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GS Paper II: Polity

1. Diversity in Judiciary and Regional Benches of the Supreme Court

a. Introduction

An independent judiciary is the backbone of India's constitutional democracy. It protects Fundamental Rights, interprets the Constitution, and ensures that the executive and legislature act within constitutional limits. However, debates have intensified over three major concerns:

- Limited social diversity in judicial appointments
- Lack of transparency in the collegium system
- Restricted physical access to the Supreme Court, which functions only from Delhi

A recent Private Member's Bill proposing constitutional amendments to promote diversity and establish regional benches has revived this debate. At its core, the issue concerns three constitutional values: independence, representation, and access to justice.

To understand the debate, it is essential to examine the constitutional framework governing judicial appointments.

b. Constitutional Framework for Judicial Appointments

The Constitution lays down the formal structure of appointments.

i. Supreme Court Appointments (Article 124)

- Judges are appointed by the President.
- Appointment requires consultation with the Chief Justice of India (CJI) and other judges as deemed necessary.

ii. High Court Appointments (Article 217)

Consultation Requirement

- Chief Justice of India
- Governor of the concerned State
- Chief Justice of the concerned High Court

iii. Location of the Supreme Court (Article 130)

- Supreme Court shall sit in Delhi.
- It may sit elsewhere if the CJI, with Presidential approval, decides so.

Although the Constitution speaks of "consultation," judicial interpretation has transformed how this system functions in practice.

c. Evolution of the Collegium System

The collegium system was not mentioned in the Constitution. It evolved through judicial decisions.

i. Executive Primacy (1950–1981)

- The executive played a dominant role in appointments.
- Consultation with judiciary was required but not binding.

ii. First Judges Case (1981)

- Supreme Court upheld executive primacy.

- Government was not bound by the CJI's opinion.

iii. Second Judges Case (1993)

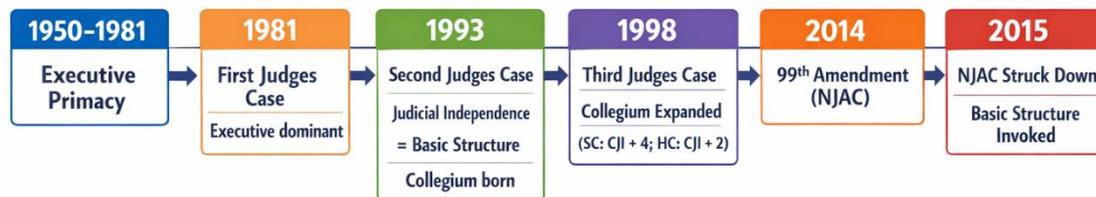
- Reversed earlier view.
- Judicial independence declared part of the Basic Structure.
- Judiciary given primacy in appointments.
- Birth of the collegium system.

iv. Third Judges Case (1998)

- Clarified collegium composition.
- For Supreme Court: CJI + four senior-most judges.
- For High Courts: CJI + two senior-most judges.

The primary objective was to insulate judicial appointments from political interference and protect independence.

Evolution from Executive Primacy to Collegium System



d. Rationale Behind Judicial Primacy

Judicial independence is part of the Basic Structure Doctrine, meaning it cannot be altered even by constitutional amendment.

The Court reasoned that:

- Executive control over appointments could threaten impartiality.
- Judges must be free from political pressure.

Thus, the collegium became a constitutional safeguard for the rule of law.

However, this insulation also led to concerns about accountability and diversity.

e. National Judicial Appointments Commission (NJAC) and Its Invalidation

i. 99th Constitutional Amendment (2014)

Created the NJAC comprising:

- Chief Justice of India
- Two senior Supreme Court judges
- Union Law Minister
- Two eminent persons

ii. Supreme Court Judgment (2015)

- Struck down the amendment.
- Held that executive presence threatened independence.
- Declared it violative of the Basic Structure.

As a result, the collegium system continues today.

While independence was preserved, debates about reform remained unresolved.

f. Concerns Regarding the Collegium System

The collegium system, though protective of independence, faces criticism.

i. Lack of Transparency

- No detailed statutory framework.
- Selection criteria not clearly defined.
- Decisions largely taken in closed meetings.

ii. Weak Accountability

- Limited public disclosure of reasons.
- Perception of opacity.

iii. Concerns About Representation

- Low representation of SCs, STs, OBCs, women, and minorities in higher judiciary.
- Concentration within certain professional networks.

