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EDITORIAL ANALYSIS



JUNE 30



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COMPREHENSIVE
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**UNIQUE AND BEST IN
QUALITY**

- 1. Have 12 Years Of BJP Govt Made India Future-Ready? (THE TIMES OF INDIA)**
- 2. Indo-Pacific, the New Gulf (THE ECONOMIC TIMES)**
- 3. Labour codes must adjust society's moral compass (HINDUSTAN TIMES)**
- 4. Reforms 3.0 — towards the Bharat rate of growth (THE HINDU)**



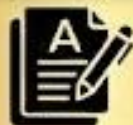
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Have 12 Years Of BJP Govt Made India Future-Ready?

Positives are expanded state capacity, stronger geopolitical standing, quality digital infra & stable macros. But economic dividends are smaller than expected. And can we deploy AI at scale without deepening talent pool?

Duvvuri Subbarao



As Modi completed twelve years in office, assessments of his tenure have become a growth industry. Supporters point to phenomenal infra expansion, welfare delivery, digital public infra, improved tax compliance and an assertive foreign policy. Critics point to weak employment generation, persistent agrarian distress, growing inequality and deepening social polarisation.

Yet, for drawing up BJP gov't report card, there is a more useful framing than cataloguing achievements and failures. The true test of a head of gov't is not necessarily what they accomplish during their tenure, but whether they prepare their country for the challenges that lie beyond.

The world today is being reshaped by five powerful structural forces: AI, climate change, geopolitical fragmentation, demographic transitions, and reconfiguration of globalisation. Question is: is India ready to navigate these forces?

Viewed through that lens, India's preparedness is stronger than critics acknowledge, yet not perhaps strong enough to inspire confidence.

Consider first the geopolitical landscape. Post-Cold War era of hyper-globalisation is giving way to a more fragmented world order. Strategic competition between Washington and Beijing is reshaping trade, tech and investment flows. Supply chains are designed as much for resilience and security as for efficiency.

This should create a historic opportunity for India. As companies seek alternatives to excessive dependence on China, India ought to be a natural destination. Modi gov't has undoubtedly strengthened India's geopolitical standing and deepened relations across the geopolitical spectrum, while preserving strategic autonomy.

Yet, the economic dividend remains smaller than many expected. Investors continue to worry about regulatory unpredictability, legal delays, and implementation deficit targets. India is better placed than it was a decade ago, but whether it can emerge as a genuine manufacturing alternative to China remains an open question.

Stakes for the second structural force, AI, are particularly high, because AI challenges one of the foundations of India's economic success over the last three decades. India's rise as a software and services

powerhouse was built on abundant pools of skilled, relatively low-cost knowledge workers. If machines perform routine cognitive work, the traditional outsourcing model will come under pressure.

India enters the AI age with strengths: engineering talent, entrepreneurial energy, a large domestic market, and perhaps the world's most sophisticated digital public infra. Yet it remains largely absent from the frontier of AI development.

That need not be fatal. Countries do not always lead tech revolutions by inventing the underlying techs. They also lead by deploying them at scale. India's opportunity may lie in becoming the world's largest laboratory for the application of AI. AI-enabled tutors could improve learning outcomes, AI-assisted



diagnostics could expand healthcare access, and AI-driven advisory systems could raise agricultural productivity. The challenge is not merely technological. It is educational. In the age of AI, human capital may matter even more than computing power.

Climate change constitutes the third structural challenge. Modi gov't deserves credit for placing renewable energy at the centre of India's development strategy. Yet, adaptation may ultimately matter more than mitigation. Rising temperatures, water stress, extreme weather events, and erratic monsoons threaten economic growth and social stability. Climate resilience must become a central pillar of development policy.

The fourth megatrend is demographics, which could potentially be among India's greatest strengths.

India remains one of the few major economies with a favourable age profile even as populations age across advanced economies and China.

But a demographic dividend is not inevitable. A young population becomes an asset only if it is educated, skilled, and productively employed. Concerns about educational quality, workforce readiness and job-creation remain significant. India's demographic window will not remain open indefinitely. The next decade may determine whether this advantage becomes a springboard for prosperity or a source of frustration.

The final structural force is the changing nature of globalisation itself. Globalisation is not ending; it is being reconfigured. Trade, capital and tech continue to flow across borders, but increasingly within frameworks shaped by geopolitics, and national security considerations.

India's approach has arguably been too cautious. If India is serious about integrating into global supply chains and expanding exports, it must bite the bullet, and join a major free trade agreement. Without deeper trade integration, aspirations of becoming a manufacturing hub and export powerhouse will remain largely unrealised.

Taken together, these five trends suggest a broader assessment of BJP gov't legacy. The most significant contribution may not be any single policy or programme but strengthening of state capacity. Roads, ports, airports, digital infra, financial inclusion systems, and welfare delivery mechanisms all increase India's ability to respond to future challenges. They are platforms upon which future growth and adaptation can occur.

The real question is not whether India has become a larger economy – it undoubtedly has – but whether it has become a more resilient one. Resilience is the new growth. In a world shaped by technological disruption, climate shocks, geopolitical tensions, and economic uncertainty, the capacity to absorb shocks and adapt quickly may matter as much as rapid GDP growth. Ultimately, India's greatest strengths will not be physical infra alone, but educational excellence, scientific innovation, institutional quality, and social cohesion.

Nearly a century ago, in his celebrated essay *Economic Possibilities for our Grandchildren*, Keynes asked what kind of world future generations would inherit from ours. Modi gov't should be evaluated by that metric: is it leaving our grandchildren a country capable of thriving amid uncertainties of the 21st century?

The writer is a former RBI governor



- **Key Terms and Explanations**

- **Digital Public Infrastructure (DPI):** This refers to a shared, open-source digital architecture built for public interest. It allows both public and private entities to build applications on top of it.

- *Example:* The **India Stack**, which includes Aadhaar for identity, Unified Payments Interface (UPI) for instantaneous financial transactions, and DigiLocker for paperless document verification.

- **Hyper-Globalisation:** A historical period (roughly from the early 1990s until the 2008 financial crisis) characterized by an unprecedented rise in cross-border trade, rock-bottom tariffs, highly integrated global supply chains, and minimal state intervention in capital flows.

- **Strategic Autonomy:** A foreign policy doctrine where a nation retains the independent capacity to pursue its national interests and make decisions without being structurally dependent on or forced into a formal military or political alliance.

- **Demographic Dividend:** The economic growth potential that can result from shifts in a population's age structure, specifically when the share of the working-age population (ages 15 to 64) is larger than the non-working-age share (dependent children and the elderly).

- **Climate Adaptation vs. Mitigation:**

- *Mitigation* focuses on the causes of climate change, aiming to reduce or prevent greenhouse gas emissions (e.g., setting up solar parks).
 - *Adaptation* focuses on managing its impacts, altering systems and infrastructure to cope with the actual effects of changing weather patterns (e.g., developing drought-resistant crops or building flood barriers).

- **Friend-Shoring / China-Plus-One Strategy:** A supply chain strategy where transnational companies diversify their manufacturing hubs outside of China by relocating production to nations that share similar geopolitical values or strategic configurations.

- **Main Arguments and Substantive Parts**

- The macro-assessment of India's readiness can be organized across five structural axes that balance strategic gains against lingering domestic bottlenecks:
- **Geopolitical Fragmentation and the Manufacturing Challenge**
 - The post-Cold War era of seamless global production lines is fracturing under the weight of the US-China trade and technology rivalry. While this geopolitical friction makes India an ideal candidate for companies pursuing a "China-Plus-One" strategy, the domestic economic dividend has been uneven. India's global standing has certainly risen, but international investors still face ground-level friction. Complex land acquisition, regulatory unpredictability, and bureaucratic delays continue to limit India's ability to fully replace East Asian manufacturing hubs.
- **The Artificial Intelligence Frontier and Labor Dynamics**
 - The rise of generative AI directly challenges the low-cost IT outsourcing model that has driven India's urban middle-class employment for three decades. If routine cognitive work is automated, India's engineering talent must pivot from basic software maintenance to high-value system design.
 - While domestic computing infrastructure and foundational models lag behind the global frontier, a major opportunity lies in **application at scale**. By treating the country as a deployment laboratory, AI can be integrated into public services:
 - **Education:** Deploying AI-powered hyper-personalized local language tutors to bridge rural learning deficits.
 - **Healthcare:** Rolling out AI-assisted diagnostic tools in primary health centers lacking specialized doctors.
 - **Agriculture:** Utilizing predictive AI models to deliver real-time, localized crop advisory services directly to smallholder farmers.
 - **Climate Imperatives: Shifting from Mitigation to Adaptation**
 - While India has made significant progress in deploying utility-scale solar and renewable capacity, the more critical challenge lies in climate adaptation. Rising temperatures, unpredictable monsoons, and urban water stress pose direct threats to food security and rural stability. For India, building resilience against climate shocks is a core economic requirement rather than an elective environmental policy.
- **The Demographic Window: Asset vs. Liability**
 - India's young population is an anomaly in an aging world, but this demographic dividend has a strict expiration date. A large youth population **only** yields an economic surplus if it is healthy, educated, and productively employed. Current challenges with structural underemployment and low learning **outcomes** risk turning this demographic window into a source of social friction if public investments fail to match market needs.
- **Reconfigured Globalisation and Trade Policy Hesitancy**
 - Globalisation hasn't stopped; it has become highly politicized. Trade agreements are now frequently organized around national security concerns and regional friend-shoring networks. In this environment, a cautious approach to trade can lead to isolation. To embed itself deeply into global supply chains, India needs to join high-standard, comprehensive multilateral free trade frameworks. Failing to do so risks leaving its export ambitions unfulfilled.

- **Historical Evolution of the Issue**

- India's long-term planning and economic resilience have evolved through four distinct eras since independence:

- **1947–1991: The Controlled Economy and Basic State Capacity:** Characterized by the Nehruvian-Mahalanobis model of import substitution, heavy industrialization, and strict regulatory licensing. While this era established core scientific institutes (like the IITs and IISc) and basic industrial capacity, it isolated India from global trade and left state delivery channels slow and inefficient.

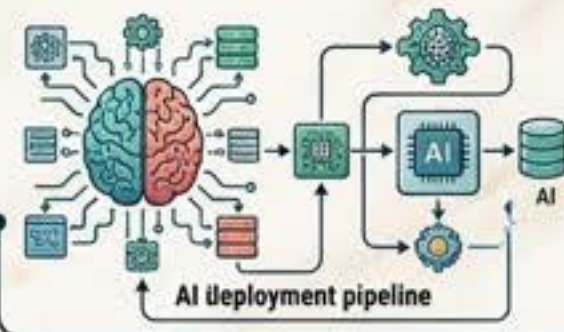
- **1991–2014: Market Liberalisation and Service-Led Integration:** Triggered by the 1991 balance-of-payments crisis, the LPG (Liberalisation, Privatisation, Globalisation) reforms dismantled the License Raj. India bypassed traditional manufacturing-led growth to become a global hub for software services and business process outsourcing, riding the wave of hyper-globalisation. However, this period also exposed deep deficits in physical infrastructure and led to a complex, leakage-prone welfare delivery system.

- **2014–2024: Infrastructure Consolidation and the Platform State:** This decade marked a structural pivot toward building physical and digital assets. Capital expenditure shifted heavily into highways, ports, and renewable energy, while the state delivery model was rebuilt through the India Stack. Welfare transitioned from untargeted subsidies to Direct Benefit Transfers (DBT), significantly reducing administrative leakages.

- **2024–Present: Navigating Multipolar Disruptions:** The current era is defined by systemic global shocks: the weaponization of supply chains, the rapid arrival of generative AI, and accelerating climate disruptions. The state's focus has expanded from expanding the domestic market to building systemic resilience against these external head-winds.



