EGROW Foundation

FOUNDATION FOR ECONOMIC

GROWTH & WELFARE

EGROW POLICY PAPER

Artificial Intelligence and Social Transformation
The Need for a Cautious Adoption Strategy in India

Priya Gupta and Charan Singh

March 2026

Artificial Intelligence and Social Transformation
The Need for a Cautious Adoption Strategy in India

Priya Gupta[1] and Charan Singh[2]

1. Introduction

Every transformative technology in history has had winners and losers. In colonial India, the winners were in Manchester. The question before us today is whether, in the age of AI, the winners will be in Silicon Valley or in Surat, Siliguri, and Salem.

Artificial Intelligence (AI) is emerging as one of the most transformative technologies of the 21st century. Governments around the world are investing heavily in AI to enhance economic productivity, improve governance, and accelerate technological innovation. The global AI market, valued at approximately USD 150 billion in 2024, is projected to exceed USD 1 trillion by 2030, reshaping every sector of the global economy.

India, with its large population of over 1.4 billion and a labor-intensive economy, stands at a critical crossroads. According to the International Monetary Fund (IMF), nearly 40% of global employment is exposed to AI-driven transformation. For India, the stakes are especially high given its unique labour market composition and developmental imperatives.

As per NITI Aayog, 2024 - "India is uniquely positioned; it has the talent, the data, and the democratic values to lead the world in responsible AI. But it must move decisively and inclusively."

This report provides a comprehensive analysis of AI's economic and social implications for India, the current state of the AI job market, household-level impacts, India's AI governance milestones, and actionable policy recommendations for a human-centered AI transition. This report evaluates AI not as a technology question but as a *development justice question*.

---

[1] Associate Professor at Atal Bihari Vajpayee School of Management and Entrepreneurship, Jawaharlal Nehru University

[2] Chief Executive, EGROW Foundation

2. AI and Employment Disruption in India

India's labour market is one of the largest in the world, with more than five hundred million workers. A defining feature is the dominance of informal employment, which accounts for approximately 71.7% of total workers, making India exceptionally vulnerable to AI-driven displacement.

2.1 Key Labour Market Indicators

The table below consolidates the most critical employment data points relevant to AI's impact on India's workforce, drawing on estimates from the ILO, World Bank, NITI Aayog, and the Government of India.

Table 1: India Employment Indicators

| Indicator	Data	Source
Total Labour Force	~500+ million workers	ILO / Govt estimates
Informal Employment Share	71.7% of workforce	ILO / FICCI Report
Services Sector Employment (2023–24)	188 million workers	NITI Aayog
Jobs Potentially at Automation Risk	Up to 69% of jobs	World Bank / McKinsey
Informal Workers on e-Shram	310+ million	Ministry of Labour
IMF Global AI Exposure Estimate	~40% of all jobs	IMF 2024
Gig/Platform Economy Workers	~7.7 million (2024)	NITI Aayog / BCG
Projected AI-related Job Creation by 2027	~1 million new roles	WEF Future of Jobs 2023

Figure 1: India Key Employment Indicators at a Glance

India Employment Indicators at a Glance
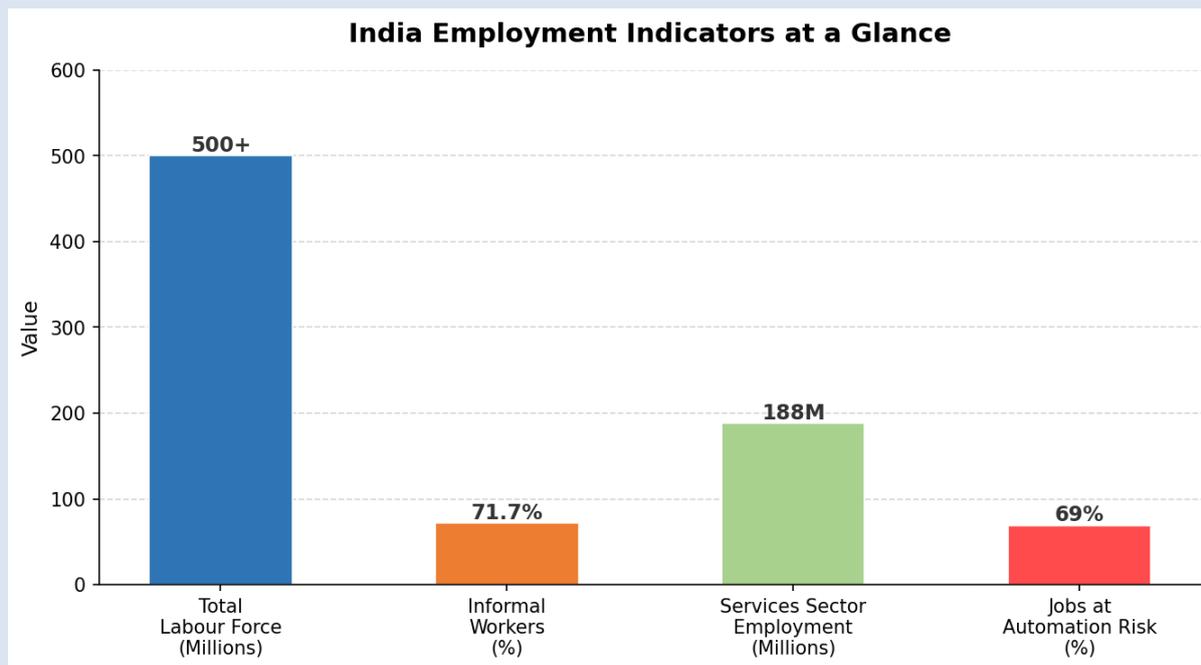
Figure 2: India Workforce - Formal vs Informal Composition

India Workforce: Formal vs Informal Employment
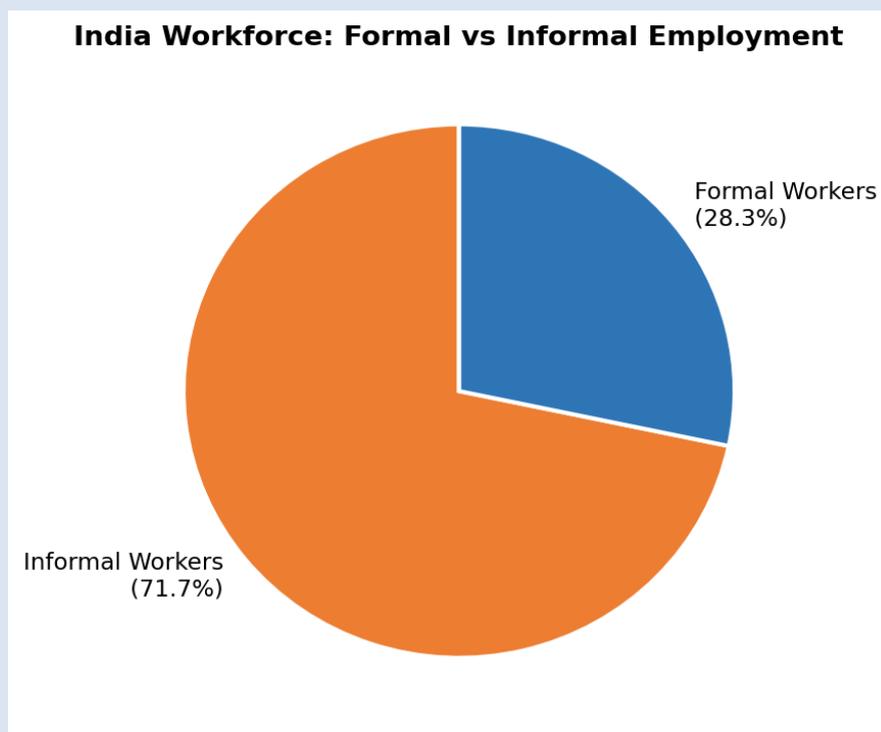
2.2 Sector-wise Exposure to AI Automation

Different sectors of the Indian economy face varying levels of AI-driven disruption. The services sector, which employs approximately 188 million workers, is most immediately exposed, whereas agriculture faces a more nuanced outlook with AI advisory tools offering productivity gains.

Table 2: Sector-wise AI Impact and Automation Risk in India

Sector	Employment (Mn)	Automation Risk	AI Opportunity	Net Outlook
IT/BPO/Services	188	High (65–75%)	Moderate	Negative short-term
Agriculture	~250	Medium (35–50%)	High (Advisory AI)	Positive long-term
Manufacturing	~60	High (55–70%)	Moderate	Negative short-term
Healthcare	~7.5	Low–Med (20–35%)	Very High	Strongly Positive
Education	~15	Low (15–25%)	High	Positive
Domestic/Informal Work	~150	Medium (40–55%)	Low	Negative
Retail & Commerce	~50	High (60–70%)	Moderate	Negative
Finance & Banking	~18	High (55–68%)	Moderate–High	Mixed

The sectors employing India's most vulnerable workers - informal services, domestic work, and basic manufacturing face the highest automation risk offering the lowest AI transition opportunities.

2.3 Why India is Different

When global analysts project the impact of artificial intelligence on employment, they typically draw on data and frameworks built around the economies of the United States, Germany, or Japan nations with mature social security systems, high per capita incomes, and labour markets already accustomed to technological transition. Applying these frameworks to India without qualification is not just analytically insufficient; it is dangerous. India's labour market operates under fundamentally different structural conditions, and any honest assessment of AI's employment impact must begin by acknowledging three realities that make India's situation categorically distinct.

Informality is Not a Flaw - It is a Livelihood Ecosystem

In most Western economic discourse, informal employment is treated as a transitional phase, a sign of underdevelopment that modernization will eventually correct. In India, informality is not a phase. It is architecture. Approximately 71.7% of India's workforce, nearly 360 million people, is engaged in informal employment, operating outside the protections of written contracts, provident funds, health insurance, or labour tribunals. These workers are not waiting to be formalized. They have built entire livelihood ecosystems, micro-enterprises, seasonal labour networks, home-based production chains, and service clusters that sustain families, communities, and local economies across the country.