This gap between constitutional ideals of equality and actual composition of the judiciary has prompted calls for reform.

These concerns have influenced proposals in the recent Private Member's Bill.

g. Proposals in the Private Member Bill

The Bill proposes two major reforms.

i. Social Diversity in Appointments

Proportional Representation

- Representation for SCs, STs, OBCs, minorities, and women.
- Align appointments with social composition.

Time-Bound Government Notification

- Reduce delays in approving collegium recommendations.

ii. Regional Benches of the Supreme Court

Proposed Locations

- Kolkata
- Mumbai
- Chennai

Jurisdiction

- Delhi to remain principal seat for constitutional matters.
- Regional benches to handle non-constitutional cases.

These proposals aim to improve both representation and accessibility.

h. Importance of Diversity in the Judiciary

Diversity has substantive implications.

i. Democratic Legitimacy

- Citizens are more likely to trust institutions reflecting social diversity.
- Representation strengthens institutional credibility.

ii. Enriched Judicial Deliberation

- Diverse life experiences influence interpretation.
- Broader social perspectives strengthen constitutional reasoning.

iii. Ethical Justification

- Aligns with equality and inclusiveness.
- Reinforces social justice values.

However, diversity must be pursued carefully to avoid compromising merit or independence.

i. Regional Benches and Access to Justice

Currently, the Supreme Court functions only from Delhi.

i. Accessibility Concerns

- High travel and litigation costs for distant litigants.
- Financial and logistical burden.
- Large case pendency.

ii. Potential Benefits of Regional Benches

- Geographical accessibility.
- Reduced travel expenses.
- Possible faster disposal of cases.
- Symbolic strengthening of federalism.

The Law Commission and parliamentary committees have previously recommended examining this option.

However, uniformity in constitutional interpretation must be maintained.

j. The Delicate Balance: Independence versus Accountability

Reform must carefully balance:

- Judicial independence

- Transparency
- Representation
- Efficiency

i. Safeguarding Independence

- Avoid excessive executive interference.
- Preserve judiciary's constitutional autonomy.

ii. Enhancing Transparency

- Clear eligibility criteria.
- Structured evaluation procedures.
- Publication of selection reasons.

iii. Ensuring Uniformity

- Regional benches must not fragment constitutional interpretation.
- Supreme Court must remain final constitutional authority.

The objective is not radical restructuring but calibrated reform.

k. Way Forward

Reforms should be gradual and evidence-based.

i. Improving Collegium Functioning

- Institutionalise transparency norms.
- Broaden consultation processes.
- Encourage conscious diversity in appointments.

ii. Phased Introduction of Regional Benches

- Begin with limited jurisdiction.
- Periodically review outcomes.

iii. Preserve Core Constitutional Principles

- Independence remains non-negotiable.
- Representation and accessibility must be strengthened.

Balanced reform can enhance legitimacy without weakening constitutional safeguards.

Conclusion

The debate over diversity and regional benches is not merely administrative. It concerns the character of Indian constitutional democracy.

An independent judiciary is essential, but independence alone is not sufficient. A judiciary that is socially inclusive, transparent, and geographically accessible strengthens democratic legitimacy.

The real challenge is harmonising three constitutional values: independence, representation, and accessibility. If approached carefully, reform can ensure that the Supreme Court remains both a guardian of the Constitution and an institution that truly reflects and serves the people of India.

