The Hindu Important News Articles For UPSC CSE

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While hearing a painful road accident case (in which a 5-year-old child was crushed to death by a truck), the Supreme Court has delivered a historic judgment. The Court has declared the freedom to walk safely on demarcated and well-maintained footpaths as a 'Fundamental Right'. In the judgment authored by Justice P.S. Narasimha, it has been clarified that this right of pedestrians will override the privilege of motorized vehicles running on roads. This decision of the Court is a major milestone in the fields of urban planning, civil rights, and judicial activism in India.

Key Analysis Points

Walking on footpath is a fundamental right, says SC

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Friday, in a judgment, declared the freedom to walk on demarcated and well-maintained footpaths a fundamental right which has priority over movement by motorised vehicles. The court highlighted the need to lay down a statutory framework, not only for declaring the right to walk a fundamental right, but also to recognise the duty-bearers.

"If a road exists, there must then be a duty to ensure that a footpath is demarcated and maintained for the walkers. This is an enforceable duty. The fundamental right to walk on demarcated footpaths shall override the privilege of a motorised vehicle," Justice P.S. Narasimha, who authored the judgment, held.

The judgment came in a case of the death of a five-year-old boy who was crushed to death by a truck while walking to school with his father. The court found that the parent was entitled to compensation of over ₹11 lakh.

'Most basic of rights'

Justice Narasimha said walking safely and carefree along footpaths, without danger lurking at every turn, was the most basic of rights. "It is the simplest of the human activity, inextricably connected to life."

The court said the Constitution recognised and guaranteed walking as a fundamental right in its words, "All citizens shall have the right... to move freely throughout the territory of India".

But over the years, demands of trade and urbanisation have relegated walking to an inconvenience. Governments and local bodies paralleled wide roads and expressways to growth, building motorways while leaving little space for walking, the court said.

"It could also be elitism to start with, for machines with wheels were only for the rich, but as economies progressed and cheaper motor vehicles were introduced, the entire spectrum of motorised transportation dominated the roads, pushed aside the walkers to the extent that they are treated as a nuisance for the drivers who routinely run over the walkers and their footpaths. This should stop from now on as we declare the fundamental right to walk on demarcated footpaths alongside motorised roads," the top court said.

"Walking is a struggle for the not-so-fortunate, meditation in motion for many, resistance for others, discovery for the inquisitive, a cohesive strategy for sharp socio-political minds. It certainly did inspire and ignite some of the ideals of the freedom struggle... In that sense, walking is not just motion, it certainly embodies expressional, congregational and associational rights under Article 19(1)(a), Article 19(1)(b) and Article 19 (1)(c)," Justice Narasimha said. Common spaces must not be the monopoly of motorised vehicles. The freedom to walk, subject to reasonable restrictions, also deserved ample space.

"In reality, how much does it take to create a well-demarcated footpath wherever a road exists? All that the fundamental right to walk demands is a comfortable space for an easy and carefree walk. Should this not be the minimum of the minimum duty that a municipal authority owes to the citizens?" the top court asked the government.

> If a road exists, there must then be a duty to ensure that a footpath is demarcated and maintained for the walkers. This is an enforceable duty... Walking is not just motion, it embodies expressional, congregational and associational rights under Article 19
> SUPREME COURT

Regulatory body

It said that the Motor Vehicles Act, 1988, had never bothered to recognise the fundamental right to walk. The Supreme Court also highlighted that the proposed Act must protect, enhance, and provide quick remedies for violations, and also establish a full-time regulator to plan, enforce, and implement the right to walk

"To enhance and effectuate the fundamental right to walk on demarcated footpaths, it is necessary to establish a regulatory body... Institutional expertise is critical, and such a regulator will employ human resources with domain expertise and talent," Justice Narasimha said. The court directed its Registry to send a copy of the judgment to the Ministries of Housing and Urban Affairs, Rural Development, Road Transport and Highways, to "reflect on the compelling necessity for initiating the necessary legal framework".

The Justice also said Constitutional courts were also obliged to declare and reiterate the right to walk as a fundamental right.

EDITORIAL: RIGHT OF WAY
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1. Constitutional Basis of the 'Right to Walk'

The Supreme Court has viewed this right by connecting it to the freedoms guaranteed under various articles of the Constitution:

- **Article 19(1)(d) (Right to Freedom of Movement):** The Constitution guarantees that all citizens have the right to 'move freely' throughout the territory of India. Safe footpaths are a basic necessity for this.
- **Article 21 (Right to Life):** Walking safely and without anxiety is the most basic activity of human life, which is directly linked to the right to live a safe and dignified life.
- **Article 19(1)(a), (b), (c) (Freedom of Expression, Assembly, and Association):** According to the Court, walking is not just physical movement. It is also a symbol of socio-political discourse, expression, peaceful assembly, and solidarity (such as the Dandi March during the freedom movement). Therefore, it is protected under these articles as well.

2. Elitism in Urbanization and Neglect of Pedestrians

- **Monopoly of Vehicles:** The Court remarked that initially, wheeled machines were possessed only by the wealthy, due to which 'elitism' dominated urban planning. Wide roads and expressways were accepted as the benchmarks of development.
- **Treating Pedestrians as a 'Hurdle':** With the arrival of affordable vehicles, motorized vehicles completely occupied the roads, pushing pedestrians to the margins. Today, the situation is such that drivers view pedestrians as a 'nuisance' and their footpaths are encroached upon.