AI & ADVANCED TECH FRONTIER



- **Strengths** (Talent, DPI)
- **Challenges** (Traditional Outsourcing, Absence from Frontier)
- **Opportunity** (Global Application Lab: AI tutors, diagnostics, agric Government and Investment)



CLIMATE CHANGE & ADAPTATION



- **Central Pillar of Development**



GEOPOLITICAL FRAGMENTATION

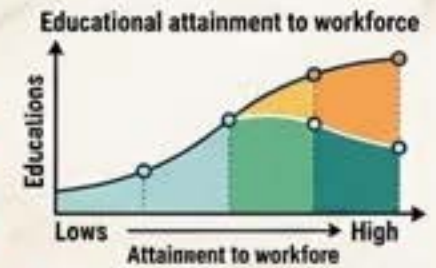


- **Context** (US-China rivalry, fragmented order)
- **Opportunity** (Resilient supply chains, China-plus-one)
- **Issue** (Regulatory unpredictability, delays)

AXIA IAS ACADEMY | COMPREHENSIVE ANALYSIS: INDIA'S 5-FORCE READY-RECKONER



DEMOGRAPHIC TRANSITIONS



- **Advantage** (Young population, education, skilling, jobs)
- **Conditional Springboard or Source of Frustration?**



RECONFIGURATION OF GLOBALISATION



- **Shift** (Geopolitics-driven trade)
- **Need** (Join high-standard FTA, deep integration)
- **Reconfiguration of Global Value Chains**

RECONFIGURATION OFF TO TOOLWEFTH



THE TRUE TEST OF GOVERNANCE: FUTURE READY-RECKONER & INTERGENERATIONAL EQUITY

- **State Capacity as the Foundation** (Roads, Ports, Digital Infra, Welfare)
- **Platforms for Future Growth and Adaptation**
- **Key Metric:** Leaving a country capable of thriving amid 21st-century uncertainties

FTA	Benefits	FTA
Compostive	High	Cooperailves
Comporative chart	High Quality	
FTA benefits	Low	Join high-standard FTA chart.
Manufacturing realization	National benefits	

- **Logical and Philosophical Base**
 - The long-term assessment of governance relies on several foundational economic and philosophical frameworks:
 - **Intergenerational Equity (The Keynesian Metric)**
 - John Maynard Keynes argued in his 1930 essay, *Economic Possibilities for our Grandchildren*, that technological progress and capital accumulation should ultimately be judged by the quality of life and institutional resilience passed down to future generations. From this perspective, short-term GDP growth is less important than preserving natural capital, maintaining social cohesion, and building flexible public institutions that protect the well-being of future citizens.
 - **The Concept of the "Platform State"**
 - This philosophy shifts the role of government from a direct provider of goods or a rigid regulator to a creator of foundational ecosystems.
 - By treating identity, payments, and data verification as open public utilities, the state allows private actors to innovate freely, significantly lowering transaction costs across the economy.
 - **Structural Realism and Economic Statecraft**
 - In a fragmented world order, national security and economic policy are deeply intertwined. The guiding logic here is that strategic autonomy is impossible without economic resilience. A nation cannot maintain a truly independent foreign policy if it relies on hostile neighbors for critical inputs like pharmaceutical active ingredients, advanced semiconductors, or rare earth minerals.

Dimension	Traditional State Model	Platform State Model
Primary Role	Direct provider of services; monopoly operator.	Architect of open, foundational infrastructure.
Market Impact	Crowds out private investment through red tape.	Crowds in market innovation via open APIs.
Delivery Model	Fragmented, paper-based bureaucratic pipelines.	Direct, identity-verified digital transfers.

- **Multidimensional Analysis**

- **Social Dimension**

- **The Skilling Gap:** Despite having a massive youth population, industry estimates suggest that a significant portion of engineering and general graduates require additional training to be employable in advanced tech roles.
- **The Gender Dividend Deficit:** India's Female Labor Force Participation Rate (FLFPR), though improving, remains low compared to peer emerging market economies, leaving a huge source of productivity underutilized.
- **The Risk of Social Fragmentation:** Rising wealth disparity and social polarization can weaken mutual trust, which is a vital component for long-term economic collaboration and stable growth.

- **Political Dimension**

- **Centralized Executive Efficiency:** Strong central mandates have accelerated long-delayed infrastructure projects and unified domestic tax structures like the GST.
- **Asymmetric Federalism Challenges:** Implementing critical structural reforms in land, labor, and agriculture requires close cooperation with state governments. Political friction between the center and states can stall these adjustments on the ground.

- **Legal Dimension**

- **Regulatory Fluctuation:** Sudden policy shifts, such as changing e-commerce guidelines or unexpected export restrictions, create uncertainty that makes long-term foreign direct investment more hesitant.
- **Enforcement Bottlenecks:** Resolving commercial disputes in India still takes considerable time, which increases the risk premium for international firms looking to relocate large-scale manufacturing facilities.

- **Ethical Dimension**

- **Technological Exclusion:** Relying heavily on digital-first governance risks leaving behind vulnerable populations who lack smartphones, reliable internet access, or digital literacy.
- **Intergenerational Justice:** Postponing aggressive climate adaptation policies transfers the severe financial and environmental costs of environmental degradation to future generations.

- **International Dimension**

- **Multi-Aligned Diplomacy:** India has successfully maintained open trade and diplomatic channels with Washington, Moscow, and Brussels simultaneously, securing affordable energy inputs while integrating into Western security frameworks.

- **Trade Isolation Risks:** Hesitancy to participate in major mega-regional trade agreements can marginalize India from rapidly evolving Asian manufacturing supply chains.

- **Economic Dimension**

- **The Manufacturing Missing Link:** While the Production Linked Incentive (PLI) schemes have boosted domestic electronics assembly, deep manufacturing growth requires more than targeted subsidies; it needs broad reductions in logistics costs and input tariffs.
- **K-Shaped Recovery Trends:** Post-pandemic growth shows an uneven trajectory, where capital-intensive tech sectors and premium consumption are expanding rapidly, while rural wages and informal sector employment remain sluggish.

- **Linkages with NCERTs**
- **Indian Economic Development (Class XI):**
 - *Chapter 2: Indian Economy (1950-1990):* Provides the essential background on state-led industrialization and the limits of import substitution.
 - *Chapter 3: Liberalisation, Privatisation and Globalisation:* Crucial for understanding how India integrated into global service markets post-1991.
 - *Chapter 5: Human Capital Formation in India:* Connects directly to current challenges in education and structural skilling.
- **Contemporary World Politics (Class XII):**
 - *Chapter 6: Environment and Natural Resources:* Provides global context on climate negotiations, mitigation burdens, and adaptation equity.
 - *Chapter 9: Globalisation:* Details the shift from traditional economic openness to the current era of fragmented global networks.
- **India: People and Economy (Class XII - Geography):**
 - *Chapter 1: Population:* Helps analyze demographic trends, working-age concentrations, and spatial migration patterns.



- **Linkages with UPSC CSE Syllabus**

Syllabus Section	Relevant Core Themes & Concepts
GS Paper I (Society)	Effects of globalisation on Indian society; population dynamics and associated challenges; urbanization bottlenecks.
GS Paper II (Governance & IR)	Government policies and interventions for development; institutional state capacity; bilateral and regional groupings affecting India's strategic interests.
GS Paper III (Economy & Tech)	Indian Economy and issues relating to planning, mobilization of resources, growth, development, and employment; Digital Public Infrastructure; AI applications; Climate Change Adaptation and Environmental Impact Assessment.
GS Paper IV (Ethics)	Ethical implications of automation and AI-driven job displacement; corporate governance; environmental ethics and intergenerational justice.
Essay Paper	Ideal for essays focusing on: <i>"Resilience as the new definition of growth"</i> , <i>"The true test of a nation's leadership"</i> , or <i>"Balancing technological frontiers with human capital."</i>

- **Way Forward**

- To build long-term economic resilience and navigate these global shifts effectively, India can focus on five strategic policy pivots:

- **Establish Regulatory and Tariff Stability:** Move away from unpredictable, ad-hoc tariff adjustments and create a stable, predictable tax and regulatory environment. This certainty is essential for encouraging multinational corporations to invest in long-term manufacturing operations.

- **Reorient Education Toward the AI Era:** Shift primary and secondary educational models away from rote memorization toward critical thinking, problem-solving, and digital literacy. Vocational training programs should be continually updated in collaboration with industry partners to prevent technological unemployment.

- **Mainstream Climate Adaptation into Capital Budgeting:** Treat climate risks as core financial line items. National infrastructure projects under frameworks like the Gati Shakti Master Plan should be built to withstand extreme weather, and local agricultural policies should actively promote heat-resilient, water-efficient crops.

- **Pursue Strategic, High-Standard Trade Integration:** Re-evaluate the approach to multilateral trade agreements. India should selectively join deep trade frameworks with major consuming markets, using targeted domestic protections only for genuinely sensitive sectors.

- **Strengthen Institutional Quality and Social Cohesion:** Focus public policy on reducing regional and structural inequalities. True national resilience relies heavily on social cohesion, clear rule of law, independent regulatory oversight, and open communication channels between public institutions and citizens.



- **UPSC CSE Prelims Questions**
- **1. With reference to India's decision to not join the Regional Comprehensive Economic Partnership (RCEP), which of the following statements are correct? (Analytical Reflection)**

- 1.It did not provide sufficient protection against surges in imports, particularly from China.
- 2.It lacked adequate assurances on market access for India's services sector.
- 3.It required strict compliance with intellectual property standards that could jeopardize India's generic pharma sector.

Select the correct answer using the code given below: (a) 1 and 2 only (b) 2 and 3 only (c) 1 and 3 only (d) 1, 2 and 3

- **2. Which of the following best describes the concept of 'Digital Public Goods' often discussed in the context of India Stack?**

- (a) Proprietary software platforms developed by the government for exclusive use by public sector undertakings.
- (b) Open-source software, open data, open AI models, and open standards that adhere to privacy laws and accelerate public service delivery.
- (c) Digital devices distributed free of cost to families below the poverty line.
- (d) Commercial telecommunication networks leased by the state during national emergencies.

- **UPSC CSE Mains Questions**

- **GS Paper III (2023):** "The critical challenge before the Indian economy is the generation of meaningful and gainful employment. Discuss this statement in light of India's demographic dividend and the rapid adoption of automation technologies."
- **GS Paper III (2022):** "What is Digital Public Infrastructure (DPI)? Discuss how India's approach to building a platform state through DPI has transformed the delivery of welfare services and financial inclusion."
- **GS Paper II (2021):** "The post-COVID world order is characterized by geopolitical fragmentation and supply chain re-engineering. In this context, evaluate India's potential to present itself as an alternative global manufacturing hub through strategies like 'Aatmanirbhar Bharat'."
- **GS Paper III (2020):** "Introduce the concept of Artificial Intelligence (AI). How can AI be used to improve productivity and access in agriculture and healthcare sectors in India without exacerbating urban-rural economic divides?"
- **GS Paper III (2019):** "Coastal states and agrarian zones in India are increasingly vulnerable to erratic monsoons and extreme weather events. Shift the analysis from climate change mitigation to climate change adaptation strategies required for safeguarding India's macroeconomic stability."

STATE OF PLAY Geopolitics has joined petronomics to infuse the region with new energy

Indo-Pacific, the New Gulf



Pranab Dhal Samanta

Is the Indo-Pacific going to be the new Gulf? The US-Israel war on Iran, blockade of ships and maritime routes, and blackmalling that has followed have delivered a much-needed, self-defining economic logic to the Indo-Pacific. As a geopolitical construct, it has always been seen through a China frame, to balance Beijing's aggressive way across the South China Sea, down to the Malacca Strait and Indian Ocean. But economic contradiction was the problem, as Southeast Asian economies remained dependent on China.

Now, because of economic shock to major oil and gas consumers, especially big Asian economies like India, Japan and South Korea, there's a quiet pivot on the global energy front, from West Asian sellers to those in the western hemisphere. And it's a relatively easy switch because these countries have surpassed Gulf Opec countries in oil production over the past decade.

The US alone has added about 2.5-2.6 mn barrels of crude a day to its daily production in the past five years. This is like adding a Kuwait to its overall production that now stands at 13.6 mn barrels a day. In contrast, West Asian Opec countries have resorted to production cuts to keep prices higher.

Similarly, Canada produces 5.3 mn barrels a day, Venezuela over 1 mn,

The downside always was the relative ease of transport — both in time and cost — from and through West Asia. The war has changed that equation



Suez's up for Asia

while the latest finds from Guyana — borne to the biggest oilfield discovered globally in the past decade — keep increasing overall production numbers in the West. The downside always was the relative ease of transport — both in time and cost — from and through West Asia. The war has changed that equation. Risks of transport have increased political and financial costs of moving these goods, besides raising global crude and gas prices.

More importantly, non-Gulf oil-producing countries are investing in infrastructure to access the Pacific to bring down transport costs for Asian buyers. Take Trans-Panama Pipeline. Opened in the 1980s for Alaska crude to reach the Atlantic, it was shut down in 1986 and later recommissioned to function in the reverse direction. Today it carries crude from the Caribbean to the Pacific for dispersal to Asia.

