadvantaged households can contribute to reducing these gaps. The study adds to the limited evidence on maternal and nutritional health among Scheduled Tribe women in Northeast India and highlights the importance of an inter-state perspective in understanding their health conditions.



Theme 4

REGIONS, RESOURCES AND DEVELOPMENT

Comparative Perspectives from Indian States

Agribusiness MSMEs and Rural Development in India: A Systematic Review of Constraints, Capabilities and Emerging Opportunities

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Agribusiness Micro, Small and Medium Enterprises (MSMEs) play an important role in India's rural economy by supporting value addition, employment generation, agricultural commercialisation and rural enterprise development. However, their growth and competitiveness remain constrained by persistent financial, infrastructural, technological and market-related barriers. This study systematically reviews the emerging literature on agribusiness MSMEs in India to examine their research trajectory, major constraints, emerging development pathways and strategic implications for rural economic transformation. Following the PRISMA 2020 framework, a systematic search of the Scopus database was conducted for studies published between 2015 and April 2026. From an initial 165 records, 30 studies were selected for qualitative synthesis following systematic screening and eligibility assessment. Bibliometric techniques, including publication trend analysis, thematic evolution and keyword co-occurrence analysis, were used to identify major research patterns and emerging themes. The findings indicate increasing scholarly attention towards digital transformation, Industry 4.0 technologies, artificial intelligence, sustainability and climate-smart agribusiness. The thematic synthesis identifies five major areas of concern: financial inclusion and policy access, supply-chain infrastructure and logistics, digital and technological adoption, socio-economic inclusivity, and climate-smart and sustainable enterprise development. The review further identifies emerging pathways through Farmer Producer Organisations (FPOs), fintech-enabled finance, value-added processing, digital technologies, collective action and shared infrastructure. Drawing on the Dynamic Capabilities perspective, the study further interprets agribusiness MSME development through the capabilities of sensing, seizing and transforming, highlighting that enterprises may recognise emerging market opportunities but remain constrained in mobilising resources and reconfiguring operations for scalable growth.

Based on these findings, a Strategic Intervention Matrix is proposed to classify agribusiness MSMEs according to supply-chain integration and digital/technological readiness and to identify differentiated intervention

pathways. The study concludes that strengthening firm-level capabilities alongside financial access, technological upgrading, collective mechanisms and supportive infrastructure is essential for building resilient, competitive and inclusive agribusiness enterprises. The findings provide implications for policymakers, practitioners and researchers seeking to strengthen rural enterprise development and contribute to the broader objectives of inclusive rural transformation and Viksit Bharat 2047.

Migration-Underdevelopment Nexus in Bihar: An Econometric Exploration

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This study investigates the systemic interdependence among out-migration, resource constraints, and regional underdevelopment in Bihar from 2001 to 2022. The authors fundamentally reject the neoclassical equilibrating hypothesis, which posits that labour mobility naturally balances regional economic disparities. Instead, they argue that Bihar is locked in a self-reinforcing "migration-underdevelopment trap". A central tenet of this argument is the "Remittance Non-Paradox," wherein the authors demonstrate that remittances function rationally as consumption insurance for risk-averse households rather than acting as a multiplier for structural economic transformation or productive capital investment. Consequently, out-migration actively perpetuates poverty: the continuous exodus of human capital depresses localised agricultural productivity and erodes the sub-national fiscal base, which subsequently stalls the public provision of essential physical infrastructure. To rigorously defend these claims, the study constructs a multi-method econometric framework utilising state-level time-series data alongside a balanced panel of 38 districts, effectively overcoming the limitations of static cross-sectional analyses. Through Toda-Yamamoto augmented Vector Autoregression and Granger causality tests, the authors establish bidirectional feedback between labour flight and economic stagnation, mathematically proving that migration is an active causal driver of underdevelopment rather than a mere symptom. Furthermore, Autoregressive Distributed Lag bounds testing and Two-Stage Least Squares Fixed Effects estimations reveal that labour depletion severely diminishes agricultural yields, exhibiting a negative elasticity between -0.312 and -0.456 without inducing any compensating capital mechanisation.

Ultimately, Johansen cointegration confirms that remittances lack a statistically significant long-term relationship with productive investment. Based on this empirical evidence, the study concludes that state-led structural investments, particularly in irrigation and rural electrification, are the critical interventions required to break this spatial poverty trap, as decentralised remittance flows are fundamentally incapable of catalysing endogenous growth.

Temporal and Spatial Analysis of National Family Health Survey Indicators in India

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The paper is an analysis of the indicators in the National Family Health Survey (NFHS) to get a comprehensive picture of how the states are performing on the indicators of health, education and development. This paper aims to understand what policies work for which states and what make them work. It also aims to understand if the policy could be implemented in other states and if the policy would work in different states. If yes, what are common factors that could help the policy to work? If not, what does one need to change?

Over the course of the paper, we can see that there are many areas which have improved significantly over the years, such as banking and insurance. However, India continues to struggle in a lot of crucial indicators such as education and literacy, family planning, maternal health and more. While the healthcare system is improving, the pace is much slower than the magnitude of the population and its needs. Even after so many years of being an independent country and being a country that produces surplus electricity, India hasn't achieved 100 per cent electrification; similar challenges exist in other spheres too.

India is also facing a nutritional challenge, while a certain section of children are still suffering from stunting and wasting; obesity amongst adults is also increasing. However, authorities have taken these challenges into cognisance and are working towards promoting a healthy lifestyle. Work is being done to ensure digitalised records of the population to ensure

that every individual is counted and can receive direct benefits without the intervention of a middle person.

While working on this paper, we came across discrepancies in data regarding sexual harassment faced by women. The paper suggests some policy reforms which can help overcome these challenges and lead to better implementation of schemes, better allocation of resources, and ensure benefits reach more and more people in need.

Does Environmental Compliance Raise Productivity? Evidence From CPCB-Classified Indian Manufacturing

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India's manufacturing sector faces a persistent tension between economic growth and environmental sustainability. The industries most heavily regulated under the Central Pollution Control Board's (CPCB) Pollution Index—cement, fertilisers, paper and pulp, and textile dyeing and finishing, all classified as the Red category with Pollution Index scores of 60 and above — are also the industries showing the lowest and most rapidly declining total factor productivity (TFP) over the past fifteen years. This paper asks whether environmental compliance regulation can reverse this trend through the Porter Hypothesis mechanism: the proposition that well-designed regulation pushes firms to innovate, and that this innovation raises productivity enough to offset the cost of compliance.

The paper draws on firm-level data from the Annual Survey of Industries (ASI) covering 77,798 firm-year observations from 25,599 firms over the period 2016 to 2023. Eight industries are studied at the five-digit level of the NIC-2008 classification. The four dirty industries—cement (NIC 23941-23949), Fertilisers (NIC 20111-20124), Paper and Pulp (NIC 17011-17019), and Textile Dyeing and Finishing (NIC 13131-13999) — are compared with four clean industries—Electrical Equipment, Electronics, Machinery and Equipment, and Transport Equipment. Total Factor Productivity is estimated using the Ackerberg, Caves, and Frazer (2015) structural production function method, which corrects for the Bias that arises when more productive firms invest more in pollution control simply because they can afford to. Thirteen regression models are estimated across different sub-samples and TFP estimators, with firm fixed effects, year dummies, and standard errors clustered at the firm level throughout.

The main finding is a clear and robust rejection of the Porter Hypothesis. The key test, the interaction between pollution-control investment intensity and R&D intensity, is negative and statistically insignificant across all four TFP estimators. ISO 14001 environmental certification is positive in sign but insignificant in all nine specifications. These null results are not caused by insufficient compliance effort: dirty industries already invest significantly more in pollution control than clean industries ($t = 38.26$, $p < 0.001$). Three additional findings sharpen the picture. First, R&D spending is negatively associated with TFP both in the same year and one year later, consistent with compliance obligations crowding out productive innovation investment. Second, a borderline positive Porter interaction emerges for dirty industries alone (coefficient = +9.281, $p = 0.088$), suggesting a high compliance threshold above which weak innovation effects may begin to emerge. Third, TFP in CPCB industries fell by 15.8 per cent between 2016 and 2023, with the steepest decline after 2021 driven by energy price shocks amplified through dirty industries' Capital-energy technological complementarity.

Local Governance and Economy in Bihar: A Study of Attitudinal Perspective on Own Source Revenue Generation in Bihar in Relation to Other Indian States

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The landmark 73rd Constitutional Amendment was enacted to make Indian governance more decentralised and democratic through the devolution of power and resources to the grassroot`s level. This decentralised power structure governs 88.71% of Bihar's population that resides in rural areas, administered by elected representatives. Today, Bihar ranks 14th among Indian states in terms of GDP share. Despite holding statutory rights to collect their own revenue, this rural population remains financially dependent on assistance from the state and central governments. Other states like Maharashtra, Odisha, and Mizoram are operating the same decentralised system at the grassroots level; by contrast, they have generated their own income and made their panchayats economically self-sufficient. This study examines the mechanisms, resources, and policies that account for this difference between Bihar and the states successfully generating Own Source Revenue (OSR).

This paper highlights the gaps between Bihar's Panchayati Raj system and those of other states in terms of economic development, focusing on the regional and resource disparities among states that are essential to economic growth. Although Panchayati Raj is a state subject and the governing policy framework is broadly similar across states, Bihar lags significantly behind in the collection of taxes or any other form of own-source revenue. This study focuses on the Gram Panchayats of West Champaran district in Bihar, a region marked by a tribal belt, flood-prone areas, and an international border with Nepal and examines how this distinctive demography and geography shape the district's economic resource base and its capacity for revenue generation. The primary data comprises in-depth interviews with officers of the Panchayati Raj Department, elected representatives, and other district-level stakeholders, while the secondary data draws on Finance Commission reports, Gram Panchayat Development Plans (GPDPs), the Panchayat Advancement Index, and Devolution Status Reports.

The central government has been pushing to institutionalise the OSR concept through the recent guidelines of the 16th Finance Commission, which link performance grants to the collection of house tax by Gram Panchayats. The 16th Finance Commission targets house tax collection of ₹12 lakhs for each Gram Panchayat with approximately 1,000 households. Even a modest collection of ₹50,000 across 8,051 Gram Panchayats can aggregate into crores of rupees in revenue, with the potential to scale further. The founding purpose of Gram Panchayats is economic development, one that should not be limited to constructing street roads, drainage systems, soak pits, solar lighting, and other small-scale infrastructure works.

Measuring Women's MSME Development in India: A State-Level Comparative Analysis

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Micro, Small and Medium Enterprises (MSMEs) constitute an important component in the economic structure of India through their role and contribution in income generation, employment generation, socio-economic development and entrepreneurship. Increasing participation of women in this sector has important implications for their household well-being, economic empowerment, employment opportunities and gender-inclusive development.

However, the gender gap in participation and growth of MSMEs is not uniform across the states of India, which indicates varied socio-economic conditions that affect the economic capacities and entrepreneurial avenues of women. Existing research has tended to focus on individual factors affecting women's entrepreneurship, such as finance, education, labour-market participation or institutional constraints, and few studies have attempted to look at a multidimensional state-level assessment that combines these factors.

In this context, the present study has developed a Composite Women's MSME Development Index (WMDI) to evaluate the status and State-wise variations in the development of MSMEs among 19 major States of India. The four dimensions, i.e., women's engagement in the labour force and MSMEs, women's health, women's education and digital and financial inclusion, are interlinked. The analysis is based on secondary data available from official data sources like the Periodic Labour Force Survey (PLFS), National Family Health Survey (NFHS-5), Udyam Registration Portal, Ministry of MSME, UDISE+, etc. To normalise the indicators, the Min-Max normalisation technique was used, and to calculate the factor loadings and construct the composite WMDI, the PCA technique was used.

The results show significant differences across states with regard to women's MSME development. The state with the highest score for WMDI is Kerala, followed by Himachal Pradesh and Tamil Nadu, reflecting relatively good conditions in the multidimensional dimensions of the WMDI. Bihar has the lowest score, followed by Uttar Pradesh and Madhya Pradesh. The results show that the development of women's MSMEs is not limited to participation in MSMEs, but is closely related to other aspects of women's human capabilities, digital connection and financial inclusion. The study thus underscores the importance of state-specific and multi-dimensional policy interventions.

Individually or together, enhancing the participation of women in the labour force, creating better educational and health outcomes, increasing access to formal financial services and digital technologies, and providing a favourable environment for entrepreneurship can help strengthen and geographically diversify the development of women entrepreneurs. The suggested WMDI can be used as a tool to observe the gaps in the state and create policies for inclusive and gender-responsive MSME development.

SDGs and Rehabilitation Policy: Are Dam-Induced Displaced Communities Being Left Behind?

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This paper explores how far India's Resettlement and Rehabilitation (R&R) policy is able to achieve the selected Sustainable Development Goals (SDGs 1, 2, 5, 6, 8, 10, 11 and 16) for dam-displaced people or if they are still left behind despite decades of policy change. It is based on an entire descriptive-analytical approach that draws on government gazettes, NITI Aayog and UN reports and peer-reviewed literature to cover eight goals: No Poverty, Zero Hunger, Gender Equality, Clean Water and Sanitation, Decent Work, Reduced Inequalities, Sustainable Cities, and Strong Institutions.

The paper traces India's R&R policy evolution, from the Land Acquisition Act of 1894, which provided no rehabilitation provisions at all, through the 2007 National Rehabilitation and Resettlement Policy to the 2013 LARR Act, which finally established compensation and entitlement rights as law. It is based on Michael Cernea's Impoverishment Risks and Reconstruction model and the World Commission on Dams' 2000 report, both of which identify displacement as a systematic driver of poverty unless carefully managed and financed.

Based on four major case studies - the Hirakud, Sardar Sarovar, Tehri and Polavaram dams - the paper sees a common pattern: R&R policy has gone much further in designating entitlements on paper than in delivering them in practice. At Hirakud, only 8.46 per cent of displaced families were ever formally resettled in seven decades after the dam was built; at Sardar Sarovar, no displaced village was ever resettled as a functioning community. Infrastructure, water supply and housing quality are still poor at resettlement sites in all four projects, and a state-wide analysis of Odisha and a similar case in Jharkhand demonstrate that the pattern is not a one-off failure, but structural: the system does not need to work if all these problems exist.

These gaps disproportionately impact tribal communities and women, and legal safeguards (especially Social Impact Assessment requirements) have been weakened since 2014, as India's legal system has become more rights-based. Notably, Reduced Inequalities is the only SDG where India's national index

score has declined in the past few years while most other indicators have improved, indicating that growing national averages can mask the growing exclusion of specific groups.

Conflict, Institutional Change and School Attendance in Jammu and Kashmir

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Jammu and Kashmir, an Indian state positioned in the Himalayan region, has experienced conflict and civil unrest since India's independence and partition in 1947. Despite this prolonged instability, there is limited research on its long-term impact on sub-national growth, employment, and human development. In 2019, the Government of India revoked the region's special status and extended all common national laws to Jammu and Kashmir. The policy introduced, from the supply side, institutional changes in the region and also, from the demand side, ecosystemic changes related to decisions to invest in child education. Although this move sparked widespread global debate and political controversy, its indirect effects on the region's economic growth and human development remain largely unexplored. This study seeks to partially address this gap by examining the policy's impact on educational attendance using a causal difference-in-differences approach, while also identifying the potential channels through which these effects may have occurred. The study uses the neighbouring Himalayan states, namely, Himachal Pradesh and Uttarakhand, as control states. Overall, the study demonstrates that the abrogation of Article 370 was associated with measurable improvements in school attendance, particularly among girls and adolescents at the secondary level. The findings indicate that the constitutional change was associated with a statistically significant improvement in school attendance among children aged 5 to 18 years, with particularly strong gains for adolescents aged 15–18 years and for girls. These effects remain robust across alternative model specifications, placebo tests, and event-study analyses, lending credibility to the estimated causal relationship. The evidence suggests that these gains were driven more by changes in economic expectations and household investment decisions than by immediate improvements in security or educational infrastructure. These findings contribute to the literature on

conflict, institutional reform, and human capital formation by illustrating how major constitutional and policy changes can reshape educational behaviour in historically conflict-affected regions.

Beyond Household Consumption: Productive Utilisation of Migration Remittances Among Rural Households in Eastern Uttar Pradesh, India

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Migration remittances are usually discussed in terms of household consumption, poverty reduction and improvements in family welfare. Much less attention has been given to the ways in which these transfers support rural production, skill development and small business activity. This study examines the patterns and household-level determinants of productive remittance use among 200 migrant households surveyed in July 2025 in rural Azamgarh and Gorakhpur districts of eastern Uttar Pradesh, India. The study used a multistage sampling design that combined purposive and probability-based methods. A household was classified as using remittances productively only when there was supporting evidence that the money had fully or partly financed productive physical assets or livestock, skill training, or a new business. The analysis combined descriptive statistics, bivariate tests and binary logistic regression with robust standard errors.

The findings show that 61.2 per cent of households reported at least one validated direct productive use of remittances. Investment in productive assets and livestock was the most common form, recorded by 48.8 per cent of households. This was followed by skill development at 21.1 per cent and enterprise investment at 8.6 per cent. The median annual remittance was INR 100,000. After controlling for household, migration and geographical characteristics, a doubling of annual remittances was associated with 42.5 per cent higher odds of productive use. Households owning agricultural land had more than twice the odds of using remittances productively compared with households without recorded land. Scheduled Caste households had significantly lower adjusted odds than General-category households, pointing

to unequal capacities to convert remittance income into productive capital. Regular receipt of remittances was negatively associated with productive use, suggesting that occasional lump-sum transfers may be better suited for financing indivisible asset purchases than smaller recurrent transfers. This result, however, should be interpreted with caution.

Re-Examination of Declining Female Labour-Force Participation Trends in India: Has It Really Been Declining

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It has been widely accepted for almost four to five decades that female labour force participation in India has been declining. This decline has been normalised by interpreting it through the 'U-shaped' pattern of female labour force participation rate (LFPR), which is associated with different levels of economic growth and development across nations. Female LFPR tends to be high in both low- and high-income countries and relatively low in middle-income countries. In India, therefore, the decline in female LFPR was expected during the transition from a low-income to a lower-middle-income country, following the rapid economic growth experienced over the last few decades.

The accepted explanation for the decline in female LFPR in India has been that the negative income effect outweighs the positive substitution effect of increased real wages. Rising real wages and living standards have kept female workers away from agricultural work and other forms of unskilled and menial employment. In addition, some female agricultural labourers have been displaced by mechanisation in agricultural activities, while some have preferred unpaid domestic work to paid, low-skilled and menial non-agricultural work. This suggests that the determinants of female labour force participation originate mainly from two aspects—structural and behavioural—and operate within a demand–supply framework.

Following a comprehensive analysis of employment and unemployment data from the last four decades, sourced from the Employment–Unemployment Surveys (E&US) and the Periodic Labour Force Survey (PLFS), this study argues that statistics from these two sources are comparable, challenging the widely held argument that they are not comparable because of differences in survey methodologies. The study subsequently challenges both the claim that female LFPR is declining and the explanation that fluctuations in labour force participation are driven by the movement of reserve labour: women

enter the labour market in response to economic downturns and exit it in response to economic progress.

The study argues that India has moved beyond the period of declining female LFPR and is now awaiting an enabling ecosystem to support an upward trajectory. It further claims that the observed fluctuations over time have been largely temporary and caused by variations in self-employment opportunities linked to prevailing economic conditions. The paper concludes on an optimistic note, suggesting that India has seemingly moved beyond the phase associated with specific socio-economic and demographic factors that contributed to declining female labour force participation. A significant improvement in women's educational attainment offers further promise, as educated women are likely to contribute to economic growth through workforce participation. The onus therefore lies on the government to create suitable employment opportunities for educated women or strengthen the pathways through which they can generate employment themselves.

Agricultural Price Policy and Its Impact on Farmers' Income in India: Evidence from Indian States

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Agricultural price policy has remained one of the most important instruments of government intervention in Indian agriculture, aiming to ensure remunerative prices, stabilise farm incomes, and maintain national food security. Among these interventions, the Minimum Support Price (MSP) mechanism occupies a central position. However, despite periodic increases in MSP, substantial regional disparities, limited procurement coverage, and rising production costs have raised questions regarding its effectiveness in improving farmers' livelihoods. Against this background, the present study examines the impact of agricultural price policy, with particular emphasis on MSP, on farmers' income across major Indian states. It analyses the trends in MSP, cost of cultivation, procurement, and agricultural household income over the period 2005–06 to 2022–23 while exploring inter-state and inter-crop variations in policy outcomes.

The study employs a mixed-method approach using both descriptive and econometric analyses. Secondary data have been collected from the Commission for Agricultural Costs and Prices (CACP), Food Corporation of

India (FCI), Agricultural Statistics at a Glance, Economic Surveys, and the National Sample Survey Office (NSSO) 70th, 71st, and 76th Rounds. Trend analysis and Compound Annual Growth Rate (CAGR) are used to examine changes in MSP and farm income, while the ratio of MSP to comprehensive cost (C2) is estimated to assess the adequacy of price support. Pearson's correlation analysis and a fixed-effects panel regression model covering fifteen major agricultural states are employed to evaluate the relationship among MSP, procurement intensity, irrigation, farm size, and household income.

The findings reveal that MSP has contributed positively to the income of farmers cultivating wheat and paddy, particularly in states with well-developed procurement systems such as Punjab, Haryana, and Madhya Pradesh. The econometric results indicate that a 10 percent increase in wheat MSP is associated with a significant increase in agricultural household income, while higher procurement shares, irrigation coverage, and institutional credit availability further strengthen income gains. However, the benefits of MSP remain uneven across regions and crops. Pulses, oilseeds, and coarse cereals receive comparatively limited procurement support, weakening the transmission of MSP into actual farm incomes. The study also finds that in many states, the MSP remains below the level implied by the Swaminathan Commission's recommendation of C2 cost plus 50 per cent margin, thereby limiting its effectiveness in ensuring remunerative returns. Small and marginal farmers continue to face low awareness of MSP, inadequate access to procurement centres, and greater dependence on private traders, resulting in lower realisation of support prices compared with larger farmers.

Expenditure Trade-Offs Among the Urban Poor: Cross-Expenditure Elasticity Evidence from Indian Slums

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The paper, "Expenditure Trade-offs Among the Urban Poor: Cross-Expenditure Elasticity Evidence from Indian Slums," examines how financially constrained households in Indian urban slums allocate scarce resources among competing needs. The study addresses an important gap in the urban poverty literature by moving beyond the analysis of individual expenditure categories to focus on the interdependencies, substitutions, and complementarities among different forms of household spending.

The empirical analysis draws on a primary survey of 611 households, comprising 2,575 individuals, across 30 slums in six major Indian cities: Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, and Mumbai. Six expenditure categories are considered: food, healthcare, education, family functions, durable goods, and donations or charity. The paper's principal methodological contribution is the application of Cross-Expenditure Elasticity (CEE), which captures how spending on one category responds to changes in spending on another. Pairwise elasticities are estimated using log-linear OLS regressions with heteroskedasticity-robust standard errors, while a supplementary binary logistic regression identifies the structural factors associated with households' capacity to sustain higher expenditure levels.

The findings reveal substantial city-level heterogeneity in household expenditure behaviour. Food and healthcare emerge as complements in all six cities, indicating that households treat nutrition and health as interconnected necessities. The strongest substitution is observed between education and charitable giving, most notably in Chennai (CEE = –0.68), suggesting that households facing severe budget constraints curtail discretionary social spending to finance their children's education. Food and donations likewise display marked substitution in Chennai, Bengaluru, and Hyderabad. By contrast, expenditure on family functions and donations is strongly complementary in Mumbai and Kolkata, underscoring the persistence of cultural and social obligations even amid poverty.

The logistic regression further demonstrates that housing and structural conditions are closely linked to expenditure capacity. Good ventilation substantially increases the likelihood that a household belongs to the higher-expenditure group, whereas poor ventilation reduces it. The gender of the household head, drainage quality, and land tenure characteristics are also statistically significant. With an AUC of 0.856, the model exhibits strong discriminatory power.

Overall, the paper argues against a one-size-fits-all approach to urban welfare policy. It recommends integrated food and health interventions, stronger educational support, improvements in housing infrastructure, and city-specific welfare strategies that acknowledge the trade-offs poor households make across expenditure categ.ories. The CEE framework thus offers a promising lens for understanding multidimensional urban poverty and for designing better coordinated interventions in line with SDG-11.

Resources, Regional Development and Uneven Outcomes: A Case Study of Livelihood Transformation and Cultural Erosion in Malana, Himachal Pradesh

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Malana Village is one of the geographically diverse, socially united, culturally advanced and politically unique villages of Himachal Pradesh, which is recognised as one of the world's oldest democracies, with a distinct culture including the no-touch policy, self-governance, and a unique judicial system, as well as its culture and language. The paper critically examines the silent processes of displacement in Malana, a remote village in Himachal Pradesh, within the broader context of contemporary development interventions. Conventionally, road expansion, the growth of tourism and nearby hydropower projects are viewed as progress and economic advancement; however, the paper explores dynamic, opposite narratives by investigating their differential impacts on local communities. The central research problem addresses how these interventions reshape traditional livelihoods, alter resource control and generate subtle yet significant forms of banishment that remain largely unrecognised within mainstream development discourse. Furthermore, the paper identifies how increasing external contact and shifting economic practices contribute to cultural erosion, as explained by the business on a hashish strain known as Malana Cream, which in turn increases ecological vulnerability and produces symbolic effects. The study is guided by two primary research questions: first, how do development projects by government and non-government parties introduce conflict with village life, such as tourism expansion, road construction and hydropower activities, reshape local livelihoods and contribute to forms of dispossession in Malana? Secondly, how is cultural erosion linked to ecological vulnerability and the experience of displacement in the village? Accordingly, the objectives are to analyse the impact of these interventions on local livelihood structures and access to resources and to examine the interrelationship between cultural transformation and ecological instability. The theoretical framework is informed by David Harvey's concept of accumulation by dispossession, which explains the processes through which capitalist development appropriates local resources and marginalises communities and Rob Nixon's notion of slow violence, which emphasises the invisible environmental and social harms spread over time. Methodologically, the study adopts a quantitative research design supported by primary data collection. A structured questionnaire was administered to twenty residents and 05 homestay owners of Malana

village to capture their viewpoints on development, changes in livelihood patterns, shifts in cultural practices and experiences of environmental change. The data were systematically analysed to identify the economic changes, resource mismanagement and socio-cultural transformation. The findings reveal that although development interventions have generated new economic opportunities, particularly through tourism, they have also led to significant disruptions to the local and mythological beliefs about the livelihood of individuals and a decline in community control over natural resources. The benefits of development are unevenly distributed, often privileging only influential persons, and a limited segment of the local population faces massive inequalities. Simultaneously, increased interaction with external agents is weakening indigenous institutions and practices that have a huge contribution to maintaining ecological sustainability.

This cultural transformation is closely associated with heightened ecological vulnerability, as changes in land use, resource extraction and environmental degradation undermine the resilience of local livelihoods. Nowadays, displacement in Malana emerges not only as a physical phenomenon but also as a symbolic process characterised by loss of identity, autonomy and ecological embeddedness. In conclusion, the study argues that development in Malana produces dangerous forms of invisible displacement through the interconnected dynamics of dispossession, cultural erosion and slow environmental degradation. Recognising these processes is crucial for re-evaluating dominant development paradigms and for formulating policies that are equitable, culturally sensitive, and environmentally sustainable.

Climate Vulnerability, Migration, and The Political Economy of Bride Trafficking in Eastern India: A Government-Centric Analysis

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Eastern India's floodplains and delta regions experience repeated and intensifying climate shocks. Erratic monsoons, rapid riverbank erosion, and gradual salinity intrusion have left large tracts of land unusable. For households in Bihar, Jharkhand, Odisha, and coastal West Bengal, these pressures often translate into livelihood collapse, male out-migration, and the disappearance of daughters into distant marriages that frequently mask organised trafficking networks.

In slow-onset drought zones such as Palamu district in Jharkhand, 42 per cent of migrant households reported experiences of forced or bonded

labour, debt bondage, withheld wages, or other exploitative conditions, more than double the 16 per cent rate observed in rapid-onset cyclone-affected Kendrapara district in Odisha. Agents exploit desperation by offering cash payments framed as bride price or dowry relief, channelling young women toward Haryana and Punjab where skewed sex ratios have created sustained demand. The 2021 national climate vulnerability assessment classified Assam, Bihar, and Jharkhand as having over 60 per cent of their districts in the highest vulnerability category. National Crime Records Bureau data indicate 2,250 human trafficking cases in 2022 and 2,183 in 2023, though Eastern states consistently appear as major source regions amid widespread under-reporting.

Governance structures reveal significant limitations. Anti-trafficking laws exist, yet interstate coordination remains weak. Climate adaptation policies rarely incorporate gendered risks, and social protection schemes such as MGNREGA reach only limited portions of the most affected households during peak distress periods. Women therefore shoulder a triple burden of agricultural labour, household maintenance, and elevated trafficking risk.

Bride trafficking in these eastern regions does not represent an isolated cultural issue. It emerges instead as a predictable outcome of fragmented governance that fails to connect climate security, migration policy, and women's rights. Targeted reforms, portable entitlements, strengthened community early-warning systems, and mandatory cross-state marriage verification are necessary if commitments to inclusive development are to produce tangible protection for vulnerable populations.

Density Without Demand? Rethinking Higher Education Access and Enrollment Participation in Pune and the Delhi-NCR Corridor

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A common approach to evaluating India's post-2010 higher-education expansion is a single measure of institutional density. This paper compares Pune with the Delhi–National Capital Region (Delhi, Gurugram, Noida and Ghaziabad) cluster to examine whether institutional density and enrolment participation move together or apart. It contends that the ownership structure of institutions may be a stronger predictor of actual enrolment outcomes than institutional count alone.

Methodologically, the paper adopts an asymmetric unit of comparison, examining one district against a four-unit metropolitan cluster. This design reflects the functional commuting and enrolment catchment areas of Delhi–NCR. Drawing on published AISHE 2023–24 data and a live district-level query on the AISHE Higher Education Directory conducted on 6 August 2026, the paper identifies a striking asymmetry in institutional distribution and enrolment outcomes. Pune has 517 colleges and 32 universities, representing the largest single-district stock among the units surveyed, supported by a combination of legacy public institutions and dense private expansion. Delhi's core, in contrast, has over 226 colleges and 32 universities that are predominantly public or central in character. Despite its relatively modest institutional count, Delhi has achieved a Gross Enrolment Ratio (GER) of 53.0, the highest among states and union territories in the country, compared with the national average of 30.0. The three NCR satellite hubs collectively have around 429 colleges and 29 universities, a scale comparable to Pune.

The findings suggest that institutional density and enrolment participation are not synonymous indicators of access. While private capacity is concentrated in the peri-urban satellite periphery, participation intensity is concentrated in the older public core. This raises important questions about whether India's expansion-led higher-education strategy is sufficient to improve access, or whether demand-side and ownership-side interventions are equally important. In light of NEP 2020's aim to raise the GER to 50 per cent by 2035, the distinction between supply-side capacity and demand-side participation has policy relevance beyond the five districts assessed.

Beyond Resource Abundance: Institutions, Commons and Regional Development in India

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Although India has experienced significant economic growth and implemented various policies over the years, regional differences continue to impact its development. While some states have successfully transformed their natural resources into sustained improvements in human development, others remain characterised by persistent poverty, ecological degradation, and social exclusion despite possessing abundant forests, minerals, water resources, and common lands. This paradox suggests that development is determined not

merely by the availability of resources but by the institutions that govern their access, management, and distribution.

Existing literature has extensively examined regional inequality, the resource curse, decentralisation, and governance. However, common property resources, such as forests, grazing lands, village ponds, and community water systems, have mainly been studied from environmental or livelihood perspectives, rather than as important institutional frameworks that influence long-term regional development. As a result, there is a limited understanding of how differences in community institutions, local governance models, and historical contexts impact development outcomes in various parts of India.