3. Accountability of the 'Duty-Bearers'

- **Enforceable Duty:** The Supreme Court clarified that if a road exists, it is the legally binding duty of the local administration and municipal bodies to construct and maintain a safe footpath parallel to it.
- **Minimum Civic Responsibility:** The Court questioned whether providing a safe and comfortable footpath to citizens should not be the bare minimum duty of a municipal authority?

4. Need for a Regulatory Body and Legal Framework

- **Failure of the Motor Vehicles Act, 1988:** The Court highlighted that the fundamental rights of pedestrians have been completely ignored in the current Motor Vehicles Act.
- **Demand for a Full-Time Regulator:** The Court has directed the Central Government to draft a new statutory framework and establish a dedicated 'regulatory body'. This institution will have domain experts who will systematically plan, implement, and enforce the 'Right to Walk' in cities.
- **Directives to Top Ministries:** The Court has sent copies of this judgment to the Ministry of Housing and Urban Affairs, the Ministry of Rural Development, and the Ministry of Road Transport and Highways so that the process of enacting the necessary legislation can begin.

Way Forward

- **Democratization of Urban Planning (Pedestrian-Centric Design):** Future urban infrastructure and smart city projects must be designed by placing 'pedestrians and cyclists' at the center, rather than focusing solely on cars and expressways.
- **Strict Anti-Encroachment Policies:** Municipal corporations will have to take strict measures to remove illegal parking and commercial encroachments on footpaths to ensure they remain walkable.
- **Time-Bound Statutory Reforms:** Complying with the Supreme Court's directives, the Parliament should amend the motor vehicle laws or bring a 'Right to Walk Act' that includes provisions for accountability and penalties for officials who fail to construct footpaths.

Conclusion

The Supreme Court's judgment challenges the 'monopoly of vehicles' on India's roads and advocates for reclaiming public spaces for ordinary citizens. Elevating walking to the status of a fundamental right is not merely a legal declaration; it is an effort to provide safety and dignity to a vast segment of society (the poor, children, the elderly, and laborers) who do not own private vehicles. The real success of this right will now depend on how promptly the executive and local bodies translate it from paper into reality on the ground.

UPSC Prelims Exam Study Questions

Question: With which Articles of the Constitution has the Supreme Court primarily linked the "right to walk safely"?

1. Article 19(1)(d) – Right to move freely

2. Article 21 – Right to life and personal liberty

3. Article 19(1)(a) – Freedom of expression

Select the correct answer:

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) 1, 2 and 3

Ans: (d)

UPSC Mains Practice Questions

Question: The Supreme Court's recognition of the Right to Walk as a Fundamental Right reflects the evolving nature of constitutional rights in India. Discuss.(**10Marks, 150Words)**

Page 05 :GS III :Environment & Disaster Management/ Preliminary Examination

A new assessment by the geospatial intelligence firm 'Suhora Technologies', based on satellite data (ICEYE, PlanetScope, and LISS-IV), has revealed that four out of five high-risk glacial lakes located in the Tawang district of Arunachal Pradesh have expanded over the last decade (2016-2026). This expansion of lakes due to glacial retreat and the accumulation of meltwater in the Eastern Himalayas points to the threat of Glacial Lake Outburst Floods (GLOF), serving as a serious disaster warning for this sensitive region.

Four glacial lakes in Arunachal have expanded in a decade: study

Analysis by geospatial intelligence firm shows that the 'high-risk' lakes have increased in area, with one of them growing by 10 hectares; expert says expansion warrants attention but should not be interpreted as evidence of an impending disaster

Jacob Koshy
NEW DELHI

A satellite-based assessment of five glacial lakes in the Tawang district of Arunachal Pradesh has found that four have expanded over the last decade, with one lake showing rapid growth, adding fresh evidence to concerns over the threat posed by Glacial Lake Outburst Floods (GLOFs) in the eastern Himalaya.

The analysis – a report and not a peer-reviewed study – conducted by the Noida-based geospatial intelligence firm Suhora Technologies, examined five lakes in the Mago Chu basin that have been classified by the National Disaster Management Authority (NDMA) as "high-risk" or "very high-risk".

The assessment comes amid heightened attention on glacial hazards in the region following a recent risk evaluation by the Centre for Earth Sciences and Himalayan Studies (CESHS), Arunachal Pradesh.

Using imagery from ICEYE, PlanetScope, and LISS-IV satellites, Suhora compared the extent of the lakes between 2016 and June 2026. In a press statement, the company said that "four out of five lakes have expanded, reflecting a general trend of glacial retreat and meltwater storage". However, it cautioned that "lake expansion does not directly indicate a flood event" and said the findings instead highlighted "the importance of regular monitoring and further assessment to better understand future risks".

A new satellite study has flagged the importance of continuous monitoring of high-risk glacial lakes in Arunachal Pradesh. PTI

High-risk lakes

Among the lakes analysed, Sanhapo Lake showed the most significant growth. Suhora estimated its area at 78.07 hectares in 2019, increasing to 88.81 hectares by mid-June 2026. The company said that while uncertainties remain regarding its historical extent because of ice cover visible in its 2016 imagery, the lake has exhibited sustained expansion in recent years. Given its size and continued growth, Suhora identified it as the highest-priority lake among those assessed for detailed hazard modelling, continuous monitoring and possible early-warning systems.

The remaining lakes showed more modest changes. Two lakes categorised by the NDMA as "very high risk" expanded by about a hectare over the decade, while Dharkha Tso, listed as "high risk", also recorded gradual growth. A fifth lake remained broadly stable over the observation period.