GS Paper II: Current Affairs

2. Great Nicobar Mega Infrastructure Project

a. Introduction

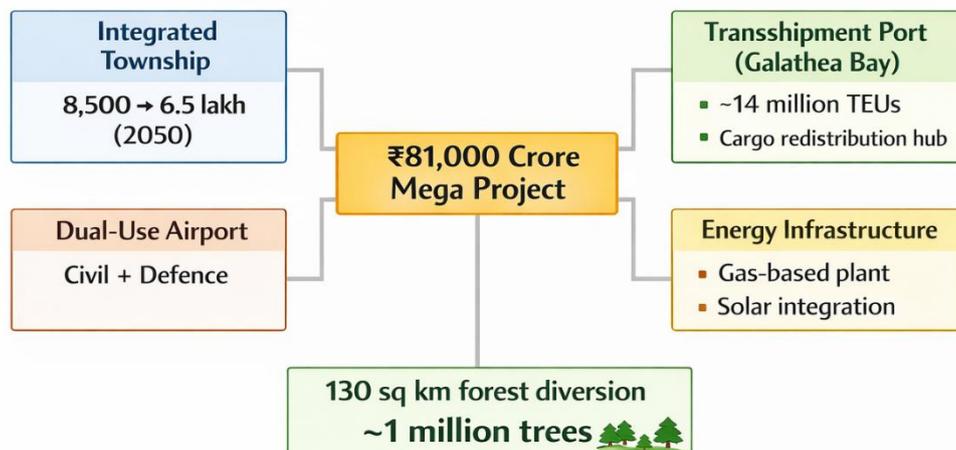
The Great Nicobar Mega Infrastructure Project, estimated at ₹81,000 crore, has been cleared by the National Green Tribunal on grounds of strategic necessity along with proposed environmental safeguards. The decision has reignited a fundamental governance debate: how should India balance national security and economic growth with ecological fragility and tribal rights?

Great Nicobar is not an ordinary geographical space. It is simultaneously:

- A strategic maritime outpost near a global chokepoint,
- A biodiversity hotspot, and
- A habitat of Particularly Vulnerable Tribal Groups (PVTGs).

Thus, any large-scale intervention here has implications that extend beyond infrastructure into ecology, ethics, and geopolitics.

Core Components of Great Nicobar Project



b. Geographical and Strategic Context

Great Nicobar Island covers approximately 910 sq. km and is India's southernmost territory. It houses Indira Point and lies close to the Malacca Strait, through which nearly one-third of global trade and a major portion of global oil shipments pass annually. In simple terms, it is located near one of the busiest "sea highways" in the world.

The island is part of the Great Nicobar Biosphere Reserve and lies within the Sundaland Biodiversity Hotspot — a region with exceptionally high species diversity and endemism. *Endemic species* are those found nowhere else in the world.

This dual identity — strategic outpost and ecological treasure — makes the island uniquely sensitive.

c. Core Features of the Project

The project is structured around four major components:

i. Integrated Township

- Proposed transformation of the current population (~8,500) into an urban centre projected to reach 6.5 lakh by 2050.
- Large-scale urban infrastructure including housing, roads, and civic amenities.

ii. Transshipment Port at Galathea Bay

- A transshipment port is one where cargo from large vessels is transferred to smaller ships for redistribution.
- Proposed capacity: ~14 million TEUs (twenty-foot equivalent units) annually.
- Aims to position Great Nicobar as a major maritime logistics hub.

iii. Dual-Use International Airport

- “Dual-use” means serving both civilian and defence purposes.
- Enhances both connectivity and strategic deployment capability.

iv. Energy Infrastructure

- Gas-based power plant.
- Solar power integration for partial renewable energy support.

The project involves diversion of around 130 sq. km of forest land and felling of nearly one million trees, along with limited land reclamation. This indicates that the intervention is transformative rather than incremental.

d. Strategic Significance

i. Geopolitical Importance

Indo-Pacific Positioning

- Proximity to the Malacca Strait strengthens India’s monitoring capability over maritime traffic.
- Enhances India’s strategic leverage in the Indo-Pacific amid rising competition.

Counterbalancing External Influence

- China’s expanding presence in the Indian Ocean makes forward infrastructure strategically valuable.
- Supports India’s doctrine of strategic autonomy.

Strengthening Andaman & Nicobar Command

- India’s only tri-services command — Army, Navy, Air Force.
- Improved infrastructure enhances surveillance, logistics, and rapid deployment.

Thus, the project converts geographical advantage into strategic depth.

ii. Maritime and Economic Gains

Reducing Dependence on Foreign Ports

- Currently, much of India’s cargo is transshipped through Colombo or Singapore.
- A domestic hub reduces logistical costs and vulnerability.

Supply Chain Integration

- Enhances India’s role in global value chains.
- Boosts export competitiveness.