When AI automation displaces a call center worker in Ohio, that worker can file for unemployment benefits, access retraining programmes, and draw on a social infrastructure built over decades. When AI displaces a data entry operator in Pune or a content moderator in Noida, there is no such buffer. The displacement is immediate, total, and personal. To treat these two situations as equivalent, as most global AI impact studies implicitly do, is to misread India's economic reality entirely. Protecting India's informal livelihood ecosystem from unmanaged AI disruption is therefore not a matter of sentiment. It is a matter of structural economic survival.

Displacement Equals Destitution, Not Transition

India does not have an unemployment insurance system of any meaningful scale. Unlike Germany's Kurzarbeit scheme, the United Kingdom's Universal Credit, or the United States' state-level unemployment benefits, India offers no systematic income replacement for workers who lose their jobs to technological change. The e-Shram portal, with over 310 million registered informal workers, is a crucial step in mapping the unprotected workforce, but registration is not protection. It is merely visibility.

In this context, AI-driven job displacement does not produce the kind of "frictional unemployment" that economists in developed countries might describe as a temporary inconvenience before workers transition to better opportunities. In India, displacement without a safety net means a family losing its only source of income, children being pulled out of school, households falling back below the poverty line, and communities losing the economic activity that sustains local markets. The social cost of displacement in India is not measured in weeks of lost wages; it is measured in years of developmental regression. Any AI policy

framework for India that does not place social protection at its absolute center is not a development strategy. It is an abdication of one.

The Demographic Dividend Can Become a Demographic Disaster

India is frequently celebrated for its demographic dividend, the economic advantage of having a large, young, working-age population at a moment when much of the developed world is ageing. Approximately two hundred million young Indians are projected to enter the workforce between 2024 and 2030. In a well-managed technological transition, this cohort represents an extraordinary engine of growth. This generation could be trained, upskilled, and deployed in AI-augmented roles that drive India's economy for the next three decades.

But this dividend has an expiry condition. It only materializes if jobs exist to absorb these young workers. If artificial intelligence is deployed rapidly, without adequate reskilling infrastructure, and on terms set by Global North technology platforms, displacing existing jobs faster than new ones are created, India's greatest demographic asset becomes its most destabilizing liability. Two hundred million young people without economic opportunity do not simply accept reduced living standards. They generate social unrest, political instability, and human cost on a scale that no GDP growth figure can offset. The demographic dividend, in the absence of a managed AI transition, does not simply disappear; it inverts. India's window to get this right is not indefinite. It is measured in years, not decades.

3. India's AI Job Market - Disruption and Opportunity

The AI-driven transformation of India's job market is a tale of two economies. Millions of routine and entry-level jobs face obsolescence, a rapidly growing ecosystem of AI-native roles is emerging, primarily in metropolitan tech hubs such as Bengaluru, Hyderabad, Pune, and Mumbai.

3.1 Jobs at Risk vs Emerging AI Roles

The following table maps the job roles most vulnerable to AI-driven automation against the emerging roles being created by the AI economy. Displacement is concentrated in routine, entry-level, and process-driven occupations, new demand is surging for high-skill AI-native roles, highlighting both the urgency of reskilling and the scale of opportunity available to a prepared workforce.

Table 3: India AI Job Market - Roles at Risk vs Emerging Opportunities

Job Role at Risk	Risk Level	Emerging AI Role	Demand Growth by 2030
Data Entry Operators	Very High (85%)	AI/ML Engineers	+320%
BPO / Call Centre Agents	High (75%)	Prompt Engineers	+180%
Junior Research Analysts	High (60%)	Data Scientists	+290%
Content Moderators	High (65%)	AI Ethics Officers	+95%
Basic Accounting Staff	High (70%)	Robotics Technicians	+145%
Routine Admin Personnel	Very High (80%)	AI Product Managers	+210%
Basic Legal Drafting	Medium (45%)	MLOps Engineers	+260%

Figure 3: India AI Labour Market - Jobs at Risk vs Emerging Opportunities
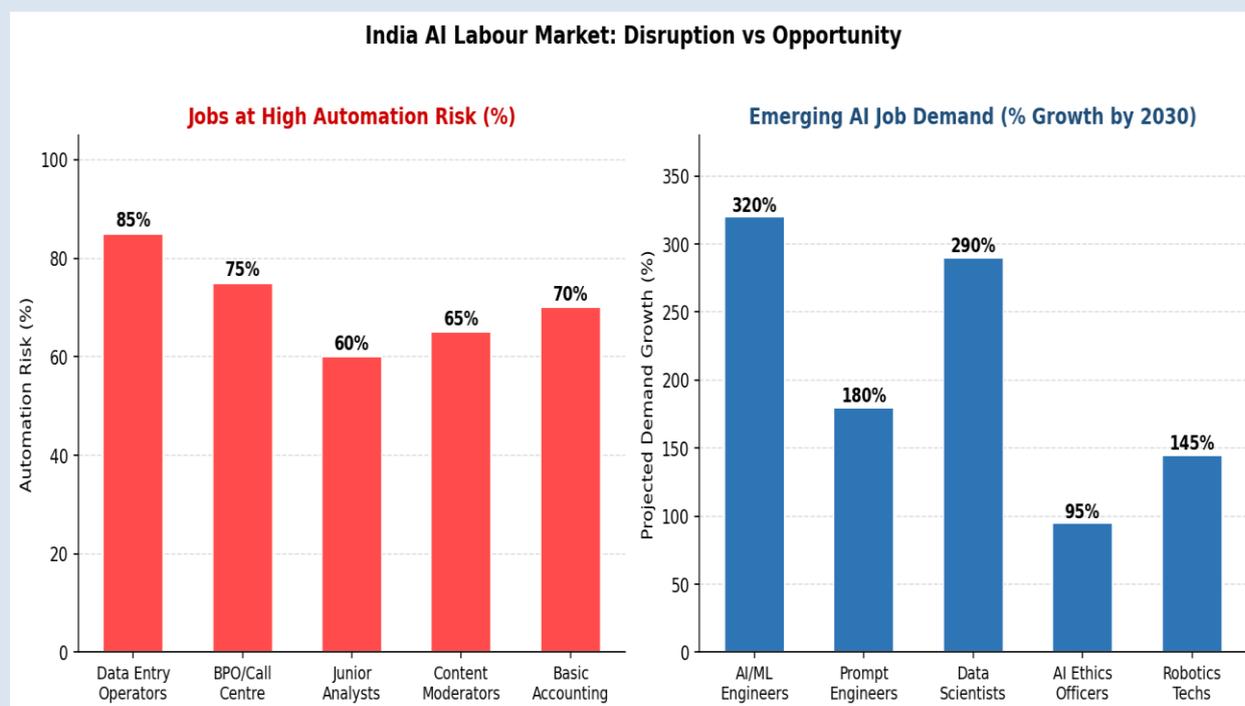
3.2 Current AI Job Market Trends (2024–25)

Demand surge for AI talent: India's AI/ML job postings grew by over 45% in 2024 compared to 2023, according to LinkedIn India and NASSCOM data. The average salary for AI engineers in India rose to approximately ₹18–25 lakh per annum for mid-level roles, and ₹50 lakh+ for senior specialists.

- **Concentration risk:** Over 70% of AI job creation is concentrated in Tier-1 cities, leaving Tier-2/3 cities and rural areas largely excluded from the AI employment boom. This geographic concentration risks widening existing income inequalities.
- **BPO and IT services contraction:** India's BPO sector, which employs over five million workers, is projected to experience a 20–30% reduction in headcount by 2028 as generative AI tools automate customer service, data processing, and routine back-office functions.
- **Gig economy evolution:** India's approximately 7.7 million gig workers are increasingly algorithm-dependent, with AI systems determining task allocation, pricing, and performance evaluation, raising concerns about worker welfare and bargaining power.

The World Economic Forum's Future of Jobs 2023 report estimates that AI will create approximately ninety-seven million new roles globally but displace eighty-five million, with developing economies bearing a disproportionate share of displacement.

3.3 Skills Gap and Reskilling Challenge

India faces a critical AI skills gap. The country produces approximately 1.5 million engineering graduates annually, less than 15% have meaningful AI/ML competency. Bridging this gap requires urgent, large-scale investment in digital literacy and AI-specific vocational training.

- NASSCOM estimates India needs one million additional AI-skilled professionals by 2026.
- Current AI-focused training programmes reach fewer than 200,000 individuals annually.
- Industry-academia partnerships remain fragmented and geographically concentrated.
- Women represent only 22% of India's current AI workforce, a critical diversity gap.

3.3 The Dignity of Work

Economic analysis has a persistent blind spot. It measures work in units of output, productivity, and wage rate, but it rarely accounts for what work actually means to the people who perform it. In India, this blind spot is not merely an academic shortcoming. It is a policy failure waiting to happen. Before India makes any irreversible decisions about the pace and scale of AI-driven automation, it must confront an uncomfortable question that no dataset can fully answer: what do we lose when we replace human work with machine work, beyond what shows up in an employment statistic?

Work as Identity, Not Just Income

In the Indian context, work is rarely only a source of income. It is a source of identity, social standing, community belonging, and intergenerational continuity. A handloom weaver in Varanasi is not simply a unit of textile production that can be replaced by an AI-powered automated loom without social consequence. He is the carrier of a centuries-old craft tradition, a member of a weaver community whose social life, festival calendar, marriage networks, and neighbourhood economy are organized around that craft. When automation makes his skill economically redundant, it does not simply reduce his income; it dissolves the social world built around his labour.