Apart from the LNG terminal in Alaska, the US doesn't have major terminals on its Pacific seaboard. Further, environmental objections politically constrain expansion in California and Washington state. So, all plans have focused on reaching the Mexican Pacific coast, for which Panama bypass projects, including oil and gas pipelines, are in the works.

The same infrastructure will also help Venezuelan and Guyana crude to access the Pacific route, through which it can make its way into the Asian market. The journey time

is estimated to drop significantly once access to the Pacific is made easier.

Canada's Trans Mountain Expansion (TME) Project, aimed at building a second trans-mountain pipeline (TMPL) to connect its oil-producing nodes with ports in British Columbia on the Pacific, is another significant route reorientation. Historically, Canada used to sell close to 90% of its crude to the US through the land route. As US made its own discoveries, Canada built the first TMPL, to mainly service growing Chinese demand.

The pipeline's expansion, however, was strongly objected by environmentalists. But Ottawa has managed to weather that storm and go ahead with the construction, specifically targeted at sending crude to India, Japan, South Korea, Singapore and other Asian countries.

Importantly, Chinese oil demand has started to plateau, even dip, in the past few months, while Indian demand is increasing. So, a lot of Pacific trade will be shaped by India along with Japan in the coming years. This is why the geopolitical construct of Indo-Pacific has found a standalone economic logic, which, with time, will depend more on India's economic and policy actions compared to China's.

The shift will also give Quad a new meaning. Two of its members, India and Japan, will be among the largest oil consumers, while the US will be the largest producer. This economic dovetailing within Quad was largely theoretical till two years ago. Now, it's a res-

ure because the shift to the Indo-Pacific theatre is the only credible way to derisk from uncertainties of West Asia and dangerous new intra-Gulf dynamics.

In this context, Gulf's ongoing outreach, Japanese PM Shinzo Abe's visit to India that starts tomorrow followed by Narendra Modi's visit to Australia, Indonesia and New Zealand are all pointers to a shifting new Indo-Pacific narrative. Plus, it may provide counter-leverage with new West Asia suppliers, including Iran.

The other important actor on the Pacific scene for India will be Russia. As a key oil and gas producer, Moscow has traditionally focused on Europe and some Asian destinations through the Baltic and Black Sea routes. Since the Ukraine war, after which it came under European sanctions, Moscow decided to concentrate all expansion efforts on its far-east Pacific coast in the Vladivostok region.



The geopolitical construct of Indo-Pacific has found a standalone economic logic, which, with time, will depend more on India's policy actions than China's

While it has a huge market in China, Russia plans to pour out more on to the Pacific side, to be in a geographically amenable position to access India more comprehensively.

So, the Indo-Pacific stage is set to host oil and gas from the US, Canada, Guyana, Venezuela and Russia, providing an alternative to the Gulf Opec-dominated structure. The competition it will foster is likely to open new routes of commerce, and make oil-ones redundant, besides shoring up oil prices — a shift that India must not only drive but also look to own.

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- **Key Terms and Explanations**

- **Indo-Pacific Geopolitical Construct:** A strategic geographic framework that integrates the Indian Ocean and the Pacific Ocean into a single interconnected maritime theater. Traditionally, this concept was deployed by democratic nations to ensure a rules-based order, primarily acting as a counterweight to maritime assertiveness across critical pathways like the South China Sea.
- **Shale Revolution & Non-OPEC Surge:** A technological shift—primarily driven by hydraulic fracturing and horizontal drilling in North America—that allowed nations outside the traditional OPEC cartel to drastically scale up production. This has effectively diluted the traditional cartel pricing power of Middle Eastern nations.
- **Trans-Panama Pipeline (Reverse Functionality):** Built originally in the 1980s to transport Alaskan crude oil eastward to the Atlantic coast, this infrastructure has been re-engineered. It now pumps oil in the *reverse* direction—moving crude from the Caribbean and Atlantic basins westward into the Pacific to supply energy-hungry Asian markets.
- **Trans Mountain Expansion (TMX) Project:** A massive infrastructure project in Canada that twins an existing pipeline to transport crude oil from the landlocked oil sands of Alberta to the Pacific coast of British Columbia. This project fundamentally reduces Canada's historic 90% dependency on the US market, opening a direct maritime gateway to Asian consumers.
- **Strategic Autonomy and Energy Derisking:** A foreign policy doctrine where a nation, such as India, diversifies its supply lines and strategic choices to prevent exposure to external shocks, blockades, or geopolitical blackmail in any single region.
- **The Quad (Quadrilateral Security Dialogue):** A strategic forum composed of India, Japan, Australia, and the US. While historically focused on maritime security, it is rapidly gaining a geo-economic dimension due to the complementary roles of its members as major energy producers and consumers.

- **Main Arguments and Substantive Parts**

- The geopolitical theater is witnessing a fundamental transformation where economic necessity is catching up with strategic rhetoric. The core arguments outlining this transition include:

- **The Shift from Security to Substance**

- For years, the Indo-Pacific construct faced an inherent contradiction. While Southeast Asian and South Asian nations aligned politically with the West to keep maritime lanes open, their domestic economies remained deeply dependent on trade with China. The current transition introduces an independent economic engine: **energy interdependence** that does not rely on Beijing.

- **The Western Hemisphere Supply Boom**

- A quiet structural pivot has occurred on the supply side. Over the past decade, non-Gulf nations have outpaced traditional West Asian suppliers in production growth.

- The United States has added roughly 2.5 million barrels per day (mbpd) over a five-year window, pushing its total output to an unprecedented 13.6 mbpd.

- Canada produces over 5.3 mbpd, Venezuela maintains over 1 mbpd, and Guyana's massive offshore discoveries represent the most significant global oil find of the last decade.

- **The Changing Geography of Maritime Risk**

- Historically, West Asian oil was favored due to geographical proximity and lower transit times to Asia. However, persistent conflict, maritime blockades, and targeted drone or missile attacks on commercial shipping have sharply driven up the financial and political costs of insurance and freight through the Strait of Hormuz and the Red Sea. This has flipped the economic calculus in favor of more stable, albeit distant, Pacific routes.

- **Infrastructure Reorientation toward the Pacific**

- To capture the growing demand in Asia, Western producers are aggressively building Pacific-facing infrastructure. Because environmental regulations strictly limit the expansion of major new oil and gas terminals along the US West Coast (California and Washington), massive pipeline and liquefied natural gas (LNG) projects are bypassing these states. They are routing instead through the Trans-Panama network, developing projects along the Mexican Pacific coast, and utilizing Canada's newly operational TMX pipeline.

- **The Re-Alignment of the Quad and the Rise of India**

- This energy shift gives the Quad a material, transactional anchor. The US is now the world's leading producer, while India and Japan are among the largest and most consistent energy consumers. Crucially, as China's domestic energy demand begins to plateau and structural economic shifts take hold, India has emerged as the primary driver of global oil demand growth, allowing New Delhi to shape the rules of Pacific commerce.

- **Historical Evolution of the Issue**
- **The Era of Gulf Hegemony (1970s – 2000s)**
 - Following the 1973 oil shock, the Persian Gulf became the undisputed center of gravity for global energy security. The United States formulated the Carter Doctrine, declaring that any attempt by an outside force to gain control of the Persian Gulf region would be regarded as an assault on the vital interests of the US. During this era, the "Asia-Pacific" was viewed primarily as a manufacturing hub, completely dependent on the Middle Eastern energy tap.
- **The North American Shale Revolution (2010s)**
 - The introduction of commercially viable fracking technologies transformed the US from a vulnerable energy importer into a dominant global exporter. This period marked the beginning of the structural decline in OPEC's ability to unilaterally dictate global prices through artificial production cuts.
- **The Strategic Emergence of the Indo-Pacific (2007 – 2017)**
 - Japanese Prime Minister Shinzo Abe introduced the concept of the "Confluence of the Two Seas" in 2007, which later matured into the Free and Open Indo-Pacific (FOIP) framework. Initially, this was a security-first alignment aimed at ensuring freedom of navigation in the South China Sea and protecting the Malacca Strait from unilateral dominance.
- **The Sanctions Catalyst and Route Re-engineering (2022 – 2025)**
 - The outbreak of the Russia-Ukraine war in 2022 and subsequent Western sanctions forced Moscow to alter its traditional European focus. Russia pivoted its energy exports entirely toward Asia, upgrading its Far-East Pacific ports near Vladivostok to supply India and China. Simultaneously, rising conflict in the Middle East rendered traditional maritime chokepoints highly volatile.
- **The Structural Reality (2026)**
 - With Canada's TMX pipeline fully operational and multiple Mexican-Pacific transit routes online, the structural shift is complete. The Indo-Pacific is no longer just a strategic space for naval exercises; it is a high-volume energy corridor connecting the Western Hemisphere and Far-East Russia directly to the core economies of Asia.



THE INDO-PACIFIC ENERGY PIVOT:

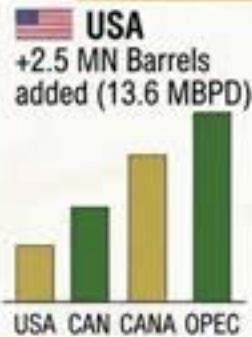


A GEO-ECONOMIC RE-ALIGNMENT

WEST ASIA INSTABILITY (THE PROBLEM)



WESTERN HEMISPHERE SUPPLY SURGE



CANADA
5.3 MBPD

VENEZUELA
over 1 MBPD

GUYANA
major oil discoveries
"Biggest in Decade"

OPEC
Production Cuts to increase Prices



GLOBAL ENERGY ROUTE PIVOT



MULTIDIMENSIONAL IMPACTS

ECONOMIC

- Price stability
- Competition

LEGAL

- UNCLOS
- Transit laws

POLITICAL

- Strategic autonomy
- Non-alignment

ETHICAL

- Climate paradox
- Climate justice

IAS PREP LINKAGES

GS PAPER 1

- Resource Distribution

GS PAPER 2

- IR, Global Groupings

GS PAPER 3

- Infrastructure, Security Challenges

WAY FORWARD

- Upgrade Deep-water Ports, prevent Poiny Policy
- Institutionalize Quad Energy Pillar in furo to Policy
- Enhance Maritime Diplomacy (SAGAR)

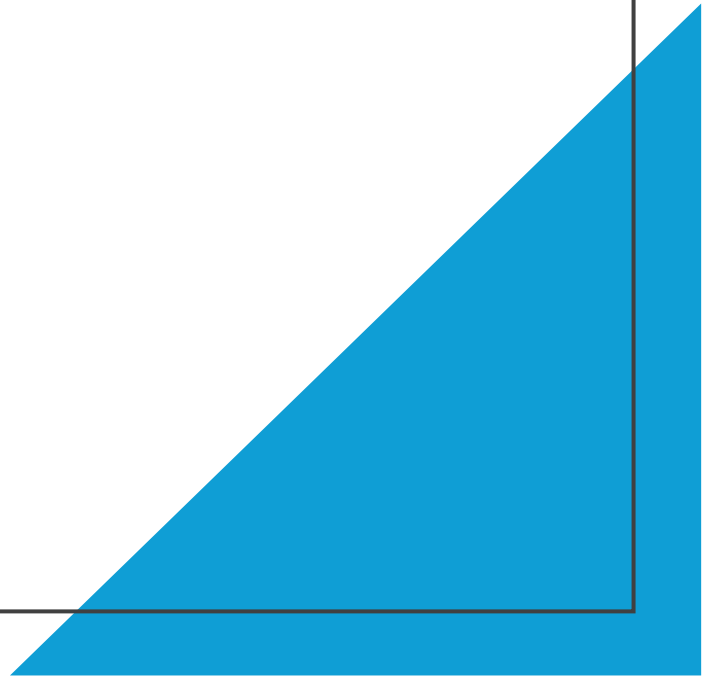
- **Logical and Philosophical Base**

- The transformation of the Indo-Pacific from a political idea to an economic reality rests on several foundational concepts in international relations:

- **Transition from Geopolitics to Geo-economics:** The underlying logic confirms that pure political alliances are fragile unless anchored by deep economic incentives. By anchoring the Indo-Pacific in the trade of physical commodities like crude oil and LNG, the construct transitions from a theoretical security arrangement into an essential economic reality.

- **Complex Interdependence Theory:** In international relations, complex interdependence argues that state actions are governed by multiple channels of contact, and that security is not always the sole driver of state behavior. The shared reliance between Western producers and Asian consumers creates a stabilizing, rule-bound network across the Pacific, diminishing the leverage of single chokepoint states.