In short, the project seeks to translate location into economic leverage. However, strategic logic must be weighed against ecological realities.

e. Ecological Concerns

i. Forest and Biodiversity Loss

Impact on Primary Forests

- Diversion of pristine tropical forests in a biodiversity hotspot.
- Includes littoral forests (coastal forests) and evergreen hill forests.

Primary forests are mature, undisturbed ecosystems that cannot be artificially recreated.

Threat to Endangered Species

- Leatherback sea turtle nesting sites at Galathea Bay.
- Nicobar megapode — endemic bird with unique nesting behaviour.
- Potential disruption of complex ecological networks.

Although compensatory afforestation and sanctuary declarations are proposed, biodiversity loss in original ecosystems cannot be fully replicated elsewhere.

ii. Fragility of Island Ecosystems

Limited Ecological Buffer

- Restricted freshwater resources.
- Limited land mass.
- High exposure to sea-level rise.

Climate Change Vulnerability

- Increased frequency of cyclones and extreme weather events.
- Risk of coastal erosion and coral reef degradation.

In simple terms, islands do not have the ecological resilience of mainland regions. Large-scale construction may permanently alter ecological balance.

Ecology, however, is only one dimension; human communities are equally central to the debate.

f. Impact on Indigenous Communities

i. Shompen Tribe (PVTG)

Vulnerability Profile

- Classified as a Particularly Vulnerable Tribal Group.
- Low literacy, small population, minimal external contact.
- Primarily hunter-gatherers.

Risks

- Exposure to diseases.
- Cultural erosion due to demographic influx.
- Reduction in tribal reserve areas.

ii. Nicobarese Community

- Previously displaced during the 2004 tsunami.
- Risk of demographic imbalance due to projected population rise to 6.5 lakh.

These concerns engage constitutional safeguards for Scheduled Tribes and legal protections under forest and tribal rights laws.

Thus, the issue is not merely environmental but deeply constitutional and ethical.

g. Legal and Governance Dimensions

i. Environmental Clearance

Role of National Green Tribunal

- Cleared project citing strategic importance.
- Emphasised environmental safeguards.

Questions on EIA

- Environmental Impact Assessment (EIA) evaluates ecological consequences before approval.
- Concerns raised about adequacy and comprehensiveness.

ii. Governance Principles

Precautionary Principle

- Avoid irreversible harm even if scientific certainty is incomplete.
- Key principle in environmental jurisprudence.

Public Consultation

- Meaningful participation ensures democratic legitimacy.
- Transparency enhances institutional credibility.

The governance dimension highlights the importance of process alongside outcome.

h. Comparative Perspective

i. Singapore

- Demonstrates port-led development with strong environmental management.
- However, operates in a fully urbanised setting.

ii. Maldives

- Illustrates vulnerability of island economies to climate change.
- Heavy ecological dependence.

iii. Indonesia (Nusantara)

- Capital relocation triggered ecological debates.
- Shows tension between development necessity and biodiversity loss.

These comparisons underline that India's challenge is not unique, but its ecological context is especially sensitive.

i. Way Forward

i. Strengthening Environmental Safeguards

Independent Monitoring

- Transparent biodiversity audits.
- Third-party ecological assessments.

Adaptive Management

- Modify project phases based on impact data.
- Avoid irreversible commitments at early stages.

ii. Phased Development Approach

- Gradual infrastructure expansion.
- Periodic ecological review.

iii. Protection of Tribal Rights

- Strict preservation of tribal reserves.
- Health safeguards and restricted contact protocols.
- Cultural preservation measures.

iv. Climate-Resilient Design

- Renewable energy integration.
- Coastal protection measures.
- Alignment with Sustainable Development Goals — SDGs 9, 14, 15, 16.

A balanced strategy requires integrating security, sustainability, and social justice rather than prioritising one at the cost of others.

Conclusion

The Great Nicobar Mega Infrastructure Project represents one of the most complex development dilemmas in contemporary India. It promises enhanced strategic reach in the Indo-Pacific and economic gains through port-led growth. Simultaneously, it risks disturbing a fragile ecosystem and endangering vulnerable tribal communities.

The core question is not whether development should occur, but how it should occur. If guided by ecological prudence, constitutional safeguards, and phased implementation, the project could become a model of responsible strategic development. If pursued without restraint, it may become a cautionary example of irreversible environmental loss.