This is not romanticism. It is a sociological reality that development policy in India has historically underestimated, from the destruction of artisan economies during colonial deindustrialization to the displacement of agricultural communities by large infrastructure projects. The lesson has been available to us for a long time. AI-driven displacement, if unmanaged, risks repeating it at a scale and speed that colonial deindustrialization itself did not achieve.

The same logic applies across sectors. A Swiggy delivery partner in Chennai is not just a logistics node in a supply chain. He is a first-generation urban migrant who left his village because there was no work there, sends remittances home to his parents, and whose children attend a private school because he can afford the fees. The algorithm that manages his delivery schedule, sets his pay rate, and can deactivate his account without appeal already represents AI's power over his livelihood. Full automation of last-mile delivery does not just remove a job category from a labour-market spreadsheet; it removes the economic floor from beneath an entire stratum of India's urban working poor.

Amartya Sen and the Capability Approach

Nobel laureate Amartya Sen argued that development must be understood not as the accumulation of goods or the growth of GDP. Still, as human capabilities expand, the real freedoms people must live lives they have reason to value. By this measure, technology that increases national productivity simultaneously destroys the capability of millions of workers to earn a dignified livelihood, exercise economic agency, and participate meaningfully in society is not development. It is the opposite.

Sen's framework demands that we ask not only "does AI grow India's economy?" but "does AI expand or contract the capabilities of India's people?" For a highly skilled AI engineer in Bengaluru, the answer is clearly expansion. For a data entry operator in Bhopal, a garment worker in Tirupur, or a domestic worker in Delhi, the honest answer without deliberate policy intervention is contraction. A Viksit Bharat built on the expansion of privileged minority capabilities contracting the freedoms of the majority is not a developed nation. It is a structurally unequal one with a high per capita GDP.

Gandhian Economics and the Scale of Technology

Mahatma Gandhi's critique of industrial technology was not a rejection of modernity. It was a demand that technology be answerable to human need. Gandhi's principle that the scale and nature of technology must be calibrated to the welfare of the last person, the *antyodaya*, offers a framework that is as relevant to AI deployment today as it was to textile machinery in the 1920s. Gandhi did not oppose the spinning wheel because it was primitive. He championed it because it placed productive capability in the hands of the many rather than concentrating it in the machinery of the few.

Applied to AI, the Gandhian question is precise: does this technology distribute economic capability or concentrate it? An AI tool that helps a small farmer in Madhya Pradesh understand soil moisture data and make better cropping decisions, distributing capability to someone who previously had none, is Gandhian in its effect. An AI system that automates the back-office operations of a large corporation, eliminating five hundred clerical jobs so that productivity gains flow upward to shareholders, concentrating capability further among those who already have it, is the opposite. India's AI policy must be able to make this distinction and act on it, rather than treating all AI adoption as inherently progressive simply because it is technological.

The Varanasi Test

Consider Varanasi's handloom weaving industry one of India's oldest and most culturally significant craft economies, employing hundreds of thousands of weavers, dyers, traders, and support workers in and around the city. AI-powered textile automation can now replicate complex Banarasi weave patterns at a fraction of the cost and time of human weaving. From a pure productivity standpoint, this is an efficient gain. From the standpoint of the weavers, their families, the local economy, and the cultural heritage embedded in their craft, it is devastating.

The question India must answer is not whether AI *can* automate Varanasi's handlooms. It clearly can. The question is whether India *should* allow it to, on what timeline, with what protections for the existing workforce, and with what understanding of what is irreversibly lost when a pattern-recognition algorithm displaces a living craft tradition. This is not a question that market forces will answer correctly on their own. It is a question that requires deliberate, value-driven policy, the kind that places human dignity alongside economic efficiency as a first-order development objective.

Work in India is too central to too many lives to be treated as a variable to be optimized. It must be treated as what it actually is, the foundation on which families, communities, and the social contract of a democratic republic are built. AI that strengthens that foundation deserves India's full embrace. AI that erodes it deserves India's firm resistance, regardless of the productivity figures it promises to deliver.

4. Economic Impact on Households and Population

The macroeconomic consequences of AI are well documented, but the household-level impact, particularly on India's informal workers, rural families, and low-income urban populations, is less frequently analyzed. This section examines how AI-driven economic shifts are likely to reshape household incomes, consumption patterns, and the distribution of economic opportunity across India's diverse population.

4.1 Household Income Impact by Sector

The table below presents a household-level breakdown of AI's projected economic impact across India's diverse income groups and employment categories. Income projections are based on sectoral automation exposure, wage sensitivity analysis, and data from CMIE, the World Bank, and NITI Aayog household surveys. The findings reveal a sharply unequal distribution

of AI's economic consequences, with high-skilled urban professionals standing to gain. At the same time, informal workers, domestic staff, and rural non-farm households face the steepest income pressures.

Table 4: Projected AI Economic Impact on Indian Households by Category

Household Category	Monthly Income Range	AI Impact	Projected Change	Key Risk Factor
Urban Formal (IT/Services)	₹40,000–₹1,50,000	Mixed	−5% to +15%	Role automation
Urban Informal Worker	₹8,000–₹20,000	Negative	−10% to −18%	Job displacement
Rural Agricultural HH	₹4,000–₹12,000	Moderate Positive	+5% to +10%	AI advisory tools
Domestic Workers (Urban)	₹6,000–₹15,000	High Negative	−15% to −20%	Household robotics
Gig/Platform Workers	₹12,000–₹30,000	Mixed	−8% to +5%	Algorithm dependency
High-skilled AI Professionals	₹1,00,000+	Positive	+20% to +40%	Talent scarcity premium
Rural Non-farm Households	₹5,000–₹18,000	Negative	−8% to −14%	Retail/commerce AI

**Figure 4: Projected Household Income Change Due to AI Automation by Sector**

Projected Household Income Change Due to AI Automation by Sector (%)
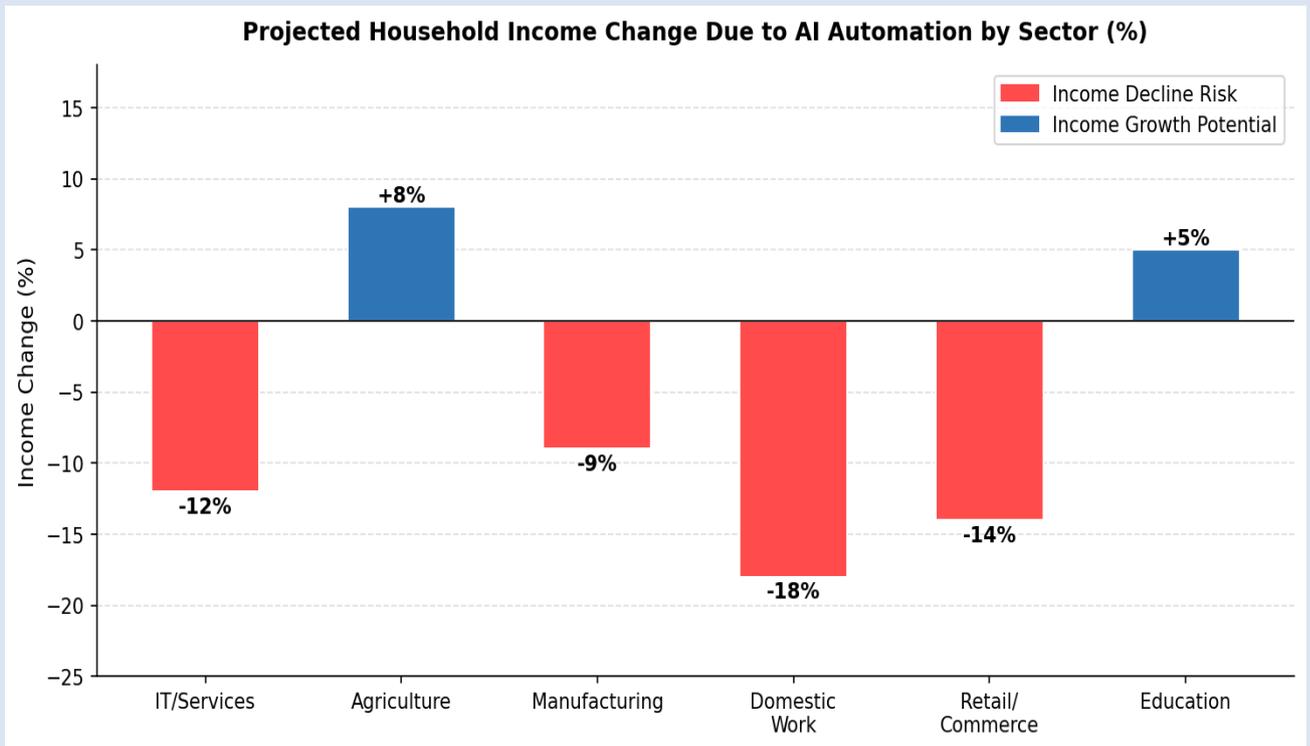
4.2 Urban–Rural Divide in AI Benefits

One of the most concerning dimensions of India's AI transition is the potential deepening of the urban–rural economic divide. AI benefits in terms of job creation, productivity gains, and income growth are currently heavily concentrated in urban, educated, and digitally connected populations.