This study examines how institutional arrangements governing common property resources influence regional development through a comparative analysis. It compares Rajasthan, Kerala, Jharkhand, and Nagaland, which represent different ecological environments and governance models. Rajasthan has community-driven water conservation systems, Kerala has a decentralised local governance structure, Jharkhand has rich resources but faces institutional challenges, and Nagaland has a traditional system of community ownership over forests. Guided by Elinor Ostrom's Commons Theory and the Capability Approach, this study utilises a mixed-methods research design. Quantitative analysis will compare human development (HDI), forest cover, common land availability, MGNREGA expenditure on natural resource management, Panchayati Raj and decentralisation indicators using secondary data from NITI Aayog, the Forest Survey of India, the Ministry of Panchayati Raj, the Ministry of Rural Development, NFHS, and RBI's Handbook of Statistics. Comparative institutional analysis, supported by policy documents and historical records, will explain how governance mechanisms shape resource utilisation and development trajectories.

The study expects to demonstrate that institutional quality, rather than resource abundance alone, determines whether common property resources become drivers of inclusive development or sources of ecological degradation and regional inequality. By integrating commons governance with regional development economics, the paper extends existing debates beyond the resource curse and decentralisation literature, offering evidence that strengthening local institutions and community participation is central to achieving equitable and sustainable regional development in India.

Examining Migration from Regional Perspectives: Empirical Analysis of Indian States

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Migration is not a new phenomenon; nor is it a failure of or a substitute for development in the present times. In normal conditions, human migration has taken place owing to the lack of social and economic opportunities at the place where one resides. Hence, people start moving to those centres where they can meet their needs and overcome miseries. This empirical research study is necessitated to understand the implications of migration within the country, interstate, inter-district and the social, political and economic impacts and to know how society and the state respond to the ever-growing process of migration; to understand the policies and overall preparedness of governments. The states of Chhattisgarh, Jharkhand, Madhya Pradesh and Uttar Pradesh are identified as historically migrants originating areas. The villages and cities with a considerable concentration of migrant population were selected within the systematic criteria through random sampling. The present study was carried out to examine the causes of migration in these four states; to identify the strata tending to migrate; to identify the impacts of migration in these four states; and to analyse opportunities for migrant workers and opportunities which exist for migrants from other states. An assessment of the impact of migration was done using parameters that included an increase in total monthly income, an increase in the number of family assets, working hours per day, overall living conditions, and the status of women. There were more options for monthly income sources as well as assets after migration to the destination place. An overall 59.1 per cent of respondents revealed an improvement in their living conditions after migration. A deeper inquiry into the reasons for such a positive impact of migration on their living conditions was attributed to savings at the destination place, improved agricultural situation at the origin place, better availability of work at the destination place at relatively regular basis, assured monthly income, better food and clothing at the destination place, and better wages and livelihood options. In light of this, it was observed and stated by the migrants as well that economic factors are the most important ones accountable for out-migration and unemployment of the most important push factor. Changes in standard of living transpired due to higher income, expenditure and investments; new pucca houses and more possessions of assets were also reported. Above all, a higher contentment level was perceived for resource use, autonomy in decision-making, and gain in material assets and possessions.

Consumption Without Capability: Welfare Transfers, Skill Development Failures, and the Sustainability of Poverty Reduction in Uttar Pradesh and Bihar, 2023-2026

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India's official poverty statistics describe extraordinary success. NITI Aayog's National Multidimensional Poverty Index (MPI) recorded a fall in the national headcount ratio from 24.85 per cent in 2015-16 to 14.96 per cent in 2019-21, with a later discussion paper placing the figure at 11.28 per cent by 2022-23. Uttar Pradesh and Bihar are central to this story: Uttar Pradesh recorded the largest absolute decline in the number of MPI-poor of any state (3.43 crore persons), while Bihar posted the fastest proportional reduction, its headcount ratio falling from 51.89 to 33.76 per cent. This paper argues that these gains rest on a narrower foundation than the aggregate numbers suggest. Using Amartya Sen's capability approach, and drawing selectively on Martha Nussbaum's account of central capabilities, it distinguishes protective welfare from transformative welfare, that is, transfers that raise consumption without expanding what a person can do or become, from the one that builds the skills and agency that convert income into durable freedom. Drawing on Comptroller and Auditor General (CAG) performance audits, principally the 2025 audit of the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) in Uttar Pradesh, alongside Periodic Labour Force Survey (PLFS) data, the paper shows that the skilling architecture meant to convert transfers into durable capability has itself been compromised by planning failures, staffing vacuums, and unverified placement claims. The Uttar Pradesh audit found shortfalls against training and placement targets of 15 to 76 per cent across six years, absent labour market assessment, and inspection lapses as high as 100 per cent; comparable irregularities have surfaced in Kerala and, allegedly, in the national PMKVY scheme. The paper concludes that without reorientation from disbursement metrics toward verified capability outcomes, poverty reduction in the Hindi heartland risks becoming a statistical artefact rather than a durable transformation, with direct implications for India's SDG 1 trajectory.

Inequality and Mobility: Comparing Welfare Across Income, Consumption and Assets (2005-2012)

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While India has experienced significant growth over the past decades, the nature of its distributive justice remains a subject of intense debate. Traditional assessments of inequality in India rely heavily on consumption data, which often obscures structural rigidities due to consumption smoothing and measurement errors. The other variables include income and assets where the former is volatile and the latter can be proxied through physical assets, representing a stable stock of wealth. By treating these three dimensions as interchangeable proxies, existing policy and literature overlook significant positional discordance (e.g., households being "asset-rich but income-poor"). Using the panel dataset from the India Human Development Survey (IHDS-I, 2004–05 and IHDS-II, 2011–12), covering 40,018 tracking households, this paper moves beyond a unidimensional framework to evaluate rank correlation, temporal mobility, and structural determinants across income, consumption, and assets.

One of the key findings is about the status of Inconsistency Across Dimensions. The Spearman rank correlations across quintiles reveal moderate-to-strong positive associations, confirming that a household's standing in one dimension does not guarantee an equivalent rank in others. Another finding comes from applying the Shorrocks Mobility Index. The paper highlights a stark divergence in mobility. Assets exhibit severe structural rigidity, with nearly 49.3% of households experiencing complete immobility and only 21% achieving upward mobility. In contrast, income and consumption show significantly higher churn and rank-shuffling, driven by short-term labour shocks and consumption-smoothing strategies. The next stage of the paper used an ordered probit analysis to understand the determinants of mobility in Indian households. The paper highlights how initial asset endowments act as a universal predictor of upward trajectory across all welfare measures. Moving out of agriculture into non-farm sectors negatively impacts mobility, reflecting the absorption of labour into low-wage, informal service jobs. Urban location yields a notable "asset penalty", while insignificant for income mobility, urban residence strongly increases the likelihood of downward asset mobility, reflecting high urban living costs and limited physical asset portfolios. Credit access (loan taking) negatively impacts income mobility but

positively affects consumption mobility, serving as a mechanism for distress financing rather than wealth generation. Caste and religious marginalisation (SC, ST, Muslim) show pronounced systemic effects in restricting long-term asset accumulation.

The study concludes that income, consumption, and assets are complementary, non-substitutable lenses. Interventions targeting a single axis, such as regional consumption support, risk missing severe structural asset traps in urban and rural settings. Effective redistributive policy in India must address the distinct institutional drivers governing each welfare dimension independently.

The Socio-Economic Impact of Gulf Migration in North Indian States: A Critical Analysis

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Gulf migration is a new phenomenon in rural North India in the twenty-first century, in the context of the globalisation of migration, driven by the cordial nexus of economic and non-economic factors. Uttar Pradesh, Bihar, and Rajasthan are leading states in labour migration from India to Gulf countries, amid the deep penetration of Gulf migration in the twenty-first century. Therefore, the paper's objective is to identify the facts of the process, as well as the determinants and consequences of migration for migrant households, at a comparative regional level across purposively selected North Indian states. The paper's methodology is based on an empirical multiple-round field survey in rural North India in purposively selected states- Uttar Pradesh, Bihar and Rajasthan among stratified, randomly selected 1500 migrant households.

The findings of the study show that the entire process of migration is caused by economic and non-economic phenomena, with explicit socio-economic and cultural impacts on migrant households. Gulf migration created a socio-economic and cultural transformation in migrant households due to the deep penetration of the impact of Gulf migration in rural North India because migrant labourers used to send both economic and social remittances to migrant households and their community through individual and collective remittances, respectively. These consequences led to the form of cultural migration in the context of the function of the social network system of migration from rural North India to Gulf countries via internal migration to Indian cities. Therefore, the impact of Gulf migration led to the process of migration from rural North India to Gulf countries in the context

of the internationalisation of internal migration because the phenomenon of internal migration was being replaced by international migration due to the availability of better jobs in Gulf countries compared to low wages in internal migration. Therefore, this study is relevant in the context of the Sustainable Development Goals (SDGs) 2030 and the vision of Viksit Bharat @2047. It would encourage researchers, policymakers and academicians to conduct further research on a global level.

Comparative Evidence of Population Ageing, Retirement Security and Regional Development in Jammu and Poonch Districts of Jammu and Kashmir

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Population ageing is becoming an important socioeconomic and regional issue with consequences for people's retirement and income security, workforce participation, household welfare, healthcare needs, and resource allocation across generations. These are influenced by significant regional variations in India in terms of the demographic profile, employment opportunities and access to social protection. These aspects of population ageing are important in the context of the Jammu and Poonch districts in Jammu and Kashmir, which offer a useful basis for comparative study. In this context, the present study examines the retirement transition and the economic status of older people upon retirement, focusing on retirement-income adequacy, post-retirement employment, health and financial outcomes and the economic and non-economic contribution of older people to their families.

Primary data were collected from 360 retired people by using a multistage sampling technique in Jammu and Poonch districts. In Jammu district, three tehsils (Jammu, R.S. Pura and Bishnah) and in Poonch district, three tehsils (Haveli, Mendhar and Surankote) were selected. In each tehsil, 60 retirees were selected, half of whom were from the State government and the other half from the Armed Forces. The data were gathered using the structured questionnaire/interview schedule following the initial focus group discussions and a pilot survey. The frequencies, percentages, and arithmetic means are used to describe differences in retirement-income adequacy and in post-retirement employment and economic, socio-demographic, health, and financial characteristics. Analysis of variance (ANOVA) and chi-square

tests are employed to examine the differences and association between retirement-income adequacy, post-retirement employment and economic, socio-demographic, health and financial characteristics.

The results suggest significant differences in the ability to meet retirement-income needs across economic and socio-demographic groups in both districts. Several demographic and employment-related characteristics are significantly associated with income adequacy, and the number of persons in the household who are currently employed. The number of people in the household who are currently employed is also significantly associated with income adequacy, as well as with expenditure, savings, debt and post-retirement income. Post-retirement employment is also an important aspect of the retirement transition, and 63.3 per cent of retirees were working after retirement. There is a strong relationship between employment status and income, savings, expenditure and income adequacy in both districts. A wide range of socio-demographic and employment characteristics—including gender, family size, family type, years of service, educational qualification, social caste and type of government employment—are also associated with post-retirement employment.

The data analysis also reveals strong correlations between post-retirement working and perceived health, physical functioning, psychological well-being and health conditions. Financial outcomes also exhibit strong links to employment status, particularly regarding income sufficiency, medical expenditure, savings for children, asset and wealth accumulation, daily expenditure, business activity and debt. These findings indicate that post-retirement employment is strongly linked to the economic and social status of older people, but the observed links cannot be interpreted as causal effects.

Do Interstate Migrants Earn Differently? Evidence from Assam's Informal Labour Market

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The study attempts to conduct a comprehensive empirical study of the wage differentials among workers belonging to the informal sector of Assam, with an emphasis on the comparison between in-migrants and natives and between in-migrants from different states. For this purpose, this study uses primary data gathered through a survey of in-migrant and native workers belonging to major districts of Assam. The analysis of the data will be done using Oaxaca-Blinder decomposition and Propensity Score Matching (PSM).

It is found that the wage differentials between natives and in-migrants, and also among in-migrants from different states, are mostly explained by differences in measured characteristics such as education, skill level, proficiency in the local language, caste and age distribution. According to the Oaxaca-Blinder decomposition results, most wage disparities arise from endowment differences rather than discrimination or differences in returns to characteristics. These findings from PSM confirm this result, as the wage differences found among different groups become statistically insignificant after controlling for covariates. This study contradicts the existing notion regarding the issue of wage suppression among migrant workers, as in this case, in-migrants, especially those having better education and skill level, tend to earn higher wages compared to natives in both skilled and unskilled occupations. There is no wage differential among in-migrants from Bihar and other states, which is statistically insignificant after controlling for observable variables. Regression results suggest the importance of human capital in the sense that education and skill level are found to be positive and significant predictors of wages. However, affiliation with the disadvantaged castes such as SC/ST and lack of local language support have a negative impact on wages. There seems to be very little evidence of discrimination and unexplained wage differentials in this context. Thus, the study highlights the importance of increasing education and language proficiency among disadvantaged populations.

Public Expenditure and Human Development in India

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The true engine of growth within any economy relies on its people. Their ability to contribute productively to society is linked to their skill levels, health, and overall well-being. This report dives into government spending on Education, Health, and Skill Development to understand how social sectors mould the capabilities of Indians. Human Capital Theory and Sen's Capability Approach provided the framework for analysis. The findings indicate that social spending impacts more than just the headline GDP figures. Rather, it increases the Actual Happiness of individuals by providing them with a better quality of life. Increases in income begin to matter when they are accompanied by an increase in happiness.

Due to insufficient granular data, it was difficult to make conclusive empirical claims. However, after thorough analysis of documents such as the Economic Survey of India (2025-2026), Human Development Survey reports, Periodic Labour Force Survey, Household Consumption Expenditure Survey, and Budget Documents released over the years, we can safely infer that as literacy levels go up, as Indians become healthier, and as more Indians join the workforce in meaningful work, government expenditure in these sectors has increased. Project initiatives such as PM SHRI Schools, Ayushman Bharat, PM-JAY, and overhauls in education through the National Education Policy 2020 have laid the groundwork for human capital development.

Looking closer, gains in human development tie directly to education, health, and income, which are the main parts of the HDI. Still, advances differ sharply from one region to another. In places like Kerala, stronger results come after years spent building schools, clinics, and responsive institutions, which contrasts with areas such as Bihar. New ways of tracking what government spending achieves, including India's Output Outcome Monitoring Framework and Odisha's BETA tool, have sharpened oversight and reshaped resource use. It turns out pouring more money into systems does little unless planning matches real needs, execution stays focused, and support reaches those who benefit least today.

Yet, systemic blockages remain, especially regarding unequal educational results and limited public health money. Although government funds raised basic social markers, actual progress differs wildly across local zones. Such gaps show that merely raising budget spending fails, since the main issue involves improving how money is used and running administration better. Quality counts as much as volume when handling core services families need daily. Going forward, creating real change needs sending resources to backward places, matching school lessons with work needs, and separating medical care from location or wealth. Common growth finally rests on making steady, strong help webs throughout the whole nation.

Farmer Producer Organisations in India: Performance and Challenges

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Farmers in India possess limited bargaining power in both agricultural input and output markets. Smallholders often struggle to buy good quality inputs

such as seeds and pesticides, and to sell their produce at remunerative prices on account of limited market information, dependence on middlemen, and interlinked markets. In this context, there has been a growing focus on setting up farmer collectives in India to enhance farmers' agency and negotiation power through economies of scale and direct access to markets. Farmer Producer Organisations (FPOs) are seen as a vehicle to support farmer livelihoods by decreasing the vulnerabilities they face in markets and enhancing their incomes. Since 2020, the number of FPOs in the country has drastically expanded with the implementation of the Central Government's Scheme for Formation and Promotion of 10,000 Farmer Producer Organisations in the country.

This paper aims to contribute to an understanding of the state of the FPO sector in India. Drawing on semi-structured interviews with 30 FPOs in Gujarat, Maharashtra, and Telangana, and qualitative interviews with key stakeholders in the FPO ecosystem, the paper sketches out the constraints and challenges encountered in the formation and growth of FPOs, as well as the specific conditions required for their success. It highlights the diversity of the FPO sector in India and the structural constraints which influence FPO performance in key domains of activity such as input distribution, value addition, and output marketing. It reveals that FPOs continue to be highly dependent on external organisations for compliance and regular business operations.

The paper critically reviews the potential of FPOs to emerge as dynamic, bottom-up institutions based on the collective decision-making of farmers. It lays out the unique challenges which characterise women-focused FPOs. This paper argues that current policy initiatives, with their top-down approaches, along with local political economy factors, limit the dynamism of the sector and its potential to enhance farmer livelihoods.

In India, the labour force participation rate of women is a transformative force, contributing to inclusive economic growth through an expanded productive base, improved family incomes, and greater equity in the distribution of development benefits. In the past, women have played a vital role in the agriculture sector, informal and family setups, but their contribution has not been valued and recognised. As a result of modernisation, development, and urbanisation, women's economic roles are growing more diverse, although other factors remain a constraint on women's full potential, including wage gaps, the gendered burden of care, and occupational segregation. The study has goals: it is a converse of Women's role in growth in Bihar; explores the link between women's education and livelihood; investigates spatial

regions like rural/urban differences in the labour market. A mixed-method approach combines survey information from 200 respondents with the use of statistical modelling and can offer quantitative statistics as well as contextual information. The study indicates that the participation of women greatly impacts the economic growth of Bihar and can account for almost a fourth of the economy's development outcome, confirmed by regression analysis. The positive contribution of education regarding employment opportunities is also reflected in the correlation results reported, which reinforces the need for human capital in the process of promoting labour market inclusion. The results indicate that the increased participation of women in productive activities increases the pool of available workers, improves the dispatch of human resources, and strengthens the resilience of the household's earning potential. The importance of supportive institutional contributions – skill development, child care, workplace safety and equal remuneration – is highlighted. The closing is a statement that reinforces and reaffirms the importance of strengthening women's economic inclusion not only on the grounds of gender equity but also as part of the needed structural change for the long-term development and progression of Bihar and India. More comprehensive efforts, in which several aspects are combined such as education, employment quality and institutional changes, need to be undertaken to unleash the potential for women's contribution. This research therefore presents both empirical evidence and policy perspectives which could open a path towards implementing gender responsive approaches that contribute to achieving more equitable opportunities and inclusive economic growth.

Public Expenditure on Rural Development in India. An Inclusive Approach: Since 1980

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In India, around 2/3rd of the population lives in rural areas and earns its livelihood from agriculture and allied activities. Infrastructure inadequacy and insufficiency in the public provision of social services are still major concerns in the area. A substantial increase in public spending on rural development (employment and infrastructure programme) does have some noteworthy influence in improving the situation of the rural poor. On the other hand, effective utilisation of resources in most of the schemes has been a reason for concern for policymakers and the area for analysis in this paper.

Social sector expenditure is very instrumental for the growth and development of the country. There are various studies both at the national and the international level which show that social sector expenditure plays a very crucial role for sustainable economic, social and human development to achieve various development goals. Social sector expenditure is crucial in a country like India, where deprivation and impoverishment are very large, and market forces have failed to deliver and generate enough resources required for human development for the mass of the population over the past two and a half decades. The same is evident in several development indicators in India. Hence, it is pertinent for the Indian government to intervene and increase its spending to ensure delivery of basic necessities that are needed for human development. Hence, against the background of the increasing importance of social sector spending for human development in India, this paper has analysed the trend and pattern of overall public expenditure on the social sector at the all-India level and across Odisha state during the period 1980 to 2018. The main data sources used in the paper are: budget papers of the Government of India, the RBI State Finance Report, and Indian Public Finance Statistics. The paper has used the definition of the social sector as given by the RBI, which mainly includes expenditure on 'social services' and 'rural development' + 'food storage and warehousing' + 'loans and advances for state governments for development purposes only', as given in central and state budgets.

Women's Labour Force Participation and Inclusive Economic Growth: Evidence and Policy Perspective from Bihar.

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In India, the labour force participation rate of women is a transformative force, contributing to inclusive economic growth through an expanded productive base, improved family incomes, and greater equity in the distribution of development benefits. In the past, women have played a vital role in the agriculture sector, informal and family setups, but their contribution has not been valued and recognised. As a result of modernisation, development, and urbanisation, women's economic roles are growing more diverse, although

other factors remain a constraint on women's full potential, including wage gaps, the gendered burden of care, and occupational segregation. The study has goals: it is a converse of Women's role in growth in Bihar; explores the link between women's education and livelihood; investigates spatial regions like rural/urban differences in the labour market. A mixed-method approach combines survey information from 200 respondents with the use of statistical modelling and can offer quantitative statistics as well as contextual information. The study indicates that the participation of women greatly impacts the economic growth of Bihar and can account for almost a fourth of the economy's development outcome, confirmed by regression analysis. The positive contribution of education regarding employment opportunities is also reflected in the correlation results reported, which reinforces the need for human capital in the process of promoting labour market inclusion. The results indicate that the increased participation of women in productive activities increases the pool of available workers, improves the dispatch of human resources, and strengthens the resilience of the household's earning potential. The importance of supportive institutional contributions – skill development, child care, workplace safety and equal remuneration – is highlighted. The closing is a statement that reinforces and reaffirms the importance of strengthening women's economic inclusion not only on the grounds of gender equity but also as part of the needed structural change for the long-term development and progression of Bihar and India. More comprehensive efforts, in which several aspects are combined such as education, employment quality and institutional changes, need to be undertaken to unleash the potential for women's contribution. This research therefore presents both empirical evidence and policy perspectives which could open a path towards implementing gender responsive approaches that contribute to achieving more equitable opportunities and inclusive economic growth.

Spatial Patterns of Employment Diversification Across Districts of Bihar

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The present paper attempts to find the spatial or regional diversification towards RNFE in the rural areas of Bihar. The backdrop of the study is that much research concentrates on diversification and structural transformation in Bihar, but rarely do they attempt to find the regional level of diversification

towards the rural non-farm sector, which is vital for understanding the underlying problem in policy implications hampering the region from developing properly. The data have been used from the Employment-Unemployment Survey and the Periodic Labour Force Survey (PLFS), which are pooled to get sufficient observations to describe the condition of districts in Bihar marginally. The current scenario has been obtained using PLFS 2025 data. Multinomial logistic regression is used for understand the important determinants of participation in the farm and non-farm sectors, along with district-wise probability of participation. Determinants of farm employment and non-farm employment participation have been obtained on the basis of choosing not to participate in either and remaining unemployed. The result shows that the pace of structural transformation is quite slow, especially after the COVID-19 pandemic; East Champaran, Saran, Muzaffarpur, Patna and Samastipur show a better condition with respect to participation in the non-farm sector, quality of jobs, concentration of RNFE and sectoral composition. On the other hand, Lakhisarai, Sheikhpura, Jamui, Supaul, etc. reveal a need for policy intervention. Males are more likely to participate in RNFE than females; social groups like SC and OBC show a positive probability of participation. Educational qualification shows a negative probability, which identifies the lack of quality jobs available in the districts or state. Landholding positively affects participation in both, while males participate more in non-farm than their female counterparts. Hence, the paper suggests for a policy intervention, especially in these backward districts, for proper and all-round development, including diversification, structural transformation and improvement in the standard of living.

Short-term and Long-term Developmental Consequences of Displacement

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'Encountering Development: The Making and Unmaking of the Third World (1995)'
—Arturo Escober

The Nobel Prize-winning economist Amartya Sen has twice changed how we think about what we mean by development. Traditional welfare economics had focused on incomes as the main measure of well-being until his groundbreaking work in the 1980s, which showed that poverty involved a

wider range of deprivations in health, education and living standards which were not captured by income alone. His 'capabilities approach' led to the introduction of the UN Human Development Index, and subsequently the Multidimensional Poverty Index, both of which aim to measure development in this broader sense. Then in 1999 Sen moved the goalposts again with his argument that freedoms constitute not only the means but the ends in development. Sen's view is now widely accepted: development must be judged by its impact on people, not only by changes in their income but more generally in terms of their choices, capabilities and freedoms; and we should be concerned about the distribution of these improvements, not just the simple average for a society. In this context, development-induced displacement is the forced removal of people from their homes and lands for public or private infrastructure projects. While meant to drive national progress, it routinely harms vulnerable and indigenous groups who lose their livelihoods and face deep poverty.

The key social impacts of displacement include the loss of livelihoods, as families lose farms, grazing fields, and forest access that sustained them for generations. For example, Deucha Pachami in West Bengal and Singur land acquisition have displaced large numbers of people. Displacement from their traditional habitations leaves them under acute trauma and uncertainty – there is an institution in India that is interested in alleviating the indescribable human suffering of the tribal people left to struggle for survival with dignity. The scale of development-related displacement has been growing rapidly over the past few decades in most developing countries. This paper tries to examine vulnerabilities of displacement in India with field studies. The difficulty in overcoming displacement risks calls for providing full compensation, investment in post-settlement welfare and benefit-sharing measures by not only recognising resettlement as a dynamic process, but also by understanding the heterogeneous impacts of this process on seemingly homogeneous households and communities.

In conclusion, in this paper I would argue that in envisioning a future with sustainable development, it's imperative to address the challenges of development-induced displacement by adopting a rights-based approach. This involves proactive measures such as fair compensation, inclusive planning, and legal safeguards to ensure that progress is not achieved at the expense of vulnerable populations.

What Makes a Metropolitan? Fragmentation, Provision, and the Limits of the City as a Unit of Governance

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India's largest cities are assessed, financed, and reformed at the level of the municipal corporation, and the frameworks that guide this work describe the relationship between a city government and the state that constituted it rather than the relationship between that government and the people who live under it. This paper introduces the Metro-Systemic Infrastructure Index, which measures fragmentation across three dimensions of urban governance, namely institutional control over core services, fiscal autonomy, and the location of executive authority, and applies it to twenty of India's million-plus municipal corporations. The index shows that fragmentation is not a single condition whose dimensions move together. Southern metropolitan corporations combine the strongest own-source revenue in the country with the loss of water and sanitation to state agencies, while the cities of the northern plains retain those services yet lack the revenue to extend them, and the presence of a directly elected mayor proves a weak guide to where executive authority actually rests. These configurations are the sediment of distinct regional histories of industrialisation, municipal reform, and state investment rather than the outcome of present administrative choice, and the uneven distribution of large cities across the country records at the national scale the same accumulation of advantage that the index records within them. Building on evidence that access to essential services within Indian cities corresponds to a historically persistent social geography of caste, community, and class, the paper argues that administrative coherence and equitable provision are separate achievements, and that capable municipal governments preside over sharply unequal internal territories. The value of municipal control over essential services lies less in any assurance of equal provision than in the fact that the demand for such provision acquires a destination, since a state agency answers for the city as a whole while a city government answers, ward by ward, to those who elect it. Capacity establishes the conditions under which equitable provision becomes possible without establishing that it has occurred, and the instruments through which Indian urban governance is presently assessed cannot register the difference.

Measuring Volatility in the Indian Stock Market and Exchange Rate

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This chapter addresses the second objective of the study, which is to estimate the volatility of the Indian stock market and the exchange rate. Following liberalisation, India adopted liberalised foreign exchange policies, which were largely market-driven. These liberalised foreign exchange policies have led to increased capital inflows and strengthened both the capital and foreign exchange markets. As we all know, stock market volatility is also inevitable. In the event of any economic crisis or turbulence, we see a surge in volatility in the financial markets. Both the foreign exchange market and the stock market would become more volatile with any information entering the market. Studies strongly suggest that stock market volatility is heavily influenced by any news that enters the market. (Ross, 1989; Andersen et al., 1999; Andersen et al., 2006). Similarly, a more volatile exchange rate would also create uncertainty in the market, bringing exchange rate risk to investors. Exchange volatility also affects the investment strategy of investors. Due to a rise in international trade and market interdependency, there is a continuous spill-over effect from one market into another. There is a contagious effect from the stock market to the forex market nowadays, as the stock market is traded electronically and due to an increase in foreign portfolio investment.

The expansion and development of any country are affected by economic phenomena such as currency fluctuations (Aftab et al., 2021). Exchange rate risk arises if a country's monetary policy is unstable, leading to an unanticipated future exchange rate. Changes in currency rates have a significant effect on the volatility and risk of the Indian stock market (Obstfeld & Rogoff, 1998). It is also evident that their causal link differs depending on the sector. Thus, the primary purpose of this chapter is to estimate the conditional variance of the Indian equity market and the Indian Foreign Exchange market, which will further aid in analysing the causal relationship between the two markets. Measuring the conditional volatility of both markets is essential to further investigate whether there is any hidden leverage effect or volatility clustering in the Indian financial market, specifically in the equity and forex sectors, within the major Indian sectors: Banking, FMCG, and IT.

In this chapter, the study aims to estimate the conditional volatility series from the stock returns of the Nifty 50, Nifty Bank, Nifty IT, Nifty FMCG, and

the exchange rate return series to examine the volatility of the stock market and the exchange rate. The reason for estimating the volatility series is that the return only captures the actual price change in financial assets, whereas the volatility series measures the extent of fluctuations in prices from one period to another, as well as the associated risk. By estimating volatility from returns, the study obtains insights into the market risk associated with both Indian financial market uncertainty and the behaviour of an asset over time. Studying market uncertainty and the risk associated with various financial markets and instruments is critical for investors, traders, and risk managers.

Financial assets, such as stock prices and currency rates, generally follow a random walk or some form of stochastic process, with daily fluctuations in prices resulting from changes in market conditions, news, and investor sentiment. However, their volatility tends to cluster over time periods, meaning that periods with lower volatility in the financial markets tend to follow periods with lower volatility, and the same applies to periods with higher volatility. This volatility clustering behaviour is easier to capture by estimating the volatility series using the return series. By estimating volatility from returns, the study obtains a measure of the risk an asset carries, which is crucial for investors, traders, and risk managers.

Human Capital Investment for Reaping the Demographic Dividend in India: A State-Level Analysis with Special Reference to Bihar

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India is currently experiencing a demographic transition characterised by a large youth population, which presents a unique opportunity for economic growth, known as the demographic dividend. According to the Sample Registration System (SRS) (2023–24), India's working-age population (15–59 years) constitutes 66.4% of the total population, comprising 66.2% of males and 66.6% of females. However, the full realisation of the demographic dividend depends on enhancing human capital through better education and health. Although considerable progress has been achieved across major Indian states, substantial regional disparities persist, with Bihar continuing to face the challenge of transforming its human capital into demographic potential.

In this context, the present study examines inter-state variations in investment in human capital to harness the demographic dividend, with a particular focus on Bihar. It seeks to evaluate the relationship between human capital investment and the demographic dividend and identify policy measures to strengthen the contribution of human capital to India's demographic dividend.

The study uses secondary data compiled from nationally representative sources, including the Periodic Labour Force Survey (PLFS), the National Family Health Survey (NFHS), the Unified District Information System for Education Plus (UDISE+), the Sample Registration System (SRS) and other official government databases. The Human Capital Index is constructed using the min–max normalisation technique. Selected education and health indicators are first normalised to a common scale ranging from 0 to 1 using the min–max transformation. The resulting values are then aggregated using equal weights to obtain a composite index for each state. The working-age population (15–59 years) serves as an indicator of the demographic dividend. Descriptive statistics, state-wise rankings, four-quadrant analysis, Pearson's correlation analysis and regression techniques are employed to examine the relationship between investment in human capital and the demographic dividend.

The findings reveal inter-state variations in both the Human Capital Index and the demographic dividend. The three highest-ranked states—Kerala, Tamil Nadu and Himachal Pradesh—with higher index values demonstrate better outcomes in education and health, indicating a greater capacity to enhance productivity. Conversely, the three lowest-ranked states—Bihar, Madhya Pradesh and Uttar Pradesh—with lower index values require greater investment in human capital development. The four-quadrant analysis identifies Bihar, Madhya Pradesh and Uttar Pradesh as the weakest-performing states in terms of both human capital and working-age population. The empirical findings reveal that the Human Capital Index is statistically significant and positively associated with the demographic dividend. Substantial inter-state disparities persist, suggesting that improvements in human capital significantly enhance states' capacity to harness the demographic dividend.

The study highlights the need for state-specific policy interventions, particularly in Bihar, focusing on education, health and skills development among the working-age population to translate demographic potential into inclusive and sustainable development.