Amit Kumar, co-founder and chief operating officer of Suhora Technologies, said satellite observations were increasingly important for monitoring remote mountain regions where field access was often difficult. "By comparing satellite imagery across multiple years, it is possible to track changes in glacial lake extent...with the monsoon season approaching, continuous observation of glacial lakes becomes increasingly important", he added.

Anil Kulkarni, glaciologist and distinguished fellow at the Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru and who wasn't connected to the study, said the observed expansion warranted attention but should not be interpreted as evidence of an impending disaster.

"If lakes are expanding, then it is considered as an unstable lake," he said. However, he stressed that the key question was why a lake was growing. Lakes impounded by moraines – ridges of rock and debris deposited by glaciers – can become hazardous when retreating glaciers increase the volume of water trapped behind them. Yet several other factors determine risk, including the possibility of landslides, avalanches or rockfalls entering the lake.

"Mere increase in area, even over a decade, cannot be a single criterion" for judging how dangerous a lake is, Mr. Kulkarni told *The Hindu*. "It can be a concern, but how risky it is, we do not know."

Concerns over floods

Worries over Himalayan glacial hazards have intensified since the October 2023 disaster in Sikkim, when a breach associated with South Lhonak Lake triggered floods that killed dozens of people and destroyed the Chungthang hydropower dam. GLOFs can occur when natural moraine dams fail or when large avalanches, landslides, or icefalls suddenly displace water and generate destructive waves.

Mr. Kulkarni said India's ability to identify potentially dangerous glacial lakes had improved considerably through satellite monitoring and modelling. However, he argued that translating scientific assessments into practical risk reduction remained a major challenge.

Key Analysis Points

1. Key Findings of the Study

- **Rapid Expansion of Lakes:** An increase in surface area has been recorded in four out of the five lakes. Among these, 'Sanhapo Lake' showed the most rapid expansion, with its size increasing from 78.07 hectares in 2019 to 88.81 hectares in June 2026 (an increase of nearly 10 hectares).

- **Risk Categorization:** The National Disaster Management Authority (NDMA) has classified two of these lakes under the 'Very High Risk' category and two others (such as Dharkha Tso) under the 'High Risk' category.
- **Role of Remote Sensing:** Due to difficult geographical conditions and inaccessible mountainous terrain, physical monitoring (field access) of these lakes is challenging. Therefore, continuous satellite-based observation is proving to be extremely crucial here.

2. What is a Glacial Lake Outburst Flood (GLOF) and Its Causes?

A GLOF occurs when the natural dam holding back a glacial lake formed by melting glaciers suddenly breaches, unleashing massive volumes of water and debris into downstream areas. Its primary causes include:

- **Instability of Moraine Dams:** As glaciers retreat, they leave behind loose rocks and debris (moraine), which act as unstable natural dams impounding the water. As the water volume rises, the risk of these dams breaching increases.
- **Triggering Factors:** According to eminent glaciologist Anil Kulkarni, a mere increase in the lake's surface area is not the sole metric of danger. Landslides, avalanches, or rockfalls around the lake can also suddenly displace water, generating catastrophic waves.

3. Escalating Threats and Concerns for the Eastern Himalayas

- **Fear of Recurrence of the October 2023 Sikkim Disaster:** Concerns regarding GLOFs in the Himalayan region have intensified significantly since October 2023, when a catastrophic flood was triggered by the breach of Sikkim's 'South Lhonak Lake'. This disaster claimed dozens of lives and completely destroyed the Chungthang hydroelectric dam.
- **Impact of the Monsoon:** With the arrival of the monsoon, heavy rainfall combined with accelerated glacial melting causes water levels in these lakes to rise dangerously, doubling the probability of an outburst.

4. Disaster Management and Policy Challenges

- **Accurate Assessment of Risk:** Although India's capacity to identify potentially dangerous lakes through satellites and data modeling has improved significantly, translating scientific assessments into practical ground-level risk reduction remains a major challenge.
- **Absence of Early Warning Systems (EWS):** Rapidly expanding lakes like Sanhapo urgently require detailed hazard modeling, continuous monitoring, and Early-Warning Systems, which have not yet been fully established.

Way Forward

- **Establishment of Early Warning Systems (EWS):** Real-time sensors and automated weather stations must be installed at high-risk lakes so that downstream communities can be safely evacuated as soon as water levels rise.
- **Engineering Interventions (Controlled Breaching):** If the water pressure in a lake increases excessively, water should be drained gradually through controlled siphoning or by constructing channels to prevent a sudden outburst.
- **Regional Cooperation among Himalayan Nations:** Since glaciers and rivers transcend political boundaries, sharing satellite data and formulating joint disaster management strategies among countries like India, Bhutan, and Nepal is imperative.

- **Climate-Resilient Infrastructure:** While constructing hydropower projects and roads in the Himalayan regions, strict safety standards must be adhered to by factoring in GLOF hazards.

Conclusion

The continuous expansion of glacial lakes in Arunachal Pradesh is evidence of how rapidly the impacts of climate change are spreading across the Indian Himalayan Region. While the expansion of every single lake does not signify an immediate disaster, ignoring it would be akin to inviting a tragedy like Sikkim all over again. Moving forward, the only way to safeguard the ecology of the Eastern Himalayas and the people living there is to translate timely scientific research into practical administrative policies and community preparedness.

