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Features :

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News Papers editorials

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Land pooling for infrastructure and roads

Source: The post “Land pooling for infrastructure and roads” has been created based on “Land pooling for infrastructure and roads” published in “Business Line” on 1st July 2026.

UPSC Syllabus: GS 3- Economy

Context: The government is planning to develop bypasses and ring roads around major cities to reduce traffic congestion and improve mobility. However, the availability of land and challenges in land acquisition remain significant obstacles, highlighting the need for innovative approaches such as land pooling to facilitate infrastructure development.

Challenges in the Existing Land Acquisition Process

1. Landowners lose their productive and income-generating asset when their land is acquired for infrastructure projects.
2. Compensation is often considered inadequate because it is based on guideline values rather than prevailing market prices.
3. Landowners feel disadvantaged because neighbouring lands appreciate significantly due to the new infrastructure, while they do not receive similar benefits.
4. Opposition from landowners frequently leads to protests, political interference, litigation, and delays in project implementation.
5. Demands for repeated changes in road alignments to protect private lands often result in inefficient planning and stalled projects.
6. Unplanned development along highways encourages linear urbanisation, traffic congestion, garbage accumulation, and inadequate civic amenities.

How Land Pooling Addresses These Challenges

1. Under land pooling, the government acquires a wider corridor for the highway and returns a portion of the developed land along the road margins to the original owners.
2. This approach makes landowners active partners in the development process rather than mere recipients of compensation.
3. The model is similar to land pooling schemes used for town planning and industrial development.
4. The land pooling model adopted for the Amaravati Township project demonstrates its potential for large-scale infrastructure development.

Advantages of Land Pooling

1. Landowners receive developed land with road access, and its value may become several times higher than the value of their original undeveloped land.
2. Every landowner shares both the losses and the gains equally, which reduces disputes and perceptions of unfairness.
3. The approach enables planned area-wide development with systematic provision of utilities, open spaces, and supporting infrastructure.
4. Highway alignments can be decided based on technical and planning considerations instead of vested interests.
5. The approach reduces litigation and delays, thereby facilitating faster execution of infrastructure projects.

6. Governments can recover a part of the land acquisition costs through betterment levies imposed on the beneficiaries.
7. Planned road grids improve access to more land parcels and help moderate land prices.
8. Fragmented government lands can be consolidated into larger and more productive parcels.
9. Landowners may voluntarily contribute land for infrastructure projects after recognising the long-term benefits of enhanced land values.

Challenges of Land Pooling

1. Landowners may be reluctant to participate because they may fear losing ownership or may not trust the implementation process.
2. The process requires coordination among multiple departments such as Revenue, Housing, Industries, and Urban Development, which can delay implementation.
3. Legal and administrative reforms are necessary to amend existing laws and rules before land pooling can be implemented effectively.
4. Delays in developing infrastructure or returning the developed land may reduce the confidence of landowners in the scheme.
5. Differences in land quality, location, and future market value may lead to disputes regarding equitable redistribution of developed land.
6. The success of land pooling depends on transparent planning and efficient execution, which may not be uniform across all States.

Way Forward

1. Governments should establish a transparent and time-bound framework for land pooling to build the confidence of landowners.
2. Landowners should be treated as partners in development by ensuring fair and equitable redistribution of developed land.
3. Strong coordination among Revenue, Housing, Industries, and infrastructure departments should be ensured for seamless implementation.
4. States should undertake the necessary legal and administrative reforms to facilitate land pooling.
5. Proper area-wide planning should be integrated with road projects to ensure systematic provision of utilities, open spaces, and civic infrastructure.
6. Successful land pooling models should be replicated across States to promote faster, inclusive, and sustainable infrastructure development.

Conclusion: Land pooling promotes inclusive infrastructure development by ensuring that landowners directly benefit from the increase in land value created by public investment. It can reduce conflicts, improve planning, and accelerate infrastructure creation while making landowners equal partners in the development process.

Question: Discuss the concept of land pooling for infrastructure and road development. How can it address the challenges of land acquisition while ensuring inclusive and planned development?

Source: [BusinessLine](#)

Passports, citizenship and the high cost of confusion

Source: The post “Passports, citizenship and the high cost of confusion” has been created based on “Passports, citizenship and the high cost of confusion” published in “Financial Express” on 1st July 2026.

UPSC Syllabus: GS 2 -Governance

Context: A seemingly technical clarification by the Ministry of External Affairs (MEA) has sparked a nationwide debate over citizenship, identity documents, and the legal status of millions of Indians. The controversy began after government officials stated that, although a passport is issued by the Government of India and identifies its holder as an Indian national, it is legally regarded as a travel document and does not constitute definitive proof of citizenship.

Issues Arising from Poor Government Communication

1. Governments often communicate policies using legal and technical language that is difficult for ordinary citizens to understand.
2. Citizens interact with the government through practical experiences rather than constitutional or legal interpretations.
3. Technical distinctions, such as those between passports and citizenship, may be legally valid but can create widespread public confusion.
4. Social media, television debates, and messaging platforms amplify confusion and misinformation at a very rapid pace.
5. Delayed clarifications allow false narratives and misinformation to spread before the official explanation reaches the public.
6. Repeated clarifications shift public attention from the policy itself to confusion over government communication.
7. Persistent ambiguity can gradually erode institutional trust and affect the country's global reputation.

Measures to Improve Government Communication

1. Governments should test major policy announcements to ensure that they are easily understood by ordinary citizens.
2. Legal precision should be balanced with clarity so that public communication remains both accurate and accessible.
3. Legal experts and communication professionals should work together while framing important public announcements.
4. Ministries should issue timely clarifications to prevent misinformation from spreading.
5. Governments should explain policies from the perspective of citizens' everyday experiences rather than using only legal terminology.
6. Public communication should prioritise transparency, simplicity, and consistency to strengthen institutional trust.

Conclusion: Clear, timely, and citizen-centric communication is an essential pillar of good governance. By combining legal accuracy with simplicity and transparency, governments can strengthen public trust, reduce misinformation, and protect both domestic credibility and international reputation.

Question: Effective public communication is essential for maintaining institutional trust in governance. Discuss in the context of the recent debate on passports and citizenship.

Source: [Financial Express](#)

Reimagining Sovereign AI for India's Strategic Future

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

Artificial Intelligence (AI) is becoming a major driver of economic growth, technological leadership and national security. Countries are increasingly treating AI as a strategic national asset and reshaping policies to secure technological advantage. As a major IT services economy without its own frontier AI models, India must balance the benefits of global AI integration with the need to reduce long-term technological dependence. A sovereign AI strategy is therefore essential for sustained growth and strategic resilience.

Changing Global AI Landscape and the Rise of AI Geopolitics

1. **AI as a Strategic National Asset:** AI is no longer viewed only as a commercial technology. Governments are increasingly using AI policies to secure economic and national advantages.
2. **United States' Sovereign AI Measures:** The United States restricted foreign access to Anthropic's advanced AI models on national security grounds. It also created a mechanism to give the U.S. government early access to advanced AI models and is considering equity stakes in leading AI companies.
3. **Europe's Changing AI Strategy:** Europe is moving beyond a regulation-first approach by investing in AI computing capacity and encouraging "Buy European" public procurement.
4. **Argentina's Investment-Oriented Policy:** Argentina is trying to attract AI investment by providing a regulatory safe harbour for AI companies.
5. **AI Geopolitics Becoming the New Normal:** Countries are increasingly shaping AI policies around national interests. India must therefore respond to these changing global developments with a clear long-term strategy.

India's AI Opportunity

1. **AI as the Next Growth Opportunity:** Just as the **1991 economic liberalisation** transformed India's economy, AI can become the next major structural reform and support India's economy growth .
2. **Strong Digital Public Infrastructure:** India's success with **Aadhaar, UPI** and affordable mobile internet demonstrates its ability to build large-scale digital infrastructure that can support AI adoption.
3. **Large Technology Ecosystem:** India's IT services and app industries are well placed to expand the everyday use of AI across businesses and public services.

4. **Higher Productivity and Competitiveness:** Wider AI adoption can improve productivity, strengthen businesses and increase India's global competitiveness.
5. **Using Frontier AI for Present Growth:** Indian businesses should use the best available frontier AI models to remain globally competitive. The economic gains from using these models today can help build stronger domestic AI capabilities in the future.
6. **Research and Innovation Potential:** Affordable AI access can support scientists, students and research institutions, making AI an important tool for innovation and knowledge creation.
7. **Expanding Global Market Opportunities:** Strong AI adoption can help India strengthen its position in global technology products and digital services.

India's Strategic AI Challenges

1. **Dependence on Foreign Frontier AI Models:** India currently relies on foreign frontier AI systems because it does not possess its own advanced frontier models.
2. **Limited Frontier AI Capability:** Training frontier AI requires enormous computing power, making independent development extremely difficult for India.
3. **Low Research Investment:** India spends only about **0.6–0.65% of GDP** on research and development, while the private sector contributes only about one-third of this spending.
4. **India Cannot Match Frontier AI Investments:** OpenAI's projected compute spending of **\$50 billion** is more than six times India's annual private R&D spending. India cannot outspend global AI leaders and should instead strengthen strategic partnerships and technological linkages.
5. **Geopolitical Risks of Dependence:** Businesses can manage commercial risks through contracts, but they cannot protect themselves from geopolitical risks arising from dependence on foreign AI technologies.
6. **Balancing Globalisation and Industrial Policy:** India should not treat global integration and industrial policy as competing approaches. Both are needed to strengthen the country's AI ecosystem.
7. **Lessons from the Pharmaceutical Sector:** India still imports about **65% of its critical pharmaceutical ingredients from China** despite Production-Linked Incentive support. This shows that industrial policies create long-term capabilities but cannot deliver immediate strategic resilience.
8. **Weak Global Presence of Indian Apps:** Despite a strong domestic technology sector, no Indian app ranks among the global top ten in downloads, in-app purchase revenue or monthly active users.

Why India Needs a Sovereign AI Strategy

1. **Reducing Strategic Dependence:** India should steadily reduce long-term dependence on foreign AI technologies while remaining connected to global AI ecosystems.

2. **Strengthening Backward Linkages:** India should deepen its access to frontier AI technologies through government support instead of attempting to outspend global AI leaders.
3. **Expanding Forward Linkages:** India should strengthen exports of AI-enabled products and services to increase its global economic presence.
4. **Managing Geopolitical Risks:** Businesses can manage commercial risks through contracts and diversified supply chains, but they cannot manage geopolitical risks arising from dependence on foreign AI technologies. The government should therefore help reduce such strategic risks.
5. **Promoting Open Models:** Open-source AI models can reduce dependence on foreign APIs, lower costs, improve transparency and support Indian languages and local needs.
6. **Hosting AI Models in India:** India should develop the capability to host and operate large language models within the country to strengthen strategic control and technical expertise.
7. **Need for Resilient Compute Capacity:** A diversified AI hardware ecosystem can lower costs, improve reliability and reduce dependence on any single technology provider.

Way Forward for Building India's Sovereign AI Ecosystem

1. **Whole-of-Government Coordination:** Ministries dealing with external affairs, commerce, IT, defence, energy and telecommunications should work together to support India's AI ecosystem.
2. **Adopt a National AI Token Policy:** India should launch a National AI Token Policy and implement it over the next **24 months** to expand AI access in a phased manner.
3. **Provide Free AI Access for Research and Education:** Free AI tokens should be provided to the **top 20 IITs, IISc, top 100 universities, national R&D institutions and 5,000 high schools** to promote learning and innovation.
4. **Build Public-Private Partnerships:** India should collaborate with **Amazon Web Services (AWS), Google, and Microsoft** to develop a multi-vendor sovereign compute framework by offering data centre support and data sovereignty assurances.
5. **Use Smarter Financing Models:** AI access can be financed by slowing subsidy growth for one year while using enterprise services to cross-subsidise educational and research institutions.
6. **Create Competitive Market Conditions:** Instead of directly funding AI services, supportive regulations should encourage competition and reduce AI costs, similar to India's mobile data revolution.
7. **Expand AI Access in Phases:** India should create an Application Programming Interface (API) sandbox for **500 startups**, extend AI access to **100 universities** and launch AI literacy programmes in **500 high schools across 10 States**.
8. **Deploy AI Across Priority Sectors:** Fine-tuned AI models should be expanded across healthcare, agriculture, judiciary and education while supporting all **22 Indian languages**.

9. **Promote Innovation and Global Competitiveness:** Indian technology firms should improve product quality, innovation and global ambition rather than relying mainly on traditional IT services.
10. **Build a Unified Strategic Vision:** Established IT companies and startups should work towards the common goal of strengthening India's connection with global AI ecosystems while expanding domestic capabilities.
11. **Strengthen India's Global AI Position:** Wider AI adoption can help India become one of the world's leading AI economies, support **10,000+ AI-native startups**, and improve the global competitiveness of India-trained AI models.

Conclusion

Artificial Intelligence can become India's next major structural reform by strengthening productivity, innovation and competitiveness. India should remain deeply connected to global AI ecosystems while steadily building sovereign AI capabilities through stronger infrastructure, strategic partnerships and domestic innovation. This balanced approach can reduce strategic vulnerabilities and support long-term economic growth.

Question for practice:

Discuss the need for a sovereign AI strategy to strengthen India's technological resilience, global competitiveness, and long-term economic growth in the emerging era of AI geopolitics.

Source: [The Hindu](#)

The Fiscal Tightrope for State Governments

UPSC Syllabus: Gs Paper 2 - Issues and challenges pertaining to the federal structure

Introduction

Many Indian States are facing growing fiscal stress despite achieving significant social and economic progress. While taxation powers largely rest with the **Union government**, States carry a larger share of public expenditure on welfare and development. Kerala and Tamil Nadu show that rising debt is not always a sign of fiscal mismanagement. Instead, it often reflects the gap between expanding development responsibilities and the limited fiscal capacity available to State governments.

Fiscal Position of State Governments

1. **Rising Debt from Persistent Deficits:** State debt increases when government expenditure remains higher than tax and other receipts for many years. These deficits are mainly financed through market borrowings, which also increase interest payments.
2. **Reliance on Limited Revenue Sources:** Tamil Nadu depends heavily on **liquor sales and property registrations** for revenue. Heavy dependence on a few revenue sources can reduce fiscal flexibility and increase financial pressure if these revenues decline.

3. **States Carry Larger Spending Responsibility:** While the **Union government** holds most taxation powers, State governments undertake a larger share of public expenditure. They spend heavily on **health, education, agriculture, and irrigation**, which directly affect people's lives.
4. **Dependence on Multiple Revenue Sources:** States finance expenditure through **State Goods and Services Tax (SGST), sales tax, Union tax devolution, grants, loans, and market borrowings**. Their financial position depends on both their own revenues and fiscal support from the Union government.
5. **Kerala's Revenue Position:** Kerala mobilises strong own-tax revenues, with per capita collections about **1.5 times the all-India average**. However, it received only **1.92% of Union tax devolution**, lower than its **2.6% share of India's population in 2023-24**.

Why Do States Need Higher Public Expenditure?

1. **Investment in Human Development:** Higher public spending has supported better social outcomes in Kerala and Tamil Nadu for decades. During **2020-23**, their per capita social expenditure remained **30% and 20% higher**, respectively, than the all-State average.
2. **Essential Public Services:** A large share of State expenditure goes towards salaries of teachers, doctors, nurses, police personnel and other public employees. These services cannot be maintained without adequate public spending.
3. **Support for Welfare Commitments:** In Kerala, around **20%** of total expenditure goes towards salaries, **15.3%** towards pensions, and **16.5%** towards interest payments.
4. **Need for Future-Oriented Investment:** States require greater investment in infrastructure, higher education, research and public transport to build future productive capacity and support long-term development.