In this sense, Great Nicobar is more than an infrastructure project. It is a test case for India's commitment to sustainable development in the twenty-first century.

GS Paper II: Current Affairs

3. Artificial Intelligence and Copyright Law: Restoring the Balance

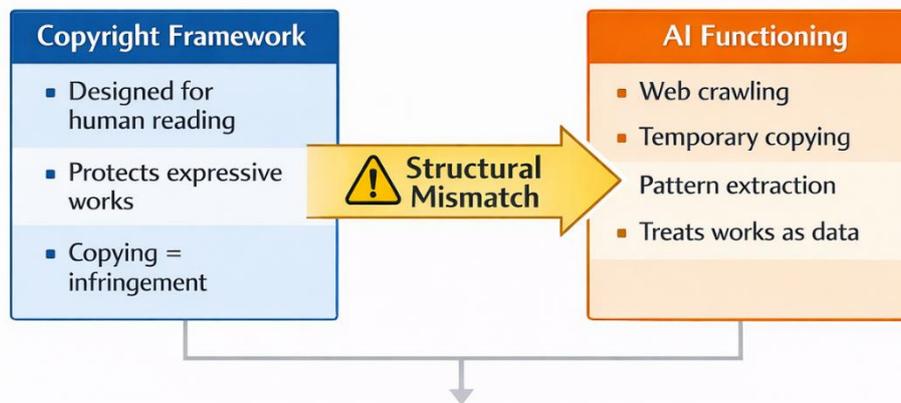
a. Introduction

Artificial Intelligence (AI), especially generative systems such as large language models, depends on enormous volumes of data for training. Much of this material is available online, yet it is protected under copyright law. This raises a central policy question: should copyright law restrict the use of such material for AI training, or should it evolve to encourage innovation while still protecting creators?

To answer this properly, one must return to the original purpose of copyright. Copyright was never meant to create permanent private monopolies. Its deeper objective was to promote creativity and ensure the dissemination of knowledge for the benefit of society.

Understanding this historical purpose helps clarify the current tension between AI and copyright.

Why AI and Copyright Clash



Law built for humans → Applied to machines

b. Evolution and Purpose of Copyright

i. Historical Foundations

Statute of Anne (1710)

- Considered the first modern copyright law in Britain.
- Granted authors a limited monopoly of 14 years, renewable once.
- Required registration and deposit of copies in libraries.
- Aim: encourage publication and circulation of knowledge.

Development in India

- Copyright law introduced in India in 1847 during colonial rule.
- Present framework governed by the Copyright Act, 1957.
- Protection lasts for the lifetime of the author plus 70 years.
- Registration is optional; protection is automatic.

This shows that copyright originally emerged as a limited incentive system rather than an absolute property right.

ii. Original Objectives of Copyright

Historically, copyright pursued three goals:

- **Encouraging Creativity:** Providing economic incentives to authors and artists.
- **Promoting Dissemination:** Ensuring works are published and accessible to the public.
- **Serving Public Interest:** Balancing private reward with societal benefit.

However, critics argue that over time, copyright duration and scope have expanded significantly. In some contexts, it operates more as a prolonged monopoly than a limited incentive. This expansion has intensified tensions with new technologies like AI.

This historical background sets the stage for understanding why AI and copyright appear to be in conflict.

c. Why Artificial Intelligence and Copyright Conflict

AI systems function differently from human readers.

i. How AI Uses Content

Technical Process

- Web crawling — automated scanning of online content.
- Copying digital text temporarily.
- Analysing patterns across large datasets.

AI systems do not read for enjoyment or meaning. They identify statistical relationships between words and patterns.

ii. Legal Tension

Copyright Perspective

- Copying, even temporary digital copying, may constitute infringement.
- Permission is required unless an exception applies.

Structural Mismatch

- Copyright law was designed for human consumption of expressive works.
- AI treats works as data inputs rather than creative expressions.

Thus, the conflict arises not because AI intends to exploit creativity, but because the legal framework was not designed with machine analysis in mind.