Figure 5: Urban vs Rural AI Benefit Distribution in India

Urban vs Rural AI Benefit Distribution in India (%)
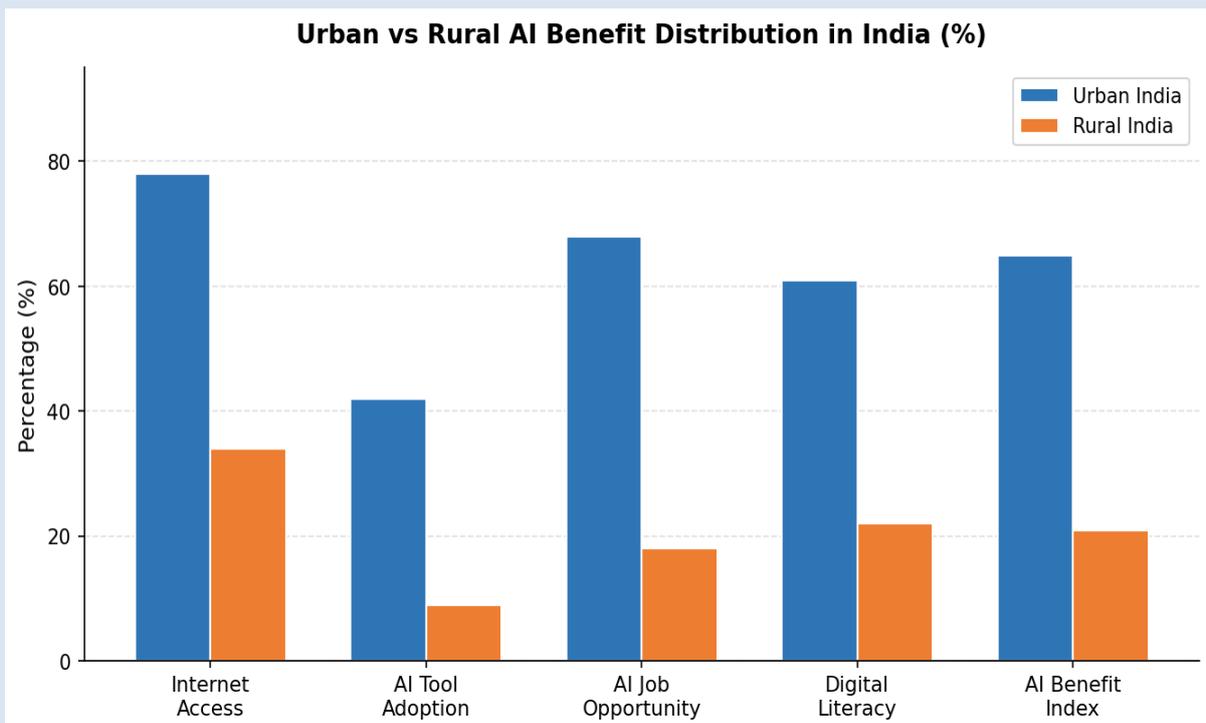
Urban households with high-skilled workers stand to gain significantly from AI augmentation, higher productivity, better tools, and wage premiums for AI skills. Rural and informal households, however, face a double burden: displacement from routine occupations without adequate access to AI-enabled opportunities.

India's Gini coefficient, already at approximately 0.35, risks rising to 0.40+ by 2030 without targeted redistributive policies to address AI-driven income concentration (estimated from World Bank projections and CMIE data)

4.3 Consumer Economy and Spending Patterns

AI-driven automation is expected to affect India's consumer economy through several channels:

- Lower prices for AI-augmented goods and services (healthcare diagnostics, logistics, retail), benefiting consumers.
- Wage erosion in mid-skill occupations is reducing household consumption capacity.
- Increased agricultural productivity can lower food prices, benefiting low-income households.
- Growing digital service consumption among AI-adjacent workers is driving demand for smartphones, broadband, and skilling platforms.

4.4 Population-level Socio-economic Consequences

India's population of 1.44 billion faces a generational transition. The working-age population (15–64 years), currently at approximately 68% of the total population, represents both the greatest opportunity and the greatest risk in the AI era:

- Approximately two hundred million young Indians will enter the workforce between 2024 and 2030 directly into an AI-disrupted labour market.
- Women in informal service roles face disproportionate displacement risk, with limited access to AI reskilling pathways.
- Senior workers (50+) in manual and routine cognitive roles face the steepest transition challenges.
- Children growing up today will enter a workforce where AI literacy is as fundamental as reading and numeracy.

4.5 The Consumption Crisis Risk

India's economic growth story is, at its core, a domestic consumption story. Unlike export-led economies such as China, South Korea, or Germany, where growth is driven primarily by manufacturing output sold to foreign markets, India's GDP is overwhelmingly dependent on what its own people buy, spend, and invest within its borders. Private final consumption expenditure accounts for approximately 60% of India's GDP, one of the highest ratios among major economies. This single structural fact has profound implications for how India must think about AI-driven automation implications that are almost absent from the current policy conversation.

When Productivity Gains Do Not Reach Households

The standard economic argument for automation runs as follows: AI increases productivity, productivity growth raises GDP, and higher GDP improves living standards. This sequence is logically coherent in an economy where productivity gains are broadly distributed, with workers sharing in the output they help generate through wages, profit-sharing, or public redistribution. It breaks down comprehensively, in an economy where capital owners capture productivity gains almost entirely, the workers whose jobs were automated receive nothing or, worse, receive unemployment.

India is structurally vulnerable to precisely this breakdown. Its labour market is characterized by low unionization rates, weak collective bargaining, a large pool of informal workers with no legal protections, and a regulatory environment that has historically struggled to enforce even basic wage standards. In this context, AI-driven productivity gains are likely to flow upward to technology platform owners, corporate shareholders, and high-skilled AI professionals. In contrast, the costs flow downward to informal workers, mid-skill employees, and routine service providers who lose their livelihoods. GDP has grown. Kitchen budgets shrink. The national accounts look healthy. The nation is not.

This is not speculation. It is already an observable pattern in India's recent growth trajectory, where strong GDP numbers have coexisted with stagnant real wages for large sections of the workforce, a declining labour income share, and rising consumption inequality. AI, deployed without deliberate redistribution mechanisms, will not correct this pattern. It will accelerate it.

The Demand Collapse Danger

Consider the arithmetic of India's consumption economy with clarity. India currently has approximately 150 million workers in informal service and routine cognitive roles, most of whom are directly exposed to AI-driven displacement. If even 30% of these workers, forty-five million people, experience income declines of 15% over the next decade as a direct consequence of automation, the aggregate loss of household purchasing power runs into hundreds of thousands of crores of rupees annually. This is not money that disappears into abstraction. It is money that would have been spent at local Kirana stores, on children's school fees, on two-wheelers, on mobile recharges, on medicines, on the ten thousand small transactions that constitute the circulatory system of India's real economy.

The corporations and platforms deploying AI to cut labour costs are, in this sense, undermining the very consumer base they depend on for growth. A country in which AI has made production more efficient but has left its population economically precarious enough to consume what is produced has not achieved development. It has achieved a particularly modern form of economic dysfunction: high output, low demand, and a growing population that participates in the economy as data generators and platform users but not as economically empowered citizens.

Karl Polanyi, in his landmark work *The Great Transformation*, argued that the catastrophic social dislocations of the 19th and early 20th centuries were produced not by industrialization itself but by the attempt to treat land, labour, and money as pure market commodities, disembedding the economy from the social relationships and institutions that give it human meaning. The result, Polanyi showed, was not simply economic disruption but the destruction of communities, the collapse of social cohesion, and ultimately the political catastrophes of the mid-20th century. The lesson he drew was not that markets are bad, but that markets without social protection are dangerous, and that the economy must remain embedded in society, not the other way around.

India stands at a Polanyian moment. The question is not whether AI will transform its economy. It will. The question is whether that transformation will be managed within a framework of social protection, redistribution, and democratic accountability, or whether it will proceed as a pure market process, disembedding millions of workers from their livelihoods without the institutional cushions that make such transitions survivable.

GDP as a Mirage Without Wage Growth

There is a deeper conceptual point here that India's policymakers must internalize. Gross Domestic Product measures the total value of goods and services produced by an economy. It does not measure how that value is distributed. It does not measure whether the people who contributed to that production shared in its rewards. It does not measure household economic security, consumption capacity, or the ability of ordinary families to plan for the future with confidence.

An India in 2035 that has achieved 8% annual GDP growth through AI-driven productivity gains, but in which 40% of its workforce has experienced stagnant or declining real wages, is not a success story. It is a statistical illusion, a number that describes an economy functioning well taken together failing most of its participants in the particular. Viksit Bharat cannot be built on this illusion. A genuinely developed India, in the sense that Amartya Sen, not just the World Bank, would recognize, is one in which economic growth translates into expanded capabilities, greater freedom, and improved material conditions for the broadest possible section of its population.

This means that India's AI policy must be designed not just to maximize AI-driven productivity but to ensure that the gains from that productivity are distributed in ways that sustain and strengthen domestic consumption. Mechanisms for achieving this include progressive taxation of AI-generated corporate profits, mandatory contributions by automating firms to national reskilling and social protection funds, and direct income support for workers in transition. These are not anti-growth measures. They are the conditions under which growth remains meaningful, the institutional infrastructure that keeps the economy embedded in society rather than floating above it, generating numbers that tell a story the people living inside that economy would not recognize as their own.

The Viksit Bharat Consumption Compact

The connection between AI, household welfare, and Viksit Bharat comes down to a simple but profound compact. India's vision of development by 2047 is not a vision of a high-GDP economy with a small wealthy elite and a large precarious underclass. It is a vision of a society in which prosperity is broad, dignified, and shared, in which the farmer, the factory worker, the gig driver, and the domestic worker are not the casualties of development but its primary beneficiaries.

Achieving that vision in an AI-transformed economy requires that India make one non-negotiable demand of every technology it adopts at scale: that it strengthens the economic position of ordinary households rather than weakening it. AI that passes this test and puts more money, more capability, and more security into the hands of India's working majority deserves accelerated adoption. AI that fails this test, concentrating gains at the top distributing costs at the bottom, requires regulatory intervention, redistribution mechanisms, and, if necessary, a deliberate slowdown until the social infrastructure to manage its consequences is in place.

This is not a radical position. It is the position that every currently developed nation implicitly adopted during its own period of technological transformation, building welfare states, labour protections, and public institutions precisely to ensure that industrialization produced broad prosperity rather than concentrated wealth. India has the advantage of learning from their experience before it is too late to apply the lessons. The window to do so, in the accelerating timeline of AI deployment, is narrowing rapidly.