Structural Causes of Fiscal Stress

1. **Limited Fiscal Space for Capital Investment:** Kerala could allocate only **10%** of its financial resources towards capital expenditure. Most spending was absorbed by day-to-day revenue expenditure, reducing investment in future productive capacity.
2. **Balancing Welfare and Fiscal Stability:** Reducing salaries, pensions or other revenue expenditure may create fiscal space, but it can weaken the social achievements built over several decades.
3. **Weak Revenue Mobilisation:** Fiscal stress is not caused only by rising debt. Tamil Nadu shows that weak growth in **State Own Tax Revenue (SOTR)**, tax leakages and poor tax collection can also weaken State finances even when the economy grows rapidly.
4. **High Cost of Borrowing:** Indian States borrow through **State Development Loans (SDLs)** at **6.5-7.5%**, which is **0.25-0.75 percentage points** higher than Union government borrowing. This raises interest costs and increases fiscal pressure.

Developmental Consequences of Fiscal Constraints

1. **Pressure on Economic Transformation:** Kerala requires greater investment to develop knowledge-intensive sectors. Limited public investment reduces its ability to generate quality jobs for educated youth.
2. **Growing Outmigration:** Many educated young people leave Kerala because the State cannot provide sufficient educational and employment opportunities that match their aspirations.
3. **Private Wealth but Limited Public Investment:** Kerala shows visible signs of private prosperity, including expensive houses, cars and gold shops. However, weak public finances limit investment and may increase inequalities.
4. **Idle Domestic Savings:** Kerala's credit-deposit ratio is only around 66%, compared to the national average of 76%. If even part of these surplus savings had been invested, the State's capital expenditure between 2016 and 2026 could have been at least doubled.
5. **Pressure on Growth Aspirations:** Fiscal stress makes it difficult for States to invest enough to achieve ambitious economic and development goals despite strong economic potential.

Lessons from China's Local Government Financing

1. **Local Governments Drive Investments:** In China, provinces and lower-level governments undertake a major share of public investment. Their borrowing is supported by central planning and large domestic savings.
2. **Multiple Financing Channels:** Chinese local governments raise resources through **Local Government Bonds (LGBs)**, **land sales**, **Local Government Financing Vehicles (LGFVs)** and central fiscal transfers.
3. **Lower Borrowing Costs:** Chinese local governments borrow from their banking system at around 2%, much lower than borrowing costs faced by Indian States. Lower interest costs support larger public investment.
4. **Public Savings Can Support Development:** Government securities in India are largely purchased by domestic banks and insurance companies using public savings. Better fiscal structures can help States access these savings more easily and at lower cost for development projects.

Way Forward

1. **Strengthen State Revenue Mobilisation:** States should improve tax administration, plug revenue leakages and identify new revenue sources so that State Own Tax Revenue (SOTR) grows in line with economic growth.
2. **Improve Union-State Fiscal Cooperation:** States should work more closely with the Union government to make better use of central schemes and available fiscal support.

3. **Restructure Public Debt:** Existing debt should be restructured to reduce interest costs, as committed expenditure leaves States with limited spending flexibility.
4. **Reform Loss-making Public Sector Undertakings:** Power and transport public sector undertakings should be restructured to reduce the long-term fiscal burden. Public-Private Partnership (PPP) models can also be considered while protecting workers' welfare.
5. **Rationalise Welfare Expenditure:** Welfare programmes should be reviewed to remove duplication. New cash transfer schemes should not be added without restructuring existing schemes.
6. **Target Welfare Benefits Better:** Welfare schemes should reach the intended beneficiaries so that public spending remains fiscally sustainable over the long term.
7. **Mobilise Domestic Savings for Development:** Fiscal structures should allow States to access domestic savings more easily and at lower borrowing costs to finance carefully planned development projects.
8. **Strengthen Stable Revenue Sources:** States should improve existing revenue sources, such as property registrations and other sustainable tax avenues, to reduce long-term fiscal pressure.

Conclusion

State government debt should be viewed in the context of growing development responsibilities and limited fiscal capacity rather than simply as fiscal mismanagement. Stronger revenue mobilisation, efficient expenditure and lower borrowing costs can improve the financial position of States. Fiscal structures should also enable States to access domestic savings more easily to finance long-term development and economic growth

Question for practice:

Examine the major causes of fiscal stress faced by State governments and suggest measures to strengthen their fiscal capacity while sustaining development and welfare expenditure.

Source: [The Hindu](#)

On curbing young adults on social media

Source: The post "On curbing young adults on social media" has been created based on "On curbing young adults on social media" published in "The Hindu" on 2nd July 2026.

UPSC Syllabus: GS 2- Governance

Context: The governments of several countries, including the **United Kingdom, Australia, Indonesia, Malaysia, France and Canada**, are considering or introducing measures to restrict social media access for children below 16 years due to concerns over addiction, online harms and mental well-being. The announcement by Keir Starmer to ban social media for under-16s has also sparked similar policy debates in India, particularly at the State level, on balancing child safety, privacy and platform accountability.

Issues with banning social media for children under 16 years

1. **Limited educational value:** Social media is not necessarily an effective learning space, and its educational value for children remains debatable.

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2. **Lack of conclusive evidence:** Scientific studies do not establish a uniform relationship between social media use and harm, as children respond differently to similar online experiences.
3. **Diverse vulnerability:** Children's vulnerability varies according to social, economic and digital backgrounds, particularly in a diverse country like India.
4. **Weak age verification:** Effective implementation requires robust age-verification mechanisms, which remain inadequate.
5. **Privacy concerns:** Age verification enables platforms to collect sensitive identity data of children, raising serious privacy issues.
6. **Easy circumvention:** Children can bypass bans by using family members' credentials or technological workarounds.
7. **Culture of rule evasion:** Frequent circumvention may normalise bypassing rules, potentially influencing future legal compliance.
8. **Migration to riskier platforms:** Australia's experience shows that age-gating may push children to lesser-known platforms whose safety is uncertain.

Need for platform governance

1. **Shift regulatory focus:** Regulation should move from restricting children to holding platforms accountable for creating conditions of online risk.
2. **Transparency in platform design:** Platforms should be legally required to disclose their design practices and child safety measures.
3. **Address addictive design:** Since attention-based platforms depend on user engagement, regulations should curb addictive design features.
4. **Create safer digital spaces:** Platform accountability can ensure safer online environments without relying solely on access restrictions.

Challenges in regulating platforms

1. **Government dependence:** Governments may hesitate to regulate social media companies because they also rely on these platforms for communication and outreach.
2. **Complex enforcement:** Monitoring compliance with platform design standards is technically difficult and resource-intensive.
3. **Selective enforcement concerns:** Regulatory actions may face allegations of bias or inconsistent implementation.

Way Forward

1. **Evidence-based regulation:** Identify the most vulnerable categories of children instead of adopting a uniform approach.
2. **Comprehensive regulatory framework:** Combine platform accountability, transparency and child safety measures.
3. **Privacy safeguards:** Ensure that any age-verification mechanism protects children's personal data.
4. **Strengthen institutions:** Enhance the capacity of regulatory and judicial bodies for effective platform oversight.

Conclusion: Banning or limiting children's access to social media is not a standalone solution. A balanced strategy based on platform accountability, evidence-based regulation and strong privacy safeguards is essential for ensuring children's online safety.

Question: Banning social media for children below 16 years is not a comprehensive solution to online safety challenges. Discuss in the context of platform governance and privacy concerns.

Source: The Hindu

Fixing the rot: On the subversion of public examinations and recruitment

Source: The post “Fixing the rot: On the subversion of public examinations and recruitment” has been created based on “Fixing the rot: On the subversion of public examinations and recruitment” published in “The Hindu” on 2nd July 2026.

UPSC Syllabus: GS –2- Governance

Context: Recurring paper leaks in public examinations and recruitment tests have exposed systemic weaknesses in India's examination system. They undermine merit-based selection, erode public trust, and adversely affect India's efforts to harness its demographic dividend.

Impact of recurring paper leaks

1. **Erosion of meritocracy:** Paper leaks compromise fair competition by allowing undeserving candidates to gain an unfair advantage.
2. **Threat to demographic dividend:** Corruption in examinations and recruitment weakens skill development and reduces the quality of human resources.
3. **Loss of public trust:** Repeated cancellations and re-examinations reduce confidence in public institutions.
4. **Growth of organised crime:** A well-established network involving paper leaks has evolved into a profitable illegal industry.

Causes of recurring paper leaks

1. **Insider networks:** Employees in printing presses, security personnel, government officials and teachers have repeatedly been involved in leaking question papers.
2. **Coaching ecosystem linkages:** Leaked papers are often sold to coaching centres for financial gain.
3. **Closed pool of examiners:** The repeated use of the same group of paper setters increases the risk of information leakage.
4. **Lack of conflict-of-interest checks:** Authorities often fail to verify the antecedents and commercial links of examiners.
5. **Weak institutional safeguards:** Vulnerabilities exist in both question paper preparation and distribution processes.
6. **Focus on individuals rather than systems:** Investigations generally target "kingpins" without addressing structural weaknesses.

Challenges in addressing paper leaks

1. **Deep-rooted insider nexus:** Organised networks operate across multiple States and institutions.
2. **Recurring pattern of leaks:** Similar methods are repeatedly used despite investigations.
3. **Weak accountability:** Responsibility is rarely fixed on senior administrative or political authorities.
4. **Limited systemic reforms:** Corrective actions often remain reactive, focusing on arrests instead of institutional changes.

Way Forward

1. **Diversify paper setters:** Expand and regularly rotate the pool of examiners to reduce insider risks.
2. **Strengthen background verification:** Conduct thorough antecedent and conflict-of-interest checks for all paper setters and officials involved.
3. **Secure examination processes:** Strengthen safeguards in question paper preparation, printing, storage and distribution.
4. **Address the coaching-exam nexus:** Monitor and regulate links between examination officials and coaching institutions.
5. **Ensure political accountability:** Education Ministers at both the Centre and States should accept responsibility for repeated failures and ensure institutional reforms.

Conclusion: Recurring paper leaks cannot be addressed through arrests alone. Restoring the credibility of public examinations requires systemic reforms, stronger institutional safeguards, transparent recruitment processes and clear political accountability to protect meritocracy and public trust.

Question: Recurring question paper leaks in public examinations undermine meritocracy and governance. Examine the causes, challenges and suggest measures to restore the credibility of the examination system.

Source: [The Hindu](#)

The Case for Building India's Coal Chemistry Capability

UPSC Syllabus: Gs Paper 3- Infrastructure

Introduction

India successfully managed the **2026 Strait of Hormuz** energy disruption through refinery flexibility, diversified crude sourcing and strong indigenous technical capability. However, the crisis also exposed India's continued dependence on imported LPG. The experience showed that lasting **energy security** requires reducing import dependence through indigenous science, technology and domestic resources. Building a strong **coal chemistry** ecosystem offers an important opportunity to strengthen India's long-term energy resilience.

India's Response to the Strait of Hormuz Crisis

1. **Diversified crude sourcing:** India nearly tripled its crude supplier base over the last two decades. This enabled refineries to quickly switch to crude supplies from the **Americas, Atlantic Basin, West Africa, Russia and West Asia** after the Strait of Hormuz disruption.
2. **Indigenous refinery capability:** Continuous investment in **research, metallurgy, process innovation and workforce training** enabled refineries to process crude with different density, sulphur and viscosity levels. This reduced dependence on any single crude source and strengthened operational flexibility.
3. **Rapid operational response:** Within weeks of the disruption, **non-Hormuz crude sourcing increased from 55% to 70%** of India's total crude intake. Public and private refineries adjusted

operating conditions, modified fractionation patterns and processed different crude grades while maintaining product quality and safety.

4. **Institutional knowledge and engineering strength:** Years of investment in process understanding, operator training and technical expertise enabled refinery systems to absorb sudden supply disruptions. Engineers managed complex industrial processes instead of treating refineries as fixed machines.
5. **Managing the LPG supply disruption:** Under the **LPG Control Order**, domestic LPG production increased from **35 Thousand Metric Tonnes (TMT) per day to 54 TMT per day within five days** by optimising fractionation and cracking units. This engineering capability helped manage the immediate supply shortage, but it did not reduce India's long-term dependence on imported LPG.

From Refinery Flexibility to Coal Chemistry

1. **Refinery flexibility has structural limits:** Refinery flexibility solved the immediate problem of processing crude from different suppliers. However, it could not solve India's deeper dependence on imported **LPG**, which remains concentrated among a few producers in the **Gulf and Atlantic Basin**.
2. **Need for a domestic fuel alternative:** Long-term energy security requires producing a domestic fuel that can replace imported LPG. Reducing dependence on imported molecules is more durable than simply improving the processing of imported fuels.
3. **DME as a practical substitute: Dimethyl Ether (DME)** is a clean-burning fuel that is chemically similar to LPG. It can be blended directly with LPG and used through the existing cylinders and pipeline network without creating new distribution infrastructure.
4. **Coal gasification strengthens energy security:** DME can be produced through **coal gasification**, which converts coal into syngas and then into DME. Since India possesses **some of the world's largest coal reserves**, it has a strong domestic resource base for producing this alternative fuel.
5. **Economic and strategic gains:** The **Bureau of Indian Standards** has approved blending up to **20% DME with LPG**. According to an industry assessment, this blend can replace about **6.3 million tonnes of LPG imports annually** and save nearly **₹34,000 crore** in foreign exchange every year, making it a significant step towards long-term energy security.

Government Initiatives

1. **Indigenous technology development:** Scientists at **CSIR's National Chemical Laboratory (NCL)** developed an indigenous technology to convert methanol into **Dimethyl Ether (DME)**. This created a domestic technological base for producing an alternative to LPG.
2. **Scaling up innovation:** During the crisis, the **Centre for High Technology** under the Ministry of Petroleum and Natural Gas approved the scaling up of this indigenous pilot technology. This showed how earlier investments in science can become strategic assets during national emergencies.
3. **Innovation ecosystem:** Strong coordination among research laboratories, government institutions and industry helps convert scientific knowledge into practical technologies. This approach strengthens national resilience and supports long-term technological self-reliance.

4. **Policy support for coal gasification:** The Union Cabinet approved a ₹37,500 crore scheme to promote surface coal and lignite gasification. The scheme aims to achieve **100 million tonnes of coal gasification annually by 2030** and cites the West Asia crisis as one of its key reasons.
5. **Long-term investment incentives:** The scheme provides financial support of up to **20% of plant and machinery costs** and extends coal linkage tenure to **30 years**. These measures provide greater certainty for investment in capital-intensive industries.

Opportunities and Implementation Challenges

1. **Abundant domestic coal resources:** India possesses some of the world's largest coal reserves. This provides a strong resource base for expanding coal-based chemical production and reducing fuel imports.
2. **Strategic and economic opportunities:** Coal-based DME can reduce dependence on imported LPG, improve energy security and lower foreign exchange outflow. It also makes the energy system less vulnerable to external supply disruptions.
3. **High ash content of Indian coal:** Indian coal contains more ash than the cleaner coal used in China's coal-to-chemicals industry. This creates technical challenges for efficient coal gasification.
4. **Limited gasification capacity:** India's present coal gasification capacity is much lower than the government's target. Expanding this capacity will require sustained industrial investment and technological development.
5. **Execution is the remaining challenge:** Policy intent has already been established. The next step is to build the same industrial discipline, engineering capability and technical depth that transformed India's refinery sector.

Way Forward

1. **Strengthen indigenous technological capability:** Continue investing in research, process engineering, metallurgy and skilled manpower to build long-term industrial capability.
2. **Expand coal gasification capacity:** Scale up coal gasification plants to support large-scale domestic production of DME and reduce dependence on imported LPG.
3. **Promote institutional collaboration:** Strengthen cooperation among research institutions, government agencies and industry to accelerate technology development and commercial adoption.
4. **Focus on effective implementation:** Ensure timely execution of the coal gasification programme so that policy support is converted into industrial capability and energy security.
5. **Follow the refinery model:** Apply the same long-term commitment to innovation, technical learning and engineering excellence that enabled India's refineries to respond successfully during the Hormuz crisis.

Conclusion

The **Strait of Hormuz crisis** showed that **indigenous scientific capability** is India's strongest safeguard against energy disruptions. Refinery flexibility helped manage the immediate crisis, but long-term energy security requires reducing import dependence. Building a strong **coal chemistry ecosystem** through sustained innovation, industrial capability and effective implementation can create a permanent strategic asset and strengthen India's future energy resilience.