Beyond Endowments: Structural Determinants of Rural-Urban Wage Disparities in India

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India currently has a population of more than 1.4 billion. Of this, 65% are of working age, and only 30% are moderately to highly skilled, while a large share remains in the lower- or no-skill category. This skill deficit does not merely leave workers unemployed; it pushes many into informal jobs that demand little and pay even less. The low wages and precarious working conditions of these workers define an appealing condition of the labour market. It is more deeply rooted in rural India, where workers remain less skilled than their urban counterparts. This study investigates the rural-urban wage gap by skill level and other factors that determine wage differences, as well as the intensity of such discrimination. It also determines how the wage is explained by differences in worker endowments versus differences in the returns to those endowments at different points in the wage distribution across sectors.

Based on Periodic Labour Force Survey (PLFS) data from 2017-18 to 2025, this paper analyses the working-age population aged 15 to 59 and constructs a detailed classification of the labour force's skill levels. Further, the study presents a descriptive analysis of income levels by skill-level categories across sectors. To validate it, the study also utilises empirical methods such as the Oaxaca-Blinder (O-B) Decomposition and the Recentered Influence Function (RIF) Regression and Decomposition to examine wage disparities by identifying differences in explained and unexplained factors, and the rural-urban wage gap across different quantiles of wage earners.

The study finds that the skill base of the workforce is gradually shifting towards higher skill levels. In the rural sector, it is largely concentrated in the low-skilled (skill 3), while the urban workforce is largely concentrated in moderate to high-skilled (skill 4 to 6). Further, the mean-median income gap highlights income disparities, and this earnings gap widens considerably as skill level rises, more rapidly for urban workers than for rural counterparts. The O-B Decomposition reveals that the rural-urban income gap widens across skill levels. This difference in income levels remains largely unexplained, with only a small portion attributable to observable worker characteristics. Whereas the RIF decomposition finds a larger rural-urban divide in the higher-skill categories than in the lower-skill categories.

Further, it also finds that the rural-urban gap has increased at the bottom 10% (Q10) and top 10% (Q90) income quantiles of the population over the years, while the gap has narrowed at the median (Q50). Among these quantiles, the share of the unexplained component is far greater than that of the explained components in the rural-urban income gap. This forms a U-shaped pattern of the rural-urban income gap, indicating that the earnings disadvantage is mainly concentrated at the extremes, the bottom 10% and the top 10% of the population. Thus, the findings highlight the need for relevant policy to address the significant rural-urban income gap across the skill distribution.

Beneath the Surface: Coal Resource Endowment and Geographical Inequalities in Child Undernutrition in India

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Child malnutrition remains a major public health challenge in India, with substantial geographical and regional disparities in nutritional outcomes. While existing research has extensively examined individual, maternal, household, and socioeconomic determinants of child malnutrition, comparatively little attention has been paid to the role of natural resource endowments and resource extraction in shaping regional differences in child health. Resource-rich regions may generate substantial economic activity while facing environmental and socioeconomic pressures that do not necessarily translate into improved local human development. Against this backdrop, the present study examines whether children living in coal-rich districts experience a higher burden of acute malnutrition than those in neighbouring non-coal districts, thereby exploring a potential human-development dimension of the natural resource curse.

This study uses data from the nationally representative National Family Health Survey-5 (NFHS-5), conducted between 2019 and 21. It focuses on children under five, with wasting and severe wasting defined using WHO child growth standards based on weight-for-height Z-scores. A district classification was created to capture geographic variation in coal resources: districts with at least one active coal or lignite mine were labelled coal-rich. Using GIS buffer analysis, districts within 25 km of a coal-rich district were classified as neighbouring districts, while those within 100 km without an active coal

mine were considered non-coal districts. These district data were merged with NFHS-5 data for analysis. The final sample comprised 94,769 children from 58 coal-rich districts, 138 neighbouring districts, and 138 non-coal districts. Descriptive analysis and survey-weighted logistic regression examined the relationship between district type and child undernutrition, controlling for child, maternal, and household-level factors.

The findings reveal a clear geographical gradient in acute undernutrition. Wasting was highest among children in coal-rich districts (22.24%), followed by neighbouring (21.24%) and non-coal districts (20.25%). A similar pattern was observed for severe wasting, with prevalence of 9%, 8.37% and 8.09%, respectively. The logistic regression results show that children residing in coal-rich districts had significantly higher odds of wasting (AOR=1.09; 95% CI:1.01-1.18) and severe wasting (AOR=1.16; 95% CI:1.03-1.30) compared with children in non-coal districts. No statistically significant difference was observed between neighbouring and non-coal districts.

The Kerala Model of Development: The Lessons

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Kerala's distinct performance in the social sector in the nineteen seventies was subjected to wide academic debate. It was characterised as a Kerala model of development. However, there were dissenting observations too. Nevertheless, the state followed a human development approach and no doubt the state is ahead of all other states in social development even now. The state enjoyed an important place in the agricultural and manufacturing map of India in the past. However, the contemporary truth is that Kerala's economy is in a bad shape. In terms of growth, the state was a laggard, and the economy is also witnessing lopsided development. Though the underlying reasons are subject to academic research, the reasons are superficially examined. There are also several other growth-stifling factors that drag the economy backwards. This paper attempts to draw a perspective on these issues and a narrative for the emergence of contemporary development.

It has been found that Kerala in the past played no less important a role in agriculture and manufacturing in the country. However, later the development track was lost. The contemporary situation is that while agriculture, after a secular decline, is now more or less stagnant, the manufacturing activities are secularly on the decline. The state enjoyed a pride of place in the

manufacture and export of coir, cashew processing and handloom products. These traditional industries, including beedi-rolling, are now languishing. Overall, the production activity is on the decline. The study has highlighted some of the reasons for this development, and they run along the lines of unhealthy developments in the labour market, Gulf migration-associated changes, lack of political consensus, poor governance and some other social problems.

What are the lessons that can be learned from Kerala's development syndrome? A prospective development vision, an agenda considering the resource endowment and commitment to execute the programmes are important factors for the organic development of a state. This is, by and large, missed in the state. Lack of educational planning in tune with the absorptive capacity of the economy is important, as otherwise high educated unemployment and migration take place, defeating the internalising of benefits and wasting resources. Kerala's development testifies to this. In an open economy, a state cannot develop in isolation from the rest of the state, particularly from neighbouring states. The pro-labour approach of the government has cost the economy dearly. Timely corrective measures have to be taken to curb unhealthy practices in the labour market. For development to take place, there must be political consensus among the competing parties on development matters. Ideologies of political parties have to be flexible in accordance with the changing economic ecosystem when it comes to the question of development. Social capital has to be development-anchored rather than a hindrance for the welfare of society in general. Above all, good governance and rule of law are a requisite for development to happen.

The Choice of Non-Farm Employment in Rural Bihar: A Multinomial Logistic Regression Analysis

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This paper examines the multinomial logistic regression model used to study non-farm employment choice among individual workers in rural Bihar. Rather than treating "non-farm work" as a single category, the analysis distinguishes between three forms it can take — self-employment, regular wage/salary employment, and casual labour — with farm employment serving as the reference category. This matters because these categories differ enormously in security and pay, and a simple farm-versus-non-farm

framing obscures which workers end up in the better jobs and which end up in the worse ones.

The study forms the second stage of a two-stage econometric approach. The first stage (binary logistic regression) identified who participates in non-farm work at all. This paper's multinomial model goes further, asking what determines which type of non-farm work a worker gets, using data from 832 individual workers surveyed across four villages representing Bihar's four agro-climatic zones. The explanatory variables are gender, age, religion, household type, household size, social group, operational landholding, and education.

The results show that gender, social group, operational landholding, and education are the most consistent predictors, significant across all three non-farm categories. Male, non-OBC/general-category, and landless workers are all more likely to be in non-farm work of any kind. Education has a divided effect: it raises the odds of self-employment and regular wage/salary work but lowers the odds of casual labour, meaning better-educated workers land in higher-quality jobs while less-educated workers are pushed toward casual work. Age matters mainly for casual labour (younger workers more likely), while religion and household type matter mainly for self-employment. Household size is not significant anywhere. The model fits well (likelihood ratio $\chi^2 = 505.600$, df = 24, $p < 0.001$; Nagelkerke $R^2 = 0.493$).

Vulnerability and Precarity: The Plight of Women Domestic Workers in Kolkata

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The female domestic workforce in Kolkata epitomises a deeply vulnerable segment of India's urban informal labour sector, marked by precarious employment, socio-legal invisibility and systemic socio-economic marginalisation. Despite performing essential reproductive labour that sustains the urban economy, these women endure systemic exploitation characterised by low wages, the near-total absence of formal contracts and a lack of social security benefits.

Anchored in Martha Fineman's Vulnerability Theory, this study posits that vulnerability is an inherent human condition that is compounded when state institutions fail to provide equitable asset allocation. In the

context of Kolkata's informal political economy, this framework is extended through Kimberlé Crenshaw's concept of intersectionality and Marxist feminist critiques of social reproduction. These perspectives reveal how gender, caste, class, rural-to-urban migration status and informal socio-legal relations compound exposure to institutional neglect and labour exploitation. Drawing on Pierre Bourdieu's sociological perspective on forms of capital, the analysis demonstrates how a lack of institutionalised cultural capital and formal social networks exacerbates these workers' dependence on informal patronage.

Empirical investigations reveal that a majority of female domestic workers in the Kolkata metropolitan area earn significantly below the government-mandated minimum wage, endure long working hours without overtime compensation and face arbitrary dismissal without recourse. The structural fragility of their livelihoods was starkly exposed during the COVID-19 pandemic, which triggered widespread job losses, income insecurity and acute health crises in the absence of institutional safety nets. Material living conditions further intensify these vulnerabilities: most workers reside in informal settlements and overcrowded slums characterised by inadequate sanitation, water insecurity and precarious tenure, while simultaneously bearing a disproportionate burden of unpaid care work within their own households.

The structural absence of formal recognition and low levels of unionisation perpetuate these workers' marginalisation, reinforcing asymmetrical power dynamics in which employers exercise considerable control over their labour, mobility and dignity. Critical social science perspectives emphasise that vulnerability is not an intrinsic trait of these women but rather a structurally produced condition resulting from state deregulation and patriarchal market mechanisms. Current policy frameworks in West Bengal continue to exclude domestic workers from comprehensive social security schemes, underscoring the urgent need for inclusive labour reforms that guarantee fair wages, regulated working conditions and occupational safety. Mobilising domestic workers into collective bargaining units, expanding state-backed social welfare infrastructure and ensuring statutory legal recognition are crucial steps towards mitigating structural precarity. Ultimately, this paper argues that addressing the multidimensional vulnerabilities of women domestic workers in Kolkata is imperative for achieving labour equity, socio-spatial justice and inclusive urban citizenship.

Understanding Happiness of Domestic Workers in the Fragmented Urban Landscape of Delhi: A Generalised Ordered Logit Analysis

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Using advanced econometric techniques, this study examines how a range of non-monetary dimensions, including employer behaviour, worker–employer relationships, awareness of rights, everyday working conditions, and spatial location within the city, shape the happiness and emotional well-being of DWs. Based on responses collected employing a structured questionnaire survey and personal interviews from a randomly selected sample of 773 female DWs, proportionately drawn from the four geographical directions of Delhi, the study quantitatively examines the determinants of happiness among domestic workers (DWs) using both quantitative and qualitative variables.

The analysis employed both directly measured and constructed variables. The independent variables included age, average daily working hours, years of schooling, family size, work experience, marital status and area of residence, along with four composite indices—Employer–Worker Relationship Quality Score (EWRQS), Rights and Entitlements Awareness Score (REAS), Work and Life Challenges Score (WLCS), and Household Living Standard Score (HLSS). These indices were constructed by assigning numerical scores to domestic workers' responses to questions in different questionnaire subsections covering employer–worker relationships, awareness of legal rights and entitlements, work and life challenges, and household living standards, and summing the item scores to obtain aggregate scores for each respondent. In addition, two categorical variables, marital status and regional location, were incorporated using dummy coding. The dependent variable, Happiness Assessment Score (HAS), was similarly derived from scored questionnaire responses and classified into three ordinal categories: low, medium, and high happiness.

The analysis applies an ordered logit model, followed by a Brant Test to assess the proportional-odds assumption. Findings from the test indicate

that the proportional odds assumption is violated, suggesting that the effects of certain predictors differ across happiness thresholds. Thus, a Generalised Ordered Logit (gologit) model with partial proportional odds is estimated. Key results reveal that longer average working hours and strong employer-worker relationships are positively associated with increased happiness. In contrast, greater awareness of rights and entitlements and higher levels of work and life challenges are negatively associated with the likelihood of higher happiness. Additionally, pronounced regional disparities are evident: DWs in the East, West, and North regions reported significantly lower happiness than those in South Delhi. DWs' age, years of education, marital status, and household living standards show no consistent significant effect on workers' happiness. The gologit model highlights the non-uniform influence of education, challenges, and North Delhi residence across happiness thresholds, underscoring the need for flexible modelling when analysing stratified labour groups. The study concludes that both workplace conditions and structural inequalities shape the subjective well-being and happiness of DWs and calls for targeted policy interventions to enhance economic security, improve workplace relationships, and reduce regional disparities. Overall, our study fills major empirical gaps by providing the first evidence-based, regionally disaggregated, and econometrically rigorous analysis of factors shaping happiness among DWs.

Behavioural Preferences in Agriculture: A Meta-Analysis

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Agricultural decision-making is inherently characterised by uncertainty arising from production, market, climatic, and institutional risks. While expected utility theory has traditionally served as the dominant framework for explaining farmers' choices under uncertainty, an expanding body of experimental evidence suggests that cumulative prospect theory provides a more realistic representation of decision-making by incorporating reference dependence, loss aversion, and non-linear probability weighting. Although numerous studies have experimentally estimated these behavioural parameters among farmers, their findings remain fragmented across countries, farming systems, and experimental settings, limiting a comprehensive understanding of behavioural preferences in agriculture.

This study addresses this gap by conducting a systematic review and meta-analysis of experimental evidence on prospect-theory parameters in agriculture. The analysis synthesises experimentally estimated measures of risk aversion, loss aversion, and probability weighting reported for agricultural, forestry, and fishery populations across developed and developing countries. Eligible studies were identified through a systematic review of the literature based on predefined inclusion criteria. Random-effects meta-analysis was employed to obtain pooled estimates while explicitly accounting for between-study heterogeneity. The study also evaluates the extent of heterogeneity in behavioural parameters and discusses the potential role of institutional, methodological, and sample-specific factors in explaining observed differences across studies.

The findings provide robust empirical support for the relevance of cumulative prospect theory in explaining farmers' decision-making under uncertainty. Overall, the evidence indicates that farmers exhibit risk-averse behaviour, strong loss aversion, and non-linear probability weighting, suggesting that their decisions systematically depart from the assumptions of conventional expected utility theory. At the same time, substantial heterogeneity across studies indicates that behavioural preferences are not universal but vary across geographical contexts, farming systems, experimental protocols, and socioeconomic conditions. These findings highlight the importance of interpreting behavioural parameters within their specific institutional and methodological contexts rather than relying on a single representative estimate.

The study contributes to the literature in three important ways. First, it provides the first quantitative synthesis of experimentally estimated prospect-theory parameters in agriculture. Second, it strengthens the empirical evidence supporting behavioural approaches to agricultural decision-making by consolidating findings from diverse experimental settings. Finally, it offers policy-relevant insights for the design of agricultural insurance, technology adoption programmes, climate adaptation strategies, and other risk-management interventions that better reflect farmers' actual behavioural responses to uncertainty. The study also identifies the need for future meta-regression analyses to examine the determinants of behavioural heterogeneity and improve the external validity of behavioural parameters used in agricultural research and policy.

Natural Resources, Governance, and the Limits of Development in Arunachal Pradesh

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The paper situates this inquiry within the broader theoretical debate on the 'resource curse' — the well-documented tendency of resource-rich regions to exhibit slower growth, weaker institutions, and deeper inequality than their resource-poor counterparts — and extends this framework to the sub-national level within India's federal structure. It argues that Arunachal Pradesh exemplifies a specific variant of this condition, shaped by the intersection of fiscal dependency, extractive resource politics, geostrategic subordination, intra-state spatial inequality, and institutional fragility.

Drawing on secondary data from NITI Aayog, PRS Legislative Research, the Reserve Bank of India, the Forest Survey of India, and the Directorate of Economics and Statistics, Government of Arunachal Pradesh, the paper demonstrates that while the state's nominal GSDP growth rate has averaged 6.2 per cent between 2012 and 2022 — marginally above the national average — this aggregate figure conceals deep structural contradictions. Approximately 87 per cent of the state's revenue receipts are sourced from central transfers; its own tax revenue constitutes a mere 5.8 per cent of GSDP, and district-level data reveal that the capital district of Papum Pare contributes nearly 15 per cent of net state domestic product, while interior resource-rich districts such as Upper Siang contribute barely 2 per cent.

The paper further draws on primary data generated through structured interviews and focus group discussions with 55 respondents across three districts — East Siang, Lower Subansiri, and Papum Pare, conducted during 2024–25. Community perceptions data reveal that over 82 per cent of respondents in East Siang district opposed large hydropower projects in their localities, primarily due to the absence of meaningful consultation, fear of displacement, and threats to river-dependent livelihoods and cultural heritage. The contested Upper Siang Multipurpose Project and the long-delayed Subansiri Lower Hydroelectric Project are examined as case studies of how resource development in the state is mediated by national strategic interests rather than community rights and local developmental needs.

The Role of Public Policy in Addressing Interstate Disparities in India: An Evaluation of Fiscal Transfers and Regional Development Programmes

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Interstate income disparities remain one of the most persistent features of India's federal political economy. Despite three decades of liberalisation-era growth and successive rounds of constitutionally mandated fiscal transfers, the gap in per capita income between India's richest and poorest states has shown no sustained or clearly evidenced narrowing. This paper examines the role of public policy, specifically fiscal transfers channelled through the Finance Commission and targeted regional development programmes such as the Backwards Regions Grant Fund and the Aspirational Districts Programme, in addressing this enduring regional inequality between 1991 and 2023.

The study combines a descriptive evaluative assessment of transfer and programme design with a formal statistical test of the convergence hypothesis. Using current price relative percapita income data for nineteen major states, compiled from the Ministry of Statistics and Programme Implementation and the Reserve Bank of India's Handbook of Statistics, an unconditional beta convergence regression is estimated over 2000-01 to 2023-24. The results show a statistically insignificant coefficient (beta = -0.0009, p = 0.43, one-tailed), so the null hypothesis that Indian states have not converged cannot be rejected; a robustness check excluding Delhi reverses the sign of beta while remaining statistically insignificant. A complementary sigma convergence test shows only a modest decline in the dispersion of relative per capita income across states, with dispersion essentially flat since 2020-21.

The paper further finds that the horizontal devolution formula used by the Finance Commission embodies an unresolved tension between equity, reflected in the income distance criterion, and efficiency, reflected in the newly introduced contribution to Gross Domestic Product criterion adopted by the 16th Finance Commission. This shift has heightened concerns over shrinking untied resources for poorer and southern states alike. Regional development programmes present a genuinely contested evidence base: government evaluations of the Backwards Regions Grant Fund report localised infrastructure gains, while a more rigorous, independent academic evaluation using propensity score matching finds no significant effect on public goods

access or household income. The Aspirational Districts Programme shows more encouraging, though still heterogeneous, effects on selected health and governance indicators.

Taken together, the descriptive and econometric evidence indicates that fiscal transfers and targeted programmes have, at best, moderated interstate disparities without producing a statistically detectable convergence in per capita income. The paper attributes this to design tensions in the devolution formula, discontinuity of targeted funding, uneven state administrative capacity, and the dominance of structural growth determinants that transfers alone cannot address. It concludes that narrowing interstate disparities requires not merely a larger volume of transfers but a redesigned architecture combining sustained, need-based funding, rigorous independent impact evaluation, capacity-building support, and a sharper policy focus on the structural determinants of regional growth.

Economic Disruption and its Implications on Household Savings

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The COVID-19 pandemic triggered significant economic disruptions in India, affecting employment, income, consumption, and financial uncertainty, with important implications for household saving behaviour. This study examines changes in household savings during and after the pandemic, focusing on the composition of savings, financial liabilities, asset accumulation, and labour-market conditions. It further investigates whether changes in household savings were accompanied by shifts in the accumulation of financial and physical assets and patterns of labour-market participation.

The study uses annual data for FY 2011–12 to FY 2023–24. Household saving data are obtained from the National Accounts Statistics (NAS) published by the Ministry of Statistics and Programme Implementation (MoSPI), while labour-market indicators are drawn from the Periodic Labour Force Survey (PLFS) Annual Reports. The analysis covers gross financial savings, physical assets, gold and silver ornaments, financial liabilities, and components of gross financial savings, including deposits, insurance funds, and provident

and pension funds. Labour-market conditions are assessed using the labour force participation rate (LFPR), worker population ratio (WPR), and unemployment rate. Trend analysis, period-wise comparisons, percentage changes, contribution analysis, and correlation analysis are employed to examine changes in household saving patterns before and after the pandemic.

The findings indicate that gross financial savings and savings in physical assets increased over the study period, while savings through insurance funds and provident and pension funds also rose during the later years. However, household financial liabilities increased substantially, suggesting that asset accumulation was accompanied by growing financial obligations. Household savings exhibited a moderate positive association with LFPR (r = 0.53) and WPR (r = 0.48), whereas the association with unemployment was negligible (r = −0.053). These findings highlight the evolving composition of household savings in India and its relationship with labour-market participation. The study contributes to understanding household financial behaviour amid economic uncertainty and underscores the importance of examining asset accumulation and indebtedness together when assessing household financial resilience in the post-pandemic period.

Dynamics of India's Mango Sector: Production Trends and Export Performance

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Mango is an important horticultural crop in India, contributing to agricultural production, rural livelihoods and the country's agricultural export basket. This paper examines the dynamics of India's mango sector by analysing trends in production and export performance over time. The study uses secondary data from the Government of India's horticultural statistics and the Agricultural and Processed Food Products Export Development Authority (APEDA), covering production, area, yield and exports of fresh mangoes and mango pulp. The analysis combines descriptive statistics with growth rates, compound annual growth rates, measures of instability and decomposition analysis to examine changes in production and the factors underlying them. Export performance is assessed in terms of export value, trends over time and the destination-wise distribution of exports. The findings indicate a

broad expansion of India's mango production over the period considered, although production growth has been accompanied by variations in area and yield. The decomposition analysis provides insights into the relative contribution of changes in cultivated area, yield and their interaction to changes in production.

The export analysis shows distinct patterns for fresh mangoes and mango pulp. Fresh mango exports remain relatively concentrated in a limited number of markets, with the United Arab Emirates accounting for a substantial share of export earnings. In contrast, mango pulp exports exhibit greater geographical diversification, with Saudi Arabia emerging as an important destination. The analysis also highlights fluctuations in export performance during major disruptions, including the COVID-19 period. The study argues that strengthening India's position in global mango markets requires attention to productivity, quality standards, value addition and diversification of export destinations. Greater emphasis on processing, certification, market access and export infrastructure could help reduce market concentration and improve the resilience and competitiveness of the mango sector. Accordingly, the study recommends stronger phytosanitary compliance, market diversification, value addition through processing, improved export competitiveness and post-harvest infrastructure to support sustainable growth and enhance India's export performance.

Scenario of Municipal Solid Waste Management in India: Status, Challenges and Way Forward

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Management of municipal solid waste continues to face problems in India despite the steady progress witnessed throughout the years. Increasing generation of municipal solid waste in India is driven by various socio-economic factors such as population, lifestyle, consumption patterns, income, urbanisation, geography and climate change. Mismanagement of municipal solid waste can lead to myriad adverse consequences affecting the soil quality, air quality and water quality of the ecosystem, jeopardising the well-being of citizens. Thus, it is imperative to strengthen the current system

of waste management in a manner that is sustainable in the long term. Fruitful management of municipal solid waste necessitates the involvement of multiple stakeholders, robust planning, financial support, proper regulatory enforcement, and adequate technological innovation. The study offers a comprehensive review of the current status of municipal solid waste throughout the diverse regions and states of India. Of the various techniques for municipal solid waste treatment in India, aerobic composting is the most widely practiced treatment technique which involves the decomposition of organic matter by micro-organisms in presence of oxygen. Other biological treatment techniques, such as anaerobic digestion, are also beneficial for processing organic waste, which constitutes a major proportion of municipal solid waste in India. In addition to these, techniques such as pyrolysis, gasification and incineration also serve as thermochemical pathways for waste-to-energy conversion. Integrating practices of the circular economy into the management of municipal solid waste serves as a holistic approach to reducing waste sustainably by extending the circulation of materials in the economy for a longer duration. The study also examines the new changes introduced in the 2026 solid waste management rules and draws a comparison with the previous rules to assess major implications. Forecasting of municipal solid waste using simple regression is carried out to project the future solid waste generation patterns in India. The paper also attempts to address the different challenges and issues surrounding the existing practices of municipal solid waste management in India, such as lack of segregation, unscientific disposal, overdependency on landfilling, inadequate door-to-door coverage, lack of public participation, insufficient integration of informal workers in waste management and gaps in regulatory enforcement. Addressing these challenges, the study articulates the way forward by introducing awareness schemes to induce the practice of segregation at source, integrating informal waste workers through skill training and formal hiring opportunities, strengthening regulatory enforcement to prevent unscientific disposal of waste through imposition of penalty fines, optimising routes for efficient transportation of solid waste, promoting public-private partnership opportunities to encourage involvement of the private sector, and increasing investments in decentralised processing facilities to reduce the burden on centralised units. Thereby narrowing down the existing gaps and improving the overall management of municipal solid waste in India.

Hydro-Thermal Labour: Rethinking Work Under Ecological Breakdown

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This paper introduces the concept of hydro-thermal labour to explain how rising heat stress and worsening water insecurity are reshaping the conditions, sustainability, and organisation of work under climate change. The paper argues that labour should not be understood merely as an economic input determined by wages, productivity, or technological change, but as a socio-ecological and biophysical process dependent upon hydration, thermal regulation, bodily recovery, and ecological stability. Drawing from ecological economics, labour studies, feminist political ecology, and climate adaptation literature, the paper develops a labour-centred framework for understanding how ecological breakdown increasingly constrains human work capacity.

The study shows that extreme heat and water scarcity are already reducing safe working hours, lowering labour productivity, intensifying occupational risks, and increasing time poverty, particularly among workers engaged in agriculture, construction, sanitation, informal urban employment, and platform-based gig work. Water insecurity further deepens unpaid labour burdens, especially for women, through increased responsibilities associated with water collection, household provisioning, and care work. The paper argues that ecological degradation reorganises labour markets through informalisation, occupational shifts, migration, and the privatisation of adaptation burdens onto vulnerable workers.

The analysis further demonstrates that ecological stress disproportionately affects regions and populations with weak adaptive capacity, making hydro-thermal labour particularly relevant for climate-vulnerable Indian states where livelihoods remain heavily dependent on outdoor and resource-intensive occupations. The paper, therefore, aligns ecological degradation with questions of regional inequality, labour precarity, and sustainable development.

Mountain Poverty Among Urban Informal Workers in Sub-Himalayan West Bengal and Sikkim: A Comparative Analysis Highlighting a Paradox

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This paper argues that the apparent paradox among three standard poverty measures—consumption-based Monthly Per Capita Expenditure (MPCE), administrative BPL/APL ration card classifications, and the Alkire–Foster Multidimensional Poverty Index (MPI)—in mountain urban contexts arises because each captures a distinct dimension of deprivation. Their divergence is therefore both expected and theoretically coherent. Mountain towns in the Eastern Himalaya combine high living costs, fragile terrain, seasonal livelihoods and uneven access to public infrastructure. In such contexts, assessments of poverty based on income, entitlements and capabilities are unlikely to converge.

This paper is based on primary survey data collected from 532 households belonging to the category of urban informal workers in Darjeeling district, West Bengal, and the East and South districts of Sikkim. The data were collected in four seasonal rounds in 2019 to account for changes in income and consumption throughout the year. The paper shows that no single poverty measure produces a consistent state-level ranking. While consumption poverty is negligible in West Bengal, a high number of people there possess BPL cards. In contrast, the substantially higher Multidimensional Poverty Index score in Sikkim is attributable to deprivations in assets, sanitation and financial resources. Therefore, the relative performance of the two states depends entirely on the measure of deprivation considered.

For inferential analysis, the paper uses binary logistic regression to establish the correlates of poverty at the household level and applies the Chow test to determine whether these correlates have equal effects in both regions. The results suggest that the processes underlying poverty differ between West Bengal and Sikkim. Higher educational attainment and self-employment consistently reduce the likelihood of being poor, while female-headed households are consistently vulnerable. Vocational training reduces poverty in Sikkim but increases it in West Bengal, while caste has no significant

effect, contrary to evidence from the Indian plains. Thus, the study finds that the determinants of poverty among urban informal sector workers in mountain areas differ from those observed in the plains and even in neighbouring mountain states.

The paper contributes to the literature on mountain-specific and multidimensional poverty by demonstrating that divergence between poverty measures can be treated as an analytical tool rather than a methodological error. It argues that anti-poverty programmes designed for the Indian plains cannot be applied to mountain regions without adaptation. Three measures are proposed to ensure effective targeting: using a set of indicators to assess deprivation, addressing the vulnerability of female-headed households, and adapting skill development and social protection policies to the labour market and institutional environment of each mountain state.

Migration remittances are usually discussed in terms of household consumption, poverty reduction and improvements in family welfare. Much less attention has been given to the ways in which these transfers support rural production, skill development and small business activity. This study examines the patterns and household-level determinants of productive remittance use among 200 migrant households surveyed in July 2025 in rural Azamgarh and Gorakhpur districts of eastern Uttar Pradesh, India. The study used a multistage sampling design that combined purposive and probability-based methods. A household was classified as using remittances productively only when there was supporting evidence that the money had fully or partly financed productive physical assets or livestock, skill training, or a new business. The analysis combined descriptive statistics, bivariate tests and binary logistic regression with robust standard errors.

The findings show that 61.2 per cent of households reported at least one validated direct productive use of remittances. Investment in productive assets and livestock was the most common form, recorded by 48.8 per cent of households. This was followed by skill development at 21.1 per cent and enterprise investment at 8.6 per cent. The median annual remittance was INR 100,000. After controlling for household, migration and geographical characteristics, a doubling of annual remittances was associated with 42.5 per cent higher odds of productive use. Households owning agricultural land had more than twice the odds of using remittances productively compared with households without recorded land. Scheduled Caste households had

significantly lower adjusted odds than General-category households, suggesting unequal capacity to convert remittance income into productive capital. Regular receipt of remittances was negatively associated with productive use, suggesting that occasional lump-sum transfers may be better suited for financing indivisible asset purchases than smaller recurrent transfers. This result, however, should be interpreted with caution.



Theme 5

EDUCATION AND KNOWLEDGE SYSTEMS

From Pratijñā to Nigamana: Evaluating the Nyāya Five-Part Syllogism as an Indigenous Framework for Media Literacy Education

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The rapid growth of digital technology has transformed the contemporary information environment, intensifying concerns about misinformation, fake news and disinformation. Therefore, there is a pressing need for approaches to understanding distorted content and its underlying reasoning through media literacy, enabling people not only to access information but also to critically assess the validity of knowledge claims.

In this context, the paper examines the potential of the Nyāya school of Indian philosophy, specifically its five-part syllogism (Pañcāvayava Nyāya), as an indigenous approach to media literacy education. It conceptualises the five elements, namely Pratijñā (proposition), Hetu (reason), Udāharaṇa (example), Upanaya (application) and Nigamana (conclusion), as a structured method for assessing contemporary cases of misinformation and fake news. Although existing media literacy approaches emphasise institutionalised source evaluation and verification, the application of Indian epistemological traditions to addressing misinformation at the individual level remains comparatively underexplored.

The study adopts a qualitative framework-validation approach, purposively selecting cases of fake news and disinformation published by the Press Information Bureau (PIB) between January and June 2026. Each selected claim is systematically analysed through the five stages of Pañcāvayava Nyāya, and the conclusions derived through Nyāya-based reasoning are compared with the corresponding official fact-checking outcomes. Points of convergence and divergence are examined to evaluate the applicability of Nyāya as an indigenous knowledge-validation framework for media literacy.