- **The Paradigm of Multi-Alignment:** India's active participation in this energy shift highlights its pragmatic approach to foreign policy. By simultaneously absorbing discounted Russian crude from the Far East, expanding long-term supply contracts with the US, and engaging in infrastructure partnerships with Quad allies, New Delhi practices a form of strategic hedging that prioritizes domestic economic resilience over rigid bloc politics.



Dimension	Core Strategic Implications & Key Insights
Economic	- Provides structural insulation against oil price spikes induced by Middle Eastern volatility. - Alters global trade balances as major capital expenditure shifts from Gulf sovereigns to Pacific infrastructure. - Introduces severe competition for OPEC+, limiting their ability to artificially inflate prices.
Political	- Enhances India’s strategic autonomy by removing vulnerability to energy blackmail. - Reshapes bilateral ties with major powers, as seen in the high-level diplomatic outreach between India, Japan, and Oceanic nations. - Creates domestic political friction within Western nations over the environmental footprint of export infrastructure.
International	- Deepens the institutional substance of the Quad, moving it past a simple security dialogue. - Accelerates Russia’s permanent economic integration into the Pacific basin via the Vladivostok corridor. - Diminishes the historical diplomatic leverage that Middle Eastern states held over Asian foreign policy decisions.
Social	- Secure, competitively priced energy acts as a direct subsidy for poverty alleviation and industrialization in South Asia. - Stabilizes domestic food security by ensuring predictable costs for fertilizer inputs and agricultural transportation. - Impacts coastal and indigenous communities located along the pathways of newly constructed pipelines and mega-ports.
Legal	- Places renewed emphasis on the enforcement of UNCLOS along new Pacific shipping corridors. - Involves complex international legal frameworks regarding cross-border transit pipelines in Central America. - Generates domestic legal battles in transit states over indigenous land rights and sovereign environmental mandates.
Ethical	- Highlights the policy paradox of investing heavily in long-term fossil fuel infrastructure amid global climate commitments. - Raises questions of climate justice, as developing economies must balance immediate energy access against global emission targets. - Tests the ethical obligation of democratic alliances to maintain open commerce versus the pragmatic need to secure state survival.

Linkages with NCERT Textbooks

Class 12 Contemporary World Politics (Chapter: Environment and Natural Resources):

This chapter discusses the global geopolitics of resource allocation, focusing heavily on how oil has historically driven military interventions and strategic alliances. The current Pacific shift serves as an excellent case study on how resource distribution changes global power configurations.

Class 12 India - People and Economy (Chapter: International Trade): This text covers the changing patterns of India's import-export basket and the strategic importance of maritime gateways. The transition from West Asian dependencies to Pacific routes expands directly upon the textbook's analysis of trade diversification.

Class 11 Fundamentals of Physical Geography (Chapter: Water - Oceans): The textbook details the location of major oceanic routes and global chokepoints. Understanding the physical geography of the Malacca Strait, the Panama Canal, and the Pacific basin is critical to analyzing the logistical costs highlighted in this energy transition.



- **Linkages with the UPSC CSE Syllabus**
- **GS Paper 1: Fundamental Geography**
 - **Syllabus Topic:** *Distribution of key natural resources across the world (including South Asia and the Indian subcontinent); factors responsible for the location of primary, secondary, and tertiary sector industries.*
 - **Application:** Directly relevant to understanding the relocation of global energy distribution nodes from the Persian Gulf to the Western Hemisphere and the Russian Far East.
- **GS Paper 2: International Relations & Policy**
 - **Syllabus Topic:** *Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests. Effect of policies and politics of developed and developing countries on India's interests.*
 - **Application:** Analyzes the transition of the Quad into an economic reality, the strategic impact of the US-led energy boom, and the rebalancing of India's foreign policy between West Asia and the Indo-Pacific.
- **GS Paper 3: Economic Development & Security**
 - **Syllabus Topic:** *Infrastructure: Energy, Ports, Roads, Airports, Railways. Security challenges and their management in border areas and maritime zones.*
 - **Application:** Evaluates India's national energy security architecture, transit risk management, and the economic viability of diversifying supply lines via new Pacific infrastructure projects.

- **Way Forward**

- To capitalize on this structural transition, India must adopt a proactive, forward-looking policy framework:

- **Accelerating Strategic Maritime Infrastructure**

- India needs to quickly upgrade its deep-water port infrastructure on both the eastern and western seabords to handle larger crude carriers arriving from the Pacific and Arctic routes. Fully operationalizing agreements around the **Vladivostok-Chennai Maritime Corridor** will complement this structural shift perfectly.

- **Institutionalizing Energy Security within the Quad**

- New Delhi should lead an initiative to formalize an energy security pillar within the Quad framework. This would involve establishing long-term supply guarantees, joint strategic petroleum reserves, and collaborative investments in clean energy technologies to derisk the entire partnership from external shocks.

- **Strategic Note:** While securing diversified fossil fuel lines is critical for immediate economic stability, long-term policy must treat these new supply routes as a temporary bridge. The ultimate objective remains building domestic renewable energy self-reliance to structurally eliminate import vulnerabilities.

- **Cultivating Balanced Maritime Diplomacy**

- As the Indo-Pacific gains standalone economic weight, India must strengthen its role as a net security provider in the Indian Ocean Region (IOR) under the **SAGAR (Security and Growth for All in the Region)** initiative. Ensuring that critical chokepoints like the Malacca Strait remain open, rule-bound, and free from unilateral dominance is vital to securing these new trade patterns.

UPSC Civil Services Examination (Mains)

- "The geo-strategic importance of the Indian Ocean Region has increased significantly in recent years. Discuss the implications for India's security and economic interests." (*GS Paper 2, 2020*)
- "Evaluate the economic and strategic dimensions of the Quadrilateral Security Dialogue (Quad) in the context of the Indo-Pacific region." (*GS Paper 2, 2022*)
- "Access to affordable, reliable, and sustainable energy is a prerequisite for achieving India's developmental goals. Comment on India's strategy to secure its energy needs amidst global geopolitical volatility." (*GS Paper 3, 2023*)

UPSC Civil Services Examination (Prelims Focus)

1. Which of the following statements best describes the term 'West Texas Intermediate (WTI)', often seen in the news?

- A) A benchmark classification of crude oil
- B) A new trade agreement between US and major Asian economies
- C) A strategic pipeline connecting Canada to the Pacific
- D) An international maritime court governing deep-sea mining

Answer: A

2. Consider the following pairs of maritime chokepoints and the water bodies they connect:

- 1. Strait of Hormuz: Persian Gulf and Gulf of Oman
- 2. Malacca Strait: Andaman Sea and South China Sea
- 3. Bab-el-Mandeb: Red Sea and Gulf of Aden
- 4. Which of the pairs given above is/are correctly matched?
- 5. A) 1 and 2 only
- 6. B) 2 and 3 only
- 7. C) 1 and 3 only
- 8. D) 1, 2 and 3

9. Answer: D

Labour codes must adjust society's moral compass

The implementation frame has to be both morally serious and administratively plausible

After decades of contentious debates and false starts, labour-law reforms have finally entered the decisive implementation phase. The four codes — on Wages, Social Security, Industrial Relation, and Occupational Safety, Health, and Working Conditions — were rolled out in November 2025, and the Centre notified final rules in May 2026. However, since labour is a Concurrent List subject and many states continue to dither, universal implementation will take time because state-level rule-making and building of compliance architecture remain at different stages of preparedness. At the same time, trade unions' opposition has been visible though not effective in stalling implementation. Among big corporates, the transition is already visible, in the cost-provisioning being made in the account books. But the real test will be whether universal labour rights is delivered beyond large public sector units and big corporates.

The new labour codes are taking effect at a moment when newer forms of quasi-employment contracts are increasingly substituting, or uneasily coexisting with, older structures of the more sharply defined formal and

informal work. As the codes consolidate old labour laws and modernise the compliance architecture, the question is: Whom do the labour laws in India protect, and at whose cost?

For decades, the labour laws' structure remained rooted in mid-20th-century statutes even as the economy moved from State-led industrialisation to liberalisation, globalisation, services dominance, platform work and, now, AI-mediated labour. What changed most, for long stretches, was the way courts, governments and industry worked around the basic legal constructs. Till now, substantial reform has come only through interpretation, partial amendment, under-enforcement, administrative workarounds, and labour-market practices.

This is why the usual debate between "job security" and "job creation" that accompanies any discussion on the effectiveness of labour laws remains merely academic. The argument often assumes that India's labour laws meaningfully cover most workers and that reform must choose which side benefits more, though the overwhelming informality of the labour market is not a secret. An ILOSTAT estimate places informal employment at 87.2% in 2025. Even among regular wage earners outside agriculture, more than half lack formal social-security coverage and about 60% do not have a written job contract. There has been a positive change in the condition of workers over the last half a century, but the question remains whether this

alone is satisfactory for a democratic and modern country.

In the 1960s and 1970s, the higher judiciary looked at intermediary arrangements (contractual labour) with suspicion and was more willing to ask who was the real employer. In the post-liberalisation climate, it became more restrained; judgements often refused to presume that abolition of contract labour automatically meant absorption into the principal employer's workforce. This gave a strong legal and managerial opening to outsourcing and contractualisation, now the default mode of employment even in the formal sector.

India's labour law problem is not that the law has been too protective or regressive. It is that protections have been distributed too unevenly. Therefore, minimalism in promises — though certainly not in moral ambition — with accompanied saturation in delivery seems a better approach. Data from the directorate general of factory advice service and labour institutes show that, in 2023, India had only 630 working factory inspectors against 974 sanctioned posts; even after adding the 11 medical inspectors, the public inspection strength rises only to 641. Against nearly two crore factory workers and 3.54 lakh registered factories, this actually means one government inspector for over 31,000 workers. And less than one-fifth of registered factories were inspected that year.

A plausible, universally implementable baseline should include at least



Unemployment, insecure work and non-decent working conditions should not merely be treated as macroeconomic inefficiencies.

HT ARCHIVE

five items: enforceable minimum wages, safe and non-hazardous workplaces, eight-hour day with credible overtime payment, maternity and related care protections, and insurance based social-security, including for gig and platform workers. The case for this is both ethical as well as practical. The government already uses risk-based inspection systems, and international standards certification provide a readily available model for auditable occupational-safety management systems. A graded certification system linked to labour law compliance can complement inspection capacity and the evolution of a staircase system — where high-compliance firms face lighter routine monitoring even as enforcement concentrates on the riskiest sectors and establishments.

The labour codes address many of these issues. Yet, implementation caveats remain. To illustrate, if industry starts using fixed-term hiring for replacing regular workers while continuing to rely on contractualisation elsewhere, the reform will not solve the older contract-labour problem. Therefore, the reform implementation frame has to be both morally serious and administratively plausible. A focused implementation architecture

to enforce the core five promises will help in seamless communication with all the stakeholders and shift the labour law debate from being one of ideological or legal jargons to being part of everyday vocabulary.

Unemployment, insecure work and non-decent working conditions should not merely be treated as macroeconomic inefficiencies. Beyond the law and enforcement, the wider society must also adjust its moral compass. Business schools and engineering colleges should teach labour questions not merely as ideological baggage or economics issue but as foundational questions of management and citizenship. Entrepreneurs, founders, and managers must be invited to think beyond the quarterly financial statement and recognise that every decision on outsourcing, algorithmic control, working time or contractor dependence has a social consequence. For long-term economic progress, the labour laws must protect meaningful work and fair pay, safe work environment, and some measure of job security to all labour-market participants.