Question for practice:

Examine how India's response to the Strait of Hormuz crisis highlights the need to build coal chemistry capability for achieving long-term energy security.

Source: [The Hindu](#)

A Unified Policy Architecture for India's Energy Future

UPSC Syllabus: Gs Paper 3- Infrastructure

Introduction

India has made significant progress in expanding energy access through near-universal household electrification, wider clean cooking fuel coverage and rapid growth in renewable energy. As energy demand rises and the energy mix becomes more diverse, the next phase of the transition requires better coordination across different fuels, technologies and institutions. A unified policy framework can support India's goals of energy self-reliance by 2047, net-zero emissions by 2070, and long-term energy security, affordability and sustainability.

Why India Needs a Unified Energy Policy Framework

- 1. Growing Energy Demand:** India's energy demand will continue to rise with **economic development, industrialisation and urbanisation**. This will increase pressure on the country's energy system.
- 2. Dependence on Energy Imports:** Although domestic energy production is expanding, India still depends on imports for a significant share of its **oil and natural gas** requirements. This creates long-term energy security concerns.
- 3. Complex Energy System:** India's energy system now includes conventional fuels, renewable energy and emerging technologies. Managing such a diverse system requires better planning across different sectors.
- 4. Balancing Multiple Priorities:** India has to ensure **energy security, affordability, sustainability and economic growth** at the same time. These objectives need to be pursued together instead of separately.
- 5. Long-Term National Goals:** Achieving **energy self-reliance by 2047** and **net-zero emissions by 2070** requires an integrated approach to energy planning and governance.

Existing Progress in India's Energy Sector

- 1. Improved Energy Access:** India has achieved **near-universal household electrification** and expanded access to **clean cooking fuel** through initiatives such as the **Saubhagya Scheme** and **Pradhan Mantri Ujjwala Yojana**. These programmes have strengthened energy access across the country.

2. Renewable Energy Expansion: Renewable energy installed capacity increased from about **40 GW in 2015** to nearly **260 GW by 2025**. This reflects steady progress in diversifying India's energy mix.

3. Growth in Solar and Wind Power: India crossed **157 GW of solar capacity** and **56 GW of wind capacity**. It also became the **world's fourth-largest clean electricity generator**.

4. Expanding Electricity System: India became the **third-largest producer and consumer of electricity** with an installed capacity of **513.79 GW by December 2025**. This reflects the rapid expansion of the country's power sector.

5. Improving Energy Security: India has diversified its energy import sources and promoted **coal gasification** to reduce dependence on imported LPG. These efforts strengthen long-term energy security.

6. Modernising Energy Infrastructure: The country is integrating renewable energy through **13 GWh Battery Energy Storage Systems (BESS)** and **Pumped Storage Projects (PSPs)**. These technologies improve grid stability and support the integration of renewable power

7. Transition: Despite these achievements, the growing complexity of India's energy system requires a more integrated approach to energy planning and governance. This creates the need for a common framework to guide the next phase of India's energy transition.

The Proposed Unified Energy Framework

1. Unified National Planning:

- The framework proposed by the **Indian National Science Academy (INSA)** seeks to align different energy resources, technologies and institutions under a common national strategy.
- It promotes coordinated planning across the energy sector and is built around **four mutually reinforcing pillars: Adequacy, Access, Affordability and Appropriate Sustainability**.

2. Adequacy

- **Reliable Energy Supply:** The framework seeks to ensure a reliable and diversified energy supply by using a balanced mix of conventional and emerging energy sources.
- **Modern Energy Infrastructure:** It supports modern infrastructure, **energy storage** and **digital technologies** to strengthen energy resilience and reduce long-term vulnerabilities.

3. Access

- **Universal and Equitable Services:** Every citizen should have reliable and equitable access to energy services. The framework builds on India's progress in electrification and clean cooking fuel.
- **Better Service Delivery:** It focuses on strengthening **last-mile delivery**, improving service quality and expanding **decentralised energy solutions** where suitable.

4. Affordability

- **Affordable Energy Transition:** The transition should remain economically viable for **households, businesses and industries** so that clean energy remains accessible to all.
- **Inclusive Market Support:** The framework encourages **innovative financing mechanisms**, efficient markets and **consumer safeguards** to support an inclusive energy transition.

5. Appropriate Sustainability

- **Development-Oriented Sustainability:** Sustainability should match India's development priorities and resource endowments instead of following a uniform approach.
- **People-Centred Transition:** The framework supports **local communities, workforce development** and **region-specific transition pathways** to ensure that the transition benefits different parts of the country.

Key Enablers of the Energy Transition

1. **Circular Economy and CCUS:** Circular economy practices and Carbon Capture, Utilisation and Storage (CCUS) can complement renewable energy and help reduce emissions from industrial sectors. These measures support cleaner production while improving resource efficiency.

2. Green Hydrogen and Emerging Technologies:

- The framework identifies **green hydrogen** as an important emerging technology for the next phase of the energy transition.
- Under the **National Green Hydrogen Mission**, India aims to produce **5 million metric tonnes of green hydrogen annually by 2030**, strengthening domestic clean energy production.

3. **Energy Storage and Modern Infrastructure:** A reliable energy system requires stronger infrastructure, **energy storage** and digital technologies. Battery Energy Storage Systems and Pumped Storage Projects can improve grid stability and support the large-scale integration of renewable energy.

4. **Clean Energy Expansion:** Coal, renewables, biomass, natural gas, waste-to-energy systems and other emerging clean technologies all have a role in India's energy future. Better coordination among these energy sources can improve overall system efficiency and resilience.

5. **Institutional Coordination:** A successful transition requires institutions to work together over the long term. Coordinated planning across generation, transmission, storage and distribution can help different parts of the energy sector function as one integrated system.

Way Forward

1. **Adopt a Phased Transition:** The energy transition should follow a phased approach because such transformations take decades. Near-term priorities include strengthening infrastructure, accelerating renewable energy deployment and supporting emerging technologies.

2. **Strengthen Long-Term Coordination:** Institutional mechanisms should improve coordination among different energy resources and technologies. This can support better planning and reduce gaps across sectors.

3. **Expand Low-Carbon Energy Systems:** Over time, greater emphasis should be placed on **low-carbon technologies**, wider use of **bio-resources** and a more interconnected energy ecosystem. This will improve resilience while reducing emissions.

4. **Support Future Energy Investments:** India has announced a **₹9.15 lakh crore** plan to strengthen power infrastructure and meet a projected demand of **458 GW by 2032**.

5. **Build a Future-Ready Energy Sector:** Policy support such as **100% FDI in the power sector**, expansion of **off-grid solar electrification**, the **SHANTI Act** for nuclear energy and the target of **100 GW nuclear capacity by 2047** can strengthen energy security while supporting long-term economic growth.

Conclusion

India's energy transition now requires an integrated approach rather than separate policies for different energy sources. A unified policy framework can improve coordination across technologies and institutions while strengthening energy security, affordability and sustainability. With phased implementation and continued investment, it can support economic growth and help India achieve energy self-reliance by 2047 and net-zero emissions by 2070.

Question for practice:

Examine the need for a unified policy architecture to support India's energy transition and achieve long-term energy security, affordability and sustainability.

Source: [The Hindu](#)

Delhi-Tokyo ties face the future

Source: The post “**Delhi-Tokyo ties face the future**” has been created based on “**Delhi-Tokyo ties face the future**” published in “Indian Express” on 3rd July 2026.

UPSC Syllabus: GS 2 – International Relations

Context: Japanese Prime Minister Sanae Takaichi's visit to India comes at a time of growing geopolitical uncertainty in the Indo-Pacific, particularly due to the evolving United States approach towards China. Against this backdrop, the visit highlights the importance of the India-Japan Special Strategic and Global Partnership in strengthening regional security, economic resilience, technological cooperation, and maintaining a stable, rules-based Indo-Pacific.

Significance of the India-Japan Strategic Partnership

1. Addressing China's Growing Assertiveness

- Shared strategic concerns:** India and Japan are increasingly concerned about China's assertive behaviour in the Indo-Pacific.
- Common security challenges:** India continues to face an unresolved border dispute with China, while Japan faces maritime and territorial disputes in the East China Sea.
- Maintaining regional stability:** Stronger bilateral cooperation helps preserve a stable and rules-based Indo-Pacific.

- d. **Balancing regional power:** The partnership contributes to maintaining a favourable balance of power in Asia.

2. Strengthening Economic and Technological Cooperation

- a. **Leveraging complementary strengths:** Japan brings advanced technology, investment capacity, semiconductor expertise, and manufacturing capabilities.
- b. **India's comparative advantage:** India offers a vast market, skilled software professionals, and economies of scale.
- c. **Reducing strategic dependence:** Both countries seek to diversify away from Chinese technology and rare earth supply chains.
- d. **Building resilient value chains:** Coordinated cooperation can create secure and future-ready global supply chains.

3. Enhancing Defence and Security Cooperation

- a. **Complementary defence capabilities:** Japan's growing military strength complements India's strategic objectives.
- b. **Responding to Indo-Pacific uncertainties:** Both countries aim to strengthen regional security amid changing geopolitical dynamics.
- c. **Supporting India's modernisation:** Defence and strategic cooperation accelerates India's military and technological modernisation.

4. Ensuring a Stable Indo-Pacific Amid Global Uncertainty

- a. **Changing US approach:** The evolving United States policy towards China and the Indo-Pacific has created uncertainty regarding long-term regional security arrangements.
- b. **Need for regional leadership:** India must continue strengthening partnerships independent of shifts in US policy.
- c. **Promoting a rules-based order:** India-Japan cooperation reinforces peace, stability, and respect for international rules in the Indo-Pacific.

Challenges

1. Strategic Uncertainty in the Indo-Pacific: The evolving United States approach towards the Indo-Pacific has created strategic ambiguity for regional partners.

2. China's Expanding Influence: China's growing military and economic capabilities continue to pose security and geopolitical challenges to both India and Japan.

3. Dependence on Chinese Supply Chains: Despite diversification efforts, dependence on Chinese technology and rare earth supplies remains a strategic vulnerability.

4. Divergent National Priorities: Differences in domestic priorities and strategic approaches may affect the pace and scope of bilateral cooperation.

Way Forward

1. Deepen Defence Cooperation: Expand defence partnerships, joint exercises, and security cooperation to strengthen regional stability.

2. Enhance Technology Collaboration: Increase cooperation in semiconductors, advanced manufacturing, emerging technologies, and innovation.

3. Build Resilient Supply Chains: Develop diversified and secure supply chains by reducing dependence on Chinese technologies and critical minerals.

4. Accelerate India's Modernisation: Leverage Japanese investment, technology, and expertise to strengthen India's military and technological capabilities.

5. Sustain Strategic Engagement: Continue regular high-level political dialogue and deepen cooperation to preserve a stable, rules-based Indo-Pacific and a favourable regional balance of power.

Conclusion: India and Japan are natural strategic partners in the Indo-Pacific. As geopolitical uncertainties increase, their partnership in defence, technology, investment, and resilient supply chains will be crucial for maintaining a **stable, secure, and rules-based regional order** while advancing the long-term strategic interests of both countries.

Question: Discuss the significance of the India-Japan strategic partnership in ensuring a stable and rules-based Indo-Pacific. Examine the challenges and future prospects of Delhi-Tokyo ties.

Source: [Indian Express](#)

The right to a fair trial at the crossroads

Source: The post “The right to a fair trial at the crossroads” has been created based on “The right to a fair trial at the crossroads” published in “The Hindu” on 3rd July 2026.

UPSC Syllabus: GS 2 – Polity & Governance

Context: The Supreme Court's denial of bail to Umar Khalid and Sharjeel Imam has revived concerns over the constitutional guarantee of a fair trial under **Article 21**. The issue highlights the growing problem of prolonged pre-trial detention, particularly under stringent laws such as the **Unlawful Activities (Prevention) Act (UAPA)**.

Significance of Prolonged Pre-Trial Detention and the Right to a Fair Trial

1. Violation of the Right to Personal Liberty

- a. Article 21 guarantees the right to life and personal liberty.
- b. An extended delay in trial cannot override the constitutional right to liberty even under stringent laws like the UAPA.
- c. Individuals should not remain imprisoned for years without being found guilty.

2. Bail Cannot Depend Solely on Gravity of the Offence

- a. Bail decisions should consider multiple factors, including the reasons for delay in trial.
- b. The seriousness of allegations alone should not justify indefinite detention.
- c. At the bail stage, the offence remains an allegation and has not been judicially established.

3. Undermining the Principle of "Bail, Not Jail"

- a. The rule of law requires that individuals should not be incarcerated indefinitely without trial.
- b. Long periods of imprisonment before conviction effectively amount to punishment without due process.
- c. Many undertrial prisoners have eventually been acquitted after spending years in jail.

4. Fair Trial is a Constitutional Responsibility

- a. The judiciary has recognised that prolonged trials raise constitutional concerns.
- b. Judges have the responsibility to ensure that trials proceed within a reasonable time.
- c. Delay weakens public confidence in the criminal justice system.

Challenges

1. Delays in Judicial Proceedings: Criminal trials often remain pending for several years, resulting in prolonged incarceration of undertrials.

2. Inconsistent Bail Jurisprudence

- a. Courts have delivered contradictory bail orders in similar cases involving comparable facts.
- b. Such inconsistency creates uncertainty and undermines legal predictability.

3. Stringent Provisions of UAPA

- a. The restrictive bail provisions under the UAPA make release difficult despite prolonged detention.
- b. The law's application can blur the distinction between political dissent and terrorism.

4. Growing Undertrial Population

- a. Increasing numbers of undertrial prisoners continue to remain in custody without timely adjudication.
- b. This raises serious concerns regarding justice and individual liberty.

Way Forward

1. Ensure Time-Bound Trials: Courts should prioritise speedy disposal of cases involving long-term undertrial prisoners.

2. Strengthen the Principle of Bail: Courts should give greater weight to prolonged incarceration while deciding bail applications.

3. Promote Consistency in Bail Decisions: Judicial principles governing bail should be applied uniformly across similar cases.

4. Prevent Misuse of Stringent Laws

- a. Courts should ensure that laws like the UAPA are not used to suppress lawful political dissent.
- b. The distinction between terrorism and democratic dissent must remain clear.

5. Uphold Constitutional Values

- a. The judiciary should reaffirm that personal liberty and fair trial remain fundamental constitutional commitments.
- b. Individuals should not be punished through prolonged imprisonment before conviction.

Conclusion: The right to a fair trial is an essential component of constitutional democracy. Prolonged pre-trial detention undermines the rule of law, personal liberty, and public confidence in the justice system. Ensuring speedy trials, consistent bail jurisprudence, and protection of constitutional rights is essential to uphold the principle that **justice must not only be done but must also be seen to be done.**

Question: "The right to a fair trial is a cornerstone of Article 21." Discuss the challenges posed by prolonged pre-trial detention in India. Suggest measures to strengthen the right to a fair trial.

Source: [The Hindu](#)

A Shot at Life: Mandsaur's Model for HPV Vaccination

UPSC Syllabus: Gs Paper 3- Issues relating to development and management of Social Sector/Services relating to Health.

Introduction

Cervical cancer is the **second most common cancer among women in India** and remains a major public health challenge. Since **nearly 95% of cervical cancer cases are caused by high-risk Human Papillomavirus (HPV)**, vaccination offers an effective way to prevent the disease. India launched a **nationwide free HPV vaccination campaign for 1.15 crore girls aged 14–15 years**, while Mandsaur district demonstrated how data-driven planning and community-based implementation can achieve inclusive vaccination coverage.

What is HPV Vaccination?

1. **HPV Infection:** Human Papillomavirus (HPV) is one of the most common viral infections in the world. It spreads mainly through skin-to-skin contact and is a leading sexually transmitted infection.
2. **Link with Cervical Cancer:** Persistent infection with high-risk HPV types, particularly HPV 16 and HPV 18, is the primary cause of cervical cancer, accounting for nearly 95% of cases.
3. **Burden in India:** Cervical cancer remains a major public health concern globally and in India. It is the second most common cancer among women in India, with over 1.2 lakh new cases and nearly 80,000 deaths every year as per the WHO GLOBOCAN 2022 report.
4. **Role of HPV Vaccination:** HPV vaccination protects against the high-risk HPV types responsible for most cervical cancer cases. It is considered one of the most effective ways to prevent cervical cancer.