Additionally, a preliminary study was conducted among master's students of Journalism and Mass Communication at Banaras Hindu University to assess the applicability of Pañcāvayava Nyāya as an analytical tool for identifying misinformation. For this purpose, two fake news cases from the selected sample were presented to each student, who was asked to explain why the information was fake or misleading. Their initial responses were recorded. Subsequently, the Pañcāvayava process was explained to the students, and their responses to the cases were recorded again. A comparison of the

responses indicated that the later responses were more oriented towards logical reasoning and identifying the reasons supporting their assessment of the claims. Student feedback also suggested that understanding the Pañcāvayava process made it easier to identify the reasons for classifying information as fake or misleading. These preliminary observations indicate the potential of the framework to support structured reasoning in media literacy education.

The study therefore highlights the educational value of this reasoning process, which requires learners to identify a claim, examine the supporting evidence, assess its relevance, apply it to a particular situation and derive a reasoned conclusion. The analysis indicates that Pañcāvayava Nyāya can facilitate the structured examination of misinformation. The comparison with PIB fact-checking outcomes suggests convergence between Nyāya-based reasoning and contemporary verification practices, particularly in examining evidence, logical consistency and claim validity.

Together, the case analysis and preliminary student study highlight the potential of Pañcāvayava Nyāya as an indigenous knowledge-validation framework that may extend media literacy beyond information verification towards epistemic competence and critical thinking.

Knowledge, Power and the Making of Collegiate Education in Colonial India: Negotiating Indigenous Traditions and Institutional Modernity

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The rise of modern collegiate education in nineteenth-century India has conventionally been explained in terms of the spread of Western education and the institutionalisation of colonial universities. However, such an understanding overlooks the historically contingent encounters between indigenous knowledge traditions, colonial political rationalities, and the aspirations of Indian social groups. This paper examines the role of these encounters in shaping the institutional character of collegiate education in directly administered British territories and indirectly administered princely states.

The paper analyses the nexus between knowledge, institutional power, and political legitimacy through a comparative historical study of colleges founded in Jabalpur, Pune, Amritsar, and Cuttack, along with those in Mysore, Travancore, Indore, and Jammu and Kashmir. Conceptually, it

uses the framework of governmentality to distinguish between colonial and provincial rationalities of governance and examines how educational institutions became sites of negotiation between competing epistemological and political traditions.

The paper contends that the transformation of collegiate education cannot be adequately explained through a binary opposition between indigenous and Western knowledge. The transition from Oriental colleges to English arts colleges did not merely imply the disappearance of Sanskrit, Persian, and vernacular learning or its survival in an unchanged form. Instead, curricular reorganisation, university affiliation, examination standardisation, and institutional patronage altered the purposes, authority, and social recognition of different knowledge traditions. These developments were mediated by Indian intellectuals, educational associations, princely administrations, and emerging social constituencies whose interventions produced distinct regional trajectories.

By foregrounding these encounters, the paper seeks to challenge both colonial narratives that equate educational modernity with European intervention in the intellectual sphere and revivalist interpretations that imagine indigenous knowledge as internally homogeneous or historically fixed. It reveals that collegiate education grew out of unequal but mutually constitutive encounters in which knowledge was simultaneously an instrument of governance, a means of social mobility, and a resource for political contestation. This historical experience provides a critical lens through which to examine contemporary debates about epistemic plurality, institutional autonomy, and the place of diverse knowledge traditions in Indian higher education.

Economic Growth, Human Capital, and Youth Labour Market Dynamics: A System GMM Analysis of OECD Countries

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The contribution of human capital to economic growth depends not only on its accumulation but also on the efficiency with which it is transformed into productive employment. While the growth literature has extensively examined the roles of education, health, and labour market outcomes, less attention

has been paid to the process through which economically active youth are absorbed into employment and its implications for long-run economic performance. This paper examines the relationship between youth labour force participation, youth employment, labour market absorption efficiency, and economic growth using a balanced panel of 31 OECD countries over the period 2002–2020. To capture this dimension of labour market performance, the analysis employs the Absorption Rate (AR), defined as the ratio of youth employment to youth labour force participation. The indicator measures the efficiency with which economically active young people are integrated into productive employment and serves as a proxy for human capital-employment dynamics.

The empirical analysis is conducted using the System Generalised Method of Moments (System GMM) estimator, which accounts for the dynamic nature of economic growth while addressing endogeneity, reverse causality, and unobserved country-specific heterogeneity. Four complementary specifications are estimated to examine the effect of youth labour force participation on economic growth, the interaction between youth employment and economic growth, and the contribution of labour market absorption efficiency after controlling for human capital investment, macroeconomic conditions, institutional characteristics, regional differences, and sectoral composition.

The empirical findings indicate that youth labour force participation, considered in isolation, does not exert a positive influence on economic growth. Instead, youth employment constitutes the principal channel through which labour market participation contributes to growth, while economic growth also supports higher youth employment, indicating a reinforcing relationship between the two. The results further show that the Absorption Rate is positively and statistically significantly associated with GDP per capita growth, highlighting the importance of labour market absorption efficiency in converting human capital into productive employment. These findings suggest that the economic returns to human capital depend not only on expanding educational attainment or labour supply but also on strengthening labour market institutions that facilitate school-to-work transitions, reduce skill mismatches, and improve the allocation of young workers to productive employment.

Aspirations and Capabilities of Youths in Rural Areas: Evidence from Jharkhand, India

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The economic and social transformation of a nation hinges on its youths' aspirations and capabilities, as young people constitute a vital human resource within a nation's population and social structures. A nation with a large youth population will be able to reap a 'demographic dividend' if its young people possess high aspirations and capabilities. An individual can enjoy a high degree of 'real freedom' only if they possess both high aspirations and capabilities. Young people may aspire ambitiously and with considerable specificity towards work, education and other valued futures, but their aspirations will be realised only if they also possess the capabilities to convert them into 'real freedoms'. This requires access to quality education and skills that can provide sustainable livelihoods across different geographical settings and enable them to escape the vicious cycle of poverty (Sen, 1993, 1999; Hart, 2016; Graham & Pozuelo, 2022).

Forming aspirations and acquiring capabilities are easier said than done, particularly in developing countries characterised by rigid social structures and moribund political and economic institutions. Developing aspirations and capabilities becomes even more difficult for young people belonging to the lower strata of society in predominantly rural areas of developing nations, where physical and economic infrastructure is poorly developed and access to livelihood opportunities is limited, in addition to the constraints imposed by the prevailing social milieu. These challenges are even more acute for females (Dalton et al., 2016; Genicot & Ray, 2017).

What kinds of aspirations do young people, both male and female, particularly those belonging to the lower strata of Indian society and living in underdeveloped regions, harbour? What capabilities do they possess to translate their aspirations into real freedoms? Do social institutions and underdeveloped political and economic institutions impede their ability to form aspirations and acquire capabilities?

Through fieldwork conducted in Jharkhand, one of India's poorest and least developed states, this paper explores the aspirations and capabilities of young people, particularly those belonging to historically disadvantaged communities, including Scheduled Castes, Scheduled Tribes and Other Backward Classes. The paper also examines the structural factors that

constrain the formation of aspirations and the conversion of aspirations into real freedoms among young people. For the purposes of this paper, all persons aged 15–29 years are considered young people.

This paper makes two important contributions to the literature. First, it examines how young people from historically disadvantaged communities make sense of and negotiate the challenges they encounter in accessing economic opportunities. Second, it seeks to understand the role of political, economic and social structures in generating and perpetuating structural barriers for young people.

In addition to contributing to the literature on youth aspirations and capabilities, the findings of this study have practical policy implications. They may help the state formulate policies and programmes to enhance young people's aspirations and capabilities and reduce the structural barriers that impede their potential.

Intercultural Sensitivity Among Indonesian Students in India: A DMIS-Based Analysis of Indonesian Students' Perceptions

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Pursuing higher education in a foreign country demands not only academic competence but also the intercultural skills to adapt, interpret and communicate across unfamiliar social worlds. Indonesia and India share striking similarities: both are postcolonial, linguistically plural and culturally heterogeneous societies with vibrant multilingual democracies. Yet, despite these parallels, Indonesian students in India report significant dissonance in daily communication, social customs and non-verbal cues, rendering their cross-cultural experiences simultaneously familiar and foreign. This paradox of proximity, which produces difference rather than ease, makes Indonesian students in India a compelling case for examining how intercultural sensitivity develops, stalls or regresses in practice.

This study examines the intercultural sensitivity of Indonesian students in India, using Bennett's Developmental Model of Intercultural Sensitivity (DMIS) as its theoretical framework. The DMIS posits a continuum from ethnocentrism to ethnorelativism. Ethnocentrism treats one's own culture as the central standard and progresses through denial (unawareness of cultural difference), defence (perceiving difference as a threat) and minimisation (trivialising

difference through appeals to superficial similarity). Ethnorelativism recognises one's own culture as one valid perspective among many and progresses through acceptance (respecting difference without judgement), adaptation (adjusting behaviour to fit cultural contexts) and integration (internalising multiple cultural frames within a multicultural identity).

Methodologically, the study employs quantitative content analysis of open-ended survey responses collected from Indonesian students across Indian institutions. Students' statements were coded and mapped onto the DMIS stages to determine the distribution of ethnocentric and ethnorelative orientations within the sample. The findings indicate that, of the 217 coded statements, 54.4% (118) were categorised as ethnocentric, 9.7% (21) as ethnorelative and 35.9% (78) as uncategorised. This distribution reveals a marked skew towards ethnocentric orientations. Communication challenges emerged as the dominant theme, particularly difficulties with accents, pronunciation, unfamiliar vocabulary and the interpretation of non-verbal cues.

These results have implications for both theory and practice. The dominance of ethnocentric orientations, combined with the prevalence of communication-related challenges, highlights the need for structured pre-departure intercultural training that prepares students not merely with cultural facts but also with the reflective capacity to recognise, interpret and adapt to difference. More broadly, the study contributes to the limited research on academic mobility between countries such as Indonesia and India. Most studies focus on students moving to the Global North, leaving exchanges between these two countries underexplored. This study provides evidence of intercultural sensitivity among Indonesian students in India. It argues that intercultural preparation is not merely an additional support service but a fundamental component of making international education equitable and effective.

International Branch Campuses of Foreign Universities in India: Policy and the Question of Quality

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In 2023, the University Grants Commission (UGC) of the Government of India notified a regulation to permit foreign educational institutions ranked among the top 500 worldwide to establish international branch campuses

(IBCs) in India. This aligns with the National Education Policy 2020's aim to promote India as a global study destination by providing premium education at affordable costs. The Policy not only proposes to attract highly ranked international educational institutions to operate in India under a special regulatory framework and content norms, but also encourages high-performing Indian universities to set up campuses in other countries. Internationalisation in Indian higher education has taken diverse forms over the years. The establishment of IBCs has emerged as a relatively recent strategy for internationalising higher education. By focusing on institutional rankings and requiring foreign universities to seek UGC approval before initiating any programme, the UGC regulation appears to ensure that IBCs strengthen the quality of education in India and facilitate the development and dissemination of knowledge that the state considers desirable. On the other hand, the 2023 UGC Regulation highlights the market value of IBCs as a route to obtain foreign qualifications at an affordable cost and also emphasises their diplomatic relevance in developing soft power by making India an attractive global study destination for both Indian and foreign students.

As per the data published by Cross-Border Education Research Team (C-BERT), there are altogether 384 IBCs currently operating across about 80 countries. While states, educational institutions, and prospective students often highlight the potential of IBCs, it is also important to note that IBCs are not evenly successful. C-BERT data records 74 IBCs that have closed down. Some of the countries which today host the largest number of IBCs are China (51), United Arab Emirates (39), Uzbekistan (17), Malaysia (16) and Singapore (16). India, which so far has 5 functional IBCs, aspires to host a large number of foreign educational institutions in the coming years. While the establishment of IBCs definitely has the potential to offer cost advantages for prospective students in host countries, internationalisation opportunities for the foreign educational institutions and soft power for the state, it is important to examine the significance of IBCs for improving the quality of education in host countries. The answer to this question varies across countries, as each country has a distinct educational profile. With more than one thousand functional universities offering a wide range of educational programmes, India already has well-developed higher education infrastructure. Drawing on the literature on IBCs, this research paper aims to examine how IBCs may be expected to contribute towards educational development in India. In this context, the present paper also aims to situate the development and regulation of IBCs in relation to the phenomenal growth

of private universities in India over the last two decades to understand whether and how IBCs may have the potential to contribute towards the development of quality in Indian higher education.

Wet Climatic Exposure and Childhood Diarrhoeal Morbidity in India: A Multilevel Analysis of National Survey Data

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Climate change is intensifying hydroclimatic variability, potentially increasing the burden of childhood diarrhoeal diseases in low- and middle-income countries. However, nationally representative evidence on the relationship between short-term wet climatic conditions and childhood diarrhoeal morbidity in India remains limited. This study examined the association between recent wet climatic exposure and childhood diarrhoeal morbidity and assessed whether household water, sanitation, and hygiene (WASH) conditions modified this relationship. The analysis included 171,285 children aged 0–59 months from the fifth National Family Health Survey (NFHS-5, 2019–2021). Cluster-level wet climatic exposure was assessed using the one-month Standardized Precipitation Evapotranspiration Index (SPEI-01), spatially linked to buffered survey clusters according to each child's interview month. Univariate analysis described the characteristics of the study population, while bivariate analysis estimated diarrhoea prevalence across sociodemographic groups. Three-level mixed-effects logistic regression models, incorporating random intercepts at the state, district, and cluster levels, were fitted to estimate adjusted odds ratios (AORs) and 95% confidence intervals (CIs). Interaction analyses examined effect modification by WASH conditions. Overall, 6.9% of children experienced diarrhoeal morbidity during the two weeks preceding the survey. Approximately 28.1% of children belonged to wet-exposed clusters, while 71.9% belonged to non-wet-exposed clusters. Diarrhoea prevalence was significantly higher among children exposed to wet climatic conditions than among their unexposed counterparts (7.2%, $p < 0.001$). Consistent with this pattern, wet climatic exposure was associated with 22% higher adjusted odds of childhood diarrhoeal morbidity (AOR: 1.22; 95% CI: 1.09–1.37). The greatest variation in diarrhoeal morbidity was observed at the cluster level (32.6%), followed by the district (7.7%) and state

levels (2.4%). Additionally, increasing age was associated with decreasing odds of diarrhoeal morbidity, suggesting a protective effect. Children with low birth weight, higher birth order, and multiple anthropometric failures had elevated risks of diarrhoeal morbidity. Interaction analyses revealed that safe child stool disposal practices significantly attenuated the adverse association between wet climatic exposure and childhood diarrhoeal morbidity ($p = 0.012$). In contrast, modification effects were not statistically significant for drinking water conditions ($p = 0.403$) or sanitation facilities ($p = 0.087$). These findings demonstrate an association between short-term wet climatic exposure and increased childhood diarrhoeal morbidity in India, with nutritionally vulnerable children facing elevated risks. The significant modifying role of safe child stool disposal highlights the importance of household hygiene practices in mitigating climate-related health risks. Integrating climate information into child health, nutrition, and WASH programmes, alongside promoting safe child stool disposal practices, may strengthen resilience to hydroclimatic variability and support progress towards Sustainable Development Goals 3, 6, and 13.

Digitalisation of Education and Educational Equity: A Socio-Legal Analysis of Access to Knowledge in India

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Education is a fundamental right under Article 21 of the Indian Constitution and Article 26 of the Universal Declaration of Human Rights. Digitalisation of Education is a medium through which education is now provided through DIKSHA, SWAYAM, and PM eVIDYA. The objective of this paper is to study the social impacts and challenges that are faced by the digitalisation of education. We all know that education is not available to all sections of society, whether due to economic inequalities. Geographical barriers or gender disparities. Some people are not able to attend classes due to clashes with household responsibilities and economic inequality, which means they are not able to pay hefty fees. Although Distance education was an available option, digitalisation of education provides a more flexible solution through online classes, videos, doubt-clearing activities, and online study material, which are available whenever they want. But there are some challenges related to the digitalisation of education; for example, the necessary equipment like a laptop, mobile, etc., is required for digitalisation of education. The court held that Denial of internet, mobile phone, and laptop access for educational purposes is a denial of Access to education. The capability approach, coined by Amartya Sen, argues that the availability of resources is not enough unless

it is supported by the necessary equipment to utilise those resources. It is the government's responsibility to ensure that access to education is not denied due to social inequality. The Social justice theory propounded by Rawls advocates for a fair distribution of educational opportunities. The study presented here uses a socio-legal and interdisciplinary approach and examines constitutional provisions, the Right to Education Act of 2009, the National Education Policy of 2020, and major digital education initiatives. In July 2026, UGC allowed ODL for one-year PG courses. This relaxation is for students who have completed a 4-year honours bachelor's degree. Achieving educational equity in India requires comprehensive legal frameworks, effective public policies, a strong digital infrastructure, and specific measures that ensure digitalisation promotes equality, social justice, and sustainable development rather than causing exclusion.

Vocational Education, Student Aspirations, and Well-being under NEP 2020: Evidence from Secondary Schools in Delhi

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This paper looks at how vocational education under India's National Education Policy 2020 (NEP 2020) is changing what school means for young people, especially in terms of their future dreams and overall well-being. It focuses on secondary schools in Delhi and treats vocational education not as a side-track, but as a meaningful part of schooling where students connect what they learn with real work, respect for labour, and better life chances.

The paper uses four simple ideas to organise its discussion: how seriously vocational knowledge is taken, what kinds of futures students feel they can aim for, how schools implement vocational programmes, and how all of this affects students' confidence and readiness for adulthood. It studies how NEP 2020 is trying to reduce the gap between "academic" and "vocational" learning by bringing skills into mainstream schooling, beginning from middle school, using practical experiences like "bagless days," and introducing courses which align with the national skill frameworks. However, on the ground, vocational education still struggles with some implementation challenges such as lack of infrastructure and awareness of the skill-related courses, which limits the real impact.

Using a research study based on the primary survey conducted in the secondary and senior secondary schools in Delhi, the paper finds that students, teachers and skill teachers generally feel positive about vocational

education and training. They see it as being useful for future employability, career readiness and subsequent improvement in socio-economic parameters. However, many students only partly understand NEP 2020, hence open to confusion whether or not vocational streams will help them proceed towards valued long- term goals.

point of importance that this paper wishes to pursue is how students' aspirations and understanding of well-being are moulded by the knowledge exposure that they receive both at the school and the community level. When vocational education is underfunded or treated as a "second-best" option, students are less likely to see it as a respectable future path. But when schools invest in good infrastructure, trained teachers, meaningful hands-on exposure and genuine links with industry, vocational education can help students feel more confident, better prepared for work, and more able to plan their lives after school

Performance of Industrial Training Institutes in Karnataka: Trends, Gaps and the Way Forward

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The study is a thorough longitudinal assessment of the Industrial Training Institutes (ITIs) in Karnataka and has been carried out as part of a project financed by the Indian Council of Social Science Research (ICSSR). It is based on the records of the Directorate General of Training's (DGT) Data Driven Grading Methodology (DDGM) and includes nearly 5,900 institution-year observations over four academic years, from 2023 to 2026. By applying descriptive statistical methods in MS Excel, the study looks at the performance of ITIs throughout Karnataka's four administrative divisions and 31 districts, and it analyses the trends according to ownership type (government versus private), location (urban versus rural), and governance structure (with or without an Institute Management Committee, or IMC).

The results show that although the average Final Grade at the state level stayed fairly steady during the study period, increasing only slightly from 5.68 in 2023 to 5.84 in 2026, there are still significant differences

underneath this overall figure. Belagavi had the greatest number of institutes, and Vijayanagara had the highest average Final Grade of all the districts. Government ITIs always performed better than Private ITIs, the gap between them growing to over one full grade point by 2026. Institutions that had an active IMC scored on average nearly a point higher than those that did not have one, even though IMC had been adopted by fewer than 5% of the institutes. Chikkamagaluru was the district that showed the greatest improvement over the four-year period, while Kalaburagi had the lowest average performance in the state. The study not only highlights these statistical patterns but also points out several key structural deficiencies that are having an impact on ITI performance in Karnataka, such as regional imbalances, inadequate data available at the taluk level, weak links with the industry, a lack of soft-skills training, and the fact that students have limited exposure to actual industrial settings. Drawing on these findings, the paper suggests a number of specific policy recommendations, such as providing support to districts that are underperforming, expanding the coverage of IMC, modernising the curriculum, improving training in English and communication skills, and introducing future-oriented, region-specific trades like AI, robotics, and EV maintenance.

Blended Learning Resources for Inclusive Skill Development Among Learners with Disabilities: Indian Perspective

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This narrative review aims to examine blended learning platforms and digital resources and their potential contribution to the skill development of learners with benchmark disabilities in the Indian context. The paper further explores the challenges and barriers affecting access to and the effective use of blended learning among learners with disabilities. Blended learning is an educational approach that combines physical (offline) and virtual (online) modalities to foster learning and knowledge acquisition. It is consistent with the emphasis of the National Education Policy (NEP) 2020 on flexible, accessible and inclusive education and can be guided by the principles of Universal Design for Learning (UDL). Since learners with disabilities face academic, social, infrastructural and technological barriers that affect their participation and educational progress, innovative approaches such as

blended learning can be of great significance and may help learners acquire knowledge and develop skills. Moreover, blended learning has wide-ranging applications for learners with disabilities across all levels of education, from school to higher education.

Many Government of India (GoI) platforms support blended learning, including NCERT DAISY books (audiobooks for learners with visual impairments), the NCERT ISL Digital Dictionary (sign language resources for learners with hearing impairments) and ePathshala (multimodal content delivery for blended learning). In this paper, these platforms are divided into two categories: (a) blended learning platforms for school education (Classes 1–12) and (b) blended learning platforms for higher education (undergraduate and postgraduate levels). The paper briefly explains the purpose and use of each platform.

The paper draws on government websites, peer-reviewed studies and research publications identified through academic sources, including Google Scholar and ResearchGate. The major findings of this review indicate that blended learning has been reported to support various academic and learning outcomes among learners with disabilities, including academic performance, learning attitudes, classroom achievement, self-study, self-efficacy, learning independence and student engagement. No primary data were collected for this paper; the findings are based on the interpretation and synthesis of existing literature and official information. The review further analyses the challenges and gaps in blended learning, including accessibility failures, deficiencies in digital infrastructure and the marginalisation of learners with disabilities.

The paper concludes with recommendations to strengthen the accessibility and usefulness of blended learning in education: adopting accessibility-by-design standards, building teachers' capacity, improving digital infrastructure and access, and establishing systematic monitoring and continuous improvement mechanisms. These recommendations should be implemented through coordinated action among all stakeholders. As this is a narrative review based on existing literature and official digital resources, the findings should be interpreted as indicative rather than as evidence of direct causal effects.

Experience and Reflection: A Comparative Study of Concepts of Learning in Indian and European Biographies

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A close comparative investigation of European and Indian biographies reveals a recurring difference in how experience is problematised and what reflection upon it is expected to accomplish. The hypothesis is that the reflection of the two traditions returns to experience with different questions and directs learning towards different ends.

In European biographies, reflection appears to test the integrity and authenticity of first-person experience. The narrator returns to earlier experiences to ask whether conduct genuinely expressed conviction, whether the account one gives of oneself can be trusted, and what one's actions disclose about the person one has been. Experiences are brought together to explain the emergence and persistence of dispositions. Successive attempts to perfect one's behaviour disclose capacities, dependencies and limits of character. Thus, learning frequently takes the form of a progressively more exact account of one's character and of the distance between intention, action and self-understanding.

In Indian biographies, reflection appears to be directed towards identifying obstructions to experience and learning. An experience is revisited to ask what prevented a practice from being adequately understood, sustained or carried further. Reflection does not merely assess whether the practitioner acted sincerely or successfully. It examines the conditions under which a practice becomes possible and the obstacles that prevent its fuller realisation. What initially appears to be the failure of a particular action may disclose an incomplete understanding of the practice itself. Learning therefore involves recognising what must be removed, cultivated or reorganised for the practice to be extended into further domains of life.

Both corpora reflect upon character, conduct, practice and learning. Nor is authenticity absent from Indian biographies, or the examination of obstructions absent from European ones. The hypothesis concerns the relative direction and purpose of reflection. European accounts recurrently examine whether experience truthfully discloses the person and the limits

of character. Indian accounts recurrently examine what obstructs experience from becoming learning and what must change for a practice to be expanded.

Biographies are used here as an archive of culturally situated descriptions of experience and reflection, not primarily as the subject of literary analysis. The Indian corpus ranges from Rassundari Devi's Amar Jiban, Gandhi's The Story of My Experiments with Truth and Nehru's An Autobiography to the writings of B. R. Ambedkar, Nirad C. Chaudhuri, Kamala Das, A. P. J. Abdul Kalam and Ruskin Bond. The European corpus extends from Cellini, Rousseau, Goethe and John Stuart Mill to Tolstoy, Gorky, Simone de Beauvoir, Bertrand Russell, Elias Canetti and Virginia Woolf. These works have been selected as a sufficiently varied archive in which recurring ways of relating experience, reflection and learning can be comparatively tested. By reconstructing the concepts employed in these descriptions, the paper investigates what counts as learning, what experience is understood to disclose, and what reflection is expected to make possible.

Sustainable Development Learnt through Traditional Knowledge System

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Linguistic and cultural diversity are often linked to biodiversity, suggesting that combined biocultural resources are integral to the survival of life on Earth (Maffi and Woodley, 2010; Gorenflo et al., 2012; Hill et al., 2015). A deeper consideration of biocultural diversity and indigenous knowledge can enhance our understanding of the diverse human perceptions and values regarding life on Earth, ecosystem dynamics, and natural resource use. Moreover, this knowledge system plays a crucial role in human well-being (ICS 2002). This knowledge is passed from generation to generation, usually by word of mouth (oral tradition) in the form of not only folktales but also through day-to-day practices and daily rituals.

The present paper aims to show how language and culture play an important role in attaining some of the major Sustainable Development Goals, mainly Good Health and Well-being, Climate Action, and Life on Land. The study is based on primary data collected from two endangered Himalayan languages of West Bengal, India: Toto and Dhimal.

Toto and Dhimal are both Tibeto-Burman languages which are often categorised as Dhimalish languages (Driem 2015). UNESCO (2001) marks the

Toto language as Definitely Endangered, and Dhimal as Severely Endangered. Totopara is an isolated village at the foothills of the Himalayas, located in the state of West Bengal, India. Toto community dwells in this village. They speak the Toto language. Dhimal/Dhemal is spoken in the Darjeeling district of West Bengal. It is also spoken in some parts of Nepal.

Through the data collected from the languages Dhimal and Toto, I show how the survival of these languages is important for understanding and maintaining the local environment, hence directly affecting the SDGs. The survival of the local environment and traditional practices plays a role in the good health and well-being of the communities. Moreover, the paper also discusses how sometimes development from a modern point of view can paradoxically make the speech community endangered, leading to the loss of indigenous habits, which makes the SDG a far-fetched concept.

The Ancient Tree of Knowledge: A Study of the Environmental Values in the Indian Knowledge System

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There are fewer tigers in the Sundarbans forest. The quality of the Yamuna's water has deteriorated. Glaciers are shrinking, and air quality is becoming increasingly unbearable. Our landscape has changed significantly over the last century. Following the Industrial Revolution, environmental issues began to emerge in various parts of the world. Observable changes in climate patterns occurred during the twentieth century and have become even more pronounced in the twenty-first century. Environmental degradation and sustainability are ultimately issues of applied ethics and morality. This paper aims to examine the ideas and values of the Indian Knowledge System (IKS) concerning environmental ethics. It also explores how the IKS demonstrates the interdependence between human beings and nature. The values embedded in the IKS continue to influence our lives; therefore, it is important to examine the values rooted in our culture. The paper examines the concepts of ahi□s□ (non-violence), Vasudhaiva Kutumbakam and the niyamas of Yoga philosophy to understand the values of India's ancient knowledge systems and relate them to the modern concept of environmentalism. It discusses the perspectives on the environment found in major schools of Indian philosophy, including Buddhism, Jainism and the Vedic schools. Furthermore, it examines the arguments of modern scholars on environmental ethics in Indian philosophy. Relevant secondary sources, including books, academic papers and journal articles, were critically analysed to investigate the subject.

Moreover, the paper briefly discusses the Chipko Movement and seeks to demonstrate how the values of the IKS influenced this mass movement. It aims to identify ways of applying this comprehensive knowledge system to contemporary contexts. The paper addresses several key questions: What were the environmental values embedded in ancient Indian knowledge traditions? How was the relationship between human beings and the environment understood? What sustainable practices were followed in these traditions? What perspectives on the environment were advanced by Indian philosophical systems? These questions are addressed through an analysis of relevant aspects of environmental ethics within the Indian Knowledge System. Finally, the paper proposes policy solutions to contemporary environmental problems and discusses the potential benefits of incorporating the IKS into curricula and academic discourse.

Education for Human Flourishing: Bridging Mauritian Education with Ancient Indian Knowledge Systems for Wellbeing.

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In the contemporary landscape of 2026, the Republic of Mauritius faces a profound dual imperative: maintaining economic resilience within an increasingly automated global market while simultaneously fostering social cohesion, ethical grounding, and psychological well-being across its complex, multi-ethnic society. While recent national structural reforms under the Nine-Year Continuous Basic Education (NYCBE) framework have successfully modernised pedagogical delivery and educational infrastructure, secondary education remains overwhelmingly utilitarian in nature. Driven by high-stakes, hyper-competitive examinations administered by the Mauritius Examinations Syndicate (MES) and closely aligned with global market metrics, the existing secondary system heavily prioritises raw academic output and economic utility over holistic human development. Consequently, this narrow structural focus exacerbates systemic mental health pressures among youth, deepens socio-educational stress, and threatens to erode the delicate social fabric of the island nation.

To address these pressing systemic vulnerabilities, this paper investigates how integrating core philosophical paradigms from Ancient Indian Knowledge Systems (IKS) specifically Purushartha (holistic human goals), Siddha-Sankhya and Yoga (mindful cognitive regulation and psychological discernment), and Vasudhaiva Kutumbakam (cosmic interconnectivity) into the Mauritian

secondary curriculum can systematically shift the educational paradigm from mere market utility toward deep human flourishing (Lokasangraha and well-being).

By embedding the fourfold framework of Purushartha, educational objectives expand beyond standard financial productivity (Artha) and material drive (Kama) to incorporate foundational ethical responsibility (Dharma) and inner psychological clarity (Moksha). Furthermore, the epistemological insights and cognitive practices embedded within Siddha-Sankhya and Yoga provide structured, non-sectarian mechanisms for emotional self-regulation, mindfulness, and stress mitigation, directly targeting the rising tide of youth anxiety and academic burnout. Simultaneously, the universalist ethos of Vasudhaiva Kutumbakam offers a vital socio-ethical foundation to nurture mutual respect, intercultural harmony, and environmental responsibility in a pluricultural island environment.

Methodologically, this study employs a qualitative descriptive research design, systematically examining and synthesizing secondary qualitative data, curriculum frameworks, policy documents, and institutional reports from the Mauritius Institute of Education (MIE), the Mahatma Gandhi Institute (MGI), and examination statistics from the MES. Through this qualitative descriptive approach, this paper formulated an original conceptual framework: the Mauritian Flourishing and Ecological Integration Model (MFEIM). The MFEIM demonstrates precisely how ancient epistemological traditions, when thoughtfully contextualized within Mauritius's pluricultural ethos and secular educational mandates, can rebalance the secondary curriculum. The model illustrates that integrating holistic wisdom does not diminish academic rigor; rather, it enhances youth mental health, fosters environmental stewardship, and produces an empathetic, mentally resilient, and workforce-ready citizenry capable of driving sustainable national development in the 21st century. Ultimately, this research provides a transformative curricular model suitable for Small Island Developing States (SIDS) navigating the tension between rapid technological modernisation and holistic social well-being.