This structural mismatch has prompted countries to rethink their copyright frameworks.

d. International Approaches

Different jurisdictions have responded in varied ways.

i. European Union

Text and Data Mining (TDM) Exception

- Text and Data Mining refers to automated analysis of large volumes of text or data to extract patterns.
- Allows certain machine-based uses of copyrighted works.
- Rights holders can opt out in some cases.

ii. Japan

- Broad permission for machine-based data analysis.
- Focuses on use rather than copying as the primary concern.

iii. United States

Fair Use Doctrine

- Flexible legal standard.
- Courts assess whether use is “transformative” and socially beneficial.
- Case-by-case approach.

iv. Singapore and Others

- Adopt relatively innovation-friendly frameworks.
- Clarify that fair use or exceptions can extend to AI training.

v. India's Position

- Copyright Act, 1957 includes limited exceptions.
- 2012 amendments recognised transient or incidental storage.
- No clear, broad provision for Text and Data Mining.

This creates legal uncertainty for developers, investors, and researchers in India.

The global trend suggests that reform is possible while preserving creator rights.

e. The Marrakesh Treaty: A Model of Balance

The Marrakesh Treaty allows cross-border exchange of books in accessible formats for visually impaired persons.

Key Features

- Expands access to copyrighted works.
- Balances public interest with rights of creators.

Initially opposed by copyright industries, it later demonstrated that expanding access does not necessarily destroy creative incentives.

The lesson is clear: copyright law can evolve to balance private rights and public welfare. A similar approach could guide AI-related reforms.

f. Arguments for Reform

i. Innovation and Economic Growth

AI and the Fourth Industrial Revolution

- AI drives productivity and new industries.
- Legal clarity encourages research and investment.

India's Aspirations

- Aim to become a global technology hub.
- Regulatory uncertainty may deter innovation.

ii. Access to Knowledge

- AI enhances translation and accessibility.
- Supports education and multilingual interaction.
- Particularly relevant in a linguistically diverse country like India.

iii. Historical Precedent

Technologies such as:

- The printing press
- Photography
- The internet

were initially feared but ultimately expanded creative industries.

Thus, rigid interpretation of copyright may slow progress, whereas adaptive interpretation may support both creativity and innovation.

However, reform must address legitimate concerns raised by creators.

g. Concerns and Counterarguments

i. Impact on Creators

Economic Displacement

- Fear of reduced income.
- AI-generated outputs may compete with human works.

Ethical Concerns

- Scraping content without consent.
- Replication of artistic styles.

These concerns are valid and cannot be dismissed.

ii. Need for Safeguards

Balanced reforms may include:

- Transparency requirements about training data.
- Limits on direct commercial exploitation.
- Alternative compensation mechanisms.

The solution is unlikely to be an outright ban on AI training. Instead, a calibrated framework can protect both innovation and creators.

h. Ethical Dimensions

The AI-copyright debate reflects competing ethical principles.

- **Justice:** Fair recognition and reward for creators.
- **Equity:** Broad access to knowledge and technological tools.
- **Public Good:** Innovation that enhances societal welfare.
- **Proportionality:** Legal restrictions should not exceed what is necessary to protect legitimate interests.

The ethical challenge is to ensure that monopoly rights do not override social and technological progress.

i. Policy Options for India

India can consider a multi-pronged reform strategy.

i. Text and Data Mining Exception

- Provide explicit legal clarity for AI research and training.

ii. Flexible Fair Use Model

- Allow courts to assess transformative and socially beneficial uses.

iii. Safe Harbour Provisions

- Protect open-source developers from excessive liability.

iv. Publicly Funded Datasets

- Develop datasets in Indian languages.

- Reduce dependence on private copyrighted material.

v. Alternative Compensation Mechanisms

- Collective licensing models.
- Levies on commercial AI systems.

Such reforms would harmonise intellectual property protection with technological advancement.

j. Way Forward

Copyright law must be interpreted in light of its foundational objective: encouraging creativity for societal benefit.

A technology-neutral and adaptive framework is essential. The law should prevent unfair commercial exploitation while permitting machine-based analysis that generates new knowledge.

Alignment with global innovation standards, along with institutional safeguards, can ensure credibility and fairness.

Conclusion

The debate between Artificial Intelligence and copyright is not a binary choice between creators and technology. It is fundamentally about restoring balance.

If copyright becomes excessively rigid, it may obstruct innovation and restrict access to knowledge. If it becomes too weak, it may undermine the incentives that sustain creative industries.