5. **Scientific Validation:** WHO and India's National Technical Advisory Group on Immunization (NTAGI) recommend HPV vaccination as a safe, effective and long-lasting preventive measure.

India's HPV Vaccination Initiative

1. **National Campaign:** The Government of India launched the nationwide HPV vaccination campaign on 28 February 2026. It provides free vaccination to around 1.15 crore girls aged 14 years every year.
2. **Vaccination Schedule:** India follows a single-dose schedule using Gardasil-4 under the national programme, in line with global scientific evidence.
3. **Delivery Mechanism:** Vaccination is voluntary, free of cost, requires parental or guardian consent, and is provided only at government health facilities under trained medical supervision.
4. **Digital and Logistic Support:** The U-WIN platform manages beneficiary registration, consent and reporting, while the e-VIN portal manages vaccine stocks and logistics. Vaccination sessions follow cold chain standards and systems for managing any rare adverse events.
5. **Target Population:** The campaign covers girls who have **completed 14 years but not yet 15 years**, aiming to vaccinate about **1.15 crore beneficiaries annually**.
6. **Campaign Duration:** The campaign is conducted in 90-day campaign mode, after which the vaccine becomes available through routine immunisation sessions.

Challenges in Achieving Universal HPV Vaccination

1. **Low Awareness:** Awareness about cervical cancer, HPV infection and preventive vaccination remains limited. This reduces the acceptance of preventive healthcare services.
2. **Social Stigma:** Discussions related to sexual health often face social discomfort. Gender bias and low cultural sensitivity make HPV vaccination difficult in many communities.
3. **Vaccine Hesitancy:** Many families remain uncertain about the long-term impact of the vaccine. This hesitation delays vaccination even when the vaccine is available free of cost.
4. **Spread of Misinformation:** Rumours such as vaccine-induced infertility created fear among families. These myths weakened public confidence despite scientific evidence supporting the vaccine's safety.
5. **Exclusion of Vulnerable Communities:** Girls from Banchhada communities, nomadic tribes, urban slums and school dropouts are more likely to remain outside government service delivery. Reaching these groups requires targeted efforts.
6. **Data Invisibility:** Many eligible girls remain unidentified because beneficiary information is scattered across different government records. This makes complete coverage difficult.

7. **Delay in Community Acceptance:** Resistance at the grassroots often appears as delay, doubt and discomfort rather than complete refusal. Families may postpone vaccination instead of rejecting it outright.
8. **Last-mile Implementation Challenges:** Universal coverage requires repeated counselling, community engagement and locally suitable strategies. A one-time awareness campaign is often not enough to overcome field-level barriers.

Mandsaur's Strategy for Inclusive HPV Vaccination

1. **Prioritising Vulnerable Communities:** The campaign began with girls from Banchhada communities, nomadic tribes, urban slums and school dropouts. This ensured that the most vulnerable beneficiaries were covered first.
2. **Building a Reliable Beneficiary Database:** The district combined data from Rashtriya Bal Swasthya Karyakram (RBSK), SAMAGRA MP and Ladli Laxmi Yojana to prepare hyper-local target lists. This reduced data gaps and improved identification of eligible girls.
3. **Door-to-Door Verification:** Health teams conducted household surveys and tracked beneficiaries through SAMAGRA IDs. This ensured that eligible girls did not fall through statistical gaps.
4. **Village-Level Micro-Planning:** School and anganwadi enrolment gaps were analysed to prepare Master Line Lists for every village. Low-coverage and high-resistance areas were identified for focused action.
5. **Behavioural Nudge Approach:** Health workers informed families that their daughters were "due for vaccination" instead of asking them to choose vaccination. This reduced hesitation and made vaccination the default choice.
6. **Counselling and Better Access:** Families who initially refused vaccination received repeated counselling visits. Schools and local bodies arranged transport to remove logistical barriers.
7. **Community Awareness and Trust:** Gen-Z influencers, athletes, doctors, students, religious leaders and media personalities helped counter myths. Public recognition of vaccinated families and peer champions encouraged wider acceptance.
8. **Monitoring and Accountability:** Gram panchayat and ward-level data sharing encouraged collaboration and healthy competition. Digital reminders improved monitoring by frontline workers.
9. **Integration with Existing Health Services:** HPV vaccination was linked with routine immunisation, antenatal care clinics and Pradhan Mantri Surakshit Matritva Abhiyan sessions. This increased awareness and made service delivery more convenient.
10. **Successful Implementation:** The district achieved **100% of its vaccination target in less than 40 days** by conducting **493 vaccination sessions** through **12 permanent and 27 temporary sites**, covering eligible girls across **893 villages and 190 urban**

Way Forward

1. **Use Data for Complete Coverage:** Government databases should be integrated with regular field verification to identify every eligible beneficiary. Accurate local data can reduce exclusion and improve service delivery.
2. **Promote Behavioural Interventions:** Behavioural and systemic nudges should become part of public health programmes. Counselling, positive messaging and repeated community engagement can improve vaccine acceptance.
3. **Strengthen Community Partnerships:** Local leaders, youth groups, schools, frontline workers and media should continue supporting awareness campaigns. Community participation can reduce stigma and build public confidence.
4. **Integrate Health Services:** HPV vaccination should continue to be linked with routine health programmes. Bundling multiple health services can improve awareness, convenience and overall coverage.
5. **Adapt Strategies to Local Needs:** Implementation should reflect local social and cultural conditions instead of following a uniform approach. Grassroots innovations can help bridge the gap between policy design and field realities.

Conclusion

Mandsaur showed that **data-driven planning, behavioural nudges and community participation** can make HPV vaccination more inclusive and effective. The campaign moved from **coverage to care** and from **data to impact** by reaching vulnerable groups and achieving **100% vaccination coverage**. Its experience highlights the value of locally adapted implementation for delivering preventive healthcare to every eligible beneficiary.

Question for practice:

Discuss the challenges in achieving universal HPV vaccination in India and examine how Mandsaur's model can improve inclusive vaccination coverage.

Source: [The Hindu](#)

Don't Bet on an AI Trickle-Down

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

Artificial Intelligence (AI) is no longer following the traditional path where advanced technologies gradually become accessible to everyone. Instead, AI is emerging as a strategic asset shaped by geopolitics, export controls, and selective access. Since AI capabilities improve rapidly, delays in obtaining frontier technologies can create lasting technological gaps. India has made a credible beginning, but securing long-term AI sovereignty will require stronger domestic capabilities and carefully balanced international partnerships.

Why AI is Becoming a Geopolitical Weapon

1. **AI Changes the Nature of Strategic Competition:** AI is not just another technology. It is a **general-purpose technology** that strengthens innovation, economic growth, defence, and decision-making across many sectors.
2. **Control Over AI Creates Strategic Advantage:** Countries leading in frontier AI have strong incentives to restrict access instead of allowing technology to spread freely. This helps them maintain their technological advantage.
3. **Interdependence is Becoming a Tool of Power:** Modern countries increasingly use economic and technological dependence as strategic leverage instead of treating it as mutual cooperation.
4. **Earlier Examples Show the Same Trend:** Countries have increasingly used strategic resources as geopolitical tools. This was seen during **COVID-19 vaccine nationalism**, disruptions around the **Strait of Hormuz**, and export controls on **critical minerals and rare earths**.
5. **Self-Reinforcing AI Advantage:** Frontier AI improves by learning from its own outputs. This allows leading countries to widen their technological lead much faster than in earlier technologies.
6. **Rapid AI Progress Reduces the Value of Waiting:** AI capability improves within months rather than decades. Waiting for technology to naturally become cheaper may leave countries permanently behind.
7. **Technology Trickle-Down Cannot Be Assumed:** The belief that advanced technologies will automatically become available over time is becoming less reliable as strategic competition grows.

How the US is Restricting Access to Frontier AI

1. **Export Controls Extend Beyond Chips:** The **2025 AI Diffusion Framework** placed restrictions not only on advanced chips but also on **AI model weights**, bringing frontier AI under export controls.
2. **Access is Becoming Country-Specific:** Although some rules later became more flexible, access is now decided through **country-by-country discretion**, keeping strategic control intact.
3. **Temporary Model Suspension Showed Real Risks:** Washington directed **Anthropic** to suspend access to its advanced **Mythos** and **Fable** models for users outside the United States. Although access resumed from **July 1**, it demonstrated how quickly access can be withdrawn.
4. **Trusted Partnership Determines Availability:** At the **G7**, frontier AI models were presented as technologies reserved for **trusted partners**, making access dependent on political relationships.
5. **AI Access is Becoming a Strategic Privilege:** Frontier AI is no longer available simply through market demand. Governments can extend or withdraw access based on strategic interests.

6. **Control Now Covers Both Hardware and Software:** Restrictions increasingly apply to both advanced computing hardware and the AI models built on that hardware, strengthening technological control.
7. **Market Forces Alone Cannot Guarantee Access:** Commercial demand is becoming less important than geopolitical considerations in determining who receives frontier AI technologies.

India's Strategic Dilemma in the Emerging AI Order

1. **India is Not at the Frontier of AI Development:** Like Europe, India does not currently possess frontier AI capabilities and remains dependent on access provided by leading AI powers.
2. **China Offers an Alternative AI Ecosystem:** China is promoting **open-weight AI models** that are cheaper and easier to adopt, creating a strong commercial attraction for many countries.
3. **Strategic Dependence Creates New Risks:** Relying on foreign AI systems raises concerns about **data sovereignty, security**, and long-term strategic dependence.
4. **India Faces Pressure From Both Major Powers:** India risks being **restricted by the United States** in accessing frontier AI while becoming increasingly dependent on **Chinese AI ecosystems**.
5. **Commercial Contracts Cannot Remove Geopolitical Risks:** Businesses can manage commercial risks, but they cannot protect themselves when governments impose strategic restrictions on AI technologies.
6. **Limited Domestic Frontier Capability Increases Dependence:** India still relies on foreign frontier AI systems because developing such models requires enormous computing power and sustained investment.
7. **Research Investment Remains Limited:** India spends only about **0.6–0.65% of GDP on research and development**, with the private sector contributing only about one-third of this spending, limiting frontier AI development.
8. **India Cannot Win Through Spending Alone:** The projected **\$50 billion** compute spending of **OpenAI** is more than six times India's annual private R&D spending. India therefore needs strategic partnerships along with stronger domestic capabilities instead of trying to match global leaders financially.

India's Existing Strengths and Ongoing Initiatives

1. **Demographic Advantage:** India has the **world's largest population**, a **median age below 30**, and one of the world's largest software talent pools. These strengths provide a strong foundation for AI development.
2. **Hard Infrastructure is Equally Important:** India's talent must be supported by advanced semiconductors, reliable electricity, data centres, patient risk capital and strong university-industry linkages to build frontier AI.

3. **Dependence on Imported Technology:** India still imports advanced chips instead of manufacturing them domestically. This limits its ability to develop frontier AI independently.
4. **IndiaAI Mission:** The **IndiaAI Mission** has created a shared national compute facility with **more than 34,000 GPUs** and is expanding further through support for startups and universities.
5. **Progress in Indian Language AI:** At the **India AI Impact Summit**, organisations such as **Sarvam** released competitive open AI models designed for Indian languages, improving AI accessibility and local relevance.
6. **Growing AI Talent Base:** India is the **second-largest employer of enterprise AI talent globally**, with **over 250,000 AI/ML professionals** working in Global Capability Centres (GCCs), strengthening its long-term AI ecosystem.

What India Must Do to Achieve AI Sovereignty

1. **Prepare for AI Supply Disruptions:** India should prepare for a future where advanced AI models or chips may become unavailable because of geopolitical decisions rather than market forces.
2. **Secure Long-Term AI Access:** India should seek **binding guarantees** for access to advanced compute and frontier AI models instead of relying on temporary political goodwill.
3. **Diversify Strategic Partnerships:** Stronger cooperation with **Europe** and other middle powers can reduce excessive dependence on a single AI ecosystem.
4. **Build Domestic Semiconductor Capacity:** Faster development of semiconductor manufacturing will reduce India's dependence on imported silicon and strengthen technological sovereignty.
5. **Expand Compute Infrastructure:** India should accelerate investment in reliable electricity, data centres, and high-performance computing infrastructure needed for frontier AI.
6. **Strengthen Research and Innovation:** Greater investment in universities, research institutions, talent development, and patient capital is essential because frontier AI requires long-term scientific capability.
7. **Reduce Strategic Dependence:** India should steadily reduce dependence on foreign AI technologies while remaining connected to global innovation and technology networks.
8. **Promote Open AI Models:** Open models can reduce reliance on foreign APIs, lower costs, improve transparency, and better support Indian languages and local applications.
9. **Develop Sovereign AI Infrastructure:** India should build the capacity to host and operate large language models within the country to improve strategic control and technical expertise.
10. **Balance Globalisation with Industrial Policy:** International partnerships and domestic industrial policies should complement each other. Both are necessary to build a resilient AI ecosystem.

11. **Learn from Other Sectors:** India's continued dependence on imported pharmaceutical ingredients despite domestic incentives shows that industrial policy builds capability over time but cannot provide immediate strategic resilience.
12. **Act Within the Closing Opportunity Window:** AI leadership is built through continuous investment over many years. Delaying action today could make catching up much harder as technological advantages grow rapidly.

Conclusion

The global AI landscape is shifting from technology diffusion to strategic control. India possesses talent, growing capabilities, and a credible foundation, but these advantages must translate into technological self-reliance. Timely investment in research, infrastructure, and trusted partnerships will determine whether India becomes a frontier AI developer or remains dependent on external technological powers.

Question for practice:

Examine the emerging geopolitical challenges in the global AI landscape and discuss the measures required for India to achieve AI sovereignty.

Source: [Indian Express](#)

Building water security in a rapidly drying India

Source: The post “Building water security in a rapidly drying India” has been created based on “Building water security in a rapidly drying India” published in “The Hindu” on 4th July 2026.

UPSC Syllabus: GS 2-Governance

Context: India is facing an increasing water security crisis due to climate change, uneven distribution of water resources, and inadequate water management. With only **4% of the world's freshwater resources supporting 18% of the global population**, strengthening water security is essential for sustainable development, economic growth, and environmental conservation.

Major Challenges to Water Security in India

1. Rising water stress in cities

- a. Indian cities such as **Bengaluru, Mussoorie, and Delhi** are experiencing severe water shortages.
- b. A **monsoon rainfall deficit of more than 40% in June** has further intensified the water crisis.
- c. Delhi is currently receiving only about **70% of its total daily water requirement**.

2. Increasing water scarcity in river basins

- a. According to the **Council on Energy, Environment and Water (CEEW)**, **11 out of 15 major river basins** in India are experiencing water stress.
- b. River basins such as the **Krishna, Cauvery, Mahi, and Tapi** have crossed the water scarcity threshold, with annual water availability falling below **1,000 cubic metres per person**.

3. Global water insecurity is worsening

- a. The **United Nations University Institute for Water, Environment and Health (UNU-INWEH)** has warned about the possibility of global water bankruptcy.
- b. Several river basins across the world have become polluted and no longer discharge water into the sea.
- c. Aquifers are being depleted beyond sustainable limits.
- d. Nearly **four billion people** face severe water scarcity for at least one month every year.

4. Gaps in water infrastructure and governance

- a. Existing water supply infrastructure is poorly maintained in many parts of the country.
- b. Wastewater treatment facilities remain inadequate.
- c. Large quantities of water are lost during distribution because of high conveyance losses.
- d. Water pollution remains widespread, while low cost recovery affects the financial sustainability of water services.

Measures to Build Water Security in India

1. Invest in climate-resilient water infrastructure

- a. Governments should undertake detailed climate risk assessments of water infrastructure and services.
- b. Investments should be prioritised in high-risk areas, including coastal regions, flood-prone areas, and places with critical infrastructure such as schools and hospitals.
- c. Urban Local Bodies and Panchayats should utilise schemes such as the **Urban Challenge Fund** to finance these assessments.
- d. For example, **Visakhapatnam** has received **₹1,501 crore** under the Urban Challenge Fund for improving water supply and drainage systems.