Keywords: Mauritian Secondary Education, Indian Knowledge Systems (IKS), Mauritius Institute of Education (MIE), Mauritius Education Syndicate (MES), Nine-Year Continuous Basic Education (NYCBE), Mahatma Gandhi Institute (MGI), Qualitative Descriptive Research, Mauritian Flourishing and Ecological Integration Model (MFEIM), Purushartha, Human Flourishing (Lokasangraha), Small Island Developing States (SIDS)

From Indian Knowledge System to Artificial Intelligence: A Paradigm Shift

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A major focus of the paper is the difference between traditional Indian epistemology and contemporary AI. Nyāya established systematic techniques of inferring from evidence, frequent observation and the recognition of dependable relationships. Some of these concepts bear structural resemblance to today's machine learning concepts. Traditional Indian systems, however, had knowledge as the responsibility of a knower, and the knower was expected to justify, defend or correct an inference. Some AI (particularly "black-box") can make predictions without offering any clear explanation of its logic. This poses significant ethical and legal issues.

This topic is then linked to mens rea, or guilty mind, which is essential for criminal responsibility. It claims that the graded culpability for action was already acknowledged in the ancient Dharmaśāstric tradition and in the Arthaśāstric tradition, both of which existed before. Doctrines like doṣa, prāyaścitta, etc. illustrate that responsibility was not just related to the harm done by the act, but it could be related to the mental state of the actor.

The thing that makes AI a new challenge is that it is devoid of an intending human mind. As a result of algorithmic decision-making, examples of harm may occur, such as when autonomous vehicles are used, or when predictive-policing systems or algorithmic trading are employed. The paper proposes that the imposition of strict liability on the "closest" human actor might not take into account the differences in knowledge, control and foreseeability.

Therefore, the paper suggests a new model of AI accountability, based on Dharma. Instead of importing old legal principles wholesale, it proposes to change the fundamental principle of graded responsibility. The human actor's knowledge, degree of negligence, control and foreseeability should be taken into consideration when determining liability. The paper suggests the adoption of a multi-layered liability regime rather than automatic strict liability, especially in the case of autonomous vehicles, financial algorithms, police and other sensitive uses of AI.

Digital Education in Indian Society and Well-Being

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Education plays an important role in the overall development of individuals, thereby contributing immensely to the overall development of a nation. Education globally is one of the important sectors to witness revolutionary changes in recent times. This happens primarily because of the digital revolution that has taken place all across the globe. The typical Indian classroom was once characterised by students sitting through hour-long sessions; teachers used to discuss things without any visual presentation. Now, thanks to digital technology, it is making life easier for both students and educators. Digital education is fun learning for all cadres and particularly effective for child learning, as the innovative audio-video feature boosts the cognitive elements in a child's brain. Schools are increasingly adopting digital teaching solutions in their academics and trying to make the classroom environment more inclusive and participatory. The INFO-TAINMENT combination involved in digital education makes it more practical, applicable and relatable to our lives and surroundings in an interesting manner. In India, in the last few years, there has been a considerable rise in Digital and Live Virtual Classrooms at different levels of learning. With the evolution of technologies such as cloud, virtual data centres and virtualisation, there is huge potential for technology to be integrated with the Education Industry. The purpose of this research is to give an overview of digital education, components of digital education, benefits of digital education in India, the future scope and possible challenges for an Indian society moving towards digital education.

Parakh's Holistic Progress Card and The Inclusive Assessment Vision of NEP 2020: A Paradigm Shift in Assessment

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High-stakes, single-instrument evaluation systems limit the ways in which students can learn and are likely to be a disadvantage to students whose linguistic, cultural and socio-economic backgrounds are not reflected in

the tacit rules of traditional exams. To address this, NEP 2020 aims at transforming the assessment system into a competency-based, holistic and inclusive model, which involves the creation of PARAKH and implementation of the Holistic Progress Card (HPC). This paper seeks to look at whether or not the HPC realises this vision of inclusive and socio-economically responsive assessment. The study compares the HPC to six broad principles of inclusive assessment in qualitative terms: Multiple modes of demonstrating learning; Competency-based assessment; Continuous feedback; Fairness; Holistic profiling of the learner; and using assessment evidence to improve learning.

The analysis reveals that the HPC has shown an excellent level of structural alignment with all six principles, reflected in the documentation of evidence of learning from a variety of learning experiences, the incorporation of the voice of teachers, students, peers and parents in the work of the HPC and the transformation of assessments from marks reporting to continuous documentation of learning. This paper also outlines how a competency orientation is manifested in PARAKH's assessment taxonomy: Awareness, Sensitivity and Creativity, which offers a shared language to approach learner understanding, socio-emotional and ethical dispositions and creative use of knowledge in both curricular and co-curricular situations. The new taxonomy also increases the HPC's ability to capture, in a holistic and developmentally focused way, the competencies that learners can demonstrate, instead of academic achievement.

Sen-Bourdieu Analytical Framework: A Capabilitarian Approach to Addressing Diverse Lived Realities in Education

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Policy evaluations of the status of marginalised communities in education mostly pertain to standardised measures such as literacy rates, enrolment rates, dropout rates, and so on. This is the first step in studying educational engagement. However, the challenges related to the education of students from historically underrepresented and disadvantaged communities persist beyond the entry and completion points. Equal access to opportunities does not always lead to equal outcomes. Therefore, it is imperative to examine and consider the student's lived experiences as not just a means to an end

but an end in itself, and understand how these lived realities are influenced by the interaction between social, economic, cultural and political conditions.

There is a paucity of comprehensive policy analysis of the lived experiences of students throughout their educational journey, whether during schooling or higher education. Through the theoretical arguments of Sen's opportunities, freedoms, agency and conversion factors; Bourdieu's different forms of capital (social, economic, cultural, symbolic); as well as the synthesis of these two approaches, this conceptual paper offers a capabilitarian approach to policy considerations that views the lived experiences during one's educational journey as an instrumental factor that can either enhance or diminish one's educational capability and development. Using this Sen-Bourdieu Analytical Framework, this paper highlights the importance of de-homogenising the framing of educational disadvantage and thus, the variations it can cause in the lived experiences of students. It expands on early educational disadvantages, lack of navigational capacity, biases and stereotypes shaped by socialisation, and aspirational boundaries restricted due to adaptive preferences, as factors that not only influence the availability and accessibility of opportunities but also how these can bring variations in the capacities and lived realities of individuals to convert the opportunities into capabilities.

The utility of this synthesised analytical framework of Sen and Bourdieu to examine the lived experiences of students from historically underrepresented and disadvantaged communities has implications for strengthening the delivery and efficacy of equity and inclusion measures that can mostly be limited to representation and financial support. It underscores the importance of placing lived experiences at the centre of fostering educational capabilities and a life one has reason to value.

The Implementation of the Right to Education Act in Bihar

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With the enactment of RTE 2009, education became a fundamental right in India. It promised free and compulsory education for all children in the age group of six to fourteen years in a neighbourhood school. Over a decade later, has the Act fulfilled its mandate? To what extent have its provisions been implemented on the ground? In this paper, we examine these questions

with reference to two provisions within RTE 2009, viz. Section 12(1)(c) and Section 18 in the context of Patna district of Bihar.

Section 12(1)(c) of RTE 2009 was an attempt to expand the scope of inclusive education to private unaided schools in the country. Based on their management, schools in India are segregated into government, private-aided and private-unaided schools. The last category comprises self-financed schools which do not receive any funding from the government. Section 12(1)(c) made it mandatory for such schools to offer a minimum of twenty-five per cent of their seats in Class I (or the pre-school, whichever is applicable) to "children belonging to weaker sections and disadvantaged groups in the neighbourhood and provide free and compulsory elementary education till its completion".

Section 18 of RTE 2009, on the other hand, dealt with a regulatory problem of the mushrooming of unauthorised, private, for-profit schools in the country. Such schools filled an intermediate space between the public and private schools, claiming to offer better quality education than government schools for a fraction of the cost of private schools. Under Section 18, all such schools came under the scanner. To continue functioning, they were mandated to seek recognition from educational authorities by fulfilling the regulatory and infrastructure norms laid out by the state.

In this paper, we examine the extent to which the two Sections have been implemented specifically in Patna district of Bihar. Methodologically, we rely on over a decade of grassroots fieldwork and data collection from the Bihar Shiksha Pariyojana Parishad (BSPP).

Navigating Adolescent Vulnerabilities: Practices, Challenges, and Prospects of Guidance and Counselling in Bangladesh Secondary Schools

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Guidance and counselling are closely related terms that help human beings discover themselves, understand their problems, and identify ways to solve them. Learners at the secondary level go through a complex routine due to

various socio-cultural issues. Furthermore, the widespread availability of ICT devices influences these learners in various ways. Issues such as dropping out, drug addiction, suicide, and gang involvement are very common among secondary school students. Learners at this age require proper care from their parents and educational institutions so they can find the right path in life. The Government of Bangladesh has also noted the necessity of guidance and counselling in secondary schools for the proper development of students at this level. While several studies have been carried out in Bangladesh regarding the importance of guidance and counselling, the preparations that secondary schools have made, along with the practices and challenges of formal counselling, have not been fully explored. Hence, this study was conducted in the interest of secondary-level learners, practising teachers, school administrators, and policy developers. It aims to explore present guidance and counselling practices in Bangladeshi secondary schools, examining the associated challenges alongside the possibilities for quality implementation. A descriptive qualitative research approach was employed. Data were collected from sampled secondary-level teachers, Grade IX and X students, parents, expert psychologists, and educationalists across urban and rural settings in the Dhaka, Noakhali, and Comilla districts to ensure geographical and educational variation. Primary data were gathered through semi-structured interviews with 18 teachers from 18 secondary schools, 18 Focus Group Discussions (FGDs) with students, interviews with 18 parents, and expert interviews with two educational psychologists. The data were analysed thematically across three key areas: practices, possibilities, and challenges. The findings revealed that in most secondary schools (88.89%), there is no formal counselling or professional counsellor available. Only 11.11% of secondary schools offer counselling provided by professional counsellors. Schools face severe limitations regarding human resources and related facilities to introduce guidance and counselling effectively. Nevertheless, students, teachers, parents, and experts strongly agree on the need for formal counselling. Adolescents face numerous challenges stemming from peers, digital gadgets, gang culture, and the psychological changes of their age group. Furthermore, students encounter difficulties related to academic issues, particularly regarding new post-pandemic assessment methods. Misuse of social media and online platforms sometimes misguides adolescents, leading to drug addiction, gang involvement, disobedience, school absenteeism, dropping out, or academic dishonesty. Respondents agreed that ensuring guidance and counselling is essential to keeping youth on the right track for a productive future. The study offers key recommendations to implement a whole-school approach, engaging community leaders alongside

school personnel as vital stakeholders, along with teachers, for providing and executing quality guidance and counselling in the secondary school. Active parental engagement with the school is also explored as a significant recommendation for the effectiveness of guidance and counselling in school. Eventually, these findings aim to assist policymakers in formulating guidelines to establish formal guidance and counselling in secondary schools, protecting adolescents from vulnerabilities and fostering a brighter future.

Understanding Mathematics Dropout in Higher Education: Cognitive Affective Persistence Model Under Educational Psychology Theories

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The field of mathematics plays a key part in higher education, learning in the areas of science, technology, engineering, and mathematics, and gaining knowledge as well as ensuring people's employability, but there are still cases when students stop studying mathematics or do not choose mathematics in college. Researchers have already looked at the causes of decreasing interest in the subject, such as mathematics anxiety, self-efficacy, value of the task, and achievement emotions, but most authors have investigated the influence of these factors separately. This study aims to fill this gap in research using a theory-building narrative review based on some well-known educational theories such as Social-Cognitive Theory, Control-Value Theory, and Expectancy-Value Theory. The new model developed in the present study is called the Cognitive Affective Persistence Model, and it is aimed at explaining the mathematics discontinuation process rather than just stating that such discontinuation has taken place. According to the model presented, students' beliefs regarding their own mathematical ability, its value, difficulties, and costs are perceived. Consequently, students' evaluation affects achievement-related emotions and motivation, engagement, avoidance, and persistence. Repeated experiences may influence so-called evaluations and begin the cycle where challenges increase the possibility of discontinuation from mathematics. Some propositions are formed in order to explain the relationship between the concepts on the basis of three questions identified from the theoretical framework, which are the basis of model development and provide testable propositions for future empirical findings. Through its focus on the mathematics persistence issue, this study directly relates to the conference theme "Education, Knowledge Systems, and well-being". The model concentrates not just on mathematics discontinuation as an academic

achievement but on exploring the educational conditions and psychological factors that impact students' participation in learning. In light of this, the model will help trace the points when facilitation by educators, counsellors, and institutions takes place and disengagement becomes discontinuation. Moreover, the model links educational participation with student well-being, acknowledging that persistent negative experiences in maths may have an impact on students' emotions, motivation, and readiness to continue learning. Numbers are always important in everyone's life, from household work to Machine learning (AI). This paper contributes to understanding the value of this subject in achieving the SDGs, especially SDG 4, by providing students with quality education so that the dropout rate decreases and academic outcomes improve. So, this study also helps to understand the theme of the conference, Global Goals beyond 2030, partially. Thus, the Cognitive Affective Persistence Model contributes to the conference theme by offering a theoretical framework for strengthening educational continuity, supporting student well-being, and sustaining participation in mathematically demanding areas of higher education. The model provides a basis for future empirical research and for developing educational interventions that support students' persistence in mathematics.

Transforming Education Through Knowledge System: Challenges and Opportunities

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Education is a basic means of intellectual development, social transformation, cultural preservation, and sustainable progress of a nation. In today's world, the transformation of education is necessary to meet the changing needs of society. It requires a shift from conventional, information-based teaching towards an integrated knowledge system that promotes logical thinking, experiential learning, creativity, problem-solving, and ethical and moral values. The world is facing rapid technological advancements, globalization, changing employment patterns, and the emergence of new knowledge and social needs. These changes have made it necessary to rethink the content, teaching methods, purpose, and outcomes of education. A knowledge-based approach does not focus only on textbooks and classroom learning but also connects education with practical experiences, cultural traditions, indigenous practices, scientific knowledge, and moral values. It helps learners understand their surroundings and apply their knowledge in everyday life.

The Indian Knowledge System (IKS) provides valuable ideas for transforming modern education. India has a rich tradition of knowledge in philosophy, mathematics, medicine, agriculture, astronomy, arts, and literature. The inclusion of relevant traditional knowledge in modern education can help students understand their cultural heritage while developing critical thinking and practical skills. The National Education Policy (NEP) 2020 also emphasizes the integration of Indian Knowledge Systems with contemporary education. It promotes multidisciplinary learning, vocational education, creativity, critical thinking, and the overall development of learners. However, transforming education through a knowledge system faces several challenges. These include inadequate teacher training, a lack of educational resources, the digital divide, resistance to new teaching methods, and the commercialisation of education. Limited research on traditional knowledge and difficulties in connecting it with modern subjects may also affect its effective implementation. Therefore, proper planning, teacher preparation, institutional support, and scientific evaluation are necessary to make this transformation successful. At the same time, there are several opportunities to improve the education system. The integration of traditional and modern knowledge can make learning more meaningful and relevant. Developing interdisciplinary curricula, promoting technology-based education, encouraging research, and connecting classroom learning with practical experiences can improve students' understanding and abilities. Cooperation among teachers, researchers, educational institutions, and local communities can also help preserve indigenous knowledge and pass it on to future generations. This paper examines the major challenges and opportunities related to transforming education through a knowledge system, with special reference to the Indian Knowledge System and NEP 2020. It highlights the importance of combining traditional wisdom with modern scientific knowledge to develop an inclusive, value-based, and practical education system. Such an approach can support individual development, social responsibility, cultural preservation, and the sustainable progress of the nation.

The Mortal Knower: Human Being and Knowledge as A Single Operation in Archaic Greek Culture

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Is the human being? And the question: how can a mortal know? Rather, the question of human being and the question of knowledge constitute a single conceptual operation. From Homer to the Presocratics, lyric poetry,

and tragedy, every account of knowledge simultaneously defines what it means to be human.

The point of departure is the opposition articulated in Iliad 2.484–486, where the Muses "are present and know all things," whereas mortals "hear only the report and know nothing." This distinction is not merely epistemological but ontological: divine knowledge derives from presence, while the human condition is defined by absence, mortality, and partial vision. Across archaic Greek literature, the human appears as βροτός, θνητός, and ἐφήμερος—the mortal, the dying, and the creature of a day—whose finite condition determines both the limits and the possibility of knowledge.

Yet the Greek response to this condition is not scepticism. Rather, archaic authors present the human as a fundamentally liminal being (μεταξύ), capable of temporarily exceeding its mortal condition through transformative encounters with truth. In Homeric inspiration, Xenophanes› inquiry, Parmenides› initiatory journey, Heraclitus› search for the λόγος, Sappho's phenomenology of presence, and Sophocles' conception of the δεινόν, knowledge is not the accumulation of information but an event that transforms the mode of being of the knower.

By reconstructing this archaic Greek epistemic framework, the paper argues that human being and knowledge are mutually constitutive. Every answer to the question "What is a human being?" already contains an answer to the question "What can a human know?", and vice versa. Recovering this unity not only offers a perspective on Greek knowledge conceptualisation but also provides a critical lens through which to rethink contemporary education. Rather than separating human formation from the acquisition of knowledge, the archaic Greek tradition invites us to conceive education as the co-formation of the human being and the possibilities of knowledge.

Exploring Primary Teachers' Experiences of In-Service Professional Development

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This study aims to explore the efficiency of the teacher training programs (TTP) of primary education in Bangladesh and how they help in the professional development of the teachers. A qualitative descriptive research design has been applied to conduct this study. The long-term programs, which

included a Diploma in Primary Education (DPEd), and short-term programs, which included subject-based and other trainings, including inclusive education training, were also discussed. A total of twenty participants—ten assistant teachers and ten headteachers, with at least one representative from each administrative division of the country—were selected using a purposive sampling technique. All selected teachers had participated in both long-term and short-term training programs. The study used semi-structured interview schedules to obtain more information about the research objectives. The narrative data have been analysed following the thematic approach. Long-term and short-term training are provided to the primary school teachers. Through the in-depth interviews with the primary school teachers, the study revealed that training had an effective role in teachers' professional development. This study found that although the identified training programs prepare teachers in the necessary basic competencies, they encounter several challenges such as inadequate resources, poor trainer competence, and logistical issues. The noteworthy outlines of this study are using training tracking software for avoid repetition of trainees for the same training or selecting several teachers from the same school at the same time, modifying training design and curricula, implementing guidelines, and developing a follow-up mechanism.

Agricultural Indigenous Knowledge of Nagaland: Bridging Tradition and Sustainable Agriculture.

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Agricultural Indigenous Knowledge (AIK) has been the foundation of farming and rural livelihoods among the indigenous communities of Nagaland for generations. Developed through continuous interaction with the local environment, AIK encompasses knowledge related to land preparation, crop selection, seed conservation, soil fertility management, water conservation, pest control, agroforestry, forest management, and biodiversity conservation. Rooted in customary institutions, cultural traditions, and community practices, it represents a dynamic social-ecological knowledge system that promotes sustainable resource management rather than merely a collection of traditional farming techniques.

The paper examines AIK through the theoretical perspectives of Agroecology, Social-Ecological Systems Theory, Resilience Theory, and the Sustainable Livelihoods Framework. These perspectives explain how indigenous knowledge integrates ecological understanding, community institutions, and adaptive management to sustain agricultural production while maintaining environmental balance and livelihood security. The paper argues that AIK is not static but continuously evolves as indigenous communities selectively adopt appropriate modern innovations without compromising their ecological knowledge base.

Nagaland provides a rich context for understanding AIK because its diverse tribal communities have developed unique farming systems adapted to the state's mountainous terrain and varying ecological conditions. Traditional practices such as jhum cultivation, terrace farming, mixed cropping, indigenous seed conservation, organic nutrient recycling, community forest governance, gravity-fed irrigation, and home gardens demonstrate sustainable approaches to natural resource management. Tribe-specific practices, including the terrace farming systems of the Chakhesang community and various indigenous methods of weed management, soil conservation, and crop diversification, illustrate the practical application of local knowledge.

The paper further highlights the contribution of AIK to environmental sustainability, climate resilience, food and nutritional security, and rural development. Indigenous farming practices improve soil fertility, conserve biodiversity, protect watersheds, reduce dependence on external agricultural inputs, and strengthen community participation and livelihood resilience. The proposed conceptual framework demonstrates that the interaction of ecological knowledge, indigenous institutions, and cultural values leads to sustainable agricultural practices, enhanced ecosystem services, and broader outcomes such as climate resilience, food security, livelihood diversification, and sustainable rural development.

The paper concludes that Agricultural Indigenous Knowledge is an invaluable resource for addressing contemporary agricultural and environmental challenges. Recognising, documenting, and integrating AIK with modern scientific knowledge through research, policy, and extension services can strengthen resilient, inclusive, and environmentally sustainable agricultural systems while preserving the rich indigenous heritage of Nagaland.

Emerging Learning Spaces for The New Learning Landscape: Study of Informal Learning Environments in Architecture Institutes in India

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This research explores how the learning environment in Indian architecture institutes is evolving, with a special focus on informal learning spaces and students' preferences. Traditionally, education in India has been placed around formal classroom settings. However, the study highlights a significant shift towards informal learning spaces. Students now value a variety of spaces like corridors, cafeterias, atriums, terraces, and green areas for individual study, group work, and social interaction. These informal spaces play a crucial role in supporting students' learning and their experiences, fostering collaboration and enhancing well-being.

The research combines spatial analysis and student surveys to understand which spaces students prefer and why. Key factors influencing their choices include comfort, flexibility, access to technology, and the overall ambience. For example, students are drawn to spaces with natural light, comfortable seating, and wireless connectivity. The study also emphasises the importance of spaces that encourage both collaboration and individual focus, such as learning cafés, interactive library zones, and green breakout areas.

India's demographic trends, especially its large youth population, underscore the need for educational environments that support not just academic growth but also physical, mental, and emotional well-being. The paper recommends a holistic approach: integrating health-promoting features, flexible layouts, and technology-rich environments to empower students.

Case studies and literature reviews further reveal that well-designed informal spaces can motivate students, support diverse activities, and foster a sense of community. The findings suggest that future campus designs should move beyond traditional classrooms to include a mix of gathering spaces, personalized zones, and nature-inspired areas. By doing so, institutes can create vibrant, supportive environments that help students thrive academically and personally.

In summary, the study preference for a thoughtful redesign of physical learning spaces in architecture institutes and recognising that where students learn is just as important as what they learn.

Digital Teaching Readiness in Bangladesh: An Analysis of Secondary School Teachers' TPACK Competencies

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Digital proficiency has become more common. Without adequate knowledge of these tools, it would be difficult for teachers to engage students in a virtual setting. In short, the ability to use technology confidently and competently is now a crucial skill for educators, especially in the recent challenges in the education sector (Shafie, Abd Majid, & Ismail, 2021). The aim of this study was to ascertain the Technological Pedagogical and Content Knowledge (TPACK) competency level of Bangladeshi secondary-level teachers, with a particular focus on factor analysis and demographic analysis. Bangladesh. To address the research objective, a mixed-methods research approach was employed to collect both quantitative and qualitative data from 255 randomly selected secondary teachers drawn from 20 schools and madrassas. The schools and madrassas were chosen purposively across three districts of Bangladesh. Data were collected through the Technological Pedagogical and Content Knowledge (TPACK) scale along with other questions. The questionnaire consisted of 45 questions. In order to analyse quantitative data, the authors used descriptive statistics, correlation and factor analysis. Additionally, demographic variables such as location, qualification, gender, and teaching experience were thematically analysed to support and expand upon the quantitative findings. For the qualitative data, however, a thematic analysis was used. Robust findings were found from the study, expected to contribute to a clearer understanding of the actual level of teachers' TPACK competencies. Several studies show that while teachers are experts in their subject matters, they are still not confident enough to teach their content with the help of technology. This research aims to assess the level of TPACK among the secondary sector and examine the influencing background factors. It may help the authorities and government to take steps and policies on TPACK and technology integration in teaching and learning activities. Additionally, the research may aid head teachers, assistant head teachers, supervisors, assistant teachers, junior teachers, and education officers in the development of integrating technology in teaching and learning activities.

Bridging or Widening? Digitalisation and The Persistence of The Digital Divide in Indian Higher Education Access

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Digitalisation has been promoted as a great equaliser in Indian education—a means of extending access to knowledge beyond the constraints of geography, income and infrastructure. This paper critically examines this narrative by comparing indicators of educational access, digital infrastructure and learning outcomes before the digital push (pre-2015) and in the current period (2023–2025). Drawing on data from the Annual Status of Education Report (ASER), the All India Survey on Higher Education (AISHE), the Unified District Information System for Education Plus (UDISE+), the National Sample Survey Office (NSSO), the National Family Health Survey (NFHS-5) and the Telecom Regulatory Authority of India (TRAI), the study finds that, while digital access has expanded rapidly—with higher education enrolment growing from 3.42 crore in 2014–15 to 4.50 crore in 2023–24, and rural smartphone ownership among young people more than doubling between 2018 and 2022—structural inequalities rooted in geography, gender and socio-economic status continue to determine who meaningfully benefits from this expansion. Using a three-level digital divide framework (access, skills and outcomes), the paper argues that digitalisation without parallel investment in digital literacy, affordability and localised content risks reproducing, rather than resolving, existing educational inequalities. The paper concludes with policy recommendations centred on equity-driven digital education planning.

Reclaiming Epistemic Voices: A Critical Literature Review on Epistemic Silence and Indigenous Knowledge Systems in India

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The recent trend of discussing concepts such as “decolonisation”, “decolonise” and “decolonial” is common in contexts involving cultures or nations that have emerged from their colonial past, such as India and Africa (Shahjahan et al., 2021). However, the meaning of these concepts is rather nuanced and cannot be reduced to a single, uncontested definition. Decolonisation in postcolonial academia, for example, involves deconstructing colonial power structures and developing inclusive, non-Eurocentric knowledge systems (Matasci, 2022). It is therefore not merely a matter of replacing one body

of knowledge with another, but of questioning the very conditions under which certain forms of knowing came to be regarded as legitimate while others were rendered invisible.

Additionally, it has long been noted that educational theory has been dominated by Eurocentric philosophical voices (Alcoff, 2017). This dominance not only places one particular voice at the centre of our knowledge but also marginalises other epistemological standpoints. The result is a form of epistemic silence, in which entire traditions of thought, pedagogy and inquiry remain unacknowledged within formal academic and institutional spaces. In the Indian context, this silence is particularly consequential, given the country's long and plural intellectual heritage, which includes diverse philosophical schools, oral traditions, community-based knowledge and experiential modes of learning. The National Education Policy 2020 seeks to resist this dominance, as educational theory continues to reflect hegemonic colonial imprints (NEP, 2020; Batra, 2020). Yet the extent to which such policy aspirations translate into meaningful epistemic change in curricula, pedagogy and research remains an open question that warrants careful scrutiny.

The present paper employs hermeneutic inquiry to explore the possibility of the emergence of non-colonial epistemic voices. Through an interpretive engagement with existing literature, it examines the meanings, assumptions and historical contexts that shape how knowledge is defined, valued and transmitted. In line with the conference's objectives, the research critically examines how the universalisation of colonial epistemologies has marginalised indigenous knowledge systems, often dismissing them as invalid or backward. Such characterisations, the paper argues, are not neutral judgements but products of historically situated power relations that continue to influence educational priorities and institutional practices.

By shifting the focus from "one-size-fits-all" approaches to context-sensitive strategies, this paper aims to redefine the aims of education within the Indian context. It argues for an education that is attentive to local histories, languages and ways of knowing, while remaining open to dialogue with other traditions rather than retreating into insularity. In doing so, the paper contributes to ongoing conversations on epistemic justice by suggesting that reclaiming marginalised voices is both an intellectual and an ethical undertaking, one that has the potential to reimagine education as a more inclusive, plural and meaningful enterprise.

Reading Theatre: Living Education Systems Beyond the Classroom

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This paper argues that Indian theatre constitutes a working alternative to formal schooling. The argument begins with Bharata Muni's Natyashastra, a text that designates itself the fifth Veda, or Panchamaveda, and claims an audience the four Vedas withheld from most people. Vedic learning remained confined within caste and gender lines; the Natyashastra holds that dharma, artha, yasha, counsel, skill, and moral instruction should reach everyone through sight and sound. This paper uses that claim to examine what theatre, across its classical, folk, and contemporary forms, has taught outside institutional structures.

The paper reads theatre as a site where disciplines kept separate by formal education converge: rasa and bhava constitute an emotional and ethical vocabulary; abhinaya trains the body as an instrument of communication; music, dance, architecture, and costume function as interconnected areas of study rather than isolated subjects. Transmission occurred through rehearsal and apprenticeship, carried from guru to shishya and from performer to audience, without institutional structure, fixed syllabus, or certification. Central to this transmission is jati, understood here not as caste hierarchy but as biocultural formation, a community whose knowledge, occupation, and identity are transmitted collectively across generations. Koodiyattam of Kerala sustains this model in near-continuous practice, its temple-bound training passed through generations of Chakyar and Nangyar families as embodied Sanskrit scholarship, wherein gesture and rhythm constitute inherited knowledge rather than instructed content.

Jatra of Odisha conveyed moral and historical instruction to rural audiences through open-air, seasonal performance, integrating narrative, music, and civic address within a single event accessible without literacy. Nukkad natak extends this practice into the present, employing public space as pedagogical ground to address health, caste, gender, and civic concerns directly to audiences positioned outside formal discourse. These forms, together with other regional and folk traditions, constitute models of experiential and community-based knowledge that dominant education systems have historically marginalised, even as such traditions continue to sustain livelihoods, ritual practice, and social cohesion. Considered together, they demonstrate learning as embodied memory, transmitted through gesture and timing across generations, functioning as an archive rather than as a textual record alone.

The paper then examines contemporary theatre's incorporation of digital tools, recorded and streamed formats, and hybrid pedagogical practices, extending its reach from temple courtyards and village squares into classrooms, community centres, and digital platforms. This adaptability sustains literature, ethics, sociology, and performance as an integrated field without reducing any one to the others. Reading the Natyashastra alongside Koodiyattam, Jatra, Nukkad Natak, and the concept of jati as biocultural inheritance, this paper contends that theatre addresses a central concern of the conference theme: how education might integrate multiple knowledge systems while preserving the distinctiveness of each, and what such a model offers to education systems still negotiating that balance.

Does Homestay Memorable Tourism Experience Shape Tourist Loyalty? A Well-Being Centric Approach

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Contemporary societies are experiencing rapid and increasing levels of psychological distress such as stress, anxiety, and depression across all age groups, resulting in a reduction in overall well-being. Over the past decade, tourism has undergone a paradigm shift from being product- and service-oriented to becoming experience-oriented tourism. Experiential tourism has emerged as a therapeutic avenue in contemporary societies marked by rising psychological distress and declining wellbeing. Homestays, as an experiential form of tourism, remain relatively underexplored in this context. Guided by established theoretical perspectives, this study develops a conceptual framework. First, the study identifies key determinants of homestays that shape Memorable Tourism Experience(MTE). Moreover, the study analysed the relationship between MTE, hedonic and eudaimonic well-being, and Tourist loyalty. The study was conducted in two hill stations of the Eastern Himalayan Region of India, Darjeeling and Sikkim. Using a purposive sampling method, responses were collected through an online survey from visitors who had homestay experience in Darjeeling and Sikkim. To determine the sample size, power analysis was conducted. The survey resulted in 134 responses; finally, the analysis was carried out with 125 valid samples. The results from PLS-SEM reveal that host-guest interaction, cultural immersion and personalised service significantly shape MTE. Moreover, MTE positively influences both hedonic and eudaimonic wellbeing as well as tourist loyalty. Additionally, hedonic

and eudaimonic wellbeing partially mediates the relationship between MTE and tourist loyalty. However, the findings from moderation analysis indicate no significant differences between first-time and repeat visitors across the examined relationships. This study can enrich the scope of application of Consumer behaviour theory, Social Exchange Theory, Broaden and Build Theory, and Self-Determination Theory, and contribute to the literature and knowledge on homestay tourism, destination marketing, and destination management from a theoretical perspective. From a practical implication's perspective, the findings of this study provide a valuable suggestion for homestay tourism business operators, destination managers, and tourism policymakers.