India stands at a crucial juncture. By modernising copyright law carefully and thoughtfully, it can protect creators while fostering technological leadership. In doing so, it will reaffirm the original spirit of copyright — not as an instrument of perpetual control, but as a framework that enables both creativity and progress in an evolving digital age.

GS Paper III: Science and Technology

4. Artificial Intelligence for Social Good: A Human-Centred Approach

a. Introduction

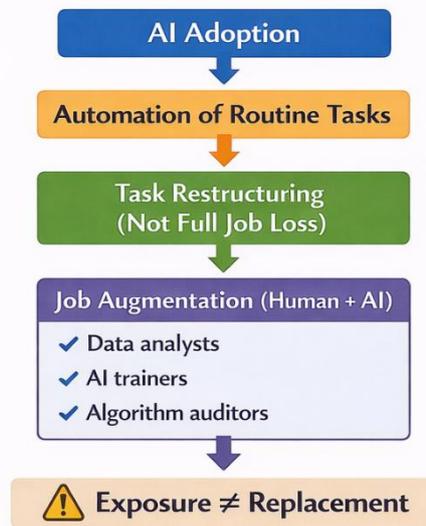
Artificial Intelligence (AI) has emerged as one of the most transformative technologies of the twenty-first century. It is reshaping production systems, altering labour markets, redefining governance mechanisms, and influencing everyday social interactions. From predictive healthcare tools to digital financial services, AI now operates across almost every domain of public and private life.

However, the central question is not whether AI will change institutions and employment structures—that transformation is already underway. The deeper question is ethical and normative: Can AI be directed toward social justice, decent work, and inclusive growth?

The answer lies in adopting a human-centred approach, where technology strengthens human capabilities rather than marginalising them. Such an approach places dignity, equity, and accountability at the core of technological development.

To understand how this can be achieved, we must first examine how AI is transforming the nature of work.

AI and the Changing Nature of Work



b. Artificial Intelligence and the Transformation of Work

i. The Nature of Employment Change

AI does not merely eliminate jobs; it restructures them.

- Routine and repetitive tasks are increasingly automated.
- Creative, analytical, and decision-oriented roles are augmented by AI systems.
- New occupations—such as data analysts, AI trainers, and algorithm auditors—are emerging.

Global labour assessments indicate that nearly one-fourth of workers are employed in occupations exposed to generative AI systems. However, exposure does not imply replacement. In most cases, specific tasks within jobs are modified rather than fully eliminated. The transformation is therefore structural, not purely substitutional.

While this global shift is significant, its implications vary across national contexts, particularly in a country like India.

ii. The Indian Context

Opportunities in a Young Digital Economy

India possesses one of the largest young workforces in the world and a rapidly expanding digital ecosystem.

- The IT and digital services sector contributes substantially to employment and exports.
- AI applications are expanding in healthcare diagnostics, agricultural advisory services, fintech, and governance platforms.
- A vibrant start-up ecosystem is increasingly AI-driven.

Structural Vulnerabilities

- A large proportion of India's workforce remains informal.
- Skill gaps persist, especially in rural and semi-urban regions.

- Limited access to quality digital education may restrict adaptability.

Without systematic reskilling and institutional support, technological transitions may intensify vulnerabilities. Thus, the challenge is twofold: harness AI for economic growth while ensuring that workers are equipped to adapt.

Beyond employment, AI also holds significant potential in strengthening welfare systems and social protection.

c. Artificial Intelligence for Social Protection and Inclusion

Administrative Efficiency and Targeting

AI can improve welfare governance if deployed responsibly.

- Digital labour platforms can build comprehensive databases of informal and migrant workers.
- Machine learning systems can match workers with suitable employment opportunities.
- Predictive analytics can improve identification of beneficiaries for social protection schemes, reducing leakages.

Such applications can enhance transparency, streamline service delivery, and strengthen accountability—especially in countries with large informal sectors.

Conditions for Responsible Deployment

- High-quality and representative data sets.
- Strong privacy and data protection safeguards.
- Non-discriminatory algorithm design.

If these safeguards are weak, AI systems may unintentionally exclude vulnerable groups. This leads to broader concerns regarding unequal access.

d. Unequal Access and the Risk of Exclusion

Global Disparities

- High-income countries possess advanced digital infrastructure and research ecosystems.
- Low-income countries face infrastructural deficits and skill shortages.
- The result may be widening global technological inequality.