2. Promote reuse of treated wastewater

- a. India should shift from a linear model of water use to a circular water economy by reusing treated wastewater.
- b. Treated wastewater should be used for non-potable purposes such as construction, landscaping, car washing, and cooling of data centres.
- c. Every city should prepare a comprehensive wastewater reuse plan.
- d. The **Thane Municipal Corporation** is using treated wastewater to reduce its freshwater deficit and generate additional revenue.
- e. According to **CEEW**, treated wastewater reuse can create an economic opportunity of about **₹3 lakh crore** and generate nearly **one lakh additional jobs by 2047**.

3. Expand micro-irrigation systems

- a. The coverage of drip and sprinkler irrigation should be increased beyond the present **20%** of the country's irrigation potential.
- b. Subsidies should be redesigned to make micro-irrigation affordable for small and marginal farmers by considering **0.4 hectares** as the base unit.
- c. Farmers should be encouraged to shift towards **low-water, high-value crops** such as horticulture and oilseeds.

- d. The **Pradhan Mantri Fasal Bima Yojana** should be strengthened by providing affordable insurance and ensuring faster settlement of claims.

4. Strengthen water data and monitoring systems

- a. India should generate reliable data on water withdrawals, losses, and consumption at the river basin level.
- b. Artificial Intelligence should be used to monitor water conveyance infrastructure and identify leakages.
- c. Smart bulk water meters and smart consumer water meters should be installed to improve water accounting and reduce losses.
- d. The successful rollout of over **4.93 crore smart electricity meters** can serve as a model for the water sector.

Conclusion: Water is a critical economic and environmental resource that supports human well-being, livelihoods, and ecosystems. India can achieve long-term water security by investing in climate-resilient infrastructure, promoting wastewater reuse, expanding efficient irrigation systems, strengthening water data systems, and ensuring political commitment, transparent governance, and public participation.

Question: India is facing a growing water security crisis due to climate change, inadequate infrastructure, and poor water governance. Discuss the major challenges and suggest measures to build a water-secure India.

Source: [The Hindu](#)

Counting cancer: On making cancer a notifiable disease in India

Source: The post “Counting cancer: On making cancer a notifiable disease in India” has been created based on “Counting cancer: On making cancer a notifiable disease in India” published in “The Hindu” on 4th July 2026.

UPSC Syllabus: GS 3-Science and Technology

Context: Cancer is emerging as a major public health challenge in India. However, it is **not a nationally notifiable disease**, resulting in incomplete and fragmented data on the disease burden. Making cancer a nationally notifiable disease can enable evidence-based policymaking and strengthen cancer control efforts.

Need to Make Cancer a Nationally Notifiable Disease

1. Rising cancer burden

- a. The **Global Cancer Observatory** projects that cancer cases in India will increase from **1.41 million in 2022 to 2.46 million by 2045**, representing a rise of over **74%**.
- b. The increase is driven by longer life expectancy, an ageing population, and changing lifestyles and dietary habits.

2. Inadequate national data

- a. Population-based and hospital-based cancer registries currently cover only **10–16% of the population**.

- b. These registries are mainly concentrated in urban areas and government healthcare institutions.

3. Poor coverage of private healthcare data

- a. A significant share of cancer treatment is provided by the private healthcare sector.
- b. Since reporting is not mandatory, many cancer cases are not captured in national databases.

4. Need for evidence-based policymaking

- a. Comprehensive data will help the government formulate effective prevention, screening, treatment, and awareness programmes.
- b. Accurate data will improve healthcare planning and resource allocation.

Challenges

1. Absence of national legal mandate: Cancer is not classified as a nationally notifiable disease because the current policy mainly restricts notification to communicable diseases.

2. Limited coverage of cancer registries: Existing registries cover only a small proportion of the population and have an urban and government hospital bias.

3. Inadequate reporting from the private sector: Private hospitals and diagnostic centres do not uniformly report cancer cases, resulting in fragmented data.

4. Initial surge in reported cases: National notification will lead to a sudden increase in recorded cases, which may create administrative and resource challenges in the short term.

Way Forward

1. Make cancer a nationally notifiable disease: The Union Government should mandate reporting of every diagnosed cancer case across all States and Union Territories.

2. Integrate public and private healthcare reporting: All public and private hospitals, laboratories, and diagnostic centres should be required to report cancer cases through a uniform national system.

3. Strengthen cancer surveillance: Existing population-based and hospital-based cancer registries should be expanded to ensure wider geographical and population coverage.

4. Adopt evidence-based cancer control measures: Reliable national data should be used to strengthen cancer prevention, screening, treatment, and rehabilitation programmes.

5. Improve Information, Education, and Communication (IEC): Disease data should be utilised to design targeted awareness campaigns for high-risk populations and encourage early diagnosis.

6. Implement ICMR recommendations: The Centre should implement the recommendation of the **ICMR–National Centre for Disease Informatics and Research (NCDIR)** to make cancer a nationally notifiable disease.

Conclusion: Making cancer a nationally notifiable disease will provide India with comprehensive and reliable data to strengthen surveillance, policy formulation, and healthcare planning. Learning from the **17 States** that have already adopted this measure, the Centre should establish a nationwide notification system to build an evidence-based and effective cancer control programme.

Question: Making cancer a nationally notifiable disease can strengthen India's cancer control strategy. Discuss the need, challenges, and the way forward

Source: [The Hindu](#)

The Iran Conundrum and the Decline of the West

UPSC Syllabus: Gs Paper 2- International Relation

Introduction

Since **1945**, the **United States and Western Europe** have largely shaped the international order through their military strength, technological leadership, and financial influence. However, the rise of **China**, the growing role of **middle powers**, and the recent **U.S.-Iran conflict** have raised fresh questions about the durability of Western dominance. The conflict has become an important geopolitical event with implications for regional stability, global power equations, and the evolving international order.

The Iran Conflict and the Erosion of Western Dominance

1. **Post-war Western dominance under pressure:** Since the Second World War, the U.S. and Western Europe have led world affairs through superior military capability, technology, and economic influence. This dominance is now being challenged by the rise of China and other emerging powers.
2. **China's rise weakened Western supremacy:** China's technological progress, innovation, and control over important strategic resources have reduced the relative influence of the U.S. Although the U.S. remains a major power, its unquestioned leadership has weakened.
3. **Iran exposed U.S. strategic vulnerabilities:** Many expected only another major power to challenge the U.S. Instead, Iran demonstrated that even a heavily sanctioned regional power could significantly affect the image of American supremacy.
4. **Resilience proved stronger than military superiority:** Iran's long experience during the **Iran-Iraq War (1980-1988)** built strong political resilience and determination. The U.S. underestimated this capacity, making it difficult to achieve its strategic objectives despite overwhelming military strength.
5. **Military prestige suffered during the conflict:** Reports that Iran successfully targeted advanced U.S. military assets, including an **F-35 stealth aircraft**, and forced American naval deployments to safer locations weakened the long-standing image of U.S. military invincibility.
6. **Conflict accelerated doubts about U.S. leadership:** The eventual need for negotiations instead of a decisive military outcome strengthened the perception that military superiority alone can no longer guarantee political success in international conflicts.

The New U.S.-Iran Understanding

1. **Initial agreement ended active hostilities:** Before formal negotiations, both countries reached an **initial agreement in mid-June 2026** to stop the conflict and reopen the **Strait of Hormuz**. This created conditions for further diplomatic engagement despite continuing disagreements.
2. **Versailles Memorandum drew criticism:** A **14-point Memorandum of Understanding**, signed on **June 17, 2026**, at the **Palace of Versailles**, was compared with the **1919 Treaty of Versailles**. Critics argued that it mainly restored the earlier situation instead of creating a meaningful breakthrough.
3. **Agreement focused on practical issues:** The framework included reopening the **Strait of Hormuz**, ending the U.S. blockade, discussing reconstruction worth nearly **\$300 billion**, and Iran's reported commitment not to develop nuclear weapons. However, the U.S. clarified that direct American funds would not be provided to Iran.
4. **Nuclear commitments remained unclear:** The U.S. claimed that Iran accepted the return of **International Atomic Energy Agency (IAEA)** inspectors. Iran, however, stated that it had made **no new commitments**, leaving uncertainty over future nuclear monitoring.
5. **Sanctions relief reflected changing realities:** The U.S. eased restrictions on Iranian oil exports by lifting some sanctions and issuing a **60-day waiver** for crude oil sales. Reports also suggested temporary relaxation of restrictions on Russian oil, showing adjustments driven by strategic and economic pressures.
6. **Deal offered limited gains for the U.S.:** Many observers viewed the agreement as a necessary truce rather than an American victory. International criticism suggested that the settlement delivered few tangible benefits while reducing the image of U.S. strategic dominance.
7. **Unresolved issues remained significant:** Questions continued over maritime safety, naval protection, emergency response mechanisms, and Iran's possible role in managing traffic through the **Strait of Hormuz**, including the possibility of charging transit fees.

Changing Geopolitical Equations in West Asia

1. **U.S.-Israel relations entered a difficult phase:** The agreement created visible differences between Washington and Tel Aviv. Israel's objective of decisively weakening Iran was not achieved, creating tensions in the strategic partnership between the two countries.
2. **Regional power balance began to shift:** Iran emerged from the conflict with greater political confidence despite suffering heavy damage. This altered regional calculations and strengthened its position in West Asian politics.
3. **Iran's internal power structure changed:** The growing influence of the **Islamic Revolutionary Guard Corps (IRGC)**, along with the rise of **Mojtaba Khamenei** after the death of **Ayatollah Ali Khamenei**, could shape a more assertive political and security approach within Iran.

4. **Energy routes gained greater strategic importance:** Iran demonstrated its ability to influence the global energy market through the **Strait of Hormuz**. Temporary disruption of shipping contributed to oil prices rising above **USD 110 per barrel**, highlighting the region's importance for global energy security.
5. **Gulf countries reassessed security partnerships:** As American influence appeared to weaken, Gulf nations began questioning their long-term dependence on U.S. security guarantees against regional threats, including a stronger Iran.
6. **External powers gained limited strategic advantage:** Although **Russia** and **China** expressed support for Iran, neither secured major geopolitical gains from the conflict. The main outcome was a more uncertain regional balance rather than the emergence of a clear new leader.
7. **Growing uncertainty reshaped regional diplomacy:** The conflict demonstrated that future stability in West Asia will depend less on military dominance and more on political negotiations, regional balancing, and strategic adaptability.

Emerging Regional and Global Security Challenges

1. **Rise of hardliners in Iran:** The agreement may strengthen Iranian hardliners who believe they forced the U.S. to compromise. This could encourage a more aggressive approach towards **Israel**, the **U.S.**, neighbouring Arab countries, and even domestic political opponents.
2. **Expanding role of the IRGC:** The growing influence of the **Islamic Revolutionary Guard Corps (IRGC)** could increase its role in shaping Iran's security and foreign policy. A leadership closely linked with the IRGC may make regional tensions more difficult to manage.
3. **Risk of renewed regional conflicts:** Iran may become more confident after the conflict and adopt a more assertive regional policy. This could increase the chances of fresh confrontations with **Israel** and several Arab countries.
4. **Israel's response may deepen instability:** Israel may react more aggressively after failing to achieve its strategic objectives against Iran. Such actions could increase military tensions and weaken the fragile peace created after the **Abraham Accords**.
5. **Growing sectarian tensions:** A stronger Iran could influence countries with large **Shia** populations, including **India**. This raises concerns over the possible rise of **Shia-Sunni** tensions in different regions.
6. **Energy security remains vulnerable:** Although the **Strait of Hormuz** reopened, concerns continue over shipping safety, naval protection, emergency response, and uninterrupted energy supplies. Any future disruption could again affect global oil markets.
7. **Questions over U.S. security commitments:** The conflict has encouraged Gulf countries to reconsider their dependence on American military protection. There could also be increasing demands to reduce the presence of U.S. troops in West Asia.

8. **Possibility of extremist revival:** Continued instability may create space for organised terrorist groups such as **al Qaeda** to regain strength. Such groups could expand their activities across **West Asia, Africa, Europe, and parts of Asia**, creating wider international security challenges.

Lessons for the Emerging Multipolar Order

1. **Military superiority alone is no longer enough:** The conflict showed that advanced military technology does not always ensure political success. Strategic resilience, economic pressure, and sustained resistance can influence the final outcome of a conflict.
2. **Negotiations remain essential:** Despite military confrontation, both sides eventually returned to dialogue. The agreement highlighted that diplomacy remains necessary even after intense conflict.
3. **Regional powers now shape global politics:** The conflict demonstrated that countries such as **Iran** can influence international politics beyond their military or economic size. Regional powers are becoming more important in a changing global order.
4. **Energy security has become a strategic tool:** Iran's ability to affect the **Strait of Hormuz** showed how control over key energy routes can influence global markets and international decision-making.
5. **Global power is becoming more dispersed:** The conflict reflected the gradual movement from a largely U.S.-led international system towards a more contested and multipolar order. No single country can now shape global outcomes without considering regional powers.
6. **Future conflicts may become more complex:** The interaction of military competition, economic sanctions, energy security, and regional rivalries shows that future geopolitical crises will involve multiple dimensions rather than conventional warfare alone.

Conclusion

The **U.S.-Iran conflict** reflects the gradual decline of unquestioned Western dominance and the emergence of a more contested global order. It shows that military superiority alone cannot always achieve political objectives. The conflict has reshaped strategic calculations in **West Asia**, while increasing uncertainty over regional security, energy supplies, and global stability. Future peace will depend on sustained diplomacy, regional dialogue, and responsible management of geopolitical rivalries.

Question for practice:

Examine how the recent U.S.-Iran conflict reflects the changing global order and its implications for West Asian geopolitics and international security

Source: [The Hindu](#)

How the American Revolution Led to the Making of the United States

UPSC Syllabus: Gs Paper 1- World History

Introduction

The **American Revolution (1775–1783)** transformed the **13 British colonies** into the **independent United States of America**. It began as resistance to growing British taxation and tighter imperial control after decades of colonial self-government. Over time, the movement developed into a struggle for **liberty, representative government, and natural rights**. The **Declaration of Independence (1776)** gave this struggle a clear political vision and laid the foundation for a new democratic nation.

Colonial Background and Growing British Control

1. **Formation of the British Colonies:** From the **1600s**, people from England and other European countries settled in North America. They established colonies on land where Indigenous communities had lived for centuries.
2. **Growth of the Thirteen Colonies:** By **1763**, Britain controlled **13 colonies** along the Atlantic coast. These colonies became economically important and developed their own local society.
3. **Colonial Self-Government:** Before the **1760s**, Britain exercised limited control because the colonies were over **3,000 miles (5,000 km)** away. The colonies managed many of their own affairs through local assemblies and leaders.
4. **Strategic Importance of North America:** North America became a region of competition among European powers. Britain therefore tried to strengthen its political and economic control over the colonies.
5. **Seven Years' War and Its Impact:** The **Seven Years' War (1756–1763)** was fought mainly between **Britain and France** for control over colonies and trade. Although Britain won, the war created huge debts, leading it to collect more revenue from the American colonies.
6. **Expansion of Parliamentary Authority:** To recover war expenses and tighten imperial control, Parliament passed measures such as the **Sugar Act (1764)** and later the **Tea Act (1773)**. These laws increased British interference in colonial affairs.
7. **Growing Colonial Discontent:** Many colonists believed Britain was reducing the freedoms they had enjoyed for decades. They increasingly viewed these policies as a threat to their liberty.

Causes of the American Revolution

1. **Taxation without Representation:** The colonists argued that Parliament could not tax them because they had **no representatives** in it. "**No taxation without representation**" became the central slogan of the movement.
2. **Stamp Act (1765):** The **Stamp Act** imposed taxes on newspapers, legal documents, licences, and other printed material. It became Parliament's first attempt to raise revenue through direct taxation in the colonies.
3. **Challenge to Colonial Authority:** The Stamp Act reduced the financial authority of colonial leaders. It also deepened the dispute over who had the right to govern the colonies.
4. **Townshend Acts (1767):** Parliament imposed new taxes on imported goods such as **tea, glass, paper, paint, and lead**. These taxes encouraged widespread protests and boycotts of British goods.