The Ie-Ae-TNB Model: Leveraging Corporate Social Responsibility to Bridge the Industry-Academia Gap for Nation Building in India

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India has made significant progress in expanding access to higher education and improving literacy, yet graduate employability continues to remain substantially below national expectations. This persistent disconnect between academic education and industry requirements has emerged as one of the most critical barriers to India's aspirations of becoming a knowledge-driven economy. Existing policy initiatives, including the National Education Policy (NEP) 2020 and various national skilling programmes, acknowledge this challenge and advocate stronger collaboration between academia and industry. However, they largely presume voluntary industry participation without creating an institutional mechanism that ensures sustained engagement.

This paper argues that the employability crisis is fundamentally a coordination failure rather than a failure of educational institutions alone. While academia is expected to modernise curricula, enhance practical training, and improve graduate outcomes, industry, the primary consumer of skilled human resources, has no corresponding statutory obligation to participate in workforce development. As a result, industry-academia interactions remain fragmented, personality-driven, and inconsistent.

To address this structural gap, the paper proposes the Industry Engagement in Academic Evolution Towards Nation Building (Ie-Ae-TNB) Model, a tripartite framework integrating academia, industry, and policymakers through a structured amendment to the Corporate Social Responsibility (CSR) provisions of the Companies Act, 2013. Rather than increasing CSR expenditure, the model recommends redefining eligible CSR activities to include sustained

industry engagement in higher education and skill development.

The Ie-Ae-TNB Model organises industry participation through three complementary pillars: Contributions in Ideation and Infrastructure, Teacher-Centric Contributions, and Student-Centric Contributions. Together, these encompass collaborative curriculum development, industry-designed short courses, laboratory modernisation, faculty development programmes, industry-academia exchange initiatives, internships, apprenticeships, soft-skill development, and structured recruitment pathways. The paper further proposes four delivery vehicles: regional skill hubs, apprenticeship programmes, entrepreneurship incubators, and digital skill platforms, to enable implementation across institutions of varying capacities.

Drawing upon the long-standing CSR-based skill development initiatives of Maruti Suzuki India Limited as an illustrative precedent, the paper demonstrates that sustained industry engagement can substantially improve graduate readiness and employability. Building on this evidence, it recommends five policy reforms: explicit recognition of skill development within CSR, outcome-based reporting, incentives for active industry participation, encouragement of multi-year CSR commitments, and digital transparency for monitoring outcomes.

The paper concludes that India's demographic dividend can only be fully realised when industry becomes an active partner in the education ecosystem rather than a passive recruiter. By transforming CSR from a predominantly philanthropic obligation into a strategic instrument for workforce development, the Ie-Ae-TNB Model offers a scalable, legally feasible, and nationally relevant framework for strengthening employability, fostering innovation, and accelerating sustainable nation building.

Social Influence, Metacognitive Engagement and Learner Autonomy in Generative-AI-Supported English Language Learning among Higher Education Students

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Generative Artificial Intelligence (GenAI) has been creating potential for English language learning in higher education by providing learners with opportunities to access clarifications, practice language, receive feedback, and

engage with learning resources beyond formal classroom teaching. However, the educational value of these opportunities may depend not only on access to AI tools but also on the social influences surrounding their use and the metacognitive engagement learners demonstrate during the learning process. Understanding how these factors relate to learning autonomy is therefore important for examining GenAI-supported English language learning in higher education. In this context, the present study examined the levels of Social Influence, Metacognitive Engagement, and Learner Autonomy among higher education students using GenAI for English learning, investigated the relationships among these variables and assessed the extent to which Social Influence and Metacognitive Engagement statistically influenced Learner Autonomy.

The study adopted a quantitative research design, and data were collected from 228 undergraduate and postgraduate students belonging to different academic disciplines through purposive sampling technique. Data were collected using self-report measures assessing the three constructs on a five-point Likert scale. Social Influence was assessed using a four-item measure informed by the Unified Theory of Acceptance and Use of Technology (UTAUT). Metacognitive Engagement was measured using nine adapted items based on the metacognitive self-regulation dimension of the Motivated Strategies for Learning Questionnaire (MSLQ), while Learner Autonomy was assessed using twelve adapted items based on the Learner Autonomy Profile Questionnaire (LAPQ). The respective internal consistency coefficients were 0.798, 0.817, and 0.852. Descriptive statistics, Pearson's product–moment correlation, and multiple regression analysis were employed to examine the data. The findings indicated relatively high mean scores for Social Influence (M = 3.79, SD = 0.78), Metacognitive Engagement (M = 3.64, SD = 0.60), and Learner Autonomy (M = 3.83, SD = 0.54).

Significant positive correlations were observed between Social Influence and Metacognitive Engagement ($r = 0.381$, $p = 0.001$), Social Influence and Learner Autonomy ($r = 0.535$, $p = 0.001$), and Metacognitive Engagement and Learner Autonomy ($r = 0.415$, $p = 0.001$). Multiple regression analysis further revealed that Social Influence and Metacognitive Engagement jointly explained 33.8% of the variance in Learner Autonomy ($R^2 = 0.338$, $p = 0.001$). Both Social Influence ($\beta = 0.441$, $p = 0.001$) and Metacognitive Engagement ($\beta = 0.247$, $p = 0.001$) emerged as significant positive statistical predictors, with Social Influence demonstrating the larger standardised coefficient. The findings suggest that social and metacognitive dimensions are relevant to understanding perceived Learner Autonomy in GenAI-supported English

language learning. These findings emphasise the importance of examining social and metacognitive factors in understanding learner autonomy in GenAI-supported English language learning. Thus, the study offers empirical insights into their relative contributions to perceived learner autonomy and provides a basis for further research into the factors shaping autonomous engagement with GenAI in higher education.

Do Vocational Training Enhance Female Labour Force Participation? Evidence from Bihar

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Female labour force participation in India has increased substantially, with the Female Labour Force Participation Rate (FLFPR) rising from 23.3% in 2017–18 to 40.0% in 2025 (PLFS, 2025). However, significant interstate disparities persist. States characterised by high poverty and institutional barriers continue to exhibit relatively low female labour force participation. For instance, Bihar has an FLFPR of around 30%, while approximately 33.37% of its population lives below the poverty line. Given these socioeconomic challenges, it is important to examine the impact of vocational training on female labour force participation in Bihar.

The existing literature generally finds a positive association between vocational training and labour force participation. However, there is a lack of studies that establish a causal relationship between vocational training and FLFPR. Bihar provides an ideal setting to evaluate the effectiveness of vocational training programmes because of its low female labour force participation and limited access to skill development.

This study uses data from the Periodic Labour Force Survey (PLFS) 2018–19 and 2019–20. The PLFS provides detailed information on vocational training, employment, and individual and household characteristics. We pooled the two survey rounds and restricted the analysis to the working-age population, resulting in a sample of 12,456 women and 11,391 men.

We first estimate the effect of vocational training on labour force participation using the Ordinary Least Squares (OLS) method. However, labour force participation is influenced not only by vocational training and educational attainment but also by several unobserved factors. Consequently, OLS estimates may suffer from endogeneity bias and produce inconsistent results. To address this issue, we employ an Instrumental Variables (IV) approach using Two-Stage Least Squares (2SLS)[1] and Propensity Score

Matching (PSM). These methods enable us to estimate the causal effect of vocational training on labour force participation in Bihar.

The descriptive statistics reveal that only 4.2% of women in Bihar have received formal vocational training, compared with 7.8% of men. The OLS estimates indicate that vocational training has a positive and statistically significant effect on female labour force participation, with the effect being larger for women than for men. The IV and PSM estimates yield similar results in terms of direction and statistical significance, although the magnitude of the estimated effects differs across methods.

Overall, the findings suggest that vocational training is more beneficial for women than for men in promoting labour force participation in Bihar. These results have important policy implications, highlighting the need for greater investment in vocational training programmes targeted at women. This is particularly important given that less than 1% of working-age women in Bihar have received formal vocational training to date.

Inter-state Disparity in School Education in Northeast India: A Comparative Assessment

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In Northeastern India, school education considerably expanded over time, yet differences persist across states and across the dimensions of educational development. The present study examines inter-state disparities in school education, focusing on literacy, gross enrolment ratio (GER), dropout rate, school availability, pupil-teacher ratio (PTR), and gender disparity in the Northeast. The study is based on secondary data drawn primarily from the Census of India and the Unified District Information System for Education Plus 2024–25 (Non-NEP). The inter-state disparity is measured using the Coefficient of Variation, while gender disparity is examined through the Gender Parity Index. The study found that the disparity in education is multidimensional in nature. Literacy shows comparatively low inter- state variation, indicating greater convergence among the northeastern states. In contrast, dropout rates, school availability, and pupil–teacher ratios show substantial disparities across the region. There is a decline in average GER as students move from primary to secondary education, although variation

in GER becomes relatively smaller at higher levels across the States in the Northeast. However, the dropout rates rise sharply with higher levels of schooling, whereas the variation in dropout rates across states declines. The availability of schools remains uneven, with the higher disparity observed at the upper-primary level. The pupil-teacher ratios (PTRs) show significant inter-state differences in the case of primary and upper-primary levels, but compared with the national average, they are quite satisfactory. The gender specific analysis shows a positive picture in the Northeast. Female GER is equal to or higher than male GER in most of the states as well as the levels of schooling, and the Gender Parity Index is equal to or above parity. However, the pattern of educational development remains uneven across the different states. The study concludes that improving school education in Northeast India requires greater attention to student retention, transition to higher levels of schooling, and a more balanced distribution of educational infrastructure and teaching resources. State-specific interventions are therefore necessary to address the diverse educational conditions of the region.

An Empirical Analysis of Wagner's Law for Public Expenditure on Higher Education in Bihar

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The relationship between public expenditure and economic growth has been extensively debated in public finance literature, with Wagner's Law postulating that economic growth leads to an expansion in government expenditure. This study investigates the validity of Wagner's Law for Bihar by examining the relationship between economic growth and three categories of public expenditure: revenue expenditure, public expenditure on education, and public expenditure on higher education. Annual time-series data for the period 2002 to 2022 were analysed using the Augmented Dickey-Fuller (ADF) unit root test, Johansen cointegration technique, Vector Autoregressive (VAR) model, and Vector Error Correction Model (VECM).

The ADF results indicate that all variables are non-stationary at their levels but become stationary after first differencing. The Johansen cointegration test was employed to examine the existence of long-run equilibrium relationships. The empirical findings reveal that revenue expenditure and public expenditure

on education do not exhibit cointegration with real Gross State Domestic Product (GSDP) and real Per Capita Net State Domestic Product (PCNSDP), indicating the absence of a stable long-run relationship. Consequently, the estimated VAR models also fail to identify statistically significant short-run effects of economic growth on these categories of public expenditure. These results suggest that Wagner's Law is not supported by revenue expenditure and aggregate public expenditure on education in Bihar.

In contrast, the Johansen cointegration test confirms the existence of one cointegrating relationship among public expenditure on higher education, real GSDP, and real PCNSDP. Accordingly, a Vector Error Correction Model was estimated. The Error Correction Term is negative and statistically significant. However, the short-run coefficients of real GSDP and real PCNSDP remain statistically insignificant, implying that higher education expenditure adjusts to economic growth only over the long run rather than responding immediately to short-term fluctuations in income.

The study concludes that Wagner's Law is validated only for public expenditure on higher education in Bihar, while no empirical support is found for revenue expenditure and aggregate public expenditure on education. These findings highlight that sustained economic growth contributes to the long-run expansion of public investment in higher education, whereas broader categories of public expenditure appear to be influenced by factors beyond economic growth alone. The study contributes to the literature by providing state-level evidence on sector-specific public expenditure and offers policy insights for strengthening long-term financing of higher education in Bihar.

ज्ञान लोकतंत्र, नागरिकता और कल्याण: कृत्रिम बुद्धिमत्ता के युग में शिक्षा, स्वास्थ्य तथा राज्य की बदलती भूमिका का समाजशास्त्रीय-राजनीतिक विश्लेषण

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इक्कीसवीं सदी का समाज तीव्र ज्ञान-परिवर्तनों, डिजिटल तकनीकों और कृत्रिम बुद्धिमत्ता (Artificial Intelligence) के प्रसार के कारण अभूतपूर्व संक्रमण से गुजर रहा है। ज्ञान का उत्पादन, प्रसार और उपभोग अब केवल विश्वविद्यालयों, विद्यालयों अथवा पारंपरिक संस्थानों तक सीमित नहीं रहा, बल्कि डिजिटल मंचों, एल्गोरिथ्मिक प्रणालियों और डेटा-आधारित शासन संरचनाओं द्वारा भी संचालित हो रहा

है। ऐसी परिस्थिति में शिक्षा, स्वास्थ्य और नागरिकता के प्रश्न केवल सेवा-प्रदायन के विषय नहीं रह जाते, बल्कि वे ज्ञान, सत्ता, लोकतंत्र और सामाजिक न्याय के व्यापक विमर्शों से जुड़ जाते हैं।

यह शोध-पत्र शिक्षा, ज्ञान-प्रणाली, स्वास्थ्य कल्याण और लोकतांत्रिक नागरिकता के मध्य अंतर्संबंधों का समाजशास्त्रीय तथा राजनीतिक विश्लेषण प्रस्तुत करता है। अध्ययन का केंद्रीय तर्क यह है कि इक्कीसवीं सदी में कल्याण की अवधारणा को केवल आय, स्वास्थ्य या शैक्षिक उपलब्धि के आधार पर नहीं समझा जा सकता; बल्कि यह इस बात पर निर्भर करती है कि व्यक्ति ज्ञान-संसाधनों तक किस सीमा तक पहुँच रखता है, उनका उपयोग कैसे करता है तथा लोकतांत्रिक प्रक्रियाओं में किस प्रकार सहभागी बनता है।

मिशेल फूको, पियरे बोरदियू, युर्गेन हैबरमास तथा अमर्त्य सेन के सैद्धांतिक प्रतिपादनों के आधार पर यह शोध-पत्र ज्ञान, सत्ता, नागरिकता और कल्याण के मध्य संबंधों की पुनर्व्याख्या करता है। विशेष रूप से बिहार के संदर्भ को एक विकासशील सामाजिक-राजनीतिक प्रयोगशाला के रूप में देखते हुए शिक्षा, स्वास्थ्य और डिजिटल शासन के बदलते प्रतिमानों का परीक्षण किया गया है। अध्ययन का निष्कर्ष है कि भविष्य का सामाजिक न्याय ज्ञान के लोकतंत्रीकरण, स्वास्थ्य साक्षरता, डिजिटल समावेशन और नागरिक सहभागिता पर निर्भर करेगा। अतः शिक्षा और स्वास्थ्य को केवल कल्याणकारी सेवाओं के रूप में नहीं, बल्कि लोकतांत्रिक क्षमता-विस्तार के साधन के रूप में पुनर्स्थापित करना समय की आवश्यकता है।

Unleashing Economic Growth Potential Through Endogenised SDG Progression

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Development is a multidimensional phenomenon. Multidimensionality refers to simultaneous development in social, economic, and environmental aspects that has been addressed in the United Nations' SDGs. This study enquires how multidimensional SDGs constitute an endogenous productivity mechanism and generate long-run economic growth. Applying the endogenous growth framework, this study answers the aforementioned question. This study develops a theoretical framework in which aggregate SDG progression acts as an endogenous source of productivity. Rather than treating each goal separately as a determinant of growth, the model constitutes an aggregate SDG progression index. Dynamics of SDG progression are a function of SDG creation capacity and depreciation. The progression index is then incorporated into the development index. The development index is nonlinear in nature and is a function of SDG achievements and the remaining shortfalls from the target. The nonlinear nature represents complementarities and spillover effects among goals; failing to meet one goal can impose serious constraints on overall development. The incorporation of the progression index into the development index clarifies the fact that sustainable goals do not create output directly; rather, they improve the productivity of the

required resources through which output is produced. The development index enters the production function through the labour channel. Improvements in SDGs escalate the development index, which enhances productivity. Higher productivity raises output, and additional output generates resources for further SDG achievements. The development index serves as a transmission mechanism between multidimensional SDG progression and the production function. The dynamics of capital are a function of the savings rate, depreciation, and population growth. Joint dynamics of capital accumulation and SDG progression confirm a positive feedback mechanism in long-run growth. The dynamics of SDG progression conclude that there exists a threshold level of SDG progression below which countries converge to a low SDG development state and above which countries converge to a high SDG development state. Steady-state capital accumulation occurs when investment equals depreciation. Stability analysis suggests a positive association between SDG progression and capital accumulation. SDG progression has a positive self-reinforcing effect on itself, provided depreciation dominates the creation capacity. Progression in multidimensional SDG achievements directly boosts productivity through the development index, and productivity gains reinforce future economic growth. Whereas higher capital accumulation leads to higher output that generates additional outlays for further SDG achievements. This feedback mechanism creates a possibility for long-run economic growth.

Early Childhood Education Driving National Development: Evaluating the Efficiency, Performance, and Practices of Early Childhood Care and Education at Anganwadi Centres – A Study in Patna District of Bihar, India

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Early Childhood Care and Education (ECCE) implementation through the Anganwadi program represents a cornerstone intervention in India's approach to fostering holistic child development. Rooted in the understanding that the holistic childhood development index is directly proportional to national development, it reflects the triangulated importance of health, nutrition and education. This mixed-methods investigation examines ECCE implementation effectiveness in Anganwadi centres across Patna District, Bihar, through systematic analysis of quantitative developmental metrics, worker perspectives, and beneficiary satisfaction assessment. The study employed a convergent parallel design incorporating quantitative analysis of 2,266 children's developmental outcomes, qualitative examination of 61

Anganwadi workers' implementation experiences, and satisfaction assessment from 2,288 beneficiaries.

The quantitative findings demonstrate significant achievement in maintaining positive developmental outcomes despite operational constraints, with 83.01% of children exhibiting normal BMI ranges and systematic progress across cognitive domains. Analysis reveals consistent patterns in cognitive development, where 59.53% of children demonstrate age-appropriate development and 33.41% exhibit advanced skills across measured domains, including language development, problem-solving capabilities, and memory performance. These outcomes suggest effective adaptation of educational practices despite resource limitations. Qualitative analysis through inductive thematic examination reveals sophisticated adaptation strategies employed by workers in maintaining service delivery effectiveness. Workers demonstrate high familiarity with ICDS guidelines. The implementation of play-based learning methodologies, incorporation of locally available materials, and creative utilisation of limited resources reflect systematic efforts to optimise service delivery within operational constraints. However, persistent challenges in infrastructure adequacy and resource availability suggest requirements for enhanced operational support systems. Beneficiary satisfaction analysis reveals complex interactions between service delivery capabilities and community expectations.

The study reiterates the importance of focusing on holistic child development to drive national growth, with education, health and nutrition being the areas of primary focus. It suggests better quality management and resource utilisation for maximum impact creation.

Longitudinal Assessment of Industrial Training Institutes in India: Evidence from Data-Driven Grading, 2023–2026

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Industrial Training Institutes (ITIs) constitute a major component of India's vocational training system, yet systematic evidence on their performance and its evolution over time remains limited. This study provides a longitudinal assessment of ITI performance in India using the Directorate General of

Training's (DGT) Data Driven Grading Methodology (DDGM) for the period 2023–2026. The analysis covers 15,301 unique ITIs across 36 States and Union Territories and examines trends in the composite Final Grade, ownership-wise and geographical disparities, and performance across eight DDGM parameters. Using descriptive and comparative analysis, the study finds a consistent improvement in national average performance, with the Final Grade increasing from 5.68 in 2023 to 6.33 in 2026, an improvement of 11.4%. However, substantial structural disparities persist: government ITIs consistently outperform private ITIs, with an average gap of 1.74 grade points, while the Western Zone records substantially higher performance than the Northern Zone. At the parameter level, admission and pass percentages are the strongest correlates of the Final Grade, whereas Dual System of Training (DST) enrolment remains critically low, averaging only 0.020 against a possible 0.5. Average CBT marks improved substantially, increasing from 0.29 to 0.73 over the study period. The findings indicate that while the ITI system is progressing, improvements remain uneven and industry–institution linkages continue to be a major weakness. The study recommends targeted support for persistently low-performing ITIs, stronger industry partnerships, geographically differentiated interventions, greater emphasis on inclusion, and gradual expansion of DDGM beyond throughput-oriented indicators towards skill acquisition, employment and other outcome-based measures. Notably, the analysis reveals that 14.4% of institutions operate below the minimum affiliation threshold, representing a concentrated cluster of underperformances requiring immediate remedial action. To address these divides, the study proposes public-private mentorship frameworks and strict external audits for self-reported metrics to ensure rising grades reflect genuine labour market readiness.

Educated Women, Empowered India

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Education plays a vital role in the development of women and the nation as a whole. It is a fundamental right of every citizen of India. Women's education is one of the most powerful tools for changing the position of women in society. It is crucial because it is the foundation stone for the empowerment of women. It plays a key role in reducing social inequalities and functions as a means of improving their status within the family and society. This paper helps in understanding the present status of women's

education. Education serves as the foundational catalyst for women's empowerment and national development in India. This paper explores the multifaceted relationship between female educational attainment and broader socio-economic, political, and familial transformation. Through a review of secondary literature, government initiatives (such as Beti Bachao, Beti Padhao and legislative quotas), and empirical indicators, the study examines how literacy and higher education translate into economic independence, improved household health outcomes, and active decision-making power. However, persistent challenges-including patriarchal structures, rural-urban disparities, early marriage, and implementation gaps in policies like the Right to Education Act- continue to hinder equitable progress. The paper concludes that achieving a truly developed and empowered India ("Nari Shakti") requires moving beyond basic access to ensure inclusive, quality education and systemic support for women across all social strata. as well as development in their standard of living. It is evident that women are empowered, to a certain extent, economically, socially, nutritionally and technologically. This study examines the multifaceted relationship between formal education and the socio-economic, political, and personal empowerment of women in contemporary India. Methodology: Utilising a qualitative, quantitative mixed-methods approach based on secondary literature, primary survey data of respondents, and institutional reports, this paper analyses key empowerment indicators, including household decision-making power, economic independence, and legal awareness. The findings reveal that educated Indian women experience significant improvements in financial autonomy, delayed marriage age, better health and nutritional outcomes for their families, and heightened political participation. However, persistent gaps remain between literacy rates and actual labour-force translation due to structural constraints and socio-cultural norms.

A Technology-Enabled Learning Institution (Teli) Maturity Framework for Government Teacher Education Institutes: Integrating Tpack, Samr, and UTAUT in The Northern Indian Context

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The digital transformation of Teacher Education Institutes (TEIs) in India has accelerated markedly since the National Education Policy (NEP) 2020 and the National Curriculum Framework for Teacher Education (NCFTE), both of which position technology integration as central to reimagining teacher

preparation. Yet government-run Teacher Education Institutes, the backbone of in-service and pre-service teacher education in the country, continue to exhibit wide and poorly understood variation in their institutional readiness for meaningful technology adoption. Existing evaluation tools tend to measure infrastructure or individual teacher competence in isolation, offering little insight into institutional-level maturity: the systemic capacity of a TEI to sustain, scale, and continuously improve technology-enabled learning practice. This gap matters because formal, standardised teacher-training structures often struggle to keep pace with the diverse learning needs of teacher-trainees and the varied classroom realities they will eventually serve — a mismatch that institutional-level diagnosis, rather than individual-level assessment alone, is better positioned to reveal.

This paper proposes and operationalises a Technology-Enabled Learning Institution (TELI) Maturity Framework, adapted from the Commonwealth of Learning's (2016) TELI model, as a weighted, multi-dimensional diagnostic instrument for government Teacher Education Institutes. The framework integrates three complementary theoretical lenses — the Technological Pedagogical Content Knowledge (TPACK) model, the Substitution-Augmentation-Modification-Redefinition (SAMR) model, and the Unified Theory of Acceptance and Use of Technology (UTAUT) — structured into five weighted maturity dimensions within a composite Institutional Maturity Index.

Data collection has been undertaken among former (pass-out) student-teachers and retired faculty members of government Teacher Education Institutes, using validated research instruments refined through multiple expert validation cycles and aligned with NEP 2020, NCFTE, and Digital India priorities, allowing the instrument to be independently deployed without requiring formal institutional data-access permissions.

Role of Women's Education, Indian Knowledge System and Well-Being in Socio-Economic Development: A Study of Pakur District, Jharkhand

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Presenting this research article is my small effort, which is an analytical study of the role of women's education and knowledge system in the economic and social development of Pakur district. It is rich in natural resources, including coal, stone, mountains, rivers, and fertile land. Despite this, the district

has not experienced the expected development. As a result, Pakur district ranks among the state's most backward districts. The objective of the study is to identify the negative aspects of socio- economic development and to highlight the positive aspects of the role of women's education and the Indian knowledge system. All the schemes being run at the national and state level to promote women's education and all the education schemes being run at the district level are also being run here. It is well known that education, knowledge systems, and well-being are essential for the operationalisation and initiation. Women's education can be a key contributor to this meaningful transformation. In the process of collecting data and in my conclusion, I found that there is a need to further strengthen women's education and the Indian knowledge system to make the economic and social development of the district progress on the path of development; properly utilising all aspects of development will certainly lead to a development landscape. For this, if the concerned official perform their duties honestly, the development goals will certainly be achieved. Above all, if women are empowered, the district will surely become prosperous and strong.

Anapana Meditation, Education and Adolescent Well-Being in Myanmar

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Myanmar is one of a limited number of countries offering a structured seven-day Vipassana course specifically for older adolescents aged 15 to 19, a format documented in India, Myanmar, and Nepal. Tens of thousands of children participate in Goenka-tradition meditation courses annually in Myanmar, making the country's Anapana network one of the largest sites of youth meditation instruction anywhere in the world. Beyond routine school-based instruction, the network has extended Anapana courses to children with visual and hearing impairments, children affected by leprosy, and juvenile offenders in state institutions, illustrating the technique's flexibility across diverse adolescent populations and settings.

This paper examines the Anapana course system in Myanmar as a case study in the redeployment of a monastic, soteriologically-grounded meditative technique for the purposes of adolescent psychosocial development and formal education. It situates this examination within a wider empirical literature on meditation and adolescent well-being, most of which derives from India and Nepal, where controlled studies report measurable reductions

in academic stress and improvements in emotional regulation and behavioural outcomes among student populations. Despite Myanmar's central role in the global Anapana network, no independent empirical study currently exists on outcomes among Myanmar adolescents specifically. The available Myanmar-specific evidence is organisational in nature, produced primarily by the Vipassana Research Institute itself, rather than by independent scholarly or clinical research.

Drawing on this comparative outcome literature from India and Nepal alongside organisational reporting from Myanmar, the paper asks a central analytical question: what does the Anapana course system reveal about the transformation of a renunciant meditative technique, originally embedded within a specific soteriological and monastic framework, into a secular-facing tool of adolescent well-being deployed within ordinary schooling? It considers what is gained and what is potentially lost in this transformation, and examines how the course's self-presentation as a "universal, non-sectarian technique" interacts with Myanmar's specifically Theravāda Buddhist religious and educational landscape. The paper further situates the Anapana course system within broader questions concerning the pedagogical function and socio-economic role of Buddhist institutions in contemporary Myanmar, particularly as these institutions navigate education, youth development, and social welfare provision.

The paper concludes by identifying the absence of independent, field-based research on Myanmar adolescents as a significant and consequential gap in the existing literature, and proposes a framework for future ethnographic and psychological inquiry into this understudied but substantial case of meditation-based adolescent intervention.

Social Inequalities in Graduate Labour Market Outcomes: Evidence from India

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The rapid expansion of higher education in India has generated substantial expectations that graduate qualifications will improve access to better-quality employment and weaken the influence of inherited social inequalities

on labour market outcomes. Yet this expansion has not translated into proportionate gains in the quality of employment. Recent evidence from the State of Working India 2026 report finds that fewer than 7% of graduates secure permanent salaried jobs, around 40% of graduates aged 15-25 are unemployed, and unemployment among graduates is three to four times the national average. The Economic Survey 2024-25 further indicates that only about 8% of graduates hold jobs that actually match their qualifications, with more than half employed in "elementary" or "semi-skilled" roles. While recent studies have sought to explore this 'skills mismatch', there have been very few studies that have looked at who, among graduates, bears the cost of this mismatch. This paper seeks to address this gap by examining the social patterning of graduate labour market outcomes in India, focusing on the extent to which caste and gender continue to structure the quality of employment among graduates. Moving beyond the conventional focus on graduate unemployment and earnings, the paper conceptualises labour market disadvantage in terms of *education-occupation mismatch*, asking whether graduates from different social groups are able to convert their credentials equally into employment commensurate with their qualifications.

Drawing on the PLFS 2025 and focusing on employed persons with graduate-and-above qualifications, the paper operationalises graduate underemployment using the standard three-tier occupational skill classification associated with National Classification of Occupation (NCO) codes: employment below the high-skill level is treated as underemployment, with medium- and low-skill occupations indicating varying degrees of education–occupation mismatch, and high-skill employment representing the comparatively well-matched end of the distribution. A central finding is the persistence of a pronounced caste influence in the occupational quality of employed graduates. Among graduate-and-above workers, approximately 47.7% of those in the Others/General category are employed in high-skill occupations, compared with 35.6% of OBC graduates, 29.5% of SC graduates, and 24.7% of ST graduates.

Among employed graduates, women have a substantially higher share of high-skill employment (48.2%) than men (35.5%), and a lower share of low-skill employment (2.9% compared with 4.3%). This advantage in occupational skill matching is also observed within each of the four social-group categories at the graduate level. The intersection of caste and gender, however, demonstrates the embedded influence of social inequalities in labour market outcomes.

Among employed graduate women, 6.3% of SC women and 4.3% of ST women are in low-skill occupations, compared with only 1.1% of General-category women. At the same time, within each caste category, employed SC/ST women display a better skill-match profile than their male counterparts, indicating a more complex intersectional process in which caste structures the quality of employment while gender disadvantage may operate particularly strongly through selection into employment itself.