Harsh Sharma is director, Giri Institute of Development Studies, Lucknow. The views expressed are personal



Harsh Sharma

- **Key Terms and Explanations**
- **Concurrent List Status (Seventh Schedule):** Under the Constitution of India, labour falls under the Concurrent List (Entries 22, 23, 24, and 36). This means both the Parliament and State Legislatures can enact laws on it. While the Central government establishes overarching frameworks, the actual implementation depends heavily on states framing their specific rules. This shared jurisdiction often results in regional variations in compliance architecture and implementation timelines.
- **The Four Labour Codes:** A landmark structural consolidation that replaced 44 separate, archaic Central labour statutes with four streamlined frameworks:
 - *The Code on Wages:* Universalizes provisions for timely payment and minimum wages across all sectors.
 - *The Code on Social Security:* Extends welfare protections, including provident funds and insurance, across both formal and informal sectors.
 - *The Industrial Relations Code:* Retools conditions for trade union recognition, standing orders, and dispute resolution to balance business flexibility with worker protection.
 - *The Occupational Safety, Health, and Working Conditions Code:* Standardizes workplace safety parameters, health amenities, and welfare provisions across distinct industries.
- **Gig and Platform Workers:** Individuals engaged in livelihood activities outside traditional employer-employee arrangements, often mediated through online digital platforms. Examples include delivery executives for food-tech companies or drivers for ride-hailing applications. Historically excluded from conventional definitions of "workmen," their integration into formal social security frameworks remains a primary policy challenge.
- **Quasi-Employment Contracts:** Blurred working arrangements that mirror full-time employment in daily execution and institutional dependence but are classified as independent contracting or freelance setups. This classification allows organizations to bypass statutory benefits like gratuity, paid leave, and provident fund contributions.
- **Fixed-Term Employment (FTE):** A statutory provision that permits employers to hire workers on a contractual basis for a designated, fixed duration. While FTE ensures that short-term employees receive the same statutory benefits, wages, and working hours as permanent workers, it also introduces operational flexibility that risks the gradual phasing out of long-term, regular employment rolls.
- **Informalisation of Labour:** A structural phenomenon where the share of unorganized workers, or formal workers lacking social security and written employment contracts, remains disproportionately high. Even within the formal corporate sector, a growing reliance on third-party outsourcing and contractual arrangements has accelerated informalisation.
- **Risk-Based Inspection System:** A modernized regulatory mechanism that replaces random, discretionary factory inspections with data-driven web allocations. Establishments are categorized by objective risk profiles (based on safety hazards, history of violations, and industry type), concentrating enforcement resources on high-risk zones while reducing unnecessary compliance pressure on low-risk units.
- **Graded Certification System:** A proposed compliance model similar to international quality standards. Firms earn progressive tiers of compliance certification through verified third-party audits. High-performing enterprises receive lighter routine monitoring, creating a regulatory staircase that incentivizes self-compliance.

- **Main Arguments and Substantive Parts**

- **The Central Thesis**

- The current transition into the implementation phase of the four Labour Codes reveals that traditional debates between "job security" and "job creation" are often detached from reality. Because structural informality dominates the market, the primary challenge is not choosing which side benefits more, but establishing a practical, universally deliverable safety net across all tiers of employment.

- **Core Arguments and Structural Realities**

- **The Implementation Asymmetry:** While large corporations are adjusting their financial reporting to account for the new codes, universal rollout faces challenges due to state-level delays. Because labour is a Concurrent List subject, varied administrative readiness across states creates a fragmented regulatory landscape.

- **The Fiction of the Binary Debate:** The historical gridlock between industry demanding "flexible hiring" and unions demanding "absolute job security" overlooks the broader reality of the workforce. With over 87% of the workforce operating in the informal domain, and more than half of regular wage earners lacking social security or written contracts, traditional protections apply only to a small minority.

- **The Shift in Legal Interpretation:** Over the last few decades, the approach to contract labour has shifted significantly. The judiciary in the 1960s and 1970s actively scrutinized intermediary hiring to protect workers. In the post-liberalization era, it adopted a more restrained stance, ruling that abolishing contract labor did not automatically guarantee absorption by the principal employer. This shift made outsourcing the standard operating model across both private and public sectors.

- **The Enforcement Capacity Gap:** The core issue with Indian labour regulations is not that they are too protective or too regressive, but that enforcement is deeply uneven. A striking shortage of inspection personnel—exemplified by fields where a single government inspector is responsible for tens of thousands of workers—means that comprehensive oversight is structurally impossible.

- **The Proposal for Minimalism with Saturation:** Given these enforcement constraints, a practical path forward involves focusing on a core, universal baseline of five essential rights: enforceable minimum wages, safe working environments, regulated working hours with overtime pay, maternity protections, and insurance-based social security for all workers, including those in the gig economy.

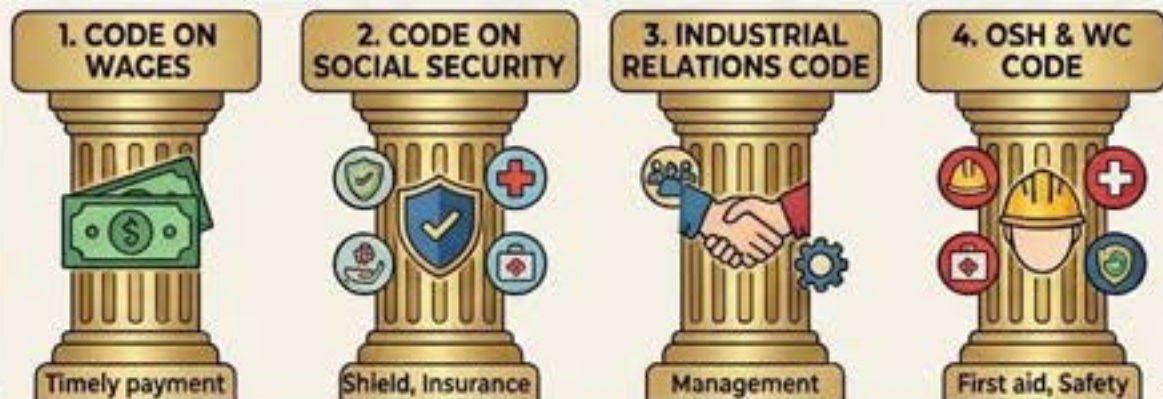
- **Historical Evolution of the Issue**
- The trajectory of Indian labour regulation reflects the shifting balance between social welfare priorities and changing macroeconomic strategies across different eras.
- **Pre-Independence to Early Post-Independence (1940s–1950s)**
- **Colonial Legacies:** Early regulatory frameworks, such as the Trade Unions Act (1926) and the Industrial Disputes Act (1947), were created to manage labor unrest and secure industrial peace for colonial production.
- **The Nehruvian Socialist Paradigm:** Following independence, the state prioritized state-led industrialization. Statutes like the Factories Act (1948) and the Minimum Wages Act (1948) treated workers as key partners in nation-building, introducing strict protections to shield them from exploitation.
- **The Era of Judicial Activism and Protective Expansion (1960s–1970s)**
- **Legislative Interventions:** The enactment of the Contract Labour (Regulation and Abolition) Act in 1970 sought to curb the exploitation of casual labor and phase out contract arrangements in perennial lines of work.
- **Pro-Worker Jurisprudence:** The higher judiciary frequently intervened to look past intermediary arrangements, holding principal employers accountable for the welfare, health, and fair treatment of their workforce.
- **The Post-Liberalization Realignment (1990s–2010s)**
- **Economic Integration and Competitiveness:** The 1991 reforms required greater industrial flexibility to attract global investment and boost manufacturing competitiveness, exposing friction between rigid statutory laws and market dynamics.
- **Judicial Restraint and Out-Sourcing:** Landmark judgments shifted away from automatic absorption for contract workers, providing legal room for extensive corporate outsourcing. This era saw a sharp rise in the informal workforce within formal enterprises.
- **Administrative Workarounds:** Facing legislative gridlock at the national level, successive governments relied on under-enforcement and administrative adjustments to create de facto market flexibility without formal statutory changes.
- **The Modern Consolidation and Digital Transformation Phase (2019–2026)**
- **Codification Enactment:** In 2019 and 2020, 44 central laws were consolidated into four distinct codes, aimed at improving the ease of doing business while expanding social security to new sectors.
- **The Rise of Algorithmic Labour:** The rapid growth of platform capitalism and the gig economy introduced new, complex employment relationships driven by algorithms, presenting a challenge to traditional, binary definitions of employer and employee.
- **Final Implementation:** Following the central notification of final rules, the reform process shifted to the states, focusing on building the administrative infrastructure needed to regulate a diverse and evolving workforce.



COMPREHENSIVE ANALYSIS: INDIA'S LABOUR LAW REFORMS

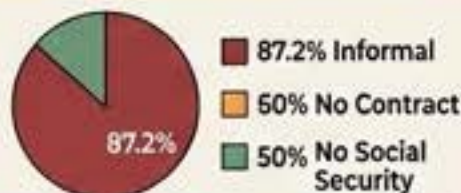
A DEEP DIVE FOR UPSC ASPIRANTS

THE FOUR CODES: FOUNDATIONAL PILLARS



KEY REFORMS & CONCEPTS

(a) INFORMALIZATION REALITY



(b) NEW EMPLOYMENT FORMS



(c) SHIFT IN JURISPRUDENCE

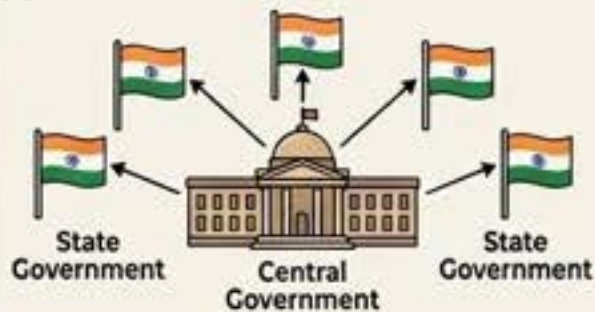


CONCEPT IN DEFINITION



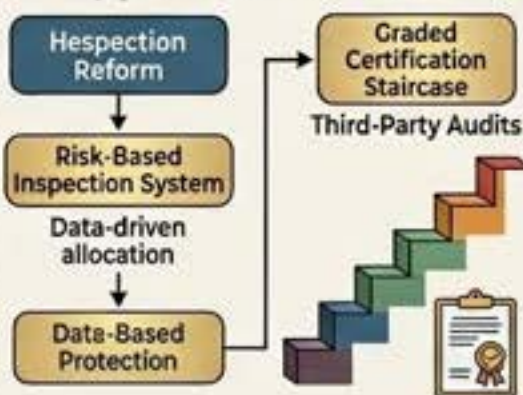
REGULATORY MODERNIZATION

(a) CONCURRENT LIST: SHARED JURISDICTION



Rule-making is shared for items in the Concurrent List. Central government provides overarching framework. States frame specific, context-driven rules.

(b) INSPECTION REFORM



UPSC

WAY FORWARD: ACTIONABLE STRATEGY

1. FEDERAL COORDINATION



FEDERAL COORDINATION

2. ACTIONS-REFORM



TECH-DRIVEN INSPECTIONS

3. THE FIVE UNIVERSAL GUARANTEES



4. LABOUR ETHICS IN EDUCATION

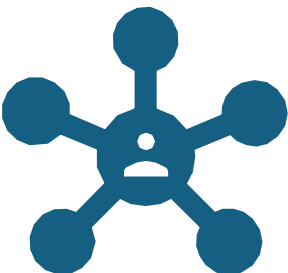


CITIZENSHIP
LABOUR ETHICS IN EDUCATION



- **Logical and Philosophical Base**
- **Social Justice vs. Pure Market Efficiency:** The fundamental conflict lies between two distinct philosophies. One views labour through an economic lens, seeing it as a factor of production that requires flexibility to maximize efficiency and job creation. The other, grounded in the Directive Principles of State Policy (Articles 38, 39, 42, and 43), views labour rights as essential to human dignity and social justice, requiring state protection against unequal bargaining power.
- **Challenging the Formalist Illusion:** The prevailing policy discourse has often assumed that passing protective laws automatically secures worker welfare. In reality, overly complex regulations can lead to regulatory evasion, pushing the vast majority of workers into an unprotected informal market.
- **The Ethics of Realizable Promises:** The strategic shift toward a minimalist baseline is rooted in an ethical commitment to practical delivery. By limiting statutory promises to five core, universal guarantees, the state moves away from unenforced rules toward a model where every promised right can be consistently monitored and delivered.
- **Decoupling Welfare from Traditional Employment:** The integration of gig, platform, and contract workers into social security frameworks reflects a new conceptual model: social protections should be tied to the individual's status as a working citizen rather than a traditional full-time employment contract.