5. **Tea Act (1773):** The **Tea Act** allowed the **East India Company** to sell tea cheaply in the colonies through tax benefits. Colonists believed purchasing this tea would recognise Parliament's right to tax them.
6. **Different Views of the British Empire:** Many American leaders believed the colonies were equal partners within the British Empire and deserved the same rights as people in Britain. The British government maintained that Parliament had complete authority over the colonies.
7. **Rise of the Liberty Movement:** **Liberty** became the main idea behind colonial resistance. Protesters used symbols such as the **Liberty Tree**, while organisations like the **Sons of Liberty** gained support from craftsmen, labourers, and sailors.
8. **Role of Women in Resistance:** Women supported the movement by spinning cloth at home and encouraging the boycott of British goods. They became known as the **Daughters of Liberty**.

Major Events that Escalated the Conflict

1. **Stamp Act Protests:** Colonists organised widespread protests against the Stamp Act, forcing Britain to repeal it in **1766**. However, disagreements over taxation continued.
2. **Boston Massacre Increased Anger:** On **March 5, 1770**, British soldiers fired into a crowd in Boston, killing several people, including **Crispus Attucks, a dockworker of African and Native American ancestry who is widely regarded as the first martyr of the American Revolution**. The incident deepened hostility towards British rule.
3. **Boston Tea Party Became the Turning Point:** The **Tea Act (1773)** gave the **East India Company** special benefits to sell cheap tea. On **December 16, 1773**, colonists threw **more than 300 chests of tea** into Boston Harbour, causing a loss of about **£10,000 (equivalent to over US\$4 million today)**.
4. **Intolerable Acts (1774):** Britain punished the colonies by passing the **Intolerable Acts**, closing **Boston Port** and placing **Massachusetts under military rule**. Instead of weakening resistance, these measures united the colonies.
5. **First Continental Congress:** In **September 1774**, leaders from **12 colonies** met in **Philadelphia** to coordinate resistance against British policies. **Georgia** did not participate.
6. **Second Continental Congress:** In **May 1775**, the Congress created a continental army and appointed **George Washington** as its commander to lead the colonial forces.
7. **Olive Branch Petition:** The Congress made one final attempt to restore peace through the **Olive Branch Petition** in **July 1775**. Britain rejected the proposal, making armed conflict unavoidable.

Declaration of Independence and Birth of the United States

1. **Decision to Become Independent:** On **2 July 1776**, the Continental Congress formally declared the colonies independent from Britain. Two days later, on **4 July 1776**, it approved the **Declaration of Independence**.
2. **Adoption of the Declaration:** The Declaration was signed by **56 delegates**, who later became known as the **Founding Fathers** of the United States.

3. **Role of Thomas Jefferson:** Thomas Jefferson prepared the main draft, which was revised and approved by the Continental Congress. It became one of the most influential political documents in history.
4. **Justification for Independence:** The Declaration listed several grievances against King George III to explain why the colonies were separating from Britain.
5. **Natural Rights:** It declared that all men are created equal and possess unalienable rights, including Life, Liberty, and the pursuit of Happiness.
6. **Government by Consent:** The Declaration stated that governments receive their authority from the consent of the governed. If a government destroys people's rights, citizens have the right to change or abolish it.
7. **Foundation of the United States:** The Declaration gave the new nation a clear political and ideological foundation. It transformed the colonial struggle into the birth of the United States of America.

Victory and International Recognition

1. **Continuation of the Revolutionary War:** After the Declaration of Independence (1776), the conflict continued as the American colonies fought Britain to secure complete independence. The struggle lasted until 1783.
2. **George Washington's Leadership:** George Washington was appointed Commander-in-Chief of the Continental Army in 1775 and led the colonial forces throughout the Revolutionary War. His leadership helped unite the colonies during a difficult military campaign.
3. **Support from France:** France provided military, financial, and naval assistance to the American colonies. Its support greatly strengthened the revolutionary cause.
4. **Support from Spain and the Dutch Republic:** Spain and the Dutch Republic, both rivals of Britain, also supported the American struggle. Their assistance weakened Britain's position during the war.
5. **Treaty of Paris (1783):** The Treaty of Paris (1783) officially ended the American Revolutionary War. Britain formally recognised the independence of the United States through this treaty.
6. **Emergence of a Sovereign Nation:** International recognition completed the transition from 13 British colonies to an independent country. The United States entered the international system as a sovereign nation.

Impact and Historical Significance

1. **Birth of a New Republic:** The Revolution created the United States of America, ending British colonial rule. It established an independent republic based on representative government.
2. **Natural Rights Became a Political Principle:** The ideas of Life, Liberty, and the pursuit of Happiness became central to the country's political identity. These principles shaped future democratic institutions.

3. **Popular Sovereignty:** The Revolution established that governments derive their authority from the **consent of the governed**. Political power was seen as belonging to the people rather than the ruler.
4. **Right to Resist Oppression:** The Declaration recognised the people's right to replace governments that violate their rights. This became an important democratic principle.
5. **Global Influence of the Revolution:** The American Revolution inspired later struggles for **national independence** and **social equality** across many parts of the world.
6. **Lasting Influence of Liberty:** The Revolution made liberty the defining value of the new nation. Its ideas continued to influence American political life and constitutional development.

Limits and Contradictions of the Revolution

1. **Loss of Native American Lands:** American independence resulted in the expansion of settlement into Indigenous territories. Many Native American communities lost their land after the Revolution.
2. **Slavery Continued:** The promise of liberty existed alongside slavery. **Thomas Jefferson** himself owned **more than 100 slaves**.
3. **Freedom for Some Enslaved People:** Some enslaved people gained freedom by joining the conflict, especially those who escaped to British forces.
4. **Language of Liberty Inspired Resistance:** Enslaved communities later used the Revolution's ideas to demand equal rights.
5. **Women Remained Excluded:** Women did not receive political rights despite the Revolution's language of equality.
6. **Delayed End of Slavery:** Slavery continued, especially in the South, until the **13th Amendment (1865)** abolished it.

Conclusion

The American Revolution transformed **13 British colonies** into the **United States of America** through the struggle against British rule. It established the ideals of **liberty, natural rights, representative government, popular sovereignty, and government by consent** as the foundation of the new nation. However, these rights did not immediately extend to **Native Americans, enslaved people, and women**. Despite these limitations, the Revolution inspired democratic governance and later movements for national independence and social justice across the world.

Question for practice:

Evaluate how the American Revolution transformed the thirteen British colonies into the independent United States while shaping the ideals of liberty, representative government, and popular sovereignty.

Source: [Indian Express](#)

AI is reshaping warfare: How India can keep pace

Source: The post “AI is reshaping warfare: How India can keep pace” has been created based on “AI is reshaping warfare: How India can keep pace” published in “Indian Express” on 6th July 2026.

UPSC Syllabus: GS 3 -Science & Technology

Context: Artificial Intelligence (AI), military autonomy and algorithmic warfare are redefining modern warfare by integrating software, autonomous systems and data-driven decision-making into combat operations. These technologies are increasing battlefield speed, precision and lethality, making them central to future warfare and deterrence.

How AI, autonomy and algorithmic warfare are reshaping warfare

1. AI-enabled systems integrate data from multiple sources to provide commanders with real-time battlefield awareness and faster decision-making.
2. AI-driven "kill webs" compress the time between target detection and engagement from hours to a few minutes.
3. Drone warfare has emerged as a major technological revolution, with drones performing surveillance, target acquisition, logistics support and casualty evacuation.
4. Autonomous platforms are increasingly replacing humans in combat roles across land, air and sea domains.
5. AI-powered collaborative combat aircraft indicate a shift towards man-machine teaming in future air warfare.
6. Software innovations are occurring much faster than hardware development, making software a decisive factor in military capability.
7. Defence innovation is increasingly driven by agile technology startups alongside traditional defence industries.

Global examples highlighting the transformation

1. **Ukraine:** AI-enabled Delta platform integrates radar, imagery and social media inputs to create an intelligent battlefield network linked with drones.
2. **Russia-Ukraine conflict:** Drone-dominated battlefields have reduced the role of tanks and artillery, creating heavily contested "death zones."
3. **Venezuela:** AI tools provided intelligence on leadership movements and supported synchronised electronic, cyber and special forces operations.
4. **Iran:** AI-enabled targeting packages enabled machine-speed identification and precision strikes against leadership targets.

Challenges for India

1. India lacks an indigenous AI-enabled battlefield data integration platform comparable to Delta.
2. Limited integration of AI, autonomous systems and software into military operations.
3. Insufficient domestic capability in autonomous drone swarm technologies.
4. Need to rapidly scale indigenous drone manufacturing and deployment.
5. Inadequate deployment of advanced counter-drone systems against evolving drone threats.
6. Limited Low Earth Orbit (LEO) surveillance infrastructure for persistent offensive ISR.

7. Defence procurement remains platform-centric, whereas future warfare increasingly depends on software-driven capabilities.
8. Slow institutional adaptation to the rapid pace of technological innovation compared to global competitors.

Measures India should adopt

1. Develop an indigenous AI-enabled battlefield data analytics platform similar to Delta.
2. Create autonomous software for drone swarm coordination, target identification and engagement.
3. Build a large inventory of drones with a target of five million drones by 2028.
4. Deploy counter-drone systems, including laser and microwave weapons, supported by dedicated drone-hunting teams.
5. Establish AI-enabled drone "kill webs" along the Line of Control (LoC) and Line of Actual Control (LAC).
6. Expand India's Low Earth Orbit (LEO) satellite presence for offensive intelligence, surveillance and reconnaissance (ISR).
7. Allocate a significant share of defence modernisation expenditure towards technological and software-based capabilities.
8. Transform the Ministry of Defence from primarily a platform and weapons organisation into a software-driven enterprise.

Conclusion: India is witnessing a transformative phase in military affairs comparable to a "Manhattan Project" moment in warfare. Timely adoption of sovereign AI capabilities, autonomous systems and algorithmic warfare will strengthen India's combat effectiveness, enhance deterrence against adversaries and ensure technological self-reliance in future conflicts.

Question: Artificial Intelligence (AI), military autonomy and algorithmic warfare are transforming the nature of modern warfare. Discuss the implications of this transformation and suggest the measures India should adopt to keep pace.

Source: [Indian Express](#)

Two together: on the Japanese Prime Minister's visit to India

Source: The post "Two together: on the Japanese Prime Minister's visit to India" has been created based on "Two together: on the Japanese Prime Minister's visit to India" published in "The Hindu" on 6th July 2026.

UPSC Syllabus: GS 2 -International Relations

Context: India and Japan have strengthened their strategic partnership in response to evolving geopolitical uncertainties in the Indo-Pacific. Their focus is increasingly on deepening bilateral cooperation while insulating their partnership from uncertainties surrounding multilateral groupings.

Recent developments in India-Japan relations

1. India and Japan reaffirmed their commitment to an updated **Free and Open Indo-Pacific (FOIP)** vision.

2. Both countries signed **16 agreements**, including cooperation on **energy resilience**.
3. Agreed to strengthen cooperation across the **maritime energy transport value chain**.
4. Decided to develop **naval platforms** to improve maritime domain awareness and surveillance.
5. Expressed shared concerns over developments in the **South China Sea** and **East China Sea**.
6. Reaffirmed the importance of maintaining peace and stability in the **Taiwan Strait**.
7. Japan highlighted greater engagement with **India's North-East** through regional connectivity.
8. Recognised **BIMSTEC** as an important platform for regional cooperation.
9. Proposed linking Japan's investments in **Bangladesh** and **Thailand** with India's North-East through industrial value chains.

Significance of the partnership

1. Strengthens maritime security and ensures secure sea lanes in the Indo-Pacific.
2. Enhances energy security by safeguarding access to Gulf energy supplies.
3. Promotes regional connectivity and economic integration in the Bay of Bengal region.
4. Expands strategic cooperation beyond defence into technology, infrastructure and energy.
5. Supports a rules-based and inclusive Indo-Pacific order.

Challenges

1. Uncertainty regarding the future role of the **Quad** and evolving U.S. Indo-Pacific strategy.
2. Rising geopolitical tensions involving China in the South China Sea and East China Sea.
3. Need to balance relations with both the **United States** and **China** while protecting strategic interests.
4. Regional security risks affecting maritime trade and energy supply chains.
5. Managing multiple bilateral and multilateral partnerships simultaneously.

Way forward

1. Deepen bilateral cooperation independent of changing multilateral dynamics.
2. Expand collaboration in maritime security, energy resilience and emerging technologies.
3. Strengthen connectivity through India's North-East and the Bay of Bengal region.
4. Enhance cooperation through **BIMSTEC** and other regional mechanisms.
5. Continue strategic dialogue to maintain a stable, secure and rules-based **Indo-Pacific**.

Conclusion: India and Japan have emerged as key strategic partners in promoting stability, connectivity and prosperity in the Indo-Pacific. By strengthening bilateral cooperation while effectively managing relations with major powers, both countries can contribute to a secure and resilient regional order.

Question: India-Japan relations have acquired greater strategic significance amid changing geopolitical realities in the Indo-Pacific. Discuss the recent developments, challenges and the way forward.

Source: [The Hindu](#)

Hormuz to Home, India's Resilience in Uncertain Times

UPSC Syllabus: Gs Paper 3- Indian economy and infrastructure

Introduction

The Strait of Hormuz is one of the world's most critical maritime routes, carrying nearly one-fifth of global oil consumption. Any disruption affects energy supplies, shipping, freight and international trade. As India imports nearly 90% of its crude oil, tensions in West Asia exposed its vulnerability to external shocks. The crisis also demonstrated how coordinated institutions, sound policies and long-term investments can strengthen national resilience while sustaining economic stability and energy security.

Immediate Response to the Maritime Crisis

1. **Strategic Importance of Hormuz:** The Strait of Hormuz is a vital global energy corridor. Any disruption immediately affects international shipping, commodity markets and energy security.
2. **Impact on Maritime Trade:** Rising tensions created uncertainty in navigation, delayed commercial operations and increased freight and insurance costs.
3. **Safe Movement of Indian Vessels:** Indian authorities continuously coordinated with shipping companies, maritime authorities, diplomatic channels and international partners to ensure the safe passage of Indian-flagged vessels.
4. **Protection of Indian Seafarers:** The government remained focused on the safety and welfare of Indian crew members working in one of the world's most challenging shipping environments.
5. **Confidence Through Coordination:** Timely government intervention reduced uncertainty and restored confidence among shipping operators despite rapidly changing conditions.
6. **Improved Institutional Response:** India's handling of the crisis reflected greater coordination, agility and strategic planning in responding to external shocks.
7. **Experience from Earlier Crises:** Institutional capacity developed during the **COVID-19 pandemic**, global supply chain disruptions and earlier geopolitical crises strengthened India's response mechanism.

Managing Energy Security and Economic Stability

1. **High Dependence on Imported Crude:** India imports **nearly 90% of its crude oil**, making it highly vulnerable to disruptions in energy-producing regions.
2. **Economic Risks from Global Disruptions:** Rising crude oil prices, higher freight charges and shipping delays had the potential to increase inflation and create economic uncertainty.
3. **Macroeconomic Resilience:** Despite these pressures, inflation broadly remained within the **Reserve Bank of India's (RBI) target band**, while India continued to remain the **fastest-growing major economy**.
4. **Balanced Energy Management:** The government adopted a calibrated strategy that protected consumers while maintaining overall macroeconomic stability.
5. **Diversified Crude Supplies:** Supply diversification reduced dependence on a single region and improved India's ability to manage external disruptions.

6. **Inventory Management:** Strategic inventory planning and coordination with public sector energy companies ensured uninterrupted availability of petroleum products.
7. **Prudent Fuel Price Management:** Retail fuel prices were managed carefully, preventing sudden price shocks and helping moderate inflationary pressure.
8. **Domestic Growth Drivers:** Strong domestic demand, public investment and expanding manufacturing supported economic growth despite global uncertainty.