5. Changing Nature of Academic and Knowledge Work

AI tools are fundamentally transforming how knowledge is produced, validated, and disseminated. Tasks traditionally require large research teams, such as literature review, data analysis, summarization, draft writing, and statistical modelling, can now be partially or fully performed by AI systems.

- Doctoral research processes that previously required 4–5 years may be compressed to 2–3 years with AI assistance.
- Generative AI tools (ChatGPT, Gemini, Claude, Copilot) are already used by over 60% of Indian university students.
- Academic integrity concerns are rising. NAAC and UGC are developing guidelines for the use of AI.
- Scientific publishing faces challenges around AI-generated content and attribution standards.

Educational policies must therefore integrate AI as a supporting tool rather than a replacement for human scholarship, ensuring that the depth of critical thinking and the capability for original research are preserved.

6. Global and India AI Investment Trends

India's AI investment is growing rapidly but remains small relative to global leaders. India attracted approximately USD 6.5 billion in AI investment in 2024, compared to USD 58 billion in the USA and USD 29 billion in China. Closing this gap requires sustained public and private commitment.

Table 5: Global AI Investment 2018–2024

Year	Global (Bn USD)	USA (Bn USD)	China (Bn USD)	India (Bn USD)
2018	28.0	12.1	7.0	0.5
2019	37.0	15.0	9.5	0.9
2020	40.0	17.0	10.2	1.2
2021	77.0	28.0	16.0	2.0
2022	92.0	34.0	18.5	3.2
2023	103.0	40.0	21.0	4.8
2024 (est.)	150.0	58.0	29.0	6.5

**Figure 6: Global vs India AI Investment Growth (2018–2024)**
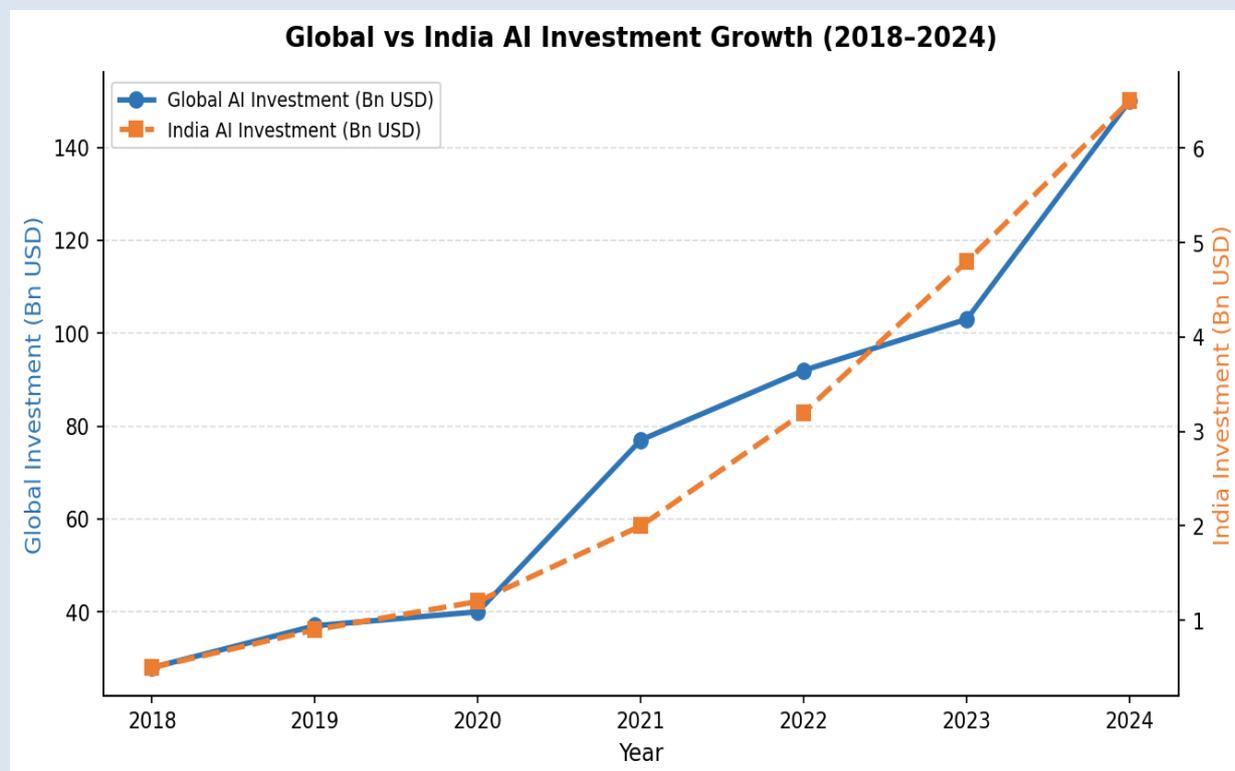
7. Global Comparative Analysis of Automation Risk

AI-driven automation risk is a global phenomenon, but its intensity varies significantly across economic structures, workforce compositions, and technological readiness. Emerging economies with large informal workforces face proportionately higher exposure. The table below presents a comparative analysis of automation exposure across major economies, contextualizing India's position relative to both developed and developing nations.

Table 6: Global AI Automation Risk by Country - Comparative Analysis

Country	High Automation Risk (%)	Low Automation Risk (%)	GDP Per Capita (USD)	AI Readiness Index (2024)	Key Vulnerable Sectors
India	69	31	2,485	4.2/10	IT/BPO, Domestic Work, Retail
USA	60	40	76,330	8.1/10	Manufacturing, Transport, Admin
Germany	54	46	48,717	7.6/10	Manufacturing, Engineering
Japan	56	44	33,950	7.2/10	Manufacturing, Finance
Brazil	57	43	8,917	5.1/10	Agriculture, Services
Nigeria	44	56	2,184	3.1/10	Agriculture, Informal Trade
China	61	39	12,614	7.8/10	Manufacturing, Logistics
UK	55	45	46,125	7.9/10	Finance, Admin, Retail

Figure 7: AI Automation Risk by Country - Comparative Analysis
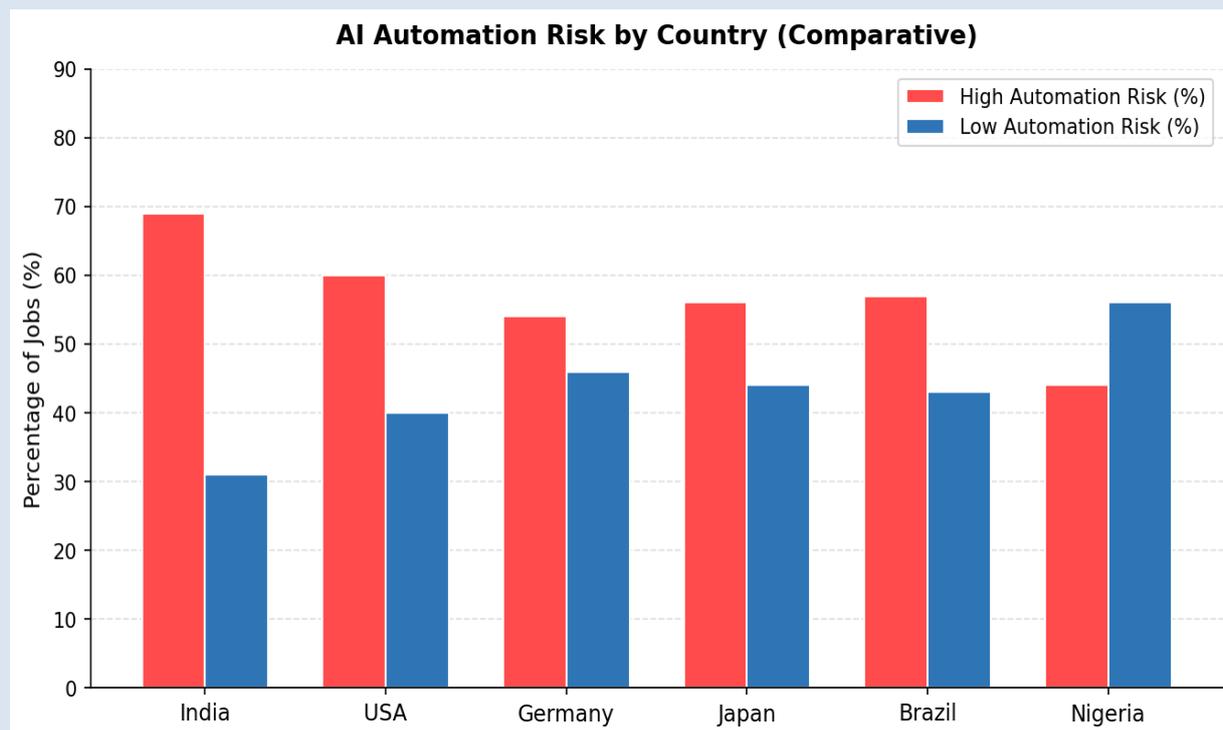
India's automation risk (up to 69%) is among the highest among major economies, significantly above Germany (54%) and Japan (56%), primarily due to the large share of routine cognitive and manual occupations in its workforce.

8. The Data Colonialism Risk: AI and India's Digital Sovereignty

There is a conversation happening at every major AI summit, in every technology policy paper. In every government strategy document about artificial intelligence, it is entirely about opportunity. About growth, efficiency, innovation, and competitive advantages. What is spoken about far less, and what India cannot afford to leave unexamined, is the question of *on whose terms* this opportunity is being offered, *who owns the infrastructure* through which it is being delivered, and *who captures the value* that India's participation in the global AI economy generates. These are not technical questions. They are political and economic questions of the first order, and their answers will shape India's developmental trajectory for generations.