UPSC Prelims Exam Study Questions

Question: What is a Glacial Lake Outburst Flood (GLOF)?

(a) Flood caused by excessive monsoon rainfall in plains

(b) Sudden release of water from a glacial lake due to failure of its natural dam

(c) Flood caused by cyclonic storm surge

(d) Flood caused by river embankment breach only

Ans : b)

UPSC Mains Exam Study Questions

Question: Discuss the causes and consequences of Glacial Lake Outburst Floods (GLOFs) in the Himalayan region. How does climate change aggravate the risk?**(10 Marks, 150 Words)**

Page 06 :GS III :Science and Tech/ Preliminary Examination

Recently, the Government of India announced a massive $2 billion (approximately ₹16,500 crore) drone procurement plan to boost domestic manufacturing. This step not only strengthens self-reliance (Aatmanirbharta) in the defence sector but also marks a major paradigm shift in the Indian military's strategy. The armed forces are now transitioning away from large, expensive platforms like fighter jets toward smaller, cheaper, and easily replaceable ("attritable") drone systems. However, in this highly dynamic technological landscape, the current 'Traditional Procurement Framework' risks becoming obsolete, highlighting an urgent need for structural reform.

Moving from drone purchases to drone partnerships

The Indian government's planned $2 billion drone procurement from domestic manufacturers reinforces its commitment to indigenous manufacturing and will boost the country's growing drone industry. It also signals a shift from buying large, sophisticated platforms such as fighter aircraft to smaller, cheaper and more attritable systems. This shift also means procurement practices will have to address the challenges that come with the territory.

Long-term capital procurement that deals with systems such as tanks and fighter jets, is likely to struggle to keep pace with the rapid demand for upgrades and modifications. The willingness to spend money on these platforms is a good sign, but the question now is whether procurement systems will spend it well.

The economics of drones

Although public conversations about military drones typically focus on large uncrewed combat aerial vehicles (UCAVs) such as the MQ-9B Reaper and the Bayraktar TB-2, recent conflicts have exemplified the utility of smaller, cheaper drones.

These typically fall within the 'micro' and 'nano' drone categories, and are built to be cost-effective. Both Iran's use of drones against the United States and Israel, and the use of drones in the Russia-Ukraine war, have followed this principle. Intercepting drones that are being used to strike high-priced hardware, is typically far more expensive than the drones themself. The trend across recent wars has been to produce vast numbers of cheap drones, and deploy them in large numbers. Creative uses and modifications of drones that were originally manufactured for commercial use, have also served as an inexpensive means to achieve military objectives.

Ukraine's use of first-person-view (FPV) drones that have been retrofitted with warheads has made many headlines. Innovation in the defence drone sector is therefore closely linked to innovation in civilian drone technology, creating a need for more iterative and collaborative research and development (R&D) processes. The case of the Chinese drone industry demonstrates the benefits of closer collaboration among industry, academia and the military.

Adya Madhavan

Researcher at the Takshashila Institution

India's drone ambitions require smarter contracts and continuous innovation

The challenge of drone relevance

The other unique aspect of procuring tactical drones, is that the challenge lies not in acquiring them, but in ensuring that they stay relevant. A state-of-the-art fighter jet or tank bought in 2015 is still relatively new today, and is reasonably competitive. Tactical drones bought today can be obsolete in as little as two to three years, as enemy capabilities and threat environments continue to evolve. Enemy electronic warfare (EW) units can adapt their jammers to the signal of a new drone in as little as six to eight weeks.

When Ukrainian engineers faced this issue, the solution was not to procure new systems with different communication links, but to replace radio links with fibre-optic cables. Processes need to be quick, and allow for rapid modifications and upgrades without the constraint of red tape and bureaucratic timelines.

Indian procurement frameworks have made some good provisions in this direction, but there is still scope for change. For instance, the draft Defence Acquisition Procedure (DAP) allows the armed forces to procure commercial-off-the-shelf (COTS) systems, enabling them to purchase commercial drones wherever they can be utilised. The DAP also has provisions to streamline upgrades. The Defence Procurement Manual (DPM) allows financial buffers for unforeseen repairs and upgrade costs. These are sensible moves.

The key shortcoming of current procurement frameworks is that buyer-seller relationships remain fundamentally transactional. The underlying assumption is that once the government identifies a requirement, it can issue a tender and procure a product that meets it.

However, in a domain where technology evolves rapidly, products require continuous iteration and improvement.

Partnerships, not transactions

A more suitable model for tactical drone procurement may resemble a managed service contract rather than like purchasing hardware.

Much like large organisations that procure computers with maintenance, software updates and replacement support, the armed forces could enter longer-term agreements with drone manufacturers. Such contracts would provide industry with demand predictability while ensuring assured supply, upgrade pathways and surge production capacity during conflicts. They would also create a framework for continuous improvements, including performance enhancements and adaptations to evolving electronic warfare threats. Most importantly, they would foster closer collaboration between the armed forces and industry in a domain where technology changes rapidly and future requirements are constantly evolving.

While Indian policy frameworks continue to take steps in the right direction, perhaps structural changes within these frameworks could create an environment better suited to keeping pace with the evolution of tactical drones. India's domestic drone industry has the technical foundation to support a more sophisticated procurement relationship. The $2 billion commitment is the clearest signal yet that the political will exists. Translating that into the right contractual architecture, one that prioritises sustained capability over one-off delivery, is the logical next step.