मूल्यांकन का राजनैतिक अर्थशास्त्र

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यह पर्चा शिक्षा में मूल्यांकन की अवधारणा की पड़ताल करता है । राष्ट्रीय शिक्षा नीति 2020 में मूल्यांकन को रटने और उच्च-दाँव वाली परीक्षा-व्यवस्था से हटाकर नियमित, रचनात्मक, दक्षता-आधारित और अधिगम-केंद्रित बनाने पर जोर दिया गया है। नीति विशेष रूप से इस बात की ओर संकेत करती है कि मूल्यांकन का उद्देश्य महज विद्यार्थियों की स्मृति को जाँचना नहीं, बल्कि उनके उच्चतर चिंतन, विश्लेषण, समस्या-समाधान और अवधारणात्मक समझ को पहचानना होना चाहिए (भारत सरकार, 2020)। यहाँ दो अलग-अलग सवाल मिलकर इस पर्चे की रूपरेखा ते करते हैं , 1) मूल्यांकन का शिक्षण-शास्त्रीय दर्शन क्या है और इसे क्यों-कर पढ़ने के एक औजार के रूप मैं देखा गया और 2) मूल्यांकन किस हद तक सुविधाओं , मौकों और अवसरों को मुहैया करने का साधन है ।

यह शोध-पत्र अवसरों में समानता और बराबरी की अवधारणा को मुख्य आधार बनाते हुए मूल्यांकन की की समझ का वैचारिक परीक्षण करता है। इसका केन्द्रीय तर्क यह है कि मूल्यांकन को आरंभ में सीखने सिखाने की प्रक्रिया में शिक्षक और विद्यार्थी की मदद करने वाले एक शिक्षणशास्त्रीय औजार के रूप में विकसित किया गया, लेकिन समय के साथ, दी गई राजनैतीक स्थितियों में यह शैक्षिक अवसरों, प्रवेश, चयन और आगे बढ़ने की अवसरों के वितरण का भी एक महत्त्वपूर्ण साधन बन गया। इस विरोधाभास को भारतीय संदर्भ में समझना इस अध्ययन का प्रमुख उद्देश्य है। यह अध्ययन वैचारिक और आलोचनात्मक विश्लेषण पर आधारित है। इसके लिए साहित्य को दो हिस्सों में रेखांकित किया गया है, 1) नीतिगत दस्तावेज और 2) सैद्धांतिक और वैचारिक साहित्य। अध्ययन में इन दोनों तरह के साहित्य को अलग-अलग प्रस्तुत करने के बजाय एक-दूसरे के परिप्रेक्ष्य में पढ़ा गया है। इस प्रक्रिया में यह समझने की कोशिश हुई कि मूल्यांकन किस सीमा तक सीखने–सिखाने की सहायता करता है, और किस बिंदु पर वही मूल्यांकन शैक्षिक तथा सामाजिक अवसरों के वितरण, चयन और बहिष्करण की प्रक्रिया का हिस्सा बन जाता है।

यह अध्ययन किसी नीति या सिद्धांत की पुष्टि करना नहीं, बल्कि नीति की भाषा और मूल्यांकन के सामाजिक परिणामों के बीच संबंध, की व्याख्या प्रस्तुत करना है।

Ancient Wisdom for Modern Questions: A Sociological Insight

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The contemporary Indian socio-educational landscape, despite achieving massive structural expansion, faces a critical crisis of character. The singular focus on high-stakes examination performance, commercialised coaching cultures, and market-driven career goals has pushed ethical development to the margins. This systemic imbalance manifests in rising student suicide rates, widespread academic anxiety, campus intolerance, and a growing disconnect from civic responsibilities. To address these acute national crises, the National Education Policy (NEP) 2020 explicitly mandates the integration of the Indian Knowledge System (IKS) into mainstream curricula. This abstract presents a comprehensive rationale for embedding IKS-rooted moral education into the Indian school and university sectors, shifting the national educational paradigm from mere literacy to complete character transformation (Samskara). The immediate requirement for IKS-based moral frameworks stems from their ability to localise ethics, making them culturally resonant and naturally enforceable for Indian youths. Rather than imposing abstract, alien ethical codes, IKS utilises indigenous concepts such as Dharma (cosmic and civic righteousness) to cultivate an internalised conscience. By reintroducing Dharma, education moves beyond dry textbook definitions of morality into a lived responsibility toward family, society, and the nation. Furthermore, the modern Indian student battles severe digital distractions, alienation, and hyper-competitiveness. Traditional mind-training technologies, specifically Ashtanga Yoga and Pranayama, offer immediate, non-clinical solutions to manage this cognitive overload. These practices foster mental steadiness (Chitta Vritti Nirodha), providing students with the emotional equilibrium required to navigate India's hyper-competitive academic environment. Philosophically, the curriculum draws upon core text-neutral concepts that directly target India's deep-rooted socio-economic challenges. The philosophy of Tat Tvam Asi (Oneness) provides a radical pedagogical tool to dismantle institutionalised prejudices like casteism, communalism, and gender discrimination by establishing the spiritual equality of all beings. Similarly, the ethos of Seva (selfless service) and Vasudhaiva Kutumbakam (the world is one family) counters the growing wave of aggressive individualism among urban youth, steering them toward rural development, community welfare, and civic activism. Additionally, India's vulnerability to climate

change necessitates the revival of Vedic environmental ethics, which treat nature as a sacred mother (Bhumi Sukta), instantly fostering a generation of ecologically conscious citizens. Implementing this model across India's diverse demographic requires a multi-tiered, experiential approach. Primary schools must replace rote moral science classes with native storytelling traditions from the Panchatantra, Jataka Tales, and local folklore to effortlessly instil values of truth (Satya) and non-injury (Ahimsa). Secondary and higher educational institutions must deploy Karma Yoga principles to decouple a student's self-worth from exam grades, lowering academic stress. Integrating case studies from the Vedas and Upanishads into curricula offers a unique, values-based framework to analyse contemporary crises. These ancient texts contain deep philosophical insights on governance, ethics, and social responsibility that can complement modern technical training.

Emotional Intelligence as A Determinant of Teacher Work Engagement: Evidence from Government Secondary Schools in Madhya Pradesh and Its Implications for National Education Policy

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Teacher work engagement is a critical determinant of educational quality and institutional effectiveness, making it an important concern for governance and public policy. This study examines the role of emotional intelligence (EI) in influencing work engagement (WE) among government secondary school teachers in Madhya Pradesh, India. Drawing on the Job Demands–Resources (JD-R) model and Mayer and Salovey's ability model of emotional intelligence, the study investigates whether teachers' emotional competencies contribute to higher levels of work engagement. The findings indicate that both EI and WE are at moderate levels, highlighting opportunities for strengthening teacher capacity within public education systems. A significant positive relationship was observed between EI and WE ($r = .496$, $p < .001$), while canonical correlation analysis demonstrated a medium-to-large multivariate association ($Rc = .499$). Multiple regression analysis identified Self-Emotion Appraisal ($\beta = .218$, $p < .001$) and Use of Emotion ($\beta = .128$, $p = .043$) as significant predictors of work engagement, with a medium-to-large overall

effect (f^2 = .324). The findings have important implications for educational governance and public policy. They suggest that teacher engagement cannot be enhanced solely through administrative or structural reforms but also requires systematic investment in teachers' emotional competencies. The study recommends integrating emotional intelligence training into pre-service teacher education, continuous professional development, leadership training, and teacher well-being initiatives under the National Education Policy (NEP) 2020. Strengthening both institutional support mechanisms and individual emotional capabilities can improve teacher performance, organisational commitment, and the overall effectiveness of public education institutions. The study contributes to the discourse on governance by demonstrating how evidence-based human resource policies can enhance institutional capacity and educational outcomes.

Dysfunctional Higher Education in India: A Case Study of Bihar

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Higher education fundamentally serves as a cornerstone of intellectual, social, and economic development. However, in Bihar, this foundational institution has been in a state of prolonged and deepening crisis since 1967. This paper examines the multidimensional crisis confronting higher education in Bihar, analysing its historical roots, structural distortions, governance failures, and the adverse implications of recent policy interventions, particularly the National Education Policy (NEP) 2020.

Bihar presents a uniquely alarming picture within the Indian higher education landscape. With a Gross Enrolment Ratio (GER) of merely 17.1%, significantly below the national average of 28.4% and far from the NEP 2020 target of 50% by 2035, the State faces acute challenges of availability, accessibility, and affordability. The average enrolment per Government College stands at 2,407, more than 2.5 times the national average of 940, reflecting extreme institutional overcrowding and a projected college deficit of 2,762 by 2036. Public expenditure on education remains woefully inadequate, constituting only 2.5% of Bihar's GSDP, against the nationally recommended 6% of GDP.

The distortion of Bihar's higher education system can be traced to the deliberate erosion of academic integrity beginning in 1967-68, when unfair means were officially permitted in university examinations. In subsequent

decades, the state politically regularised thousands of teachers in virtually non-existent colleges, dismantled the Bihar Public Service Commission's role in teacher recruitment, and systematically politicised Vice-Chancellor appointments. The V.S. Jha University Enquiry Committee documented the induction of over 7,000 teachers through deeply flawed processes, with irreparable consequences for teaching quality. Corruption, nepotism, and sycophancy have since become institutionalised norms, rendering universities of Bihar effectively dysfunctional.

The paper further draws on the existing literature to situate Bihar's crisis within the broader national context. Bourdieu and Passeron (1977) and Collins (1971, 1979) highlight how elite groups deploy education to perpetuate structural inequalities, a dynamic particularly pronounced along the intersecting axes of caste and class in India. Sundaram (2013) and Galanter (1984) demonstrate that merit-based arguments against reservation are inherently flawed, as competitive success depends not merely on intrinsic ability but on unequally distributed economic, social, and cultural resources. Tilak (2013) contextualises the post-Independence expansion of higher education as politically driven, while Bhushan (2018, 2023, 2024) and Vikas (2023) collectively argue that recent policy shifts, including the replacement of the UGC Act, the introduction of the FYUP, and the commodification of education, are deepening rather than resolving the crisis.

The paper concludes that market-driven privatisation, as promoted by NEP 2020, without commensurate public investment and a firm commitment to social justice, will only intensify regional inequality and further exclude marginalised communities. Urgent and sustained public investment in higher education infrastructure, governance reform, transparent faculty recruitment, and targeted equity interventions are indispensable for Bihar to overcome its higher education crisis.

Theme 6

GLOBAL GOALS BEYOND 2030

Drivers of India's Consumption-Based CO Emissions: An EE-MRIO Structural Decomposition of Household Consumption, Government Demand and Investment, 2010–2019.

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India's rapid economic growth and expanding final demand have increased the environmental pressures associated with household consumption, government expenditure, and investment. Understanding the drivers of these emissions is important for evaluating India's progress towards a low-carbon economy. This study examines the evolution and structural determinants of India's consumption-based CO emissions during 2010–2022. Using EXIOBASE 3.10.2, the study applies an environmentally extended multi-regional input–output (EE-MRIO) framework to estimate emissions embodied in household consumption, government consumption, and gross fixed capital formation (GFCF). It distinguishes emissions generated within India from those generated abroad to satisfy Indian final demand. The original database is aggregated into 10 regions and 46 industries. A six-factor structural decomposition analysis (SDA), based on a two-polar decomposition approach, identifies the contributions of emission coefficients, energy structure, energy intensity, production linkages, per-capita final demand, and population to annual changes in emissions.

The results indicate that India's domestically produced consumption-based emissions increased from 921.0 million tonnes (Mt) CO in 2010 to 1,382.0 Mt CO in 2022, representing an increase of 50.1%. Imported embodied emissions increased from 312.8 to 405.0 Mt CO, or 29.5%, over the same period. Consequently, India's combined consumption-based carbon footprint increased by approximately 44.8%, while the imported share declined from 25.4% to 22.7%. Substantial differences are observed across final-demand categories. Domestically produced household emissions increased from 394.7 to 637.4 Mt CO, investment-related emissions from 469.6 to 618.4 Mt CO, and government-related emissions from 56.7 to 126.3 Mt CO. Imported household emissions increased from 123.7 to 188.6 Mt CO, while investment-related imported emissions rose from 171.4 to 186.8 Mt CO.

The structural decomposition identifies rising per-capita final demand and declining energy intensity as the two dominant opposing forces. Over

the study period, the cumulative per-capita final-demand effect increased domestically produced emissions by 1,126.5 Mt CO□, whereas the energy-intensity effect reduced them by 990.1 Mt CO□. Production linkages and population contributed an additional 175.4 and 192.9 Mt CO□, respectively. For imported emissions, per-capita final demand contributed 247.9 Mt CO□, while changes in foreign energy intensity reduced emissions by 209.9 Mt CO□. The annual analysis further reveals considerable variation, particularly during the COVID-19 period. In 2019–2020, domestically produced and imported emissions declined by 15.3% and 11.1%, respectively. However, their subsequent recovery followed different trajectories, reflecting differences in domestic and international production structures.

The study contributes to the literature by jointly examining final-demand categories, production locations, and annual structural drivers of India's carbon footprint. The findings highlight that improvements in energy intensity have substantially moderated emission growth but have not fully offset the effects of expanding final demand. They suggest that India's low-carbon transition requires continued improvements in production efficiency, changes in energy composition, and attention to emissions embodied in domestic and international supply chains.

Carbon Colonialism: Theoretical Contradictions and India's Unequal Place in Global Carbon Markets

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Global carbon markets have emerged as a well-known tool for tackling climate change through evaluating greenhouse gases and the promotion of cost-effective decarbonization. However, they present basic issues of market efficiency, distributive equity and the inequitable distribution of economic benefits between the Global North and Global South.

This paper analyses the structural paradoxes of global carbon markets with the help of four basic economic and environmental approaches: Supply and Demand Equilibrium Theory, Pigouvian Taxation and Subsidies, the Environmental Kuznets Curve (EKC) and Ricardian Comparative Advantage. While these theories provide justifications for using resources efficiently and addressing externalities from the environment, in the context of a carbon

credit system they highlight some key limitations, particularly in a developing economy such as India.

The paper first attempts to look at the relationship between India and carbon markets through a theoretical prism and then through a study lens, across five stages – firstly, from the era of the Clean Development Mechanism (CDM) to the developing domestic carbon market framework. It explores the experiences of carbon finance for renewable energy, wind energy, clean cookstoves and the Perform, Achieve, and Trade (PAT) scheme to understand how the design of markets, transaction costs, institutional mechanisms and intermediary structures influence the distribution of carbon finance and associated environmental benefits. It builds on critiques of the process of carbon commodification, market governance, and the inequalisation of power of international climate mechanisms (Böhm et al., 2012).

The results indicate that the theoretical foundations of carbon markets are at risk due to continuing institutional and political limitations. First, the diversity of carbon credits, caused by differences in additionality, permanence, measurement, and verification of carbon credits, makes it hard to form prices and damages the conditions necessary to achieve a stable market equilibrium. Second, the price is weak if it is not high enough; for instance, if the social cost of emissions is not reflected in the price, and if political interests affect the regulation. Third, what is the EKC framework telling us about the possibility for environmental gains in developing economies without limits on industrialisation and economic growth? Finally, Ricardian Comparative Advantage helps to explain how specialisation in low-cost emissions reduction projects might result in countries like India providing carbon credits to others while the more valuable parts of the process, like certification, intermediation, and financial transactions, might be performed in other parts of the world.

All these paradoxes are combined in four interconnected structural problems: Heterogeneity of credit, capture of the intermediaries, power imbalance North-South and credibility discounting. They reveal a disconnect between carbon markets' theoretical potential and their distributional results (Muchaku & Zhou, 2025). The paper advocates effective price signals, institutional accountability, transparent benefit-sharing, and reliable carbon accounting for equitable decarbonization. It introduces carbon colonialism to explain unequal value creation and capture under climate policies. Ultimately, carbon markets must be redesigned to ensure environmental effectiveness, distributive justice, and equitable development opportunities for the Global South.

The Post-2030 International Development Agenda: Potentials for Equity

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I will situate current debates within the longer history of international solidarity and cooperation. From the establishment of the International Labour Organisation and the United Nations to the creation of the modern aid architecture and the adoption of the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs), international development has evolved through a combination of humanitarian aspirations, political interests, and institutional innovation. Although aid has always been contested and shaped by geopolitical considerations, the global development system has contributed to substantial improvements in human well-being, including reductions in poverty, lower child mortality, and improved access to education. But progress has been uneven, with persistent inequalities, growing concentrations of wealth, rising debt burdens, and increasing exposure to climate risks. India illustrates both the achievements and limitations of growth-led development, combining remarkable poverty reduction with enduring forms of social and economic exclusion.

I then examine three equity-oriented approaches that have increasingly influenced development policy and practice. First, I review the evolution of gender equality approaches, from early efforts to integrate women into development projects toward gender-transformative approaches that seek to address structural inequalities. The experiences of organizations such as SEWA and large-scale initiatives such as Kudumbashree demonstrate how collective action can strengthen women's economic security, agency, and leadership. Second, I explore intersectionality as a framework for understanding how inequalities based on gender, caste, ethnicity, class, disability, and other identities interact and reinforce one another. Again, examples from India and international research show the value of intersectional approaches in identifying the needs of those most excluded from development processes.

Third, I describe highlights participatory approaches, localisation, and community-based research. Drawing on initiatives I recently have been associated with, particularly the Knowledge for Change Consortium and the DECODE project, I argue that development outcomes are strengthened when communities, including Indigenous peoples and marginalised groups,

participate directly in defining priorities and producing knowledge. These initiatives emphasise the importance of knowledge co-production, decolonising research practices, and recognising local and Indigenous knowledge as complementary to scientific expertise.

Mapping the Intensity of Unpaid Multitasking and its Determinants: A Disaggregated Study of Time Use Survey Data

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SDG Target 5.4 focuses on recognising and valuing unpaid care and domestic work and is tracked by Indicator 5.4.1, proportion of time spent on unpaid domestic and care work, by sex, age, and location. The Indian Time Use Surveys conducted by the National Statistical Office (NSO) follow the International Classification of Activities for Time-Use Statistics 2016 (ICATUS 2016). The Major Divisions 3 and 4 of ICATUS 2016 cover unpaid domestic services for household and family members. The majority of research and evidence generated from the Indian Time Use Data of the NSO have overlooked the nature and intensity of simultaneous work/multitasking. This paper, using micro-data from India's National Statistical Office (NSO) Time Use Survey 2024, examines the occurrence of unpaid multitasking, its intensity and determinants. Unpaid Multitasking can be defined as the simultaneous performance of multiple unpaid domestic and care activities, corresponding to ICATUS 2016 Major Divisions 3 and 4. To map the intensity of unpaid multitasking, a four-tier ordinal intensity scale is developed to group individuals from the sample. Individuals are categorised from zero slots (no incidence of unpaid multitasking) up to a single 30-minute slot of unpaid multitasking in 24 hours, a double burden of two 30-minute slots of unpaid multitasking, and severe, high-intensity unpaid task-stacking spanning three or more slots of 30 minutes each. This ordinal intensity scale is used to create an Ordered Probit econometric model to understand what structural factors determine the intensity of unpaid multitasking.

General multitasking (a mix of paid and unpaid simultaneous activities or only paid activities) is almost equally prevalent across both genders in the Time Use sample. Of all persons participating in simultaneous activities/multitasking at least once in 24 hours, 50.13% are males and the rest are females. When examining instances where all simultaneous activities performed by individuals are exclusively unpaid in a time slot,

the demographic composition flips from near gender parity to being overwhelmingly female, with women accounting for over 93% of participants and men comprising fewer than 7 %. The econometric results of the ordered probit model demonstrate that gender, marital status, and household structure are significant determinants of advancing into higher ordinal intensity of unpaid multitasking for individuals. Econometric results demonstrate that being female and currently married are overwhelming structural drivers of high-intensity unpaid multitasking. Nuclear households with young children significantly determine higher intensity, whereas joint family structures act as a vital protective factor. Another female-subsample ordered probit regression further illuminates the within-gender structural determinants of unpaid multitasking intensity. These findings provide empirical backing for expanding the measurement of Sustainable Development Goal (SDG) Target 5.4 to account for simultaneous labour intensity or multi-tasking.

Environmental Justice and Social Equity in Post-2023 Global Development

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The year 2030 is a milestone not only for attaining targets of the SDGs but also for shaping the future course of global development. The existing development model might have brought the world together to agree on a set of values, yet inequality, climate vulnerability, and institutional limitations still pose serious obstacles to us adopting a transformative approach. The growth we observed has been inconsistent, and in some areas, the situation has been worse and far from what is expected. Plainly, from what I have been saying, development has not taken into account that poverty and inequality are not just symptoms that we need to eliminate, but they are the result of deeper structural challenges. So, the only thing that our traditional methods of addressing development have been able to do is to cover up the problems without really tackling the root cause.

Among other things, this research paper explores and proposes new development paradigms extending well beyond 2030 and does not merely re-examine existing theories but offers well-founded perspectives that support the concepts of environmental fairness and fairness more broadly. It is mainly the combination of gender, class, and location that will explain why global natural resource sharing and economic exposures will be carried out in a very unequal way. Disruptions from climate events, resource extraction, and non-

implementation of policies all cause more suffering for the most vulnerable populations. The author highlights the inadequacies of the current global agreements and suggests a replacement for them by a new internationally transparent cooperation model, which should be driven not only by an equity-centred approach but also by one that empowers local-level decision-makers.

This study brings together different aspects, including climate action programmes and policy analyses of various countries around the world, and determines what new relationships among nations or what kinds of scientific advances can either support or hinder international collaboration. Of course, in future development scenarios we can no longer just be content with stakeholders' participation alone; we must also ensure that there will be a genuine engagement of the parties interested. Perhaps the launch of a platform enabling the voice of environmental justice concepts could mark the beginning of a transition to a new type of governance that would better protect the interests of those communities vulnerable to displacement through the greening transformation of industries and economies.

This clearly indicates that the post-2030 agenda will certainly necessitate a shift in governance structures towards a more effective and revitalised model. The Global South countries must be involved and contribute A lot to shaping new governance systems to guarantee that such dialogues not only remain outcome-oriented but are also focused on the necessary reorganisation of governance, which is the major requirement of the present times.

Decent Work, Caste Hegemony and Political Economy of India's Development

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The notion of decent work in India's context can't be understood unless the issue of caste hegemony, which is deeply entrenched and much older than the regime of capitalism, is brought into discussion. It determines the inclusion and exclusion of people from all processes and institutions of the country:social, economic, and political. The quality of employment and outcomes of policy interventions in India are determined no less by caste hierarchy than by Smith's Invisible Hand\citep. If capitalism benefitted the working classes of Western Europe more than it has done in India, it was attributed to its frontal attack on feudalism there. Conversely, in India's context, the forces of capitalism have strengthened the regressive powers of Indian feudalism, which is reflected in the caste hegemony.

Ever since India embraced the economic philosophy of state capitalism through constitutional rights, the society has made huge progress in material gains and access to opportunities in various fields. However, it could not bring about greater equity in the distribution of physical resources and defeat the forces of caste-driven discrimination. The concentration of wealth in the hands of the social elite over the past many decades has increased exponentially. In other words, the pro-rich orientation of the political economy of India's development process stands exposed.

On the contrary, the working classes have suffered due to deteriorated work conditions and declining regular employment. The published reports reveal that 800 million people are surviving on food subsidies. Informal jobs and contractual work have risen because of the erosion of the welfare state and the absence of long-term policy on employment growth. This may be related to the lack of willingness among policymakers to transform the production relations and distribution of capital and wealth more equitably. Otherwise, what on earth has stopped them from promoting entrepreneurship among the lower social groups?

This neglect of the policymakers on the issue of social justice ensured Indian society remained egalitarian and unequal. This interpretation seems plausible given that the industrial policies over the years have not integrated human resources with the transition of industrial development. Why did the policymakers only work on the efficiency aspect at the cost of equitable resource distribution in the post-reform period?

Economic efficiency can be achieved if appropriate technological innovations are made and industrial policy provides incentives for them. The very phenomenon of creative destruction is perfectly embedded into the market mechanism. However, equitable distribution of economic resources across social groups will call for improving the political economy of development altogether. It is relatively difficult to achieve, as it would require correcting the overconcentration of wealth among social elites.

In post-reform India, the government has facilitated the owners of capital and physical wealth. Was similar policy support rendered to the working class, the subaltern class of Indian society? No, it was not. On the contrary, whatever protection and provision were available were withdrawn on the pretext of fiscal austerity. The literature highlights that the spirit behind introducing the market economy model originated from the pangs of caste hegemony. I argue that policy outcomes for decent work won't materialise unless the political economy of development is attuned to dismantle vicious networks of the caste hierarchy and regressive forces of India's feudalism.

Inclusive finance and governance for food security: Evidence from BRICS

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Food is a fundamental necessity for human survival; however, access to adequate and nutritious food remains a major challenge, particularly in developing countries. These countries face significant challenges in meeting the food requirements of their growing populations, making food security a central concern in the political economy of the state. Food security is closely intertwined with food regime governance, in which sustainability and effective governance require addressing trade-offs arising from the complex interactions among laws, policies, institutions, and broader social structures. These factors collectively shape decision-making processes, influence resource allocation, regulate access to food, and determine how the needs of different social groups are balanced to promote food security and sustainable development.

Sustainable Development Goal 2 (SDG 2) aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. However, the global hunger and malnutrition crisis remains severe. By 2023, more than 345 million people were projected to experience acute food insecurity, more than twice the number recorded in 2020. In 2020, approximately 147 million people faced high levels of food insecurity, reflecting an unprecedented deterioration in food security compared with pre-pandemic levels. Ensuring food security is a crucial policy objective for governments in emerging economies, where a substantial proportion of the world's poor reside. Economic activity in many developing countries has yet to recover fully from the adverse effects of the COVID-19 pandemic, which disproportionately affected the poorest and most vulnerable populations. Among emerging economies, BRICS countries account for approximately 41.44% of the global population. However, many food security programmes have been designed without adequately considering factors such as financial inclusion and institutional quality, which are critical to achieving policy objectives. Against this backdrop, the present study seeks to address this gap by examining the influence of governance conditions and financial inclusion on different dimensions of food security in BRICS countries.

The study constructs a multidimensional institutional quality index and a financial inclusion index to assess the effects of governance and financial

inclusion on food security. The two-stage least squares instrumental variables (2SLS-IV) method is employed to analyse these relationships, while a series of diagnostic tests is conducted to assess the validity and robustness of the instrumental variable estimates. The findings underscore the importance of strong institutional frameworks and inclusive financial systems in enhancing food security and advancing broader sustainability objectives. The study contributes to the literature by demonstrating that food security depends not only on agricultural production but also on the quality of governance and the inclusiveness of financial systems.

The findings further indicate that stronger governance in BRICS countries is associated with improved food security outcomes, including a higher average dietary energy supply (ADES), lower per capita food supply variability (PCFSV), and a lower prevalence of undernourishment (PUN). These results highlight the importance of effective institutions in managing resources, implementing policies, and strengthening resilience to economic and environmental shocks.

Urbanisation, State Capacity and Sustainable Development Outcomes Across Indian States: Evidence from the SDG Era

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The 2030 Sustainable Development Goals (SDG's) provide a global framework for promoting inclusive, resilient and environmentally sustainable development, while India's vision of Viksit Bharat @2047 places renewed focus on strengthening state capacity and managing rapid urbanisation. Given that there exists significant variation in levels of economic development, state fiscal capacity and urbanisation across Indian States, studying the factors that drive progress towards sustainable development is imperative.

This paper examines the determinants of state-level performance on selected SDG 6, SDG 7, and SDG 11 indicators for 2023-24. It estimates the relationship between a State Capacity Index, constructed from Total Own Revenue, Fixed Capital Stock, Total Government Expenditure (Revenue and Capital Expenditure), and GSDP, and performance on selected targets from SDGs 6, 7 and 11 across Indian states, alongside state-level urbanisation. The aim is to identify the extent to which state capacity and urbanisation account for observed interstate variation in these specific outcomes. The

Ordinary Least Squares (OLS) method of estimation is employed for the models, along with tests of significance to ascertain the statistical significance of the parameter estimates for each model.

The results suggest that the rate of urbanisation generally supports progress in water, sanitation, renewable energy, and sustainable cities indicators. This implies that urban development can enhance access to infrastructure and services associated with these SDGs by striking a balance between rapid urban growth and integration of the challenges related to sustainable urban planning and management. The state capacity index (composite macroeconomic and fiscal indicators of a state) emerges as a strong and consistent predictor of SDG performance, with positive and statistically significant coefficients across most models. This suggests that improvements captured by the state capacity index contribute substantially to better sustainability outcomes.

The most important policy implication is that urbanisation on its own does not guarantee sustainable development. While it significantly improves outcomes related to water access, sanitation, renewable energy, and sustainable cities and communities, it can also create challenges for ecosystem preservation, transport systems, and sustainable urban expansion. The consistently positive performance of the state capacity index suggests that strengthening the institutional, governance, technological, or policy dimensions represented by the index should be a central strategy for achieving SDG targets. Therefore, governments should pursue a mixed approach, combining infrastructure investment with strong planning, environmental regulation, and governance reforms.

Discreet Ties: Regional Trade Agreements and Their Trade Impact on Member and Non-Member Nations

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A large empirical literature documents that RTAs increase bilateral trade between member countries, yet less consensus exists on how RTA formation affects trade and trade policy toward non-member nations. This paper examines these effects using variation in third-country RTA alignment across bilateral trading pairs within a two-stage structural gravity framework covering

76 countries from 2000–2017. We find that the effects of RTA networks depend critically on integration depth and on whether alignment operates through the importer or exporter side of the bilateral relationship. Broader importer-side RTA integration increases bilateral trade with non-member exporters, suggesting positive spillovers from regional integration that extend beyond member countries, while FTA-specific network expansion generates modest trade diversion largely mediated through multilateral resistance adjustments. Deeper integration forms—customs unions, common markets, and monetary unions—generate positive spillovers to non-member trade, functioning as stepping stones toward multilateral liberalisation. On the trade policy dimension, exporter-side RTA network expansion induces competitive reductions in bilateral tariffs imposed by non-member importers, with the strongest effects occurring in geographically distant and asymmetric South–North trading relationships.

Financing for Quality Education Beyond 2030: Assessing Bangladesh's Readiness for Sustainable and Equitable Learning in Secondary Education

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The primary educational goal of Bangladesh is to achieve quality and sustainable education, where adequate public financing is imperative. As a signatory to the Sustainable Development Goals (SDGs), Bangladesh is committed to achieving SDG 4 aiming to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030. To achieve quality education, adequate, equitable, efficient, and sustainable public investment are imperative. In Bangladesh, secondary education is particularly important for multiple reasons such as, developing human capital, reducing socio-economic inequalities, urban-rural disparity, promoting gender equality, and preparing young people for employment and lifelong learning. Significant progress has been made in secondary education. Student enrolment has increased over the past two decades and the gender disparity has declined noticeably, particularly for girl's enrollment, partly due to the

introduction of female stipend programs. However, disparities in educational access, learning outcomes, school infrastructure, teacher quality, and digital learning opportunities are still alarming for the achievement of equitable and quality secondary education. Focusing on this backdrop, the study aimed to assess Bangladesh's readiness in financing quality secondary education beyond 2030 by examining the adequacy, efficiency, and equity of education and its implications for sustainable and equitable learning outcomes.

The underpinning of this study was positivist paradigm that used quantitative research approach. Potential secondary data sources for this study include the report of Ministry of Education, the Ministry of Finance, BANBEIS, BBS, UNESCO, UNICEF, the World Bank and relevant SDG monitoring reports and academic literature. It analyzed the trends in public financing for secondary education over last ten years. Findings indicat that the education budget of education has noticeably jumped from 49,009 corer in FY 2016-17 to 122, 495 corer in FY 2026-27 and in GDP from 1.9% to 2%. Though the education budget slightly increased in FY 2026 (GDP 2%), which is insufficient for quality education and is far behind according to UNESCO prescribed international benchmark (4-6%) and the total government expenditure has generally remained around 11-13%, which UNESCO recommended at least 15% of total public expenditure. This inadequate financial budget limits the recruitment of qualified teachers, school maintenance, ICT integration, curriculum reform, laboratory facilities and student support services. Moreover, it creates urban-rural disparity as the education output is far behind in rural students at secondary education in terms of enrollment and dropout rate. Financial budget gap also widens gaps in other areas of secondary education sector, where large investments remain necessary for science and computer laboratories, internet connectivity, libraries, climate-resilient classrooms, sanitation for student wellbeing and disability-accessible facilities.

However, along with other factors, equitable education financing is one of the largest challenges, which affects learning quality. Financial challenges mainly occur across geographic regions, urban-rural disparity, socioeconomic status of the student and different education streams, for example, general, madrasa, and technical vocational educations. For quality secondary education, government of Bangladesh should adopt a sustainable, strategic and diversified financing model through increasing domestic public investment with improved spending efficiency, need and result-based financing mechanisms, leveraging finance of private and international partnerships. It is assumed that this diversified financing model would enhance resilience

against economic recession supporting quality, inclusive, equitable, and climate-responsive education to reach the agenda of SDG 4 by 2023. In a nutshell, the study has some policy implications providing an evidence-based assessment of Bangladesh's progress, constraints, and remaining financing gaps using available secondary data.

Whose Global Goals? Reframing the Sustainable Development Agenda as a Global South Authored Project Beyond 2030

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Ten years after the adoption of the 2030 Agenda, the empirical record reveals a widening gap between global ambition and delivery. The United Nations 2025 Sustainable Development Goals Report finds that only 35 per cent of targets are on track or making moderate progress, while nearly half are moving too slowly and 18 per cent have regressed. Over 800 million people still live in extreme poverty, even as developing countries must close a 4 trillion dollar annual SDG financing gap while facing a debt servicing burden of 1.4 trillion dollars, with development aid having declined by 7.1 per cent. These figures are not distributed evenly across the international system. The weight of underperformance falls disproportionately on states of the Global South, exposing asymmetries embedded within the original design, financing, and monitoring architecture of the goals themselves.

This paper argues that the persistent shortfall is not primarily a resourcing failure but an authorship failure. The Sustainable Development Goals, though framed as universal, were substantively negotiated within an institutional order- the United Nations General Assembly and the Bretton Woods institutions- whose voting weights and agenda-setting privileges continue to reflect the distribution of power established in 1945 rather than present demographic and economic realities. As the international community approaches the 2027 SDG Summit, which will kick off official negotiations on a post-2030 development agenda, the operative question shifts from what targets should follow to who holds the authority to define them. Without confronting this prior question of representational legitimacy, any successor framework risks reproducing the same asymmetries of ownership that constrained implementation of the current goals.