8.1 The New Extractive Economy - India's Data and the Digital Drain

To understand what is at stake, it is necessary to think historically. In the 18th and 19th centuries, Britain's relationship with India was built on a specific and enormously profitable economic logic: extract raw materials from India at low or no cost, process them into finished goods in British factories using British industrial technology, and sell those finished goods back to Indian consumers at a profit. India provided the cotton. Manchester provided the mills.

India bought the cloth. The productive value, employment, wages, industrial capability, and the wealth that came with it stayed in Britain. Dadabhai Naoroji, one of India's earliest and most rigorous economic thinkers, called this the *drain of wealth,* the systematic transfer of India's economic surplus to Britain through the mechanisms of colonial trade.

The architecture of today's global AI economy bears a structural resemblance to this logic that India cannot afford to dismiss as mere metaphor. India today has approximately nine hundred million internet users, one of the largest digital populations on earth. These users generate staggering volumes of data every day: search queries, purchase histories, health records, agricultural data, financial transactions, social interactions, linguistic patterns across dozens of languages, and behavioural data of extraordinary richness and variety. This data is, in the language of the contemporary economy, the raw material of artificial intelligence. It is what foundation models are trained on. It is what makes AI systems intelligent, contextual aware, and commercially valuable.

The companies training the most powerful AI models in the world are overwhelmingly headquartered in the United States: Google, Microsoft, Meta, OpenAI, and Amazon. They collect Indian data, directly or indirectly, through platforms used by hundreds of millions of Indians daily. They train their models on this data, including its Indian linguistic, cultural, behavioural, and economic dimensions, in data centers located in Virginia, Oregon, and Dublin. They then sell the resulting AI capabilities back to Indian businesses, government departments, and consumers through subscription services, API access, and cloud computing contracts. India provides the data. Silicon Valley provides models. India buys the intelligence. The productive value, the computational capability, the intellectual property, the platform dominance, and the extraordinary wealth that the AI economy is generating stay in California.

This is the *Digital Drain*, a 21st-century iteration of the extractive economic relationship that Naoroji documented in the 19th century, operating not through tariffs and trade monopolies but through data flows, platform dependencies, and the structural inequalities of who owns AI infrastructure and who merely uses it. The mechanism is different. The direction of value transfer is the same.

8.2 Technological Dependency and the New Neo-colonialism

The political economists André Gunder Frank and Immanuel Wallerstein developed what became known as Dependency Theory to explain why the economic relationship between the developed and developing world tends to reproduce inequality rather than correct it. Their central argument was that the global economy is structured as a core-periphery system in which

core nations (the industrialized Global North) capture the high-value, technology-intensive segments of production. In contrast, peripheral nations (the developing Global South) are locked into supplying raw materials, cheap labour, and consumer markets. The relationship is not one of partnership toward mutual development; it is one of structural dependency that systematically transfers wealth from the periphery to the core, regardless of the stated intentions of the parties involved.

Applied to the contemporary AI economy, this framework is not merely illustrative; it is analytically precise. The core nations of the AI economy the United States, to a lesser extent China, and parts of Western Europe own the foundational AI infrastructure: the semiconductor fabrication plants that produce the chips AI runs on, the hyperscale data centers that provide the compute AI requires, the foundation models that provide the intelligence AI delivers, and the platform ecosystems through which AI reaches end users globally. Peripheral nations, including India, participate in this economy primarily as data suppliers, cloud computing customers, and deployment markets.

India's current AI consumption pattern reflects this dependency with uncomfortable clarity. The AI tools most widely used in India's technology sector, GitHub Copilot, ChatGPT, Google Gemini, Microsoft Azure AI, and Amazon Bedrock, are all products of Global North corporations, running on Global North infrastructure, trained on data that includes India's but governed by terms and conditions set in American boardrooms and shaped by American regulatory environments. When an Indian software engineer uses Copilot to write code, the productivity gain accrues partly to the engineer and their employer. Still, the subscription fee, the data generated by the interaction, the improvement to the model, and the platform lock-in all accrue to Microsoft. Multiplied across millions of Indian users and thousands of Indian firms, this represents a structural transfer of value that defines India's current AI engagement with the world.

The risk is not merely financial. It is one of the capabilities that atrophies. When a nation's engineers, researchers, doctors, educators, and policymakers become accustomed to reaching for AI tools built by others' tools whose architectures they did not design, whose training data they did not curate, whose values and assumptions they did not define, they gradually lose the institutional capacity and the professional culture of building such tools themselves. Dependency, in technology as in agriculture, is self-reinforcing. The longer it persists, the more expensive and difficult it becomes to escape. India has direct experience of this dynamic in the pharmaceuticals, semiconductors, and defense manufacturing sectors, where decades of import dependency have created structural capability gaps that have required enormous effort and

investment to begin closing. The lesson, applied to AI, is that dependency formed now will be that much harder to dissolve in 2035 or 2045.

8.3 What Digital Sovereignty Actually Means for India

The term *digital sovereignty* has entered India's policy vocabulary with increasing frequency, appearing in government documents, industry reports, and political speeches. It is, however, a term that risks becoming a slogan rather than a strategy if its meaning is not defined with precision. Digital sovereignty does not mean simply passing a data localization law that requires servers to be physically located on Indian soil. It does not mean blocking foreign AI platforms from operating in India. And it does not mean technological isolationism, the foolish ambition of building everything domestically regardless of cost or comparative advantage. Digital sovereignty, properly understood, means owning the *full stack* of AI capability at each level where strategic autonomy matters. It means India has credible, indigenous capability across the entire chain, from semiconductor design and fabrication through data infrastructure and compute to foundation model development, application layers, and governance and regulatory frameworks. India does not need to be self-sufficient at every level of this chain; that is neither achievable nor desirable. But it must not be entirely dependent at any level where that dependency could be leveraged against its interests, distort its policy choices, or transfer its economic surplus permanently abroad.

At the data layer, sovereignty means ensuring that the data generated by India's citizens, farmers, patients, students, and enterprises is governed by Indian law, stored with adequate protections, and, critically, that the value derived from training AI models on this data is at least partially retained within India. This requires not just data protection legislation but also active data governance frameworks that treat Indian data as a national resource, with rights and royalties comparable to those for India's mineral resources or spectrum allocation.

At the model layer, sovereignty means India investing seriously in the development of open-source, Indian-language foundation models trained on Indian data, reflecting Indian cultural contexts and values. Initiatives like Sarvam AI, BharatGPT, and the AI4Bharat project at IIT Madras represent exactly this kind of strategic investment. They are not vanity projects or technological nationalism for their own sake. They are the institutional equivalent of building Indian steel mills in the 1950s, the creation of a foundational domestic capability that reduces long-term dependency and builds the industrial capacity from which the next generation of Indian innovation will grow. The India AI Mission's commitment to building a sovereign compute infrastructure of 10,000+ GPUs is a necessary step, but computing without models,

and models without data governance, does not constitute sovereignty. It constitutes expensive infrastructure for running someone else's intelligence.

At the governance layer, sovereignty means that the rules governing AI in India on privacy, on algorithmic accountability, on the use of AI in public services, and on the rights of workers affected by automation are made in New Delhi, reflecting Indian constitutional values and Indian developmental priorities, and are not simply imported wholesale from the regulatory frameworks of California or Brussels. India is a democracy of 1.4 billion people with a constitutional commitment to social justice, equality, and the dignity of every individual. Its AI governance framework must reflect these commitments, not the liability-limitation priorities of American technology corporations or the market-access priorities of European trade policy.

The choice India faces is not between AI and no AI. That choice has already been made by the momentum of technology and the logic of global competition. The choice India faces is between AI on terms that serve India's development and AI on terms that replicate the extractive dependencies of its colonial past in digital form. That is a choice that requires clarity, courage, and the willingness to assert India's interests in international technology governance with the same confidence with which it asserts them in trade negotiations, climate finance discussions, and global health policy. India has found that confidence in other arenas. It must find it here too before the architecture of the global AI economy is set in ways that leave India, once again, supplying the raw material and buying back the finished product.

9. India's AI Summits and Strategic Positioning

India has emerged as a significant voice in global AI governance. A series of high-profile AI policy events and the launch of the India AI Mission have positioned the country as a key stakeholder in shaping the global AI agenda, balancing innovation ambitions with responsible deployment principles.
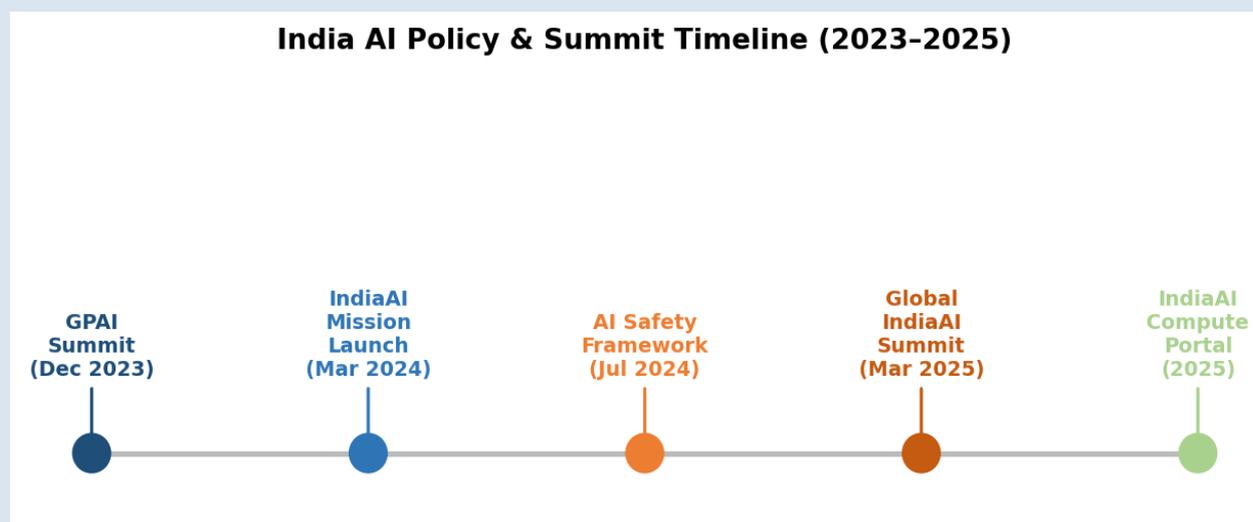
9.1 Key AI Summits and Milestones

India's emergence as a global AI governance leader has been marked by a series of landmark summits, policy announcements, and institutional milestones between 2023 and 2025. The table below captures the key events that have shaped India's national AI strategy and its international positioning.