Key Analysis Points

1. The New Economics of Drones in Contemporary Warfare

- **Cost-Effective Lethality:** The Ukraine-Russia war and recent conflicts in West Asia (Iran-Israel) have conclusively proved that smaller, cheaper drones in the 'micro' and 'nano' categories are far more utilitarian than multi-million dollar combat drones (like the MQ-9B Reaper).

- **Asymmetric Warfare:** Swarms of low-cost drones are routinely deployed to destroy expensive, high-value military assets like tanks or radar installations. The air-defence missiles required to shoot down these drones cost several times more than the drones themselves, causing a massive economic drain on the adversary.

- **Civil-Military Convergence:** Commercial off-the-shelf (COTS) drones, such as First-Person-View (FPV) drones, are being rapidly weaponized by attaching warheads for tactical military missions. The spectacular success of the Chinese drone ecosystem lies precisely in this close, institutional coordination between industry, academia, and the military.

2. The Perpetual Challenge of Obsolescence Risk

- **Rapid Technological Decay:** A state-of-the-art fighter jet purchased in 2015 can easily remain relevant on the modern battlefield today, but a tactical drone bought today might become completely obsolete within the next 2 to 3 years.

- **Electronic Warfare (EW) Threats:** On the battlefield, an adversary's electronic warfare units can upgrade their jammers to block new drone signals in as little as 6 to 8 weeks. For instance, when Ukraine faced severe jamming issues, it rapidly bypassed radio frequencies to develop fiber-optic cable-guided drones. Responding to such threats requires a highly agile upgrade system free from bureaucratic red tape.

3. Current Status and Flaws of the Indian Defence Procurement Framework

- **Positive Interventions:** The Defence Acquisition Procedure (DAP) contains provisions that permit the military to directly purchase COTS drones from the market. Additionally, the Defence Procurement Manual (DPM) provides financial buffers for emergency repairs and ad-hoc upgrades.

- **The Core Limitation (Transactional Approach):** The primary flaw is that India's current procurement framework remains fundamentally 'transactional'. The government issues a tender, buys the hardware, and terminates the active dynamic with the vendor. This model is wholly unsuited for the evolutionary nature of drone technology, which demands constant, iterative feedback loops.

4. Transitioning from 'Buyer-Seller' to 'Managed Service Contracts'

The article suggests that rather than purchasing drones as one-time 'hardware', procurement should be structured as a **Managed Service Contract** (resembling the corporate model where companies lease IT hardware complete with lifecycle maintenance and routine software upgrades):

- **Demand Predictability:** Awarding long-term contracts provides domestic manufacturers with the financial predictability needed to aggressively invest in continuous Research and Development (R&D).

- **Continuous Upgrade Pathway:** These contracts legally obligate manufacturers to upgrade drone software and communication protocols in real-time to counter the enemy's evolving electronic warfare counter-measures.

- **Surge Capacity:** In the event of a geopolitical crisis or active war, these contracted domestic entities will possess the immediate infrastructure to scale up production capacity overnight to meet military demands.

Way Forward

- **Revamping Contractual Architecture:** The Ministry of Defence must structurally pivot its procurement policy from a "one-time delivery" mindset to long-term contracts that prioritize "sustained capability enhancement."
- **Strengthening Civil-Military Cohesion:** India boasts a robust commercial drone sector and a vibrant technology base. The government should bridge the gap between academic institutions (like the IITs), private startups, and the armed forces to co-create a unified, domestic R&D ecosystem.
- **Decentralizing Decision-Making:** To prevent drone modification files from getting entangled in bureaucratic delays, the financial and administrative powers of the military's technical wings should be expanded. On-field technological modifications must be approved swiftly at the operational level.

Conclusion

The government's $2 billion investment is a clear signal of strong political will toward achieving absolute defence indigenization. However, modern wars are not won simply by spending capital, but by out-innovating the adversary. If India wishes to emerge as a global drone superpower, it must shed the legacy mindset of a mere 'drone buyer' and step into the role of a 'strategic partner' to the domestic industry. This technological and systemic shift is what will keep the Indian Armed Forces permanently future-ready.

UPSC Prelims Exam Study Questions

Question: Which of the following best describes the concept of a "Managed Service Contract" in defence procurement?

(a) One-time purchase of equipment without future support

(b) Long-term arrangement including maintenance, upgrades and lifecycle support

(c) Import of fully assembled defence platforms only

(d) Procurement exclusively through government-owned enterprises

Ans: b)

UPSC Mains Practice Questions

Question: Recent conflicts have demonstrated that drones are transforming the economics and nature of warfare. Examine. **(10 Marks, 150 Words)**

Page 06 :GS II : Indian Polity / Preliminary Examination

Recently, a Supreme Court bench (comprising Justice P.S. Narasimha and Justice Atul S. Chandurkar) delivered a landmark ruling in a case involving the tragic death of a 5-year-old child hit by a tanker in Karnataka. The Court declared the 'right to walk on demarcated footpaths' a 'Fundamental Right' under Article 21 (Right to Life). However, this article underlines that unless this 'Judicial Nudge' is translated into practical infrastructure and public culture, this right will merely remain a legal tool for securing 'compensation' after accidents occur.