- **Multidimensional Analysis**
- **Social Dimension**
 - **Precarity and Vulnerability:** The lack of written contracts and formal social security leaves a large segment of the workforce vulnerable to economic shocks, sudden health crises, and income instability.
 - **Gender Disparities:** Women are disproportionately represented in informal and unpaid work. Without effective, universal enforcement of maternity benefits and workplace safety standards, expanding female labor force participation remains difficult.
 - **Class Divides:** The stark difference between a secure group of formal employees and a large pool of precarious contract workers creates new social divisions within the modern workplace.
- **Political Dimension**
 - **Federal Dynamics and Coordination:** Because labour is a Concurrent List subject, state governments must balance national reform goals against regional political priorities, often leading to uneven administrative implementation.
 - **Interest Group Pressures:** The legislative process requires balancing competing demands, navigating the concerns of traditional trade unions protecting hard-won rights, and industrial associations calling for lower compliance costs.
- **Legal Dimension**
 - **Codification vs. Fragmentation:** While the consolidation into four codes simplifies the legal framework, ambiguous definitions regarding new work arrangements could lead to regular compliance disputes.
 - **The Evolution of Judicial Stance:** The judiciary's transition from active intervention to a more restrained, market-oriented approach underscores the challenge of balancing constitutional welfare goals with modern economic needs.
- **Ethical Dimension**
 - **Human Dignity and Fair Pay:** Ensuring safe working conditions and a living wage is a fundamental requirement for a just society, grounded in the right to life with dignity under Article 21.
 - **Algorithmic Management:** The use of automated management and optimization tools in platform work raises important ethical questions regarding worker autonomy, data privacy, and accountability in performance evaluations.
- **International Dimension**
 - **Global Value Chain Alignment:** Modern international trade agreements increasingly tie market access to verifiable labor standards. Demonstrating a reliable domestic enforcement system helps position India as a sustainable manufacturing destination.
 - **ILO Compliance:** Aligning national policies with International Labour Organization conventions, particularly on labor inspection and social security, reinforces India's standing in international labor governance.
- **Economic Dimension**
 - **Reducing Transaction Costs:** Streamlining compliance structures helps lower administrative burdens for enterprises, supporting entrepreneurship and improving formal ease of doing business.
 - **Addressing Scale Obstacles:** Complex, punitive regulations have historically discouraged small enterprises from growing, leading to a landscape dominated by a few large entities and many small, informal units. Modernizing these rules helps firms scale up and improve productivity.





- **Linkages with NCERTs**
- **Indian Economic Development (Class XI) — Chapter 7: Employment: Growth, Informalisation and other issues:**
 - *Connection:* Provides the historical context and data for understanding the shift toward casual and informal labour in India. It unpacks why economic growth hasn't automatically translated into formal job security, mirroring the challenge of extending protections beyond large corporations.
- **Social Change and Development in India (Class XII) — Chapter 5: Industrial Society:**
 - *Connection:* Explores the social impact of industrialization, the evolution of contract labour, and how globalization has transformed workplace dynamics. It provides a sociological basis for analyzing the shifting relationships between principal employers, contractors, and workers.
- **Indian Constitution at Work (Class XI) — Chapter 2: Rights in the Indian Constitution:**
 - *Connection:* Examines the Directive Principles of State Policy (Part IV), focusing on provisions for just and humane conditions of work, living wages, and worker participation in management. This forms the constitutional basis for analyzing the state's welfare responsibilities.



- **Linkages with UPSC CSE Syllabus**
- **General Studies Paper II (Governance and Polity):**
 - *Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.*
 - *Statutory, regulatory, and various quasi-judicial bodies (assessing the capacity and reform of the Factory Inspectorate).*
- **General Studies Paper III (Economic Development):**
 - *Indian Economy and issues relating to planning, mobilization of resources, growth, development, and employment.*
 - *Inclusive growth and issues arising from it (evaluating how social security is extended to the informal and gig workforces).*
- **General Studies Paper IV (Ethics and Integrity):**
 - *Corporate Governance (ethical management practices, supply chain accountability, and balancing profitability with worker welfare).*
- **Essay Paper:** Highly relevant for structural themes concerning equitable economic growth, the future of work in the era of AI and automation, and balancing social justice with economic aspirations.
- **Optional Linkages:** Central to Optional curricula in **Economics** (Labour Economics, Industrial Relations), **Sociology** (Work and Economic Life, Politics and Society), and **Public Administration** (Regulatory Governance, Policy Implementation).



- **Way Forward**

- Addressing the structural gaps in India's labour ecosystem requires a balanced, actionable strategy that blends constitutional welfare goals with practical administrative capabilities.

- **1. Strengthening Cooperative Federalism**

- **Rule Harmonization:** Establish a joint institutional mechanism, similar to the GST Council, to align central principles with state rules, reducing regulatory divergence across state borders.
- **Model Implementation Blueprints:** Provide states with clear framework templates for administrative architecture to help accelerate local rule-making and compliance transitions.
- **2. Upgrading Enforcement Capacity**
- **Deploying Tech-Driven Inspections:** Scale up centralized, algorithmic web-inspection platforms to ensure factory reviews are allocated transparently based on objective risk criteria, reducing arbitrary enforcement.
- **Adopting Graded Compliance Models:** Introduce a verified third-party audit system where compliant enterprises face fewer routine inspections. This allows state resources to focus on high-risk sectors and persistent violators.

- **4. Modernizing Welfare Portability**

- **Enhancing Digital Portability:** Expand platforms like the *e-Shram* portal into transactional networks where platform contributions, social security benefits, and insurance premiums can be tracked via a single, portable worker identity card, regardless of job changes or migration.

- **5. Integrating Labour Ethics into Professional Education**

- **Reforming Curricula:** Introduce modules on labour rights, worker dignity, and sustainable supply-chain management into engineering, business administration, and entrepreneurship programs, preparing future managers to look beyond short-term financial metrics.

Main Exam Questions

- GS Paper III (2021):** "Explain the difference between computing methodology of India's Gross Domestic Product (GDP) before 2015 and after 2015." (*Theme reference: Contextualizing formal macro-economic indicators vs informal job growth*).
- GS Paper III (2017):** "Industrial growth rate has lagged behind in the overall growth of Gross-Domestic-Product (GDP) in the post-reform period. Examine the reasons." (*Theme reference: Exploring structural rigidities, compliance bottlenecks, and the role of labour regulations in manufacturing*).
- GS Paper II (2022):** "The dynamic nature of the digital economy presents unique challenges to traditional regulatory models. In light of the rising gig economy, discuss the vulnerability of platform workers and evaluate the statutory interventions required to ensure comprehensive social security." (*Adapted Theme: Directly applicable to the codes' current implementation*).

Model Prelims Practice Questions

Q1. With reference to the legislative provisions under the newly consolidated Labour Codes in India, consider the following statements:

- 1.The jurisdiction to frame rules under the four Labour Codes rests exclusively with the Central Government to ensure uniform national compliance.
- 2.The concept of Fixed-Term Employment (FTE) has been statutorily recognized, providing workers with proportional benefits on par with regular employees.
- 3.The definition of employees under the Code on Social Security explicitly excludes gig and platform workers from any formal welfare coverage.

Which of the statements given above is/are correct? (a) 2 only

- (b) 1 and 2 only
- (c) 3 only
- (d) 1, 2, and 3

Reforms 3.0 — towards the Bharat rate of growth

For 45 years after Independence, India grew at an anaemic 3% — the infamous “Hindu rate of growth”. Triggered by a balance-of-payments crisis, India found the gurgitation to liberalise. Within a decade, GDP growth surged. The lesson: crisis breeds reform, and reform breeds exponential outcomes. Artificial Intelligence (AI) provides the same transformational leverage that liberalisation provided in 1996. The question is not whether India can afford to invest — it is whether India can afford not to. After 32 years of Prime Minister Narendra Modi’s leadership, India has reached another WhatsApp moment in reform — dare I say, to take it from a Hindu rate of growth to the Bharat rate of growth — 8% and beyond for the next decade.

The case for making tokens free

India has since proven that it can leapfrog entire generations of infrastructure. Aadhaar enrolled 1.38 billion people in a biometric identity system, the largest on earth. UPI now processes 250 billion annual transactions worth \$3.4 trillion, handling 50% of the world’s real-time digital payments. Reliance Jio, launched in 2016, added 100 million subscribers in just five months and made mobile data essentially free. How India can replicate its Aadhaar, data availability deluge and UPI miracles in the age of AI — by embracing open models, diversifying compute hardware, and making tokens as free as data.

India spends just about 0.65% of its GDP on research and development (R&D), well below China (2.4%), the United States (3.5%), South Korea (4.5%), and Israel (5.4%). The excuse of the socialist Congress governments of 1947-1990 was: “we can’t afford anything more”, which does not and should not apply now. The central question is this: Has the time come to make AI tokens free? If so, how do we do it? Can we begin by making tokens free for the country’s top 100 national R&D institutions and 5,000 schools, so that AI becomes a teammate for scientists and students alike?

India spends approximately \$49 billion each year subsidising calories, chemicals, and carbon. The question is whether it is now ready to subsidise cognition. The answer is that it already can — at a fraction of what it spends today. The entire AI token subsidy for the country’s top 100 universities and national R&D institutions, along with 5,000 high schools, would cost about \$2 billion annually — roughly 0.06% of GDP. The AI investment is around one-fourteenth of India’s food subsidy, one-tenth of its fertilizer subsidy, and less than the amount paid to compensate oil marketing companies for LPG under-recoveries in a single quarter. This is not a moonshot budget. It is a rounding error in India’s existing welfare expenditure — but one with the potential to generate transformative, compounding returns.

India does not need more money; it needs new priorities, new frameworks, and some reallocation. First, AI tokens can be funded



Srivatsa Krishna

IAS officer

without cutting a single rupee from existing beneficiaries by merely freeing subsidy growth for a year. (The fertilizer subsidy alone has been compounding at 10% CAGR over the past decade.) Second, India should forge a public-private partnership with hyperscalers such as AWS, Google, and Microsoft, exchanging data centre land, power subsidies, and data sovereignty assurances for free inference capacity. India’s 1.4-billion-user market gives it negotiating leverage that few countries can match, though such techno-commercial negotiations, shaped by geopolitics and uncertainty, will require considerable skill. Third, if necessary, paid enterprise tiers can cross-subsidise free access for schools and research institutions.

Free data worked and free tokens will too. The government did not directly subsidise Jio. Instead, it created the right regulatory environment through spectrum auctions, net neutrality, infrastructure sharing, and a controversial long pilot.

The result: data prices fell from about \$3 per GB to \$0.10 in under three years. The same playbook can apply to AI tokens. Create the right conditions, and the market will deliver abundance. India’s role is not to write the cheque, but to make it unnecessary.

Hosting models

India must build the competence to host and operate large language models, not merely consume them through APIs from San Francisco or Beijing. With Sarvam, it has already shown that frontier models can be trained on Indian soil. The next step is to host models such as Qwen, DeepSeek, Kimi, Llama, and Sarvam on sovereign infrastructure, even if some open-source models originate from China. The models may be free, but the intelligence to host them at scale is not. AI infrastructure should be treated as a strategic national capability, much like what the government has already done for space and nuclear programmes. India should pursue a hybrid strategy that combines sovereign and open-source models to avoid dependence on any single ecosystem. Open source models offer four key advantages: sovereignty by reducing reliance on foreign APIs that can be restricted overnight; lower costs by eliminating per-token licensing fees, thereby enabling free education and research uses; customisation for Indic languages and cultural contexts; and transparency through auditable model weights for government and defence applications.

Hosting LLMs at national scale is not “just deploy a container”. India must develop deep expertise in availability (multi-region redundancy, 99.99% uptime SLAs for critical government services; latency <200ms token latency across Tier 2/3 cities); efficiency (like batch scheduling to maximise tokens-per-watt); security (data residency compliance, prompt injection defence, audit trails).

India cannot afford to be locked into a

single-vendor monopoly for its AI compute future. NVIDIA’s dominance comes at extraordinary cost — both financial and strategic. NVIDIA controls 80%+ of AI training hardware but creates deep vendor lock-in that extends far beyond hardware. For India to build sovereign AI infrastructure for 1.4 billion people, the math simply does not work at NVIDIA pricing.

India spent relatively little to build UPI; it cannot afford to spend \$50 billion on NVIDIA GPUs. The alternative hardware ecosystem is not just more economical — it is strategically essential. India should adopt a 40:30:30 hardware mix rather than rely on a single vendor. Around 40% should be built on AWS Trainium and AMD for cost-effective inference workloads available in India. Another 30% should use Google TPUs for research, model training, and academic partnerships. The remaining 30% should rely on NVIDIA for specialised training, legacy compatibility, and a domestic silicon hedge.