Table 7: Key AI Summits and Milestones (2023–2025)

Event	Date	Key Announcement	Budget / Scale
GPAI Summit (New Delhi)	Dec 2023	India assumed GPAI Presidency; AI governance frameworks discussed	
India AI Mission Launch	Mar 2024	National AI Mission approved by the Cabinet	₹10,372 crore (~$1.25 Bn)
AI Safety Framework	Jul 2024	Draft framework for responsible AI deployment released	
Global India AI Summit	Mar 2025	10,000 GPU compute cluster; AI startups funding; open datasets	₹2,000+ crore committed
India AI Compute Portal	2025	Sovereign AI computed for startups & researchers	10,000+ GPUs
India AI Datasets Platform	2025	Open government datasets to train Indian AI models	500+ datasets
AI Skilling Initiative	2025	Reskilling one crore Indians in AI-related skills by 2026	₹900 crore

Figure 8: India AI Policy and Summit Timeline (2023–2025)

India AI Policy & Summit Timeline (2023–2025)

GPAI Summit (Dec 2023)   IndiaAI Mission Launch (Mar 2024)   AI Safety Framework (Jul 2024)   Global IndiaAI Summit (Mar 2025)   IndiaAI Compute Portal (2025)

9.2 India AI Mission - A Closer Look

The India AI Mission, approved by the Union Cabinet in March 2024 with a budget of ₹10,372 crore (~USD 1.25 billion), represents India's most comprehensive AI strategy to date. The mission operates across seven pillars:

- India AI Compute Capacity - 10,000+ GPU public compute infrastructure

- India AI Innovation Centre - Building foundational Indian AI models

- India AI Datasets Platform - Open government data for AI training

- India AI Application Development Initiative - AI solutions for public services

- India AI Future Skills - Reskilling 1 crore citizens in AI by 2026

- India AI Startup Financing - Funding AI startups through the India AI ecosystem

- Safe and Trusted AI - Ethical AI frameworks and governance standards

9.3 Global India AI Summit 2025

Held in New Delhi in March 2025, the Global India AI Summit brought together heads of government, technology CEOs, and AI researchers from over fifty countries. Key outcomes included:

- Launch of India's Sovereign AI Compute Portal, providing affordable GPU access to startups and researchers

- Announcement of the India AI Open Datasets Platform, featuring over five hundred government datasets made available for AI training.

- Commitment of ₹2,000+ crore in AI startup funding through public-private partnerships

- New Delhi Declaration on Responsible AI, a multilateral framework for ethical AI development

- Bilateral AI cooperation agreements with the USA, EU, Japan, and the UAE

"India is not just a consumer of AI - we are building the infrastructure, the talent, and the governance frameworks to be a global AI leader," says Union Minister for Electronics and IT, Global India AI Summit 2025

However, a critical question remains unanswered beneath the ambition of these summits, one that India's policymakers must have the intellectual honesty to ask even as they celebrate the milestones. Is India building AI or primarily deploying it? The distinction matters enormously, and the current balance is uncomfortable. The GPU clusters being commissioned under the India AI Mission will run computations, but on whose models? The open datasets platform will make Indian data accessible, but to whom, and on what terms? The startup funding will produce Indian AI applications, but built on what foundation models, APIs, and underlying architectures? A nation that celebrates AI infrastructure remaining fundamentally dependent

on Global North intelligence layers has, at considerable public expense, built a more efficient mechanism for its own technological dependency.

True AI sovereignty is not measured in the number of GPUs a country owns. It is measured in whether a country can define the values its AI systems encode, the languages its AI systems speak fluently, the problems its AI systems are designed to solve, and the people its AI systems are designed to serve. By these measures, India's journey toward genuine AI sovereignty has begun, but at this stage, it remains more aspiration than architecture. The summits are important. The mission is necessary. But the harder work building Indian foundation models at scale, establishing data governance frameworks with real teeth, and negotiating India's place in global AI supply chains from a position of capability rather than dependency lies ahead. India must enter that work with urgency because the window in which the foundational architecture of global AI can still be shaped is closing, and those who are not at the table when it closes will spend the following decades living with decisions made without them.

9.4 India's AI Governance Approach

India's approach to AI governance is characterized by a 'Digital Public Infrastructure' model emphasizing open, interoperable, and inclusive AI systems built on India's existing UPI/Aadhaar stack. Key governance priorities include:

- Algorithmic accountability and audit mechanisms for high-risk AI systems.
- Data localization and digital sovereignty to protect Indian citizens' data.
- Inclusion of marginalized communities in AI benefit distribution.
- Multilingual AI development serving India's 22 official languages.
- Integration of AI with PM Digital India, PM Kisan, and Ayushman Bharat programmes.

10. Social Dimensions of AI Transformation

10.1 AI Companionship and Emotional Relationships

Modern AI agents can learn user preferences, respond emotionally, and adapt behaviour through interaction. AI companionship technologies, including conversational AI partners and humanoid assistants, are growing rapidly. If widespread, they may alter human emotional relationships, social interaction patterns, and family structures.

10.2 Robotics and Household Automation

AI-driven machines are increasingly capable of performing household and service tasks, including home security monitoring, elderly care, agricultural advisory, and domestic chores.

In India, where millions depend on such occupations for their livelihoods, widespread household automation without adequate social safety nets could accelerate inequality.

10.3 AI and Education Transformation

AI-based educational tools can generate customized learning plans, explain concepts interactively, simulate tutoring sessions, and prepare students for examinations. India's EdTech sector, already one of the world's largest, is rapidly integrating AI. Policies must ensure that AI serves as a complement to human teaching, not a replacement, especially in rural and underserved communities.

10.4 Mental Health and AI Dependency

A less-discussed dimension is the mental health impact of AI integration, from job-related anxiety among displaced workers to psychological dependency on AI companions to increased screen time among children. India's mental health infrastructure must be strengthened alongside the deployment of AI to address these emerging challenges.

10.5 AI and the Viksit Bharat Vision

Every policy framework requires a north star; a clear articulation of what success looks like and for whom. For India's AI transition, that north star must be Viksit Bharat 2047, the vision of a fully developed, self-reliant, and equitable India by the centenary of its independence. But Viksit Bharat is not an abstract aspiration. It is built on four concrete pillars: *Yuva* (Youth), *Garib* (Poor), *Mahila* (Women), and *Annadata* (Farmer), and the integrity of India's AI strategy must be evaluated against each of these pillars with honesty and rigour. A technological transformation that serves one pillar undermining another is not development. It is displacement wearing the clothes of progress.

Table 8: AI and the Viksit Bharat Vision - Risks, Opportunities and Conditions

Viksit Bharat Pillar	AI Risk Without Policy	AI Opportunity With Policy	Non-negotiable Condition
Yuva (Youth)	200M youth entering AI-displaced job market	AI-augmented skilled employment at scale	Reskilling as a legal right, not a corporate charity
Garib (Poor)	Informal worker displacement without a safety net	AI-enabled welfare delivery and financial inclusion	Universal social protection floor before mass automation
Mahila (Women)	Disproportionate job loss in informal service roles	AI in maternal health, education, and microenterprise	Mandatory gender impact assessment of all AI deployments
Annadata (Farmer)	Corporate data extraction from agricultural activity	Precision crop advisory, market access, soil health AI	Farmer data ownership data generated on Indian farms belongs to Indian farmers

Yuva: The Youth Compact

India's young population is its most frequently cited asset in the AI conversation and its most frequently under-examined vulnerability. The celebratory narrative runs that India's tech-savvy youth will ride the AI wave to global competitiveness. The uncomfortable reality is that the majority of the two hundred million young entrants to India's workforce over the next six years will not be IIT graduates or software engineers. They will be school leavers, vocational diploma holders, first-generation college students from Tier-3 cities and rural districts, seeking entry-level employment in exactly the sectors data processing, customer service, basic analysis, and routine administration that AI is eliminating fastest. For these young Indians, the AI revolution as currently structured is not an opportunity. It is a locked door.

Making the demographic dividend real in an AI economy requires treating reskilling not as a corporate social responsibility activity or a government scheme to be announced and underfunded, but as a fundamental right as foundational to citizenship in the 21st century as the right to education was in the 20th. Every young Indian must have access to meaningful AI literacy, not as a luxury of elite institutions, but as a baseline guarantee of the state. This

requires investment at a scale India has not yet committed to, and urgency it has not yet demonstrated. The window is not open indefinitely.

Garib, The Poor Cannot be Collateral Damage.

The language of technological transformation has a consistent and troubling tendency to treat its casualties as acceptable, as the unavoidable friction cost of progress, to be acknowledged in a footnote and, eventually, addressed through the trickle-down of aggregate growth. India's constitutional commitment to social justice and the explicit prioritization of *Garib* in the Viksit Bharat framework demands a categorically different approach. People with low incomes are not the collateral damage of India's AI transition. It is its primary responsibility.