Key Analysis Points

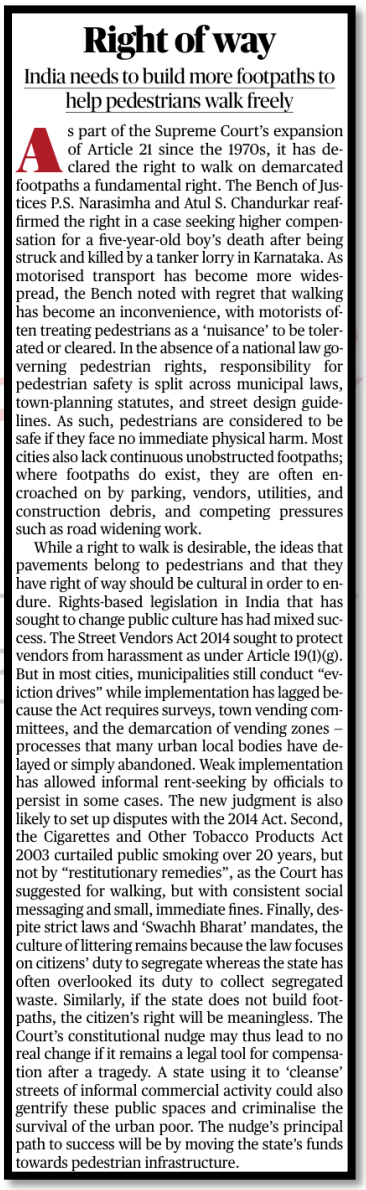
1. The Present Plight of Pedestrians in India

- **Dominance of Vehicles:** With the surge in motorized vehicles, walking has become an inconvenience. Drivers often view pedestrians on the road as a 'nuisance' or an obstruction.
- **Fragmented Legal Framework:** India lacks a central or national legislation governing the rights of pedestrians. The responsibility for their safety remains fragmented across municipal laws, town-planning statutes, and road design guidelines.
- **Obstructed and Broken Footpaths:** Most Indian cities lack continuous and barrier-free footpaths. Where footpaths do exist, they are completely choked by illegal vehicle parking, street vendors, electricity poles, construction debris, and road widening activities.

2. Failure of Right-Based Legislations and Cultural Challenges

According to the author, merely enacting a law does not transform public culture in India. Three key examples are cited to illustrate this:

- **The Street Vendors Act, 2014:** This law was enacted to protect the livelihood (Article 19(1)(g)) of street vendors. However, municipal corporations left the formation of Town Vending Committees and the demarcation of vending zones incomplete. Consequently, illegal eviction drives and informal rent-seeking by authorities continue in cities to this day.
- **The Cigarettes and Other Tobacco Products Act (COTPA), 2003:** The reduction of smoking in public places was achieved not through heavy fines, but through consistent social messaging and small, immediate penalties. In other words, the transformation must be cultural.



Right of way

India needs to build more footpaths to help pedestrians walk freely

As part of the Supreme Court's expansion of Article 21 since the 1970s, it has declared the right to walk on demarcated footpaths a fundamental right. The Bench of Justices P.S. Narasimha and Atul S. Chandurkar reaffirmed the right in a case seeking higher compensation for a five-year-old boy's death after being struck and killed by a tanker lorry in Karnataka. As motorised transport has become more widespread, the Bench noted with regret that walking has become an inconvenience, with motorists often treating pedestrians as a 'nuisance' to be tolerated or cleared. In the absence of a national law governing pedestrian rights, responsibility for pedestrian safety is split across municipal laws, town-planning statutes, and street design guidelines. As such, pedestrians are considered to be safe if they face no immediate physical harm. Most cities also lack continuous unobstructed footpaths; where footpaths do exist, they are often encroached on by parking, vendors, utilities, and construction debris, and competing pressures such as road widening work.

While a right to walk is desirable, the ideas that pavements belong to pedestrians and that they have right of way should be cultural in order to endure. Rights-based legislation in India that has sought to change public culture has had mixed success. The Street Vendors Act 2014 sought to protect vendors from harassment as under Article 19(1)(g). But in most cities, municipalities still conduct "eviction drives" while implementation has lagged because the Act requires surveys, town vending committees, and the demarcation of vending zones – processes that many urban local bodies have delayed or simply abandoned. Weak implementation has allowed informal rent-seeking by officials to persist in some cases. The new judgment is also likely to set up disputes with the 2014 Act. Second, the Cigarettes and Other Tobacco Products Act 2003 curtailed public smoking over 20 years, but not by "restitutionary remedies", as the Court has suggested for walking, but with consistent social messaging and small, immediate fines. Finally, despite strict laws and 'Swachh Bharat' mandates, the culture of littering remains because the law focuses on citizens' duty to segregate whereas the state has often overlooked its duty to collect segregated waste. Similarly, if the state does not build footpaths, the citizen's right will be meaningless. The Court's constitutional nudge may thus lead to no real change if it remains a legal tool for compensation after a tragedy. A state using it to 'cleanse' streets of informal commercial activity could also gentrify these public spaces and criminalise the survival of the urban poor. The nudge's principal path to success will be by moving the state's funds towards pedestrian infrastructure.

- **Swachh Bharat Abhiyan:** Despite strict laws, the culture of littering did not change initially because the law focused heavily on the citizen's duty to segregate waste, while the State failed in its basic duty of waste collection. Similarly, if the State does not construct footpaths, a citizen's right to walk becomes meaningless.