Internal Social Divides

- Gender gaps in digital literacy.
- Rural–urban disparities in internet connectivity.
- Differences between formal and informal workers.
- Generational divides in technological adaptability.

If left unaddressed, these divides may produce a digitally stratified society. Therefore, ethical governance must accompany technological expansion.

e. Ethical Foundations of Artificial Intelligence Governance

- **Dignity:** Work should remain meaningful and not reduced to algorithmic supervision.
- **Equity:** No community should be systematically disadvantaged by automated systems.
- **Accountability:** AI-driven decisions must be transparent and subject to review.
- **Participation:** Workers and affected communities must be included in technological policy discussions.
- **Justice:** Benefits generated by innovation must be fairly distributed.

When these principles guide policy, AI complements human intelligence rather than undermines it. Ethical values, however, must translate into practical policy action.

f. Policy Pathways for Inclusive Artificial Intelligence

i. Education and Reskilling

- Integrate digital literacy and AI awareness in school curricula.
- Promote lifelong learning and continuous skill upgradation.
- Strengthen vocational and technical education systems.

ii. Strengthened Social Protection

- Expand safety nets to cushion transitional disruptions.
- Use AI cautiously in identifying vulnerable groups.
- Ensure human oversight in final welfare decisions.

iii. Digital Infrastructure and Regulation

- Expand affordable broadband connectivity and reliable electricity.
- Establish strong data protection and privacy frameworks.
- Mandate bias detection and algorithmic transparency mechanisms.

Through such measures, AI can be aligned with broader developmental objectives.

g. Artificial Intelligence and Sustainable Development

- Climate modelling and disaster forecasting.
- Telemedicine and preventive healthcare outreach.
- Adaptive digital learning platforms.
- Improved efficiency in public service delivery.

AI can therefore accelerate progress across multiple Sustainable Development Goals (SDGs). However, these benefits are not automatic—they depend on deliberate governance choices.

h. Persistent Challenges

- Job displacement anxiety and potential social instability.
- Skill mismatches across sectors.
- Reinforcement of digital divides.
- Algorithmic bias reproducing discrimination.
- Data privacy breaches undermining trust in institutions.

These risks require anticipatory and proactive governance rather than reactive correction.

Conclusion

Artificial Intelligence is neither inherently beneficial nor inherently harmful. Its societal impact depends on the regulatory frameworks, ethical commitments, and political priorities that shape its deployment.

For India, the objective must be clear: technological progress should reinforce human dignity, expand meaningful employment, and promote inclusive social development. A human-centred approach ensures that AI strengthens democratic values and social justice rather than eroding them.

Ultimately, the future of work and welfare in the age of Artificial Intelligence will be determined not only by technological capability but by the moral and institutional choices societies are willing to make.

PrepAlpine

Reader's Note — About This Current Affairs Compilation

Dear Aspirant,

This document is part of the PrepAlpine Current Affairs Series — designed to bring clarity, structure, and precision to your daily UPSC learning.

While every effort has been made to balance depth with brevity, please keep the following in mind:

1. Orientation & Purpose

This compilation is curated primarily from the UPSC Mains perspective — with emphasis on conceptual clarity, analytical depth, and interlinkages across GS papers.

However, the PrepAlpine team is simultaneously developing a dedicated Prelims-focused Current Affairs Series, designed for:

- factual coverage
- data recall
- Prelims-style MCQs
- objective pattern analysis

This Prelims Edition will be released separately as a standalone publication.

2. Content Length

Some sections may feel shorter or longer depending on topic relevance and news density. To fit your personal preference, you may freely resize or summarize sections using any LLM tool (ChatGPT, Gemini, Claude, etc.) at your convenience.

3. Format Flexibility

The formatting combines:

- paragraphs
- lists
- tables
- visual cues

—all optimised for retention.

If you prefer a specific style (lists → paras, paras → tables, etc.), feel free to convert using any free LLM.

4. Monthly Current Affairs Release

The complete Monthly Current Affairs Module will be released soon, optimized to a compact 100–150 pages — comprehensive yet concise, exam-ready, and revision-efficient.

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