AI token policy, implementation timeline

India should announce a National AI Token Policy and implement it over the next 24 months. It should begin by signing public-private partnership agreements with AWS, Google, and Microsoft to establish a multi-vendor sovereign compute framework. The first pilot should provide unlimited research tokens to the top 20 IITs and the IISc. As hyperscaler inference capacity comes online, India should open an API sandbox for 500 startups, expand access to 100 universities, and launch an AI literacy pilot across 500 high schools in 10 States. The programme should culminate in the publication of the country’s first sovereign Indic AI model benchmarks.

Thereafter India needs to scale the ecosystem through cross-subsidies as mentioned above and deploy fine-tuned models into health care, agriculture, judiciary and education. It must follow this up with full deployment at 5,000 high schools and all 22 languages. With this India’s token consumption will enter the global top five. In two years, India-trained models will become competitive on international benchmarks and 10,000+ AI-native startups will bloom, rocketing GDP growth.

In sum, India’s AI leapfrog is a *sine qua non* for national transformation. India needs to replicate its DPI (digital public infrastructure) miracles in the age of AI by embracing open models, diversifying compute hardware, and making tokens as free as data. India has all the necessary conditions — favourable policies, stable macroeconomy, prodigious talent and technology institutions — to become a global leader in AI applications. The sufficient condition is India’s decisive, visionary leadership. It will take three moves. One decade. And a transformed (AI) nation.

The views expressed are personal

Reforms 3.0 should focus on building an AI nation, and India cannot afford to miss this opportunity

- **Key Terms and Explanations**

- **Hindu Rate of Growth:** A term coined by economist Raj Krishna to describe the low, stagnant growth rate of the Indian economy—averaging around 3.5% annually—from the 1950s to the 1980s. It was characterized by a closed, highly regulated command economy (often called the "License Raj") that stifled private enterprise.
- **Bharat Rate of Growth:** A contemporary concept representing an aspirational and accelerating economic trajectory where India sustains a GDP growth rate of 8% or higher over consecutive decades. This shift is driven by digital transformation, structural reforms, and a transition from low-value manual labor to knowledge-driven productivity.
- **AI Tokens:** The fundamental units of data processed by Large Language Models. A token can be a single character, a syllable, or a fraction of a word (roughly four characters in English). When an AI reads or writes text, it counts its workload in tokens; thus, "free tokens" translates directly to removing the financial friction of interacting with artificial intelligence.
- **Inference:** The operational phase where a trained AI model processes live input data to generate a real-time prediction or response. Unlike the resource-intensive "training" phase, inference is what users experience whenever they ask a chatbot a question or use an algorithm to diagnose a crop disease.
- **Large Language Models (LLMs):** Advanced deep learning algorithms trained on massive datasets to understand, generate, and manipulate human language and code. Examples include global frontier models like Llama or India's localized initiatives like Sarvam.
- **Digital Public Infrastructure (DPI):** A digital network framework built by the government or through public-private consensus that allows open access, interoperability, and population-scale utility. India's digital identity system and unified payments interface are classic global case studies of DPI.
- **Hyperscalers:** Massive cloud service providers—such as AWS, Google Cloud, and Microsoft Azure—that possess the massive data center infrastructure, networking capability, and energy resources required to host and run industrial-scale AI systems.
- **Sovereign Compute:** The domestic ownership, control, and physical localization of the hardware (servers, data centers, and advanced silicon chips) required to run critical digital workloads. It prevents foreign entities from weaponizing or cutting off technology access during geopolitical crises.
- **Cross-Subsidization:** A business or policy strategy where higher fees are charged to one segment of users (e.g., premium corporate clients) to subsidize or entirely fund free access for another segment (e.g., public schools and research labs).
- **Compute Hardware Ecosystems (GPU vs. TPU vs. Trainium):** Specialized silicon architectures designed to handle complex mathematical matrices. While NVIDIA specializes in Graphics Processing Units (GPUs) that currently dominate the market, alternative custom-built chips like Google's Tensor Processing Units (TPUs) and AWS's Trainium offer parallel paths for model optimization.

- **Main Arguments and Substantive Parts**

- The economic and technological landscape of India demands a shift from traditional infrastructure approaches to cognitive capability investments.

- **The Core Thesis: Subsidizing Cognition over Carbon and Calories**

- The foundational argument posits that artificial intelligence represents the same level of structural economic leverage for India in the 21st century that economic liberalization provided in 1991. The central premise is that India must transition from spending massive capital on legacy physical subsidies to proactively subsidizing *cognition*—the intelligence layer of the economy. By offering free AI tokens to the country's foundational educational and research institutions, India can democratize intelligence, sparking an exponential productivity boom across agriculture, healthcare, and governance.

- **The Fiscal Math of Token Abundance**

- A critical element of this strategy is proving that making AI tokens free for public good is financially viable rather than a fiscal strain.
- This allocation demonstrates that providing computational power to students and scientists is not a high-risk fiscal gamble, but a minor reallocation of welfare spending that yields compounding intellectual and economic returns.

- **The Strategy for Market-Driven Abundance**

- Rather than relying on direct fiscal payouts, the proposed path to free tokens mirrors the regulatory blueprint that enabled the mobile data revolution in the mid-2010s. The state's role is to cultivate a fertile regulatory ecosystem through spectrum-like data-center allocations, infrastructure sharing, and land or power concessions. By leveraging the scale of India's 1.4-billion-user market, the government can negotiate robust public-private partnerships with global hyperscalers—exchanging data sovereignty guarantees and logistical support for free, localized inference capacity.

- **The Sovereign Hosting Mandate**

- Consuming AI through application programming interfaces (APIs) controlled by foreign companies in San Francisco or Beijing exposes India to deep strategic vulnerability. If a geopolitical crisis occurs, these digital pipelines could be instantly restricted or severed. Therefore, India must build the institutional capacity to host, run, and fine-tune open-weights models (such as Llama or DeepSeek) alongside domestic models (like Sarvam) on physical infrastructure located entirely within its borders. National-scale hosting requires deep technical mastery over multi-region uptime, strict data residency compliance, low latency for Tier-2 and Tier-3 cities, and robust defenses against prompt injections.

- **Breaking the Compute Monopoly Through Pluralism**

- Building a digital public infrastructure for a nation of India's size is financially unviable at premium monopolistic prices. NVIDIA currently controls over 80% of the advanced AI training market, which introduces high costs and restrictive vendor lock-ins. To safeguard its technological future, India must intentionally diversify its hardware supply chain rather than relying on a single chipmaker.

- 
- **Historical Evolution of the Issue**
 - The trajectory of India's macroeconomic and technological development can be broken down into four distinct, structural eras.
 - **Phase 1: The Stagnant Era of State Control (1947–1991)**
 - Following independence, India adopted an import-substitution model characterized by a heavily regulated industrial licensing framework. Resource allocation was dictated by state planning, and research expenditure was kept minimal under the assumption that a developing economy could not afford luxury tech investments. This produced the sluggish "Hindu Rate of Growth" (~3.5%), leaving the country highly vulnerable to external economic shocks.
 - **Phase 2: The Fire-Fighting Breakthrough of Liberalization (1991–2000s)**
 - A severe balance-of-payments crisis in 1991 forced India to dismantle the License Raj, devalue the rupee, open sectors to foreign direct investment, and slash import tariffs. This crisis-driven reform unlocked the private sector, catalyzed the growth of the domestic software and Information Technology Enabled Services (ITES) industry, and elevated India's baseline GDP growth to the 6-7% range.
 - **Phase 3: The Digital Public Infrastructure Miracle (2010–2020s)**
 - Instead of copying Western models of private, fragmented tech platforms, India pioneered the concept of Digital Public Infrastructure.
 - **Identity Foundation:** The launch of a nationwide biometric identity system established a secure, digital verification layer for over a billion residents.
 - **Financial Integration:** The creation of the Unified Payments Interface (UPI) decoupled payments from private banking silos, turning real-time digital transactions into a free utility.
 - **Data Abundance:** In 2016, market disruptions reclassified mobile data from a luxury commodity to a low-cost utility, crashing prices from \$3/GB to under \$0.10/GB.
 - **Phase 4: The Strategic AI Inflection Point (Present–2026)**
 - India now stands at a turning point, moving from a consumer of global digital platforms to a sovereign creator of intelligent systems. This era marks the transition from the legacy growth models of the past to a tech-driven trajectory aiming for sustained growth of 8% or more. The core focus has shifted away from simply laying fiber-optic cables and toward building local data centers, securing open-source model weights, and ensuring computing autonomy.



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INDIA'S AI LEAPFROG: FROM HINDU RATE TO BHARAT RATE OF GROWTH

A STRATEGIC TRANSFORMATION GUIDE BY AXIA IAS ACADEMY

HISTORICAL & DIGITAL CONTEXT
(Pre-1991 to Present)



INDIA'S AI
"WHATSAPP MOMENT"
- LEVERAGE SIMILAR TO 1991

AIM:
BHARAT RATE OF GROWTH
(8%+ for the next decade)



PILLAR 1
EMBRACING OPEN MODELS & HOSTING COMPETENCE

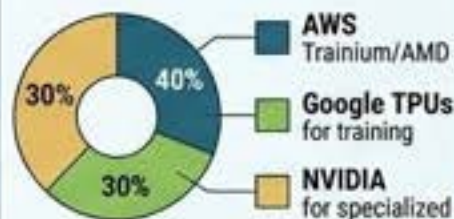


CAPABILITIES:

- Sovereignty
- Lower Cost
- Indic Customization
- Transparency/Auditability

Treat AI infra like Space/Nuclear Programs

PILLAR 2
DIVERSIFYING COMPUTE HARDWARE



Strategic Independence from Monopolies

MATH simply does not work at standard pricing.



MAKING TOKENS AS FREE AS DATA

SUBSIDIZING COGNITION
over Carbon & Calories



ROUNDING ERROR in existing welfare budget

Freeze subsidy growth, Cross-subsidize

24-MONTH IMPLEMENTATION TIMELINE & GOALS

AXIA IAS ACADEMY

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Phase 1:
PPP & Multi-Vendor Framework (AWS, Google, Microsoft)

Pilot:
IITs & IISc Research Tokens

Phase 2:
Expand to 500 Startups (API Sandbox), 100 Universities, 500 High Schools (10 states).

Phase 3:
Deploy Fine-Tuned Models (Health, Agri, Judiciary, Education) to all high schools (22 languages).

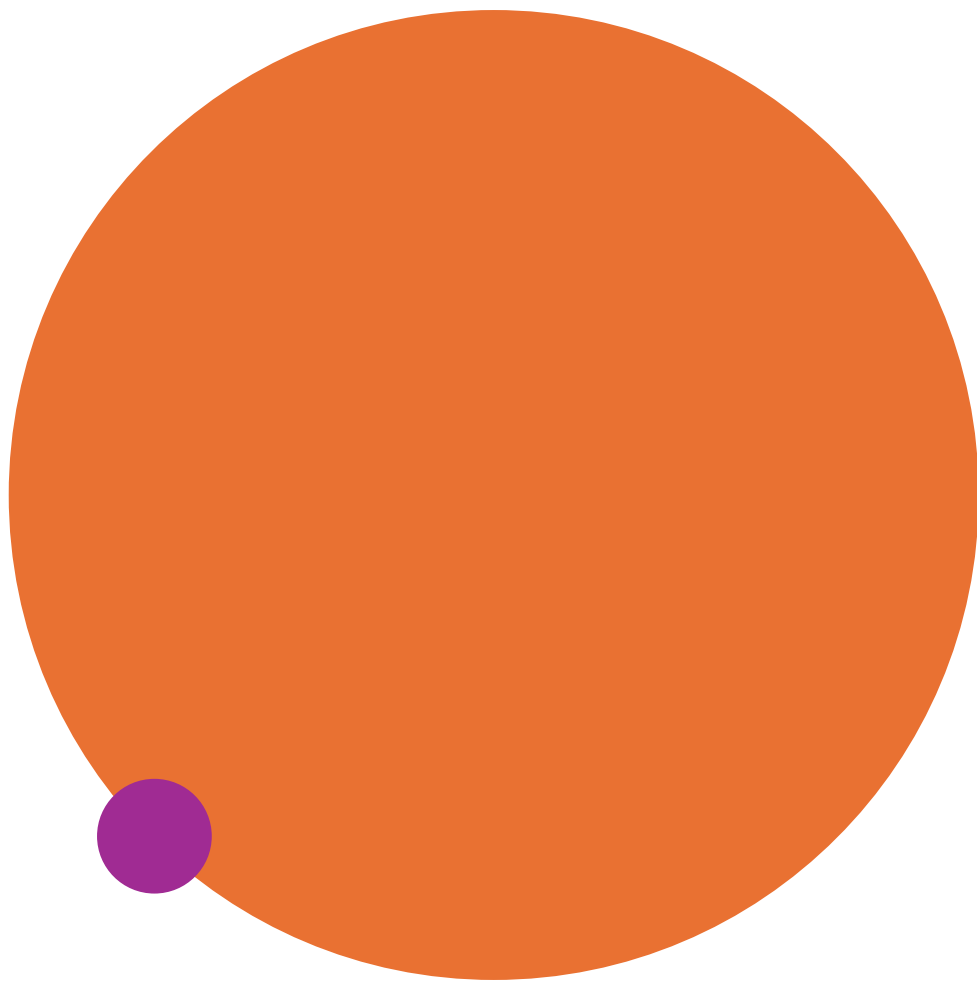
VISION:
Global Top 5 Token Consumption, 10,000+ AI-native Startups, Rocketing GDP Growth.