3. Potential Threats Arising Facing the 'Right to Walk'

- **Conflict Between Legislations:** A fresh judicial mandate to completely clear out footpaths will create a direct conflict with the 'Street Vendors Act, 2014', which grants vendors the legal right to carry out trade on pavements or roadsides.
- **Gentrification of Public Spaces:** If the State uses this judicial order merely as a weapon to 'clean' roads and displace informal commercial activities, it will lead to an elite-centric gentrification of public spaces. This risks criminalizing the livelihoods and very existence of the urban poor.

Way Forward

- **Shift in Budgetary Allocation (Fund Diversion):** The true success of this judicial directive will materialize when the State diverts a major portion of its financial resources toward building pedestrian infrastructure (footpaths/pavements) rather than solely constructing flyovers and expressways.
- **Inclusive Street Design:** Urban street design must be inclusive, ensuring that distinct and sufficient spaces are demarcated (zone demarcation) for both the pedestrian's right to walk and the street vendor's right to trade.
- **Cultural Transformation:** The principle that "pavements belong solely to pedestrians and they hold the primary right of way on roads" needs to be embedded not just into law, but into daily traffic culture and civic consciousness.

Conclusion

The Supreme Court's declaration of walking as a fundamental right is a commendable constitutional initiative. However, without the proactive participation of the State, this right will remain confined to paper. Instead of utilizing this judicial order as a tool to evict the poor, the government must leverage it to build an inclusive urban infrastructure. Ultimately, until the State dedicates its exchequer to pedestrian safety, the principle of 'Right of Way' on roads will remain unfulfilled.

UPSC Prelims Practice Questions

Question: Which of the following best reflects the concept of "Right of Way" in urban planning?

(a) Exclusive priority to motor vehicles
(b) Equitable allocation of road space among users
(c) Priority only to commercial transport
(d) Restriction on pedestrian movement

Ans: b)

UPSC Mains Practice Questions

Question: The recognition of the Right to Walk as a Fundamental Right marks an important evolution of constitutional jurisprudence in India. Discuss.**(10 Marks, 150 Words)**

India's cheapest power is here, the grid must catch up

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The country's clean-energy future depends on faster, smarter grid expansion and optimisation

India is leaving tens of gigawatts (GW) of cheap solar and wind power stranded – not because the projects are not ready, but because the grid is not. Upgrading the existing grid with advanced technologies and adding storage at key nodes can unlock 1,000 GW of new clean energy, without acquiring any additional land for transmission.

India is on the verge of a major shift in its electricity system. Solar and wind are now the country's cheapest power sources, and deployment is accelerating, with over 45 GW added in 2025, roughly matching the United States. Paired with some of the world's lowest battery costs, India can now deliver firm clean power at about ₹3.5 per kWh.

Yet, just as technology and prices have aligned, transmission has become the defining constraint. More than 50 GW of clean capacity is already stranded because projects can come online in 12 to 18 months, but transmission takes three to five years to build, slowed by land acquisition, multi-agency approvals, and restrictions on new corridors. Without faster and smarter grid expansion, the benefits of low-cost clean energy will remain out of reach.

India has about 250 GW of renewables today, 100 GW under construction, and will need about 2,000 GW by 2050 to meet rising demand and electrify industry and transport. This implies one of the largest transmission build-outs anywhere in the world. The question is no longer whether India must build more lines – it must –but whether new lines alone will suffice. They will not. India needs both major new transmission and far better use of the network it already has.

Creating clean-energy superhighways

India can unlock the equivalent of nearly 1,000 GW of renewable energy far faster than building new lines by tapping the vast potential of its existing grid. Much of this potential is hidden in plain sight. Four opportunities stand out.

Storage unlocks more from the same wires. First, most renewable plants today use their transmission connections only about 25% of the time. For example, solar energy fills the transmission line during the day, but the same connection sits idle during evening peaks and at night. It is a bit like a highway used only during rush hour – busy for a few hours, empty the rest of the day. Adding batteries at the same locations allows power to be stored and delivered during evening peaks and at night, raising utilisation two to three times without new corridors or land. This directly enables the equivalent of 400 GW of additional clean energy.

Coal corridors can also carry clean power. Second, power lines connected to coal-based power plants offer another major opportunity. Many high-cost or old coal plants, totalling about 100 GW, operate at low output for long periods despite having valuable transmission connections. Locating solar and wind near these stations allows clean power to use this underused capacity whenever coal units are not fully loaded. In many hours it is cheaper to transmit renewable power than to run the coal plant, giving developers access to scarce grid connection and providing coal plant owners new revenue from underutilised assets. This approach can enable the equivalent of 100 GW of additional clean energy.

Using existing substations. A third opportunity sits at existing transmission substations. Many of these locations can take on new grid connections, letting more renewable projects plug straight into the system. Coupling these nodes with batteries can further support peak-demand supply and help manage power flows. Nationally, this could support around 100 GW of additional clean energy.

Modern wires can carry double the power. And fourth, much of India's grid still uses older wires or conductors that sag under heat and restrict flow. Replacing them with high-temperature, low-sag conductors – manufactured domestically – can nearly double transfer capacity on the same towers and rights-of-way. It is like upgrading the engines on a train so it can haul twice as many goods on the same track – no new land, just better technology. This added headroom allows reconductoring to double the clean energy enabled by storage and shared transmission connections – raising the total potential to over 1,000 GW within the current transmission footprint and effectively transforming today's corridors into clean-energy superhighways.

A rapid path

Crucially, these solutions can be deployed within months, not years. They require no new land for transmission, minimal permitting, and far fewer approvals than building new corridors. They can relieve bottlenecks immediately, connect stranded clean power, and let new renewable projects advance while new lines catch up. They also improve grid utilisation and lower the average cost of using the grid.