Government Initiatives and Institutional Coordination

1. **Whole-of-Government Approach:** Ministries, State governments, municipal authorities, oil marketing companies and industry associations worked together to minimise disruptions and ensure continuous energy supplies.
2. **Expansion of Gas Infrastructure:** Sustained investment expanded India's **City Gas Distribution** network from **55 geographical areas in 2014 to over 300**, improving access to cleaner fuels.
3. **Promotion of Piped Natural Gas:** The government encouraged the use of **Piped Natural Gas (PNG)** wherever infrastructure was available, improving flexibility during the crisis.
4. **Support for Exporters:** Exporters affected by higher freight charges, insurance costs and shipping delays received liquidity support, logistics facilitation and simplified customs procedures.
5. **Strong Export Performance:** These measures helped businesses continue serving global markets, contributing to **16% merchandise export growth during April-May FY27**.
6. **RBI's Financial Measures:** Comfortable liquidity, forex swap facilities, support for foreign currency deposits from **Non-Resident Indians (NRIs)** and tax rationalisation for **Foreign Portfolio Investors (FPIs)** strengthened financial stability and the external sector.
7. **Coal Gasification Programme:** The Union Cabinet approved a **₹37,500 crore** scheme to promote surface coal and lignite gasification, targeting **100 million tonnes annually by 2030** to improve long-term energy security.
8. **Investment Incentives:** The scheme provides financial support of up to **20% of plant and machinery costs** and extends coal linkage tenure to **30 years**, encouraging long-term industrial investment.
9. **Scaling Indigenous Innovation:** The **Centre for High Technology** approved scaling up indigenous **Dimethyl Ether (DME)** technology, showing how earlier scientific investments can support national resilience.

Building Industrial and Technological Resilience

1. **Diversified Crude Sourcing:** India nearly **tripled its crude supplier base** over the last two decades. This enabled refineries to quickly shift imports to the Americas, Atlantic Basin, West Africa, Russia and West Asia after the Hormuz disruption.

2. **Indigenous Refinery Capability:** Continuous investment in research, metallurgy, process innovation and workforce training enabled Indian refineries to process crude with different density, sulphur and viscosity levels without affecting product quality.
3. **Rapid Operational Flexibility:** Within weeks of the disruption, the share of non-Hormuz crude increased from **55% to 70%** of India's total crude intake. Public and private refineries quickly adjusted operating conditions and processed different crude grades safely.
4. **Engineering and Technical Expertise:** Years of investment in process understanding and operator training enabled engineers to manage complex refinery systems efficiently instead of treating them as fixed industrial units.
5. **Managing LPG Supply:** Under the **LPG Control Order**, domestic LPG production increased from **35 Thousand Metric Tonnes (TMT) per day to 54 TMT per day within five days** by optimising fractionation and cracking units. This reduced the immediate supply shortage, although long-term import dependence continued.
6. **Scaling Indigenous Innovation:** During the crisis, the Centre for High Technology approved scaling up the indigenous **CSIR's National Chemical Laboratory (NCL)** technology to produce **Dimethyl Ether (DME)**, demonstrating how earlier scientific investments became strategic assets.

Way Forward

1. **Strengthen Indigenous Research:** Continue investing in refinery science, metallurgy, process engineering and skilled manpower to build future industrial capability.
2. **Expand Coal Chemistry:** Scale up coal gasification and **Dimethyl Ether (DME)** production to reduce long-term dependence on imported LPG.
3. **Accelerate Technology Commercialisation:** Speed up the transition from laboratory innovation to commercial deployment through stronger industry participation.
4. **Deepen Institutional Collaboration:** Strengthen cooperation among research institutions, industry and government for faster technology development.
5. **Ensure Effective Policy Implementation:** Timely implementation of approved schemes is essential to convert policy support into industrial capability.
6. **Replicate the Refinery Model:** Apply the same long-term commitment to innovation, engineering excellence and technological learning in other strategic sectors.
7. **Institutional Preparedness:** Continue strengthening coordination, infrastructure and policy readiness so that future geopolitical shocks can be managed with minimum disruption.

Conclusion

The Hormuz crisis highlighted that national resilience depends on sustained preparation rather than emergency action alone. India's coordinated governance, energy diversification, technological capability and industrial strength helped limit the impact of a major external shock. As India advances towards Viksit Bharat 2047, continued investment in infrastructure, innovation, institutional capacity and energy security will remain essential for sustaining long-term economic growth and strategic resilience.

Question for practice:

Examine how India's response to the Strait of Hormuz crisis strengthened its energy security, economic resilience and long-term strategic preparedness.

Source: [The Hindu](#)

India needs a second home for Asiatic lions

UPSC Syllabus: Gs Paper 3- Ecology and Environment

Introduction

India has increased the **Asiatic lion population from only a few dozen in the early twentieth century to about 891 today**, making it one of the country's greatest wildlife conservation successes. However, the entire wild population remains concentrated in the **Gir landscape**, leaving the species vulnerable to disease, natural disasters and other ecological threats. The challenge now is to strengthen conservation by creating a geographically separate second free-ranging population.

Need for a Second Home for Asiatic Lions

1. **Conservation Success with Ecological Risk:** India has successfully increased the Asiatic lion population to **about 891**, but the entire wild population remains concentrated in one landscape. This makes the species vulnerable despite its growing numbers.
2. **Scientific Basis for a Second Population:** Reports of the **Wildlife Institute of India** and government-backed studies since the **1980s** have consistently shown that a single population faces a high risk from epidemics, forest fires and other disasters.
3. **Threat of a Single Catastrophic Event:** Conservation science considers one-location populations as a **single point of failure**. If Gir faces a major disaster, the entire wild Asiatic lion population could be lost.
4. **Need for Long-Term Species Survival:** Scientists support the **metapopulation approach**, where populations are spread across different habitats. This improves resilience and lowers extinction risk.
5. **Growing Pressure on Gir Landscape:** Gir covers only **1,412 sq km**, while **over 507 lions now live outside the protected area**, moving through farms, railway tracks and open wells. This increases risks for both lions and people.

Scientific, Legal and Policy Support for Translocation

1. **Wildlife Institute of India Recommendations:** Multiple reports of the **Wildlife Institute of India** have repeatedly recommended creating a second free-ranging population to ensure the species' long-term survival.
2. **Supreme Court Directive:** On **15 April 2013**, the Supreme Court ordered the translocation of Asiatic lions from Gir to **Kuno National Park**. It stated that conservation decisions must follow ecological principles rather than regional interests.

3. **Kuno Prepared for Lion Introduction:** Villages were relocated and habitats restored to prepare Kuno for lions. However, no lions have been shifted despite these preparations.
4. **National Heritage Principle:** The Supreme Court recognised that Asiatic lions are **India's national heritage** and not the property of any one State. Wildlife conservation should therefore serve national ecological interests.
5. **Policy Backing Continues: Project Lion (2020)** revived efforts to expand lion habitats and strengthen long-term conservation planning through additional protected populations.

Challenges in Establishing a Second Population

1. **State-Level Resistance:** Gujarat has opposed shifting lions outside the State. It has cited its conservation success and questioned habitat suitability elsewhere.
2. **Policy Deadlock:** Scientific advice, judicial directions and State-level interests have remained unresolved for over a decade, delaying implementation.
3. **Disease Vulnerability:** The **2018 Canine Distemper Virus (CDV)** outbreak killed **28 lions** and infected several others, showing the danger of keeping all lions together.
4. **Environmental Risks:** A single population remains exposed to droughts, forest fires, sudden prey decline and other unexpected events that could affect the entire species.
5. **Limited Genetic Diversity:** Hunting reduced Asiatic lions to fewer than **50** individuals in the early twentieth century. This created low genetic diversity and increased disease and reproductive risks.
6. **Conflict Between Ecology and Politics:** Wildlife is a shared constitutional responsibility, yet conservation decisions continue to be influenced by regional identity and political considerations.

Barda Wildlife Sanctuary: An Emerging Conservation Model

1. **A New Satellite Population:** Barda Wildlife Sanctuary, located about **100 km west of Gir**, is being developed as an ecological insurance population under **Project Lion**.
2. **Early Conservation Success:** After habitat restoration, a male lion naturally entered Barda in **2023**. Five relocated lionesses later produced **11 cubs**, increasing the population to **17 lions** by the **2025 census**.
3. **Project Lion Strengthens Conservation: Project Lion (2020)** promotes expansion of lion habitats. Barda has been recognised as **Satellite Population 8** under the **₹2,927 crore** programme.
4. **Improving the Prey Base:** Initial surveys found only **119 spotted deer** across **192.31 sq km**. The Forest Department relocated deer from Gir using the **Boma technique**, which safely moves animals without causing capture-related injuries.
5. **Strengthening Genetic Health:** Scientists are using **satellite telemetry** and planned relocations to improve genetic mixing within Barda's growing lion population and increase long-term resilience.

Way Forward for Long-Term Species Survival

1. **Create a Geographically Separate Population:** A second population should be located far enough from Gir so that disease or disasters cannot affect both populations at the same time.
2. **Follow Scientific Conservation Principles:** Conservation decisions should continue to follow scientific evidence supporting the **metapopulation approach**, which spreads populations across multiple habitats.
3. **Implement Existing Institutional Decisions:** The long-pending Supreme Court directive and national conservation plans require effective implementation to reduce long-term ecological risks.
4. **Balance National and State Interests:** Wildlife is a shared constitutional responsibility. Conservation decisions should prioritise national ecological security over regional identity.
5. **Strengthen Habitat Readiness:** Alternative habitats should have adequate prey, scientific monitoring and habitat restoration before supporting sustainable lion populations.

Conclusion

India has demonstrated that dedicated conservation can successfully restore the **Asiatic lion** population. Yet **numbers alone cannot ensure long-term survival** when every wild lion remains concentrated in one landscape. Creating a geographically separate second population is essential to reduce disease, disaster and genetic risks. Timely implementation of scientific recommendations will help transform conservation success into lasting ecological security.

Question for practice:

Examine the need for establishing a second free-ranging population of Asiatic lions in India for ensuring their long-term conservation and ecological security.

Source: [The Hindu](#)

Will El Niño weaken India's economy?

Source: The post “Will El Niño weaken India's economy?” has been created based on “Will El Niño weaken India's economy?” published in “The Hindu” on 7th July 2026.

UPSC Syllabus: GS 3– Indian Economy

Context: El Niño is a climate phenomenon that weakens the southwest monsoon and adversely affects India's agriculture-based economy. In 2026, the IMD reported a **40% rainfall deficit in June** and forecast **below-normal rainfall in July**, raising concerns about economic growth and food security.

Impact of a Poor Monsoon on India's Economy

1. **Decline in Agricultural Production:** A poor monsoon reduces agricultural production and lowers the contribution of agriculture to the economy.

2. **Fall in Rural Income and Demand:** A weak monsoon reduces farm incomes, which may decline by up to **10%**, and weakens consumer demand in rural areas.
3. **Rise in Food Inflation:** Lower agricultural output increases food prices and leads to higher food inflation.
4. **Impact on Livelihoods:** Agriculture contributes about **20% of Gross Value Added (GVA)**, employs **46% of the workforce**, and supports nearly **55% of India's population**. Therefore, a weak monsoon directly affects livelihoods.
5. **Slowdown in Rural Economy:** Reduced rural demand negatively affects sectors such as construction, automobile sales, tractors, and real estate.
6. **Lower Economic Growth:** A combined El Niño and drought may reduce India's GDP growth by **20–65 basis points**.
7. **Pressure on External Sector:** Lower agricultural production may increase imports, widen the **Current Account Deficit (CAD)**, put pressure on the rupee, and reduce agricultural exports despite their strong growth in recent years.

Impact of El Niño on Agriculture and Inflation

1. Several major droughts, including **1972, 1982, 2009, and 2015**, occurred during El Niño years.
2. Since 2000, five out of six El Niño years experienced deficient rainfall.
3. In **2009 and 2010**, poor rainfall caused crop GVA to contract by **2.5% and 3.2%**, respectively.
4. Food inflation reached double digits in 2009 because of lower agricultural output.
5. In 2015, inflation remained moderate due to effective food management, restrained MSP hikes, and low global commodity prices.

Is India Prepared for Another Weak Monsoon?

1. Around **315 districts** are vulnerable to poor monsoons.
2. Out of these, **111 districts across 12 States** face high risk due to poor irrigation facilities.
3. Reservoir storage is lower than last year and slightly below the normal level.
4. Another consecutive weak monsoon could severely strain water resources.

Measures to Drought-Proof India's Economy

1. The government should expand irrigation facilities to reduce dependence on rainfall.
2. It should increase public investment in climate-resilient agriculture.
3. Drought-resistant and high-yielding crop varieties should be developed and promoted.
4. Farmers should be provided easy access to improved seeds and modern technologies.
5. Policies should focus on reducing disaster risks before they occur rather than relying only on crop insurance.

Conclusion: El Niño poses a major challenge to India's agriculture, inflation, rural livelihoods, and overall economic growth. Strengthening irrigation, improving climate resilience, and investing in long-term risk reduction are essential to protect the economy from future droughts.

Question: Why does El Niño remain a major risk to India's economy? Discuss its impact on agriculture, inflation, and economic growth. Also suggest measures to drought-proof the Indian economy.

Source: The Hindu

India can become product nation of the world

Source: The post “India can become product nation of the world” has been created based on “India can become product nation of the world” published in “Business Line” on 6th July 2026.

UPSC Syllabus: GS 3– Indian Economy

Context: India must shift from being an assembly hub to becoming a **product nation** that designs, develops, manufactures, and brands products for global markets. This requires greater investment in innovation, intellectual property (IP), research, and globally competitive manufacturing.

Steps need to be taken to become a global product nation

1. Need to Move Beyond Assembly-Led Manufacturing

- a. India should move beyond assembling products designed abroad because most of the value is captured overseas.
- b. The country should focus on **inventing, designing, manufacturing, and branding** products within India.
- c. Higher value addition comes from research, patents, advanced engineering, branding, and global distribution.

2. Increase Public Investment in Research and Innovation

- a. The government should invest more in research and innovation to support high-risk technologies.
- b. Public funding has driven innovation in countries such as the United States through institutions like **DARPA**.
- c. India has already launched initiatives such as the **Production Linked Incentive (PLI) Scheme, Research, Development and Innovation (RDI) Scheme**, and **Anusandhan National Research Foundation (ANRF)**.
- d. These initiatives require sustained funding, faster implementation, and stronger private-sector participation.

3. Government as the First Customer

- a. The government should become the first and anchor customer for high-quality indigenous products.
- b. Public procurement can help domestic companies scale up and become globally competitive.
- c. Indigenous technologies should receive preference whenever quality standards are met.

4. Promote Intellectual Property (IP) Creation

- a. India should encourage the development of patents and intellectual property instead of relying only on manufacturing.
- b. Greater emphasis should be placed on product design, engineering, and innovation.
- c. Strong IP creation increases competitiveness and long-term economic value.

Challenges in Making India a Global Product Nation

1. **Assembly-led manufacturing:** India continues to assemble products designed abroad, resulting in most of the value addition and profits accruing to other countries.
2. **Low investment in research and innovation:** Public investment in research and innovation is still inadequate to support the development of globally competitive products.
3. **Limited intellectual property (IP) creation:** India generates relatively fewer patents and proprietary technologies, limiting its competitiveness in high-value industries.
4. **Weak government procurement support:** Government procurement has not been fully leveraged to promote and scale indigenous technologies and products.
5. **Slow implementation of policy initiatives:** Schemes such as the **PLI Scheme, RDI Scheme**, and **ANRF** require sustained funding, faster execution, and stronger private-sector participation.
6. **Intense global competition:** Countries such as China, Japan, South Korea, the United States, and Vietnam provide stronger financial support, R&D investment, and policy backing to their domestic industries.
7. **Limited global branding:** Although India has several successful companies, it still has relatively few globally recognized product brands across different sectors.
8. **Dependence on cost-based competitiveness:** India continues to rely heavily on low-cost manufacturing instead of competing through innovation, product design, advanced engineering, and branding.