This means that no sector of India's economy that employs large numbers of poor and informal workers should be opened to large-scale AI automation without prior establishment of social protection mechanisms, income support, access to reskilling, and alternative employment pathways that make that transition survivable for the people it displaces. The sequencing matters as much as the destination. Automation without protection is not modernization. It is the abdication of the social contract that a democratic republic owes its most vulnerable citizens.

Mahila: The Gender Dimension of AI Disruption

Women in India's workforce are disproportionately concentrated in precisely the occupations most exposed to AI-driven displacement, such as domestic work, informal services, data entry, garment manufacturing, and routine administrative roles. At the same time, women are significantly underrepresented in the occupations AI is creating, such as AI engineering, data science, machine learning research, and technology product management. Without deliberate intervention, India's AI transition will not merely fail to advance gender economic equality; it will also fail to advance gender economic equality. It will actively reverse the fragile progress that has been made, pushing millions of working women back into economic dependency at a moment when their participation in the formal economy was, slowly, beginning to grow.

Every major AI deployment decision in India, in government, industry, and public services, must be subject to a mandatory gender impact assessment. The question must be asked and answered before deployment, not after: who loses work from this automation, and are they disproportionately women? What reskilling pathways are available to them, and are those pathways accessible given the caregiving responsibilities, mobility constraints, and social pressures that shape women's economic participation in India? A Viksit Bharat, in which

women's economic capabilities are contracted by AI rather than expanded, is not a developed nation. It is a nation that has failed half its population.

Annadata: The Farmer Must Own his Data

India's agricultural sector is the most emotionally and politically central dimension of the Viksit Bharat vision, and it is the site of both AI's most promising opportunities and its most insidious risks. The opportunity is genuine and significant: AI-powered crop advisory systems, soil health monitoring, market price intelligence, pest and disease early warning, and precision irrigation management have demonstrated potential to transform the productivity, profitability, and resilience of Indian agriculture, particularly for small and marginal farmers who currently have no access to the agronomic expertise that large commercial farms take for granted.

The risk is equally real. Agricultural data, such as soil composition, crop yields, weather patterns, market transactions, and pest incidence, is extraordinarily valuable. It is the raw material from which AI systems are built that can predict crop failures, guide commodity trading, inform insurance pricing, and structure credit decisions. The farmers who generate this data through their daily agricultural activities are, under current arrangements, unaware of its value and entirely unprotected in their relationships with the corporations and platforms that collect it. A future in which corporate AI platforms own the intelligence derived from India's agricultural data and sell it back to Indian farmers as subscription services or use it to structure financial products that extract value from farming communities, is not a future that serves the *Annadata*. It is a future that repeats, in digital form, the extractive relationship between Indian agriculture and global commodity markets that has defined and distorted rural India's economic history.

The principle must be clear and non-negotiable: data generated on Indian farms by Indian farmers about Indian agriculture belongs to Indian farmers. The governance frameworks, data cooperatives, public institutions, and legal protections required to make this principle real are not optional add-ons to India's AI strategy. They are the foundations on which any honest claim to serve the *Annadata* must be built.

11. Policy Recommendations

India requires a comprehensive, multi-stakeholder policy framework to harness AI's benefits mitigating its social and economic risks. The following eight-point framework is proposed:

Table 9: Comprehensive Policy Recommendations for India's AI Strategy

Priority	Policy Area	Recommendation	Expected Outcome	Timeline
1	Sector-specific AI	Prioritize healthcare, agriculture & disaster management	Welfare gains without mass displacement	0–2 years
2	Workforce Reskilling	National reskilling programmes; one crore workers by 2026	Smooth labour market transition	1–3 years
3	Ethical Governance	Regulate humanoid robotics, AI companions, and data collection	Protect social & cultural values	0–2 years
4	AI in Education	Guidelines for responsible AI use in teaching & research	Balanced digital-human learning	1–2 years
5	Data Governance	Strengthen data privacy, sovereignty, and ownership laws	Reduce foreign AI platform dependence	0–1 year
6	Social Safety Net	Extend social protection for AI-displaced informal workers	Reduce household income shock	1–3 years
7	Rural AI Access	Subsidized AI tools for farmers and rural enterprises	Close urban-rural digital divide	2–5 years
8	AI Startup Ecosystem	Fund AI R&D and homegrown AI model development	Technological self-reliance	2–5 years
9	Data Sovereignty	Mandate that AI models trained on Indian citizen data must be registered and audited in India; establish a National Data Value Fund to capture and redistribute value derived from Indian data by foreign AI platforms	Reduce digital drain; build a national data asset base	0–2 years

| 10 | Automation Levy | Companies automating more than 10% of their Indian workforce through AI must contribute 2% of the resulting productivity gains to a National AI Reskilling and Transition Fund | Finance reskilling at scale; making automating firms bear transition costs | 1–3 years |
| 11 | Indian AI Stack | Fund development of open-source Indian foundation models in all twenty-two scheduled languages; mandate that all government AI deployments use Indian-built or Indian-audited models by 2028 | Reduce model dependency on Global North platforms; build sovereign AI | 2–5 years |

These recommendations must be understood not as concessions made reluctantly to social concern, nor as obstacles placed in the path of technological progress, but as the *conditions under which AI is welcome in India* the non-negotiable terms of a technology partnership that India enters as a sovereign nation with its own developmental priorities, its own constitutional values, and its own hard-won understanding of what happens when transformative economic forces are allowed to operate on Indian soil without adequate governance. India has learned this lesson before. It must not need to learn it again.

12. Conclusion

Artificial Intelligence represents both the greatest economic opportunity, and the most significant social risk India faces in the 21st century. The data is unambiguous: up to 69% of India's jobs are at risk of automation, households in informal and routine sectors face income declines of 10–20%, and the urban–rural digital divide risks becoming an AI chasm. At the same time, India's strategic investments through the India AI Mission, its leadership at global AI summits, and its vast talent pool position it to become a genuine AI superpower if the transition is managed inclusively.

The challenge for India is not whether to adopt AI, but how, at what pace, with what safeguards, and with what commitment to ensuring that the gains are shared broadly across its 1.4 billion

people. A cautious, human-centered approach that protects workers, invests in reskilling, regulates responsibly, and closes the digital divide will determine whether AI becomes a force for India's inclusive development or a driver of its inequality. The choices India makes in the next five years about AI, which technologies to adopt, on whose terms, at what pace, with what protections, and in service of whose interests, will not merely shape its economic statistics for the following decades. They will determine what kind of society India becomes. They will determine whether the farmer in Vidarbha owns his data or is owned by it. Whether the young woman from a Tier-3 city finds in AI a ladder or a locked door. Whether the weaver in Varanasi finds in technology a tool that amplifies its craft or a machine that makes it extinct. Whether India's 1.4 billion people are the subjects of an AI transformation designed elsewhere, or the authors of one designed for them.

A truly Viksit Bharat in 2047 is not a nation where machines have replaced its people; it is a nation where every Indian, from the farmer in Vidarbha to the coder in Bengaluru, from the domestic worker in Delhi to the researcher in Pune, has the capability, the security, and the freedom to work alongside technology on their own terms. That is not an argument against AI. It is the highest possible argument for getting AI right for insisting, with the full weight of India's democratic mandate and its developmental ambition, that artificial intelligence must serve human dignity, not substitute for it. Technology is not the question. The question is whether India has the clarity, the courage, and the institutional will to make it answer to the people it must serve. That question remains open. The time to answer it is now.

13. References

- International Monetary Fund (IMF). (2024). Artificial Intelligence and the Future of Work. IMF Staff Discussion Note. Washington, D.C.: IMF Publications.
- International Labour Organization (ILO). (2023). World Employment and Social Outlook: The Role of Digital Labour Platforms in Transforming the World of Work. Geneva: ILO.
- World Bank. (2023). The Future of Work in Developing Countries: Automation Risk and Labour Market Transitions. Washington, D.C.: World Bank Group.
- NITI Aayog. (2023). National Strategy for Artificial Intelligence #AIforAll. New Delhi: Government of India. Retrieved from https://www.niti.gov.in
- NITI Aayog. (2024). India AI Mission: Building India's AI Ecosystem. Cabinet Approval Document. New Delhi: Government of India.

- Ministry of Labour and Employment, Government of India. (2024). e-Shram Portal Annual Report 2023–24. New Delhi: MoLE.

- NASSCOM. (2024). India AI Talent Report 2024: Skills, Gaps, and Opportunities. New Delhi: NASSCOM.

- Federation of Indian Chambers of Commerce and Industry (FICCI). (2023). Skilling for an AI-Driven Future: Industry Perspectives. New Delhi: FICCI.

- World Economic Forum (WEF). (2023). The Future of Jobs Report 2023. Geneva: WEF. Retrieved from https://www.weforum.org

- McKinsey Global Institute. (2023). Generative AI and the Future of Work in India. McKinsey & Company.

- Boston Consulting Group (BCG) & NASSCOM. (2024). Unlocking India's AI Potential: A Vision for 2030. BCG Report.

- Centre for Monitoring Indian Economy (CMIE). (2024). Employment Outlook Report Q3 2024. Mumbai: CMIE.

- Ministry of Electronics and Information Technology (MeitY). (2024). Global India AI Summit 2025: Summit Declaration and Key Outcomes. New Delhi: Government of India.

- Global Partnership on Artificial Intelligence (GPAI). (2023). GPAI New Delhi Declaration. New Delhi: GPAI Secretariat.

- Oxford Internet Institute. (2023). Technology and the Future of Work in the Global South. Oxford: University of Oxford.

- Reserve Bank of India (RBI). (2024). Annual Report 2023–24: Digital Economy and Financial Technology. Mumbai: RBI.

- Ministry of Education, Government of India. (2024). National Education Policy 2020 AI Integration Guidelines. New Delhi: MoE.

- Dadabhai Naoroji — *Poverty and Un-British Rule in India* (1901)

- Amartya Sen — *Development as Freedom* (1999)

- Karl Polanyi — *The Great Transformation* (1944)