Drawing on India's 2023 G20 presidency, during which the Voice of Global South Summit convened 125 countries and the G20 troika comprised India, Indonesia, and Brazil, marking the first time all three presidencies

were held by Global South economies, this paper treats India's diplomatic record as evidence of a viable coalition-based model for reform, not as a case for India as sole convener of the next agenda. It argues instead for institutionalising sovereign equality among Global South states within target-setting and financial governance bodies themselves, through rotating chairs, weighted voting reform, and formal caucusing rights that embed authorship rather than mere consultation.

International Remittances and Household Spending Patterns in India: From the Perspective of Socio-Economic Communities

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This study examines the impact of international remittances on household expenditure patterns across religious groups in India, drawing on detailed unit-level data from the 64th Round of the National Sample Survey Office (NSSO). Recognising the growing importance of remittances as a stable source of household income, the analysis considers five major expenditure categories: food, health, education, consumer durables, and other forms of consumption. To address both continuous and censored spending behaviours, Ordinary Least Squares (OLS) and Tobit regression models are employed, with non-migrant households serving as the baseline reference group. The findings indicate that international remittances significantly increase household spending in all categories, although the magnitude of the effect varies across religious groups. "OthersMigrant" households exhibit the largest gains, followed by Hindu migrant and Muslim migrant households. Notably, higher expenditures on education and consumer durables suggest that remittances are used not only to meet immediate consumption needs but also to support long-term investments in human capital formation and asset accumulation. Socio-economic characteristics are also significant determinants of expenditure patterns. Households with larger holdings, greater household size, and better-educated heads spend more, reflecting both enhanced resource availability and informed decision-making. In contrast, poverty exerts a substantial negative effect on spending, highlighting the constraints faced by low-income households in allocating resources to essential and discretionary items. The analysis further reveals that female-headed households consistently spend less than their male-headed counterparts, despite evidence from prior research suggesting women may prioritise education and health when controlling household resources. This disparity underscores the influence of structural inequalities, limited income access, and social barriers in constraining

the expenditure capacity of female-headed households. Overall, the study highlights the role of remittances in enhancing household welfare, while drawing attention to persistent socio-economic and demographic disparities. The results point to the need for targeted policy interventions to maximise remittances' developmental potential and mitigate structural inequalities.

The Base-Superstructure Continuum: Toward a Posthumanist Framework for Security

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Contemporary security theory has progressively expanded beyond the protection of states to include individuals, societies, ecosystems, intelligent technologies, and other non-human forms of agency. Yet this broadening has not been matched by an analytical architecture capable of explaining how security is negotiated across such heterogeneous forms of existence. Existing approaches successfully diversify actors and referent objects but provide limited means for systematically comparing the shifting locations at which insecurity is produced, experienced, and addressed. This paper addresses this theoretical gap by developing the Base–Superstructure Continuum, a relational and substrate-neutral framework for posthumanist security. Reinterpreting the Marxian concepts of base and superstructure as relative analytical positions rather than fixed ontological categories, it argues that protective processes emerge through the dynamic interaction of constitutive bases, surrounding superstructures, intermediary resources, and transformative forces. These dimensions are neither static nor universally defined; instead, their analytical roles vary according to the actor, the level of organisation, and the relationship under examination. Consequently, the same phenomenon may function as a constitutive architecture in one context while serving as part of the surrounding environment in another.

Drawing upon political theory, international relations, evolutionary biology, sociology, philosophy of mind, and posthumanist thought, the paper develops a common conceptual vocabulary for examining biological organisms, technological systems, ecological communities, institutions, and hybrid forms of agency within a single analytical architecture. Rather than treating security as a fixed condition or merely as the defence of particular

referent objects, the proposed continuum reconceptualises it as a dynamic and relational process unfolding across multiple and interacting levels of organisation. By shifting attention from simply expanding the range of actors to analysing the changing sites of intervention, the paper advances a more general theory of comparative security analysis. In doing so, it contributes to ongoing debates on posthumanism, ecological transformation, emerging technologies, and the future of security studies by providing an integrative conceptual framework for analysing increasingly complex security relations in an ecologically and technologically interconnected world.

Informal Recovery Systems and Household Behaviour in Urban Circular Economy Transitions: A Case of Ahmedabad

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Cities in India are framing and expanding Solid Waste Management (SWM) systems aligned with the circular economy and zero-carbon aspirations, yet actual material recovery continues to depend heavily on informal systems and inconsistent household practices. While the SWM Rules emphasise 'source segregation' and the integration of informal workers, there is limited empirical evidence regarding the interactions among households, ragpickers and kabadiwalas within the urban waste value chain. Most existing research examines these actors separately. The present study addresses this gap by analysing household waste generation and segregation behaviour alongside the recovery practices, livelihoods and institutional linkages of ragpickers and kabadiwalas in Ahmedabad, as part of the ICSSR-funded project "Circular Economy and Waste Management in Urban India".

The study employed a mixed-methods design combining structured household surveys, semi-structured surveys/ interviews with ragpickers and kabadiwalas, and field observations across five municipal wards. Surveys were administered to 502 households to assess waste generation and handling practices. In parallel, a survey of 145 kabadiwalas and ragpickers captured their occupational practices. The quantitative analysis was supplemented by insights derived from qualitative analysis of data collected through semi-structured interviews with select scrap pickers in the value chain and direct observation of material flows at collection points and recovery sites.

The household findings show a clear gradient: segregation rates rise with income and formal housing typology, yet mixed collection frequently undoes this effort at the household level. The informal sale of recyclables to kabadiwalas remains the dominant recovery route for most households, while on-site composting stays limited. The waste picker surveys reveal a workforce that is predominantly from Scheduled Caste and Scheduled Tribe communities, with high levels of illiteracy or only primary education, and a significant share of long-term migrants. Many have worked in the occupation for 10 to 35 years, with daily collection volumes ranging between 6 and 35 kg, with material recovery of plastics, cardboard, paper, metals and limited quantities of glass and e-waste. Most waste pickers sell to scrap dealers (first-level aggregators colloquially called Pithawallahs) or kabadiwalas; only a few are linked to NGOs, supported by arrangements such as Paryavaran Mitra or private players like NEPRA. Daily earnings commonly fall between ₹200 and ₹600. The major problems reported include health risks, seasonal variation (especially during monsoons), municipal eviction, police harassment, lack of identity documents, irregular payments and low awareness of government schemes. Willingness to join Material Recovery Facility jobs seems to be mixed.

The findings demonstrate that a substantial share of actual material recovery in Ahmedabad already occurs through the combined efforts of households, ragpickers and kabadiwalas, yet these contributions remain largely invisible to formal planning and policy. Expanding door-to-door collection and building 'material recovery facilities' (MRFs) are necessary but insufficient for circular economy transitions. Post-2030 urban sustainability frameworks must treat source segregation quality, material purity, and the structured integration of waste pickers and kabadiwalas as core requirements rather than residual concerns.

The actions with priority include recognising informal recovery workers, creating stable institutional and market linkages with 'material recovery facilities', improving safety and basic facilities, redesigning collection contracts around material quality rather than coverage alone, and supporting household-level segregation through sustained behavioural and infrastructural measures. By bringing household behaviour and informal recovery systems into a single analytical frame, this study offers grounded evidence for more inclusive and effective circular economy strategies in Indian cities.

Multidimensional Household Water Poverty in Flood-Prone Assam, India: An Alkire–Foster Approach

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Water is fundamental to human well-being and sustainable development, yet household water insecurity persists even in regions with abundant water resources. This study examines multidimensional household water poverty in flood-prone rural Assam, India, challenging the conventional assumption that water poverty results primarily from physical water scarcity. The study focuses on Dhemaji district, where abundant rivers and high rainfall coexist with recurrent flooding, riverbank erosion, water contamination, and disruptions to water infrastructure. These conditions create a paradox of hydrological abundance alongside persistent household water insecurity. The study therefore conceptualises water poverty as a multidimensional condition shaped by environmental vulnerability, infrastructural constraints, socioeconomic limitations, and household capabilities. The study addresses gaps in water poverty research, which has predominantly focused on water-scarce and semi-arid regions and often relied on aggregate Water Poverty Index (WPI) measures. Such approaches may overlook overlapping deprivations experienced by households. To address this limitation, the study applies the Alkire–Foster (AF) multidimensional poverty framework to construct a Household Multidimensional Water Poverty Index. The framework integrates the WPI, Sen's Capability Approach, and the AF methodology, assessing water poverty across five dimensions: Resource, Access, Capacity, Use, and Environment. A mixed-methods research design was adopted. Primary data were collected between March and December 2025 from 324 households across ten villages in Dhemaji through household surveys, field observations, informal interviews, and group discussions. Secondary information was obtained from the Census of India, Statistical Handbook of Assam, and groundwater and hydrological reports. A multistage sampling procedure was employed, and 15 indicators were developed across the five dimensions to capture context-specific water deprivation, including seasonal water availability, source reliability, flood-time accessibility, storage capacity, adaptation practices, water rationing, contamination, waterlogging, infrastructure damage, and post-flood water safety. The findings demonstrate widespread and overlapping water deprivation. Environmental deprivation recorded the highest average deprivation at 66.5%, followed by Resource (59.5%), Use (58.5%), Capacity (56.0%), and Access (52.6%). Particularly high

deprivation was observed in household water storage, adaptation capacity, flood-time accessibility, water contamination, waterlogging, and year-round water availability. Using a poverty cut-off of k = 0.33, 283 of 324 households were identified as multidimensionally water poor, producing a headcount ratio of 87.35%. The intensity of deprivation was 51.4%, resulting in an MWPI of 0.449. Dimension-wise decomposition showed that Resource and Environment were the dominant contributors, together accounting for more than half of total censored deprivation. The findings indicate that unreliable water sources, flooding, contamination, environmental degradation, inadequate infrastructure, and limited adaptive capacity are more important drivers of water poverty than the absolute quantity of water available. The study concludes that water poverty in flood-prone Assam should be understood as socio-ecological vulnerability rather than simply water scarcity. It recommends integrated, climate-resilient water governance through flood-resilient infrastructure, protection of drinking-water sources, water-quality monitoring, household storage and treatment, livelihood support, enhanced adaptive capacity, and community participation. The study contributes by demonstrating that hydrological abundance does not necessarily ensure household water security and by extending multidimensional water poverty assessment to flood-prone settings.

Heterogeneous Export Responses to India's PLI Scheme: An Econometric Analysis of Selected Manufacturing Sectors

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India's Production-Linked Incentive (PLI) Scheme represents an important evolution in India's industrial policy towards performance-linked support for domestic manufacturing. Introduced with the broader objectives of strengthening productive capabilities, attracting investment, promoting scale, reducing import dependence, and enhancing India's position in global markets, the scheme has generated considerable interest regarding its implications for export performance. However, assessing the effectiveness of such an intervention requires going beyond changes in export volumes and examining whether improvements in exports are accompanied by strengthening international competitiveness. Against this backdrop, the present study provides a comparative empirical assessment of export

performance and export competitiveness in India's Electronics, Apparel, and pharmaceuticals sectors over the period 2015–2024, with particular emphasis on the transition from the pre-PLI period (2015–2020) to the PLI period (2021–2024).

The study employs secondary annual data and constructs a balanced panel comprising 30 sector-year observations. Export data are obtained from the UN Comtrade database using relevant HS-2 classifications, with India-specific trade data cross-verified against official sources. Destination-country GDP is incorporated to capture external demand conditions, while the Real Effective Exchange Rate (REER) is included to account for exchange-rate-related competitiveness. Export performance is examined through Compound Annual Growth Rate (CAGR), while export competitiveness is measured using the Balassa Revealed Comparative Advantage (RCA) index. To provide a more rigorous empirical assessment, the study employs sector-wise fixed-effects estimation, a pooled fixed-effects specification incorporating PLI–sector interaction terms, and robustness estimations using Panel-Corrected Standard Errors (PCSE) and Feasible Generalised Least Squares (FGLS). Diagnostic testing and Dumitrescu–Hurlin panel Granger causality analysis are further employed to examine model characteristics and the temporal relationship between export competitiveness and exports.

The descriptive findings indicate a notable strengthening of export performance in Electronics during the PLI period. Its export CAGR increased from 11.15 per cent during 2015–2020 to 27.85 per cent during 2021–2024, reflecting a substantial acceleration in export expansion. Apparel also registered a transition from negative growth of −6.53 per cent to marginal positive growth of 0.59 per cent, indicating a movement towards recovery, while Pharmaceuticals continued to record positive export growth, although at a more moderate pace of 5.70 per cent compared with 7.99 per cent in the pre-PLI period. These sectoral patterns highlight the differentiated nature of India's manufacturing export landscape and the importance of evaluating industrial policy outcomes across sectors rather than relying solely on aggregate indicators.

The RCA results provide an additional dimension to this assessment. Apparel and Pharmaceuticals maintained a comparative advantage throughout the study period, while Electronics recorded a substantial and continuous improvement in RCA, rising from 0.211 in 2015 to 0.586 in 2024. Although

Electronics remained below the conventional RCA threshold of one, its sustained upward trajectory indicates an improvement in India's relative export specialisation in the sector. The results therefore demonstrate that export expansion and export competitiveness represent related but distinct dimensions of international trade performance.

The econometric analysis further identifies important sectoral differences in the relationship between the PLI period and exports. While the sector-wise fixed-effects estimates do not produce statistically significant PLI coefficients when sectors are examined independently, the pooled interaction specification identifies a positive and statistically significant PLI-associated effect for Electronics, with a coefficient of 0.2499 ($p = 0.042$), corresponding to an estimated 28.4 percent higher export level, conditional on the other variables in the model. The corresponding marginal effects for Apparel and Pharmaceuticals are statistically insignificant, indicating that the relationship between the PLI period and exports varies across sectors. Importantly, the positive PLI coefficient remains consistent across the fixed-effects, PCSE, and FGLS specifications, providing robustness to the direction of the estimated relationship. RCA also emerges as a consistently positive and statistically significant correlate of exports across the principal specifications, highlighting the importance of underlying competitive capabilities in shaping export outcomes.

The findings contribute to the emerging empirical literature on India's contemporary industrial policy by distinguishing export expansion from sustained export competitiveness and by adopting a comparative multi-sector framework. Rather than assuming uniform outcomes across industries, the study demonstrates the relevance of sector-specific production structures, competitive capabilities, and integration with global value chains in shaping export responses. The evidence also suggests that the assessment of PLI should extend beyond production and export volumes towards indicators of competitiveness, domestic value addition, technological capability, and deeper integration into global markets. Overall, the study provides a systematic empirical perspective on the evolving relationship between performance-linked industrial policy and India's sectoral export outcomes, while highlighting the differentiated pathways through which manufacturing sectors can strengthen their position in international markets.

From Global Goal to Local Action: Framing A Grassroots Comprehensive Development Index for Post-2030 Development Agenda

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Since Independence, India has implemented many programmes and policy interventions to promote economic growth, improve infrastructure, reduce poverty and enhance the overall quality of life. While these interventions have contributed to socio-economic progress, major uneven development persists, with challenges such as poverty, unemployment and inadequate infrastructure hindering overall development (NITI Aayog, 2024). These challenges are not unique to India, as many countries across the globe experience similar disparities despite development efforts. These persistent multidimensional challenges highlight the need for coordinated global action. In response, the United Nations adopted the Sustainable Development Goals (SDGs) 2030 in 2015 as a universal framework to address complex socio-economic and environmental problems and promote inclusive growth (United Nations, 2015).

As the 2030 deadline approaches, there is growing demand to strengthen development approaches that move beyond national and regional averages towards decentralised, evidence-based planning that stresses local realities. The United Nations principle of leaving no one behind requires development interventions to recognise local needs and spatial variations (United Nations, 2015). This is particularly important for India, where more than 60.8% of the population lives in rural areas according to Census 2011, making localised assessment essential for equitable resource distribution and effective policy implementation. Although the 73rd Constitutional Amendment Act, 1992, strengthened Panchayat Raj Institutions and provided a framework for decentralised governance and grassroots planning for economic development and social justice (Government of India, 1992), there remains a need for a comprehensive multidimensional framework for assessing development at the grassroots level.

Against this background, the paper proposes a conceptual framework for a Grassroots Comprehensive Development Index (GCDI) as a localised planning instrument for the post-2030 agenda (United Nations, 2015; NITI Aayog, 2024). The proposed framework will integrate social, economic and environmental aspects to assess development at the grassroots level, particularly the block level, and identify spatially differentiated development priorities.

Unlike conventional indices that focus on education, health and standard of living (UNDP, 2025), the GCDI is conceived as a planning framework integrating multidimensional assessment with local needs and evidence-based policy intervention. It seeks to strengthen grassroots planning by identifying development gaps, vulnerable areas and formulating the required interventions (United Nations, 2015; NITI Aayog, 2024).

The paper contributes to the post-2030 global development discourse by promoting a transition from predominantly top-down approaches towards localised and participatory development assessment. It argues that achieving inclusive, sustainable and resilient development requires frameworks capable of translating global goals into area-specific interventions at the grassroots level. By providing a comprehensive basis for assessing block-level development and supporting priority-based resource allocation and policy intervention, the proposed GCDI can strengthen grassroots planning, improve policy effectiveness and bridge global development aspirations with local realities. It thus provides a conceptual foundation for a more equitable, resilient and locally responsive post-2030 development framework.

Rising Wireless Frequencies and Pollinator Exposure: A Regulatory Gap in Indian Telecommunications and Environmental Governance

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Each generation of mobile telecommunications has used higher carrier frequencies than the last, from below 1 GHz in 2G to millimetre-wave bands in 5G, with frequencies above 100 GHz expected for 6G by about 2030, driven by demand for bandwidth, low latency and device density. Because frequency and wavelength are inversely related, each gain in capacity shortens the wavelength. Since a body absorbs radio energy most strongly when its size is close to the wavelength reaching it, the size of the organism absorbing most efficiently falls as networks move higher. Humans remain far too large to absorb efficiently at mobile frequencies, whereas honeybees, small insects and small birds now fall within that range. Simulations indicate that shifting ten per cent of incident power above 6 GHz raises absorbed power in insects by three to 370 per cent (Thielens, 2018).

These organisms matter economically in India, because they are its main agricultural pollinators. Bees move pollen between flowers as they collect

nectar, which allows seed and fruit to form in many crops. Dependence is strongest in rapeseed and mustard, where insect visits roughly double seed yield (Abrol, 2007), and mango depends on flies and bees rather than wind, so orchards with few visitors produce poor fruit (Ramirez and Davenport, 2016). Across 108 pollinator-dependent crops, insect pollination has been valued at about ₹1,12,616 crore of annual output, 8.7 per cent of its value, with rapeseed and mustard accounting for ₹19,356 crore (Chaudhary and Chand, 2017). Exposure affecting pollinators is therefore an economic concern as well as an ecological one.

Existing regulation addresses neither concern. Exposure guidelines are written to protect human health, and their scope covers no other species at any frequency (ICNIRP, 2020), while a review commissioned by the European Union found no wildlife-protective standard in any jurisdiction it surveyed (EKLIPSE, 2018). Environmental frameworks, in turn, do not list electromagnetic radiation among the pressures they track. This paper argues that the gap reflects how expertise is organised rather than what the evidence shows. India is the main exception, having set base station emission limits in 2012, after an inter-ministerial review, at one-tenth of international levels, which shows the question can be addressed through ordinary policy.

The timing is significant, because pollinators support the food security, climate and biodiversity goals of the 2030 Agenda, while 6G is expected in the year those goals fall due. This leaves a short period in which ecological criteria can be built into network design rather than added later. We propose three measures: monitoring exposure in pollinator-dependent farming districts, recognising electromagnetic radiation as an ecological pressure in international environmental frameworks, and making ecological safety a design requirement in India's 6G programme. All three rest on one distinction, in that energy efficiency, already a priority of that programme, means less power used per unit of data, which is a separate matter from exposure in the surrounding environment.

A Study on the Uptake Potential Through Use of Synthetic Fuels as An Alternative

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This research is focused on studying the use of synthetic fuels, which are distinct from Biofuels due to their synthesis from Captured Carbon dioxide and green Hydrogen.The synthetic fuels are marketed as an alternative to petrol,

diesel, and heavy fuel oil used in shipping due to their drop-in nature and the existing fuel supply chain. Unfortunately, the issues related to the use of synthetic fuels are gaining centre stage now due to lobbying by powerful oil companies and hype through the media. Our research focuses primarily on assessing the future impact of using synthetic fuels in various industries using the outputs of Integrated Assessment Models (IAM) and comparing them with the India Energy Security Scenarios (IESS 2047). The outputs of this research will inform current climate change mitigation policy to decarbonise industries by focusing investment in niche areas based on robust calculations. Another important aspect of this is focused on the changing nature of foreign policy, which will take shape once imports of oil gradually decline. As of now, 80-90% of oil is imported, and we are integrating the scenarios for Decarbonization with reduced imports of oil. The research output will be focused on finally coming up with a picture of how the foreign policy will shift towards a stronger nationalistic bend with the new realities by 2047. The integrated assessment models are accompanied by Scenarios where the reduction of fossil fuel energy use and the increase of renewable energy and other newer forms of energy, like synthetic fuels, are modelled. The most important and widely accepted scenarios include the ones based on Shared Socio-economic Pathways (SSP 1 to SSP 5) and ones based on Radiative forcing of the sun's energy as a consequence of global warming. The integrated assessment models solve for certain constraints like cost or emissions, and the output in the form of Global warming potential is then fed to the mathematical model, which predicts the global warming potential impact of various sectors based on the trajectory of energy use. The preliminary results suggest only a marginal reduction in GWP values based on some climate action using an Asia-focused IAM with the SSP2 scenario, which is realistic.

An Integrated Ability, Motivation, and Opportunity –Social Model Framework for the Labour-Force Participation of Persons with Disabilities and Chronic Illness

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Despite legal commitments and growing organisational attention to diversity, persons with disabilities and chronic or critical illnesses continue to encounter restricted access to work, precarious retention, and exclusion within workplaces.

Even though persons with disabilities are hired, they seldom receive equal opportunities in the workforce. Existing research is fragmented across disability studies, mental health, cancer survivorship, neurodiversity, employer attitudes, workplace stigma, accommodation, and technology. This conceptual paper synthesises 31 studies published between 2000 and 2025 to explain how individual resources and organisational conditions jointly shape sustainable employment. Integrating Ability–Motivation–Opportunity (AMO) theory with the Social Model of Disability, the paper proposes that education and skills, employment self-efficacy and disclosure confidence, and inclusive opportunity structures influence labour-force participation through perceived employability and workplace inclusion and belonging. Organisational support strengthens the translation of inclusive opportunity structures into belonging, whereas stigma and discrimination weaken the conversion of personal resources and inclusion into employment outcomes. The framework expands disability-employment research beyond a narrow employed/unemployed distinction by incorporating formal-sector entry, return to work, retention, and quality of participation. The paper primarily focuses on the Indian context, where discrimination remains prominent on the basis of both physical and mental disabilities. An inclusive workplace ensures that opportunities are provided alongside a sense of belonging, enabling careers to be built rather than merely providing employment for persons with disabilities. In addition, the paper emphasises how work needs to be distributed according to equity rather than equality alone. It also treats disability and illness as heterogeneous and locates employment outcomes within institutional and sectoral contexts, with particular relevance to India and less-organised workplaces. Nine propositions and a future structural equation modelling (SEM)-based testing agenda are offered. The study highlights that work provides dignity, autonomy, and social connection, apart from economic opportunities. Furthermore, supportive disclosure policies can make workplaces more accommodating and enable persons with disabilities and chronic or critical illnesses to access more customised employment opportunities.

Financing Development Priorities Beyond 2030: Evidence from India's Green Bond and Equity Markets

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The development agenda that follows 2030 will require large amounts of capital. The question is not only how much capital can be mobilised, but also whether the instruments used to raise it remain stable when financial markets

come under pressure. This matters particularly for emerging economies, where development priorities must be financed alongside exposure to domestic and global shocks. India provides a useful case because it has developed a sovereign green bond market alongside sustainability-oriented equity benchmarks. Sovereign green bonds provide government financing with earmarked proceeds, while ESG-screened equity influences the allocation of private capital across listed firms. This study examines return spillovers across five segments of the Indian market: sovereign green bonds, ESG-screened equity, listed digital-economy firms, central public sector enterprises and gold. The last three are included as reference segments. Daily data from January 2023 to November 2025 are analysed using a quantile vector autoregression with frequency decomposition to examine transmission across market states and time horizons. Of the total connectedness, most transmission occurs within one week. The sovereign green bond index retains most of its own forecast error variance and behaves as a net receiver of spillovers, although the interpretation is subject to the liquidity and measurement limitations discussed in the paper. ESG-screened equity acts as a net transmitter, and its role as a transmitter becomes stronger under stress. Connectedness also rises around the 2024 general election, the mid-2025 oil price movement and the 2025 tariff escalation, with the increases concentrated in the short-horizon band. The findings have several implications for development financing beyond 2030. First, market risk should be assessed at the horizon relevant to the underlying expenditure rather than through aggregate connectedness alone. Second, scaling green finance requires maturity coverage and secondary-market depth in addition to classification and labelling standards. Third, financing frameworks should allow national priorities to shape eligible activities. The Indian evidence also shows that insulation in secondary-market returns does not necessarily imply ease of primary-market issuance.

Precarity of Female Labour in State-Led Welfare Schemes: Focus on One-Stop Centres

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The Indian State delivers welfare through a precarious and feminised workforce. Women are considered naturally suited for care work, as an extension of their sexual division of labour. This is what keeps their work undervalued, and it is sustained by building a sense of moral obligation for

work rather than just looking at it as a source of livelihood. The One-Stop Centre (OSC) workers, who provide integrated support, under one roof, to the victims of Violence Against Women (VAW), are one such example. A qualitative study was conducted across four One-Stop Centres in Delhi and Assam to understand the nature of precarity associated with this kind of workforce and how the Indian state benefits from it. Semi-structured interviews were conducted with 25 respondents, of whom 20 were OSC workers and 5 were Paralegal Volunteers. Monthly Progress Report data were also collected and analysed from two OSCs in Assam. Triangulation was used as an analytical technique, with interview findings cross-checked with MPR data, NCRB data, and field observations. The paper sits within the theoretical context of Social Reproduction Theory (SRT), feminist political economy, the conceptualisation of 'precarity' as a historically embedded class in the context of the Global South, and Arlie Hocshchild's concept of emotional labour. The study finds that OSC workers experience precarity across multiple dimensions like employment, income insecurity, lack of employee benefits, risk to physical security, lack of labour market mobility and blurred professional boundaries. They also perform immense emotional labour in listening to and documenting the trauma of the victims, while offering support and care to them. The moral responsibility they feel for the victims and their work is what makes them stay in the scheme, despite not feeling that their work is secure. The state creates a moral distance from the VAW issue while placing its burden of care on a fundamentally precarious, contractual workforce.

Environmental Justice, Social Equity and The SDGs in India: A Constitutional, Legal and Policy Assessment of the 2030 Agenda

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The 2030 Agenda for Sustainable Development represents an unprecedented global commitment to achieving inclusive, equitable and environmentally sustainable development through seventeen Sustainable Development Goals (SDGs) and 169 targets. At its normative core is the transformative commitment to "Leave No One Behind," which requires development policies to address poverty, inequality, discrimination, environmental degradation and the vulnerabilities of marginalised communities. Although the Sustainable Development Goals are not legally binding treaties, their implementation increasingly intersects with constitutional rights, international environmental law, human rights obligations and domestic public policy. This paper critically

examines the extent to which India's SDG implementation architecture incorporates the principles of environmental justice and social equity.

India has made substantial normative and institutional progress in integrating sustainable development into its constitutional and policy framework. Article 21 of the Constitution has been judicially interpreted to encompass the right to a clean and healthy environment, while Articles 48A and 51A(g) reinforce the constitutional commitment to environmental protection. Indian environmental jurisprudence has further incorporated the principles of sustainable development, precaution, polluter pays and intergenerational equity. More recently, in M.K. Ranjitsinh v. Union of India, the Supreme Court recognised a constitutional right to be free from the adverse effects of climate change, strengthening the relationship between environmental protection, equality and human dignity.

At the institutional level, NITI Aayog has emerged as the nodal institution for SDG implementation and monitoring in India. The SDG India Index provides a mechanism for measuring progress across States and Union Territories. India's composite SDG score improved from 66 in 2020–21 to 71 in 2023–24, with notable progress in poverty reduction, decent work and climate action. Nevertheless, aggregate improvement does not necessarily demonstrate equitable distribution of environmental and developmental benefits.

The paper argues that the principal challenge is not the absence of environmental or developmental laws but the gap between normative commitments and effective implementation. Vulnerable groups, including Indigenous and tribal communities, forest-dependent populations, women, children, persons with disabilities, migrant workers and communities residing in ecologically fragile regions, often experience disproportionate exposure to pollution, climate risks, displacement and loss of livelihood. The paper therefore proposes a Justice-Centred SDG Implementation Framework based on six dimensions: distributive justice, procedural justice, recognition, accountability, environmental rule of law and intergenerational equity.

The study concludes that India's SDG framework can achieve greater transformative legitimacy only when environmental justice and social equity are incorporated into measurable implementation criteria and connected with constitutional rights, statutory safeguards and participatory governance. Sustainable development must consequently move beyond aggregate indicators of economic and social progress towards a rights-based model in which the benefits and burdens of development are distributed fairly and affected communities possess meaningful opportunities to participate in environmental decision-making.

Changing Nature of The Warfare: 2030 And Beyond

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Recent conflicts around the world have created new forms of collective memory and public engagement. In the age of social media, warfare has become a subject of widespread discussion, often highlighting the experiences and stories of ordinary people. This increased engagement has also amplified the risk of vilification and targeting of individuals based on their religion, ethnicity, nationality, or other social identities. As a result, conflicts can no longer be viewed solely as confrontations between states; they increasingly affect communities and individuals who become targets because of the groups to which they belong.

This paper examines how major conflicts in the post-pandemic period have contributed to the emergence of new narratives and memories. It explores the changing nature of conflict-related narratives and the ways in which they are constructed and disseminated. Narratives are often rooted in local memories and oral histories, but in the contemporary digital age they are also shaped by memes, social media posts, short videos, and AI-generated content that convey political messages and influence public perceptions.

The study focuses on major conflicts such as the Russia–Ukraine War, the Iran–Israel–United States conflict, and the India–Pakistan crisis, covering the period from 2022 to 2026. While the duration and intensity of these conflicts vary, many continue to be characterised by fragile ceasefires and the absence of durable political agreements capable of preventing future escalations.

The paper argues that the post-COVID-19 period created conditions that enabled states to intensify geopolitical rivalries and expand their capacities for military aggression and border confrontations. The years following 2020 witnessed increasing engagement by both societies and states in conflict-related discourse and actions. This development may be interpreted as a departure from the principles of liberal internationalism, which emphasise human well-being, cooperation, and sustainable development in pursuit of the United Nations' 2030 Agenda.

International institutions, particularly the United Nations, have consistently sought to create conditions conducive to poverty reduction, sustainable development, and international cooperation. However, the resurgence of wars and conflict situations has undermined these objectives. Rather than promoting collective action and multilateral cooperation, many states

have increasingly pursued unilateral strategies. In this context, controlling narratives has become a crucial aspect of warfare, as governments seek to shape public opinion both domestically and internationally.

Public opinion management has long played a significant role in warfare. Beyond military victory or defeat, citizens' perceptions regarding the legitimacy, necessity, or morality of wars can influence political authority and governmental decision-making. Similar dynamics are evident in contemporary conflicts, where digital platforms have become important arenas for information dissemination and opinion formation.

IASSI

The Indian Association of Social Science Institutions (IASSI), established in 1979, is a federal formation of academic bodies (universities and research institutes) that aims to promote and strengthen teaching and research in social sciences. IASSI also publishes a peer-reviewed quarterly journal titled IASSI Quarterly: Contributions to Indian Social Sciences. Presently, IASSI is having more than 300 member-institutions including universities, research institutes, government agencies and national academic associations.

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