Learn from Global Best Practices

1. Countries such as **Japan, South Korea, the United States, and the United Kingdom** supported industries through funding, affordable credit, and government procurement.
2. China promoted exports through **Special Economic Zones (SEZs)** and built globally recognized brands such as **Huawei** and **Xiaomi**.
3. South Korea invested heavily in R&D and created global brands such as **LG** and **Samsung**.
4. Japan encouraged domestic consumption of local products, helping its companies become global leaders.
5. Vietnam improved industrial competitiveness through incentives and lower financing costs.

Learn from Successful Indian Companies

1. **Titan** demonstrated how Indian companies can build globally competitive products through innovation and persistence.
2. **Nocca Robotics** developed a world-class ventilator during the COVID-19 pandemic within 90 days, showcasing India's engineering capability.
3. The **Vaccine Maitri** initiative enhanced India's global credibility by supplying vaccines to over 90 countries.
4. Companies such as **Serum Institute of India, Dr. Reddy's, Sun Pharma, Biocon, and Wockhardt** have established India's global presence in pharmaceuticals.
5. **Bajaj Auto** and **Mahindra & Mahindra** have expanded successfully into international markets.
6. **Tata Group, TCS, Infosys, Wipro, HCL, Asian Paints, Aarti Industries, Godrej, The Oberoi Group, and IHCL** have built globally recognized brands through quality and innovation.

Way Forward

1. India should strengthen collaboration between government, industry, and research institutions.
2. Investment in research, innovation, and product development should be increased.

3. Policies should encourage patent creation, advanced manufacturing, and global branding.
4. India should pursue the vision of "**Invent in India, Design in India, Build in India, and Brand India to the World.**"

Conclusion: India has the talent, entrepreneurial capacity, and policy support to become a global product nation. By investing in innovation, intellectual property, quality manufacturing, and strong global brands, India can move beyond cost-based competitiveness and emerge as a leading producer of world-class products.

Question: India must move beyond assembly-led manufacturing to become a global product nation." Discuss the steps required to achieve this goal with suitable examples.

Source: Business Line

AI Governance and a Voice for the Global South

UPSC Syllabus: Gs Paper 3- Science and Technology And Gs Paper 2- Governance

India hosted the **India AI Impact Summit 2026** to bring the **Global South's** needs into the centre of AI governance. The summit initially focused on **real-world harms, equity and inclusion**, but India's AI approach later shifted towards investment, domestic AI adoption and strategic partnerships. This created a debate on whether India should continue leading the **Global South** or move towards a **middle power** strategy while protecting its own strategic interests.

India's AI Governance Vision at the India AI Impact Summit 2026

1. **Global South at the Centre:** The summit placed the **needs and challenges of the Global South** at the centre of AI discussions instead of treating them as secondary concerns.
2. **Focus on Present-Day Harms:** India's approach gave priority to **real-world harms, equity and inclusion**, unlike earlier AI summits that mainly focused on catastrophic and existential AI risks.
3. **Different Policy Direction:** This marked a clear shift from the approaches followed at **Bletchley Park (2023)**, **Seoul (2024)** and **Paris (2025)** by addressing immediate concerns faced by developing countries.
4. **Context-Based AI Governance:** India's vision recognised that AI policies should reflect the **social and economic realities of the Global South** rather than applying one common approach for every country.

Shift in India's AI Strategy

1. **Move Towards AI Investment:** The policy focus gradually shifted from AI governance to **raising capital for AI development** and promoting AI adoption through domestic use cases.
2. **Middle Power Positioning:** India increasingly projected itself as a **middle power**, reducing the emphasis on **Global South solidarity** that had shaped the summit's original vision.
3. **Strategic Alignment with the U.S.:** India joined **Pax Silica**, signalling closer alignment with the **U.S.-led semiconductor supply chain** and adopting a **pro-innovation regulatory approach**.

4. **Concerns for Strategic Autonomy:** This shift raised concerns that India's growing strategic partnership could weaken its pursuit of **strategic autonomy** in AI governance.
5. **Mismatch with Ground Reality:** India's ambition to stand with countries such as **Japan** does not fully match its technological capacity, economic development, colonial history and **low per capita realities**, which continue to place it within the Global South.

Challenges Facing India's AI Ecosystem

1. **Dependence on Foreign AI Technology:** Questions remain whether India will mainly become a **consumer of U.S. AI technologies**, while Indian users bear a larger share of AI-related harms.
2. **Resource and Data Extraction:** India may increasingly supply **data, data-labelling labour, minerals, land, water and electricity** that mainly support the growth of American Big Tech.
3. **Limited Community Protection:** Land has been approved for **data centres**, leading to community displacement and protests, while meaningful safeguards for affected communities remain weak.
4. **Indigenous Knowledge Risks:** American companies continue scraping **public content** to build language and indigenous knowledge datasets without adequate protective guardrails.
5. **Weak Domestic Innovation:** India still cannot compete with **global foundation models**, semiconductor development remains focused on **low-value assembly**, and adequate investment for a strong national AI ecosystem remains uncertain.
6. **Slow Technology Growth:** Although non-profit organisations are signing agreements to expand AI use cases, this has not significantly strengthened **fundamental AI innovation**.

Why AI Governance Matters for the Global South

1. **Concentration of Economic Power:** The growing concentration of AI infrastructure and economic power in the **United States** raises concerns for developing countries.
2. **Uncertain Global Governance:** The U.S. has shown little interest in **global multilateral and multistakeholder AI governance**, creating uncertainty for international AI regulation.
3. **Lessons from Social Media:** There are concerns that AI may follow the same path as social media, where platform interests received greater protection than user safety.
4. **Unequal Distribution of Benefits:** Economic gains may largely remain with American companies, while business activities, users and AI-related harms spread across many countries.
5. **Need for Fair AI Development:** The Global South requires AI governance that protects users and ensures that economic value also remains within national markets.

India's Opportunity to Lead Global AI Governance

1. **Geneva Dialogue as an Opportunity:** The UN Global Dialogue on AI (July 6–7, 2026) provides an opportunity to develop collective rules for AI governance through multilateral and multistakeholder cooperation.
2. **Bridging a Leadership Gap:** India has the **political influence, technical capacity and diverse market** needed to help bring together a fragmented global AI policy agenda.
3. **Public Interest-Based AI Vision:** India can promote AI development based on **public purpose, user safety, strategic autonomy and international cooperation**, instead of acting only as an AI investment destination.
4. **Supporting Global South Priorities:** India can advocate international norms that help developing countries build **local AI ecosystems, strengthen regulation, improve skills and develop domestic infrastructure**.
5. **Promoting Fair Digital Markets:** India can also encourage stronger discussions on **competition, consumer protection and fair distribution of AI-generated economic value**.

Way Forward

1. **Strengthen Global South Cooperation:** India should create stronger partnerships among Global South countries to improve **agency and strategic autonomy** in AI governance.
2. **Pool AI Resources:** Countries should cooperate in **data, computing capacity, interoperable standards, shared governance protocols and technical resources**.
3. **Build Institutional Capacity:** Greater investment is needed to strengthen both **regulatory and technical institutions** across Global South countries.
4. **Develop Shared Governance Norms:** Common governance principles should ensure that AI benefits are shared fairly while protecting people from harm.
5. **Balance Innovation and Sovereignty:** India should support AI innovation while protecting **strategic autonomy, user interests and domestic economic value**.

Conclusion

India's AI journey now stands between **strategic partnerships** and **Global South leadership**. It has the capacity to shape AI governance that promotes **equity, user protection, strategic autonomy and international cooperation**. By strengthening cooperation among Global South countries and developing shared governance norms, India can help build an AI ecosystem where **both the benefits and responsibilities are distributed more fairly**.

Question for practice:

Discuss the challenges and opportunities before India in balancing strategic autonomy, AI governance, and leadership of the Global South in the evolving global AI landscape.

Source: [The Hindu](#)

How the Right to Walk is Integral to Modernity

UPSC Syllabus: Gs Paper 2- Constitution of India —historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

Introduction

Walking is more than a way of travelling. It represents **freedom, dignity, equality and participation in public life**. In a landmark judgment, the Supreme Court recognised the **Right to Walk safely on demarcated footpaths** as a **fundamental right** under **Articles 19(1)(d)** and **21**, following the death of a child caused by the absence of pedestrian infrastructure. The ruling restores walking as a constitutional right and an essential element of India's cultural and modern identity.

Constitutional Recognition of the Right to Walk

1. **Recognition as a Fundamental Right:** The Supreme Court, in *Maniyar Iliyaz @ Shaik Riyaz v. P. Ayyappan*, held that the Right to Walk on safe footpaths is protected under Article 19(1)(d) (freedom of movement) and Article 21 (right to life). This gives pedestrians an equal constitutional claim over public roads.
2. **Judgment Triggered by Preventable Tragedy:** The ruling followed the death of a five-year-old child who was hit by a tanker while walking to school because there was no footpath or pedestrian crossing. The Court observed that such accidents will continue unless access to roads is restructured.
3. **Limits of Existing Law:** The Court noted that the Motor Vehicles Act, 1988 neither recognises nor protects a fundamental right to walk. Instead, it has weakened pedestrian rights by focusing mainly on motor vehicles.
4. **Shift from Vehicle-Centric Planning:** The Court observed that cities have celebrated flyovers, expressways and large road projects while ignoring pedestrians. It stressed that footpaths should be continuous, safe, accessible, walkable and free from obstruction.
5. **Pedestrians Have Equal Rights on Roads:** The judgment rejected the idea that roads belong mainly to motor vehicles. It affirmed that walking is not a privilege granted by the State but a constitutional right owed to every citizen.
6. **Need for Effective Enforcement:** Constitutional recognition alone is not enough. State governments and municipal bodies must frame enforceable laws and ensure that citizens can walk safely without fear or inconvenience.

How the Right to Walk is Integral to Modernity

1. **Walking as a Basic Human Freedom:** Human freedom is often limited by laws and public regulations, but walking remains one of the simplest ways to exercise personal liberty. The judgment restores this overlooked freedom in everyday life.

2. **Walking Encourages Reflection:** Walking without a fixed purpose allows the mind to reflect, imagine and organise thoughts. This makes it an important feature of modern life.
3. **Walking Challenges Elitist Thinking:** The belief that roads mainly belong to vehicle owners reflects an elitist view of public spaces. The judgment rejects this and gives pedestrians an equal constitutional claim over roads.
4. **Walking Expands the Meaning of Modern Development:** Development should not be measured only by highways and flyovers. Safe footpaths and pedestrian-friendly streets are equally important indicators of a modern and inclusive society.
5. **Walking Strengthens Democratic Public Spaces:** Roads are shared public spaces where citizens exercise their freedom. Recognising the right to walk connects constitutional rights with everyday life.

Walking in India's Cultural, Historical and Political Tradition

1. **Walking in Indian Literature:** Indian literature has long celebrated walking as a symbol of freedom, courage and exploration. Works such as Rabindranath Tagore's "Ekla Chalo Re" and Jibanananda Das's "Banalata Sen" reflect this enduring tradition.
2. **Walking in Art and National Imagination:** Images such as Nandalal Bose's "Bapuji" and the Gyarah Murti sculpture have shaped the public memory of Mahatma Gandhi as a leader whose ideas were expressed through walking.
3. **Walking in India's Freedom Movement:** Walking became a powerful tool of political action through movements such as Gandhi's Dandi March, Subhash Chandra Bose's "Delhi Chalo", and many protest marches before and after Independence. It represented resistance, participation and collective action.
4. **Walking in Spiritual Traditions:** Walking has deep roots in India's spiritual history through figures such as Siddhartha, Guru Nanak, Chaitanya and other wandering seekers. It symbolised learning, meditation and the search for truth.
5. **Walking in Cultural Traditions:** Walking also appears in religious practices and language. Goddess Lakshmi's footprints in folk rituals and the use of "pada" as a poetic and knowledge unit show that walking has long been part of India's cultural imagination.
6. **Walking as a Shared Civilisational Value:** The Court recognised that walking has always influenced India's culture, society, religion, politics and reform movements. It has represented struggle for the disadvantaged, meditation for seekers, resistance for reformers and discovery for curious minds.

Significance of the Right to Walk

1. **Protection of Life and Human Dignity:** Safe footpaths reduce the risk of accidents and allow people to move with dignity. The judgment makes pedestrian safety a constitutional responsibility rather than only a traffic issue.

2. **Safer and More Inclusive Cities:** Functional footpaths benefit children, elderly persons and persons with disabilities, who depend more on safe walking spaces. They make public infrastructure accessible to all sections of society.
3. **Environmental and Public Health Benefits:** A 2019 study in Chennai found that 9% to 27% of people shifted from motorised transport to walking after new footpaths were built. This reduced greenhouse gas emissions and particulate pollution while encouraging healthier lifestyles.
4. **Economic and Social Benefits:** Better footpaths created savings and new opportunities for women and lower-income groups. Well-designed pedestrian spaces can support daily mobility without increasing transport costs.
5. **Strengthening Public Spaces:** Footpaths are more than walking paths. When properly planned and maintained, they can function as vibrant public spaces similar to parks or libraries, making cities more people-friendly.

Challenges in Realising the Right to Walk

1. **Poor Pedestrian Infrastructure:** Many footpaths are broken, dug up, blocked or end abruptly, forcing pedestrians onto busy roads. The absence of safe crossings further increases the risk of accidents.
2. **High Pedestrian Fatalities:** More than 1.8 lakh pedestrians died in road crashes between 2019 and 2024, averaging about 30,500 deaths annually. National Highways accounted for nearly 31% of these deaths, while 54% involved collisions with cars and two-wheelers.
3. **Uneven Availability of Footpaths:** According to the India Status Report on Road Safety, footpath availability ranges from 3% in Jammu and Kashmir to 73% in Maharashtra. States such as Bihar, Haryana and Puducherry continue to have very limited usable pavements.
4. **Vehicle-Centric Urban Planning:** Urban development has focused mainly on roads for motor vehicles. The Court observed that this approach has pushed pedestrians aside and treated them as obstacles instead of rightful road users.
5. **Encroachments and Conflicting Uses:** Footpaths are often occupied by street vendors, parked motorcycles, vegetable stalls and other activities. At the same time, many homeless people use pavements for shelter because they feel safer there than in night shelters, creating competing claims over limited public space.
6. **Accessibility and Enforcement Gaps:** Footpaths often contain poles, trees, potholes and other barriers, making movement difficult for persons with disabilities. Constitutional recognition will have little impact unless municipal bodies enforce standards and maintain pedestrian infrastructure.

Way Forward

1. **Develop Continuous and Safe Footpaths:** Every road should include continuous, obstruction-free and well-maintained footpaths along with safe pedestrian crossings.
2. **Adopt Pedestrian-First Urban Planning:** Road projects should give equal importance to pedestrians instead of focusing only on flyovers and expressways.
3. **Strengthen Enforcement and Municipal Accountability:** State governments and local bodies should frame effective rules and regularly monitor compliance with pedestrian safety standards.
4. **Ensure Universal Accessibility:** Footpaths should be designed to meet the needs of children, elderly persons and persons with disabilities by removing physical barriers.
5. **Balance Walking Rights with Livelihood Needs:** Urban planning should protect the right to walkwhile addressing the livelihood concerns of street vendors and the shelter needs of homeless people through better management of public spaces.
6. **Recognise Walking as a Public Right:** Public policy should treat walking as an essential part of mobility, health, sustainability and constitutional governance rather than as a secondary mode of transport.

Conclusion

The Supreme Court's judgment recognises that **walking is a constitutional right, not a privilege**. It connects **freedom, dignity, safety and equality** with everyday mobility. Protecting this right requires **safe infrastructure, effective enforcement and people-centred urban planning**, so that every citizen can move freely and securely in public spaces, making cities more **inclusive, humane and truly modern**.

Question for practice:

Discuss the significance of recognising the Right to Walk as a fundamental right and explain how it is integral to modernity in the Indian context.

Source: [The Hindu](#)