Key Lesson:
Crisis breeds reform, and reform breeds exponential outcomes.



- **Logical and Philosophical Base**
 - Understanding the structural shift toward free AI tokens requires analyzing the core governance principles, economic frameworks, and geopolitical models that underpin it.
 - **The Philosophy of Leapfrogging:** This approach rejects the idea that a developing nation must trace every industrial step previously taken by Western economies. Just as India skipped widespread landline telephone deployment to go directly to mobile networks, and bypassed credit card adoption to deploy instant mobile payments, it can now bypass high-cost proprietary software ecosystems to move directly to localized, open-weights AI infrastructure.
 - **Shifting the Welfare Paradigm:** This marks a transition from a purely consumption-based welfare model to a capability-based model. Traditional subsidies for calories, chemicals, and carbon act as safety nets that mitigate poverty but do not alter long-term structural productivity. Subsidizing cognition directly improves human capital, turning students and researchers into high-output economic contributors.
 - **Market Abundance via Public Provisioning:** This economic model demonstrates that the state does not need to act as a permanent financial source for technology. Instead, it should use its regulatory authority to eliminate market friction, lower entry barriers, and encourage private competition. By providing infrastructure support and regulatory clarity, the government can transform a scarce, expensive asset into a low-cost commodity.
 - **Strategic Autonomy in the Algorithmic Age:** This concept redefines traditional non-alignment for the digital era. True national sovereignty is no longer measured solely by physical borders or defense forces, but by computational independence. Relying on foreign cloud infrastructure creates a subtle form of digital dependence, making the maintenance of local data centers and open model access an essential national security priority.

- **Multidimensional Analysis**
- **Social Dimension**
 - Free AI tokens can democratize high-tier education and specialized healthcare across rural and urban landscapes. Integrating localized AI tools into the school system provides students with personalized, AI-driven tutoring adapted to their unique learning speeds.
 - Furthermore, fine-tuning open-weights models into India's 22 constitutionally recognized languages breaks down long-standing linguistic barriers, allowing non-English speaking citizens to access legal, financial, and medical insights. This prevents the digital divide from hardening into a permanent cognitive divide.
- **Political Dimension**
 - For public administration, localized AI systems offer a powerful mechanism to improve public service delivery and reduce bureaucratic delays. Automated intelligent workflows can streamline the processing of land records, optimize the distribution of direct benefit transfers, and clear backlogs in the judiciary by summarizing case files.
 - Politically, successfully shifting from a slow historic growth model to a highly productive digital economy serves as a powerful proof point for structural reform, demonstrating that the state can move from basic poverty management to active technological leadership.
- **Legal Dimension**
 - Deploying large-scale sovereign AI introduces complex legal questions around data privacy, intellectual property rights, and regulatory frameworks. Using open-weights models requires clear legal guidelines defining data residency—ensuring that the personal information of Indian citizens remains on physical servers located within national borders.
 - Furthermore, as AI applications assist with critical fields like medicine and the judiciary, the legal system must establish clear frameworks for algorithmic liability when automated outputs contain harmful hallucinations or errors.
- **Ethical Dimension**
 - The widespread use of open-source models trained on diverse datasets raises important ethical questions regarding representative bias and cultural alignment. Many foundational models originate in Western or Chinese labs, meaning they inherit embedded cultural values, historical frameworks, and socio-political assumptions that may not fit India's diverse social fabric.
 - Ethically, India must audit these open weights to prevent the amplification of caste, gender, or religious biases. Additionally, democratization increases the risk of dual-use harms, making the deployment of robust guardrails against deepfakes and algorithmic misinformation essential to maintaining public trust.
- **International Dimension**
 - In terms of global geopolitics, building a robust, independent compute ecosystem shields India from the strategic friction of the tech rivalry between the United States and China. By hosting open-source models domestically, the nation avoids a state of digital dependence where foreign platform policies can dictate local access.
 - Furthermore, by successfully deploying population-scale AI tools at a low cost, India positions itself as a natural leader for the Global South, offering a scalable blueprint for digital public goods that other developing nations can replicate without incurring high licensing fees.
- **Economic Dimension**
 - From an economic perspective, introducing free tokens acts as an infrastructure multiplier for the startup ecosystem. High computing costs often consume a significant share of early-stage funding for tech startups; removing this financial barrier allows thousands of localized, niche AI enterprises to emerge.
 - Fiscally, freezing the growth of volatile, recurring legacy subsidies to fund a high-return cognitive infrastructure can restructure the national balance sheet, driving long-term productivity and helping the country work toward a sustained growth rate of 8% or more.



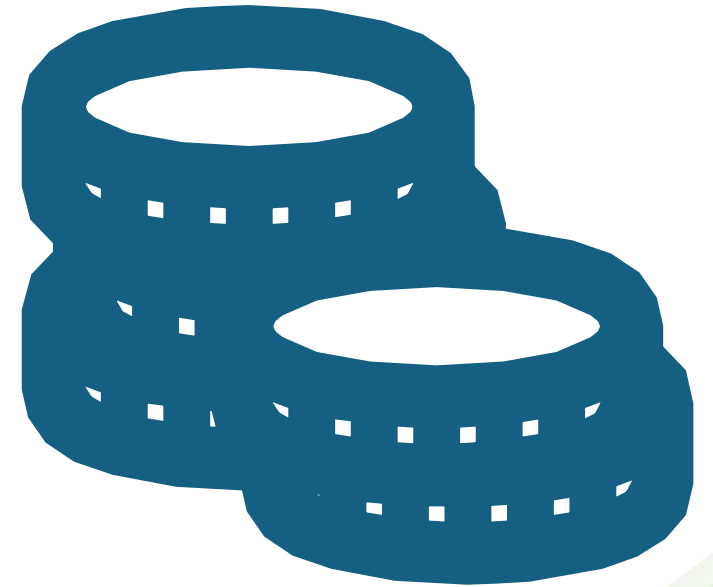
- **Linkages with NCERTs**
- **Class XI: Indian Economic Development**
- **Chapter 2: Indian Economy (1950–1990):** This chapter provides the foundational context for understanding the "Hindu Rate of Growth." It explains the structural limitations of the License Raj, import substitution, and heavy state controls that the current digital public goods model directly challenges.
- **Chapter 3: Liberalisation, Privatisation and Globalisation - An Appraisal:** Directly linked to the discussion of how crisis drives structural change. It shows how the 1991 Balance of Payments crisis forced open the economy, providing a direct parallel to how current technological challenges require a shift toward open compute frameworks.
- **Class XII: Contemporary World Politics**
- **Chapter on Globalisation:** This text details the economic, cultural, and political impacts of global integration. It offers a useful framework for analyzing how relying on foreign APIs can lead to digital dependence, and explains why building sovereign cloud systems is a necessary countermeasure.
- **Class XI & XII: Political Science (Democratic Politics & Indian Polity)**
- **Chapters on Welfare State & Governance:** These sections outline the changing role of the state from providing basic commodities to building foundational public infrastructure. It directly connects to the concept of shifting from physical subsidies (calories/carbon) to cognitive subsidies (intelligence).

- **Linkages with UPSC CSE Syllabus**
- **General Studies Paper III (GS-3)**
- **Science and Technology:** Developments and their applications and effects in everyday life; Achievements of Indians in science & technology; Indigenization of technology and developing new technology; Awareness in the fields of IT and Computers.
- **Indian Economy and issues relating to planning, mobilization of resources, growth, development, and employment:** The transition from legacy growth rates to high productivity paths; restructuring of the national subsidy regime.
- **Infrastructure:** Energy and digital data center architecture as core components of national security and economic growth.
- **General Studies Paper II (GS-2)**
- **Governance and E-Governance:** Applications, models, successes, limitations, and potential of digital public infrastructure in transforming citizen-centric service delivery.
- **International Relations:** Strategic autonomy, protecting digital borders against technological monopolies, and India's leadership role within the Global South.
- **General Studies Paper IV (GS-4)**
- **Ethics and Human Interface:** Consequences of AI deployment, auditing algorithmic biases, managing the risks of deepfakes, and ensuring equitable access to technology.
- **Essay & Optional Subjects**
- **Essay Themes:** Technological leaps as catalysts for social equity; balancing national welfare budgets between immediate physical needs and future-focused strategic investments.
- **Relevant Optionals:** Public Administration (modernizing state machinery through automation), Economics (the productivity impacts of technology-driven growth), and Political Science & International Relations (the geopolitical dynamics of technological sovereignty).



- **Way Forward**

- **Establish a National AI Token Policy Framework:** Formulate an official regulatory policy that explicitly recognizes computational processing capacity as a key digital public good, positioning it alongside foundational identity systems and real-time payment networks.
- **Implement a Pragmatic Fiscal Reallocation Strategy:** Gently cap the growth rate of legacy commodity subsidies by a small fraction, reallocating those funds to establish a dedicated \$2 billion national computing fund without reducing the base funding for existing welfare recipients.
- **Negotiate Multi-Vendor Infrastructure Partnerships:** Secure public-private partnerships with leading global cloud providers. The state can offer localized land packages, reliable power connections, and clear data residency rules in exchange for guaranteed, free computing capacity dedicated to public research and education.
- **Deploy a Phased Institutional Rollout:** Launch a focused pilot program providing unconstrained computing access to premier institutions like the IITs and IISc. Once stable, extend this network to 500 validated startups and 5,000 public high schools across diverse states.
- **Build Local Technical Hosting Expertise:** Invest heavily in specialized engineering skills within public agencies to effectively manage open-source model weights. Focus on achieving low latency in tier-2 and tier-3 locations, establishing multi-region backup systems, and enforcing strict data compliance.



UPSC CSE Prelims Questions

1. With reference to India's decision to liberalize its economy in 1991, consider the following statements: (1)

Devaluation of the rupee was undertaken. (2) Import duties were drastically reduced. (3) Structural adjustment facility from the IMF was utilized. Which of the statements given above is/are correct?

2. Which of the following best describes the term 'Digital Public Infrastructure (DPI)' frequently seen in the news? (a) A private-sector-led telecommunication network for financial corporations. (b) Open, interoperable digital networks built for population-scale public utility. (c) State-owned satellite communication frameworks for remote defense tracking. (d) Cyber-security firewalls designed to protect central banking databases.

3. In India, the term "Hindu Rate of Growth" is associated with which of the following macroeconomic variables? (a) Population Growth Rate. (b) National Income / GDP Growth Rate. (c) Agricultural Productivity Index. (d) Savings and Capital Formation Rate.

UPSC CSE Mains Questions

• **GS Paper 3 (2023):** "Introduce the concept of Artificial Intelligence (AI). How is AI expected to help clinical diagnosis? Do you perceive any emergent ethical constraints in the use of AI in healthcare?"

• **GS Paper 3 (2022):** "What are the main bottlenecks in upstream and downstream process management of marketing of agricultural products in India? Can digital technologies like AI provide a breakthrough?"

• **GS Paper 3 (2020):** "COVID-19 pandemic has accelerated the transition towards a digital economy. Discuss how India's Digital Public Infrastructure (DPI) has helped in executing welfare delivery during the crisis."

• **GS Paper 3 (2019):** "What do you understand by the term 'Sovereignty of Data'? How critical is it for India to build domestic data centers in the wake of expanding cloud computing architectures?"

• **GS Paper 3 (2017):** "How did the economic reforms of 1991 alter the growth trajectory of the Indian economy? Assess the role of the IT-BPM sector as an engine of this structural change."



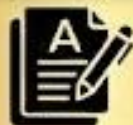
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