New renewable energy projects will still require significant land, but locating them near coal plants, renewable energy hubs, or substations – where some land and grid access already exist – offers a practical, lower-conflict pathway as suitable land becomes increasingly difficult to secure.

India must build new transmission, but it must build it smart. A new line built with advanced conductors and designed to work with storage can carry four to five times more clean power for only a modest additional cost. And with India planning a 40% expansion of its grid over the next decade, costing well over $100 billion and ranking among the world's largest buildouts, every kilometre must be future-proofed from the start.

India will need both approaches. Upgrading and optimising the existing grid offers the fastest relief to today's bottlenecks, while smarter, higher-capacity new transmission infrastructure will be essential to support the massive renewable energy expansion required in the coming decades.

The policy shifts that will determine success

India already enjoys structural advantages: a unified national grid and a track record of adding transmission capacity faster than many developed countries. In the U.S. and parts of Europe, the inability to connect low-cost renewable energy to the grid has become the most severe bottleneck in the energy transition. As India accelerates renewable deployment, it can avoid this trap through forward-looking policy.

Three shifts matter most. First, India's national electricity regulator has already created enabling rules that require solar plants to make better use of their grid access by pairing with storage. This approach now needs to be implemented and expanded at the State level, with regulators and utilities actively incorporating it into planning and procurement decisions.

Second, regulation and procurement norms should reward the use of advanced transmission technologies that cost slightly more upfront but deliver greater system-wide benefits over their lifetime by expanding capacity without the need for new corridors.

Third, the coordinated development of large renewable energy zones and optimised transmission corridors is essential to overcome site-selection, planning, and timing challenges, and to enable the efficient movement of vast volumes of low-cost clean energy.

These measures will help India sustain its lead in low-cost clean power at a time when industries such as steel, aluminium, cement, data centres and chemicals are increasingly demanding reliable 24X7 electricity at predictable prices. The path ahead is clear: build all the transmission India can – and get far more out of every line. The grid is no longer background infrastructure. It is India's next engine of growth, and a cornerstone of a low-cost, high-productivity future.

GS Paper III: Indian Economy

UPSC Mains Exam Practice Questions: "India's energy transition is increasingly constrained not by generation capacity but by transmission bottlenecks. Examine. **(15 Marks, 250 Words)**

Context : India's energy transition is at a historic turning point, where solar and wind energy have become the country's cheapest sources of electricity. (In 2025 alone, India added a record 45 Gigawatts of clean energy capacity). Due to the falling prices of battery storage, India is now capable of delivering continuous clean energy (Firm Clean Power) at a rate of ₹3.5 per kilowatt-hour (kWh). However, the transmission grid has emerged as the biggest bottleneck facing this manufacturing revolution. Currently, approximately 50 Gigawatts (GW) of ready clean energy is stranded due to a lack of grid capacity. This is because renewable projects can be completed within 12 to 18 months, whereas building transmission lines takes 3 to 5 years due to land acquisition challenges and regulatory clearances.

Key Analysis Points

1. Four Major Opportunities to Double Grid Capacity (Unlocking 1,000 GW)

Without any additional land acquisition, approximately 1,000 Gigawatts of new clean energy can be unlocked from the existing grid network through advanced technologies. Its four main pillars are as follows:

- **Harnessing the Grid via Battery Storage (400 GW capacity):** Currently, renewable energy plants utilize only about 25% of their transmission capacity (solar power fills the grid during the day, but the lines remain empty at night). If Battery Energy Storage Systems (BESS) are added at grid nodes, the utilization of lines will increase by 2 to 3 times.
- **Repurposing Coal Corridors (100 GW capacity):** Several old or expensive coal plants in India (amounting to nearly 100 GW capacity) run at low capacity, but they possess valuable transmission connectivity. By setting up solar/wind plants near these areas, the same grid line can be utilized when the coal plants are not operating at full capacity.
- **Upgrading Existing Sub-Stations (100 GW capacity):** The country's existing sub-stations have the capacity to accept new grid connectivity. By integrating them with batteries, peak-demand management can be significantly improved.

- **Utilizing Modern Wires (Reconductoring):** Most of India's legacy transmission lines sag during peak summer heat, which restricts the flow of electricity. By replacing them with domestically manufactured High-Temperature, Low-Sag (HTLS) conductors, power transmission capacity can be doubled using the same existing towers.

2. Rapid and Smart Path with Lower Costs

- **Time Efficiency:** These technological solutions can be deployed in a few months rather than years, as they do not require carving out new corridors, acquiring fresh land, or obtaining lengthy environmental clearances.
- **Smart New Transmission:** India plans to expand its grid by 40% over the next decade, incurring a cost of over $100 billion. These future lines must be designed as 'future-proof' from the outset by integrating advanced conductors and storage compatibility so that they can carry 4 to 5 times more power.

3. Three Critical Policy Shifts Required for Success

Grid connectivity deficits have become the biggest obstacle to the energy transition in the US and Europe. To avoid this trap, India must adopt the following policy measures:

- **Enforcement of Rules at the State Level:** The national electricity regulator has formulated rules to make storage mandatory for solar plants; this must now be strictly integrated into procurement plans by State Electricity Regulatory Commissions (SERCs) and Distribution Companies (DISCOMs).
- **Prioritizing Life-Cycle Costing:** Rather than focusing solely on upfront costs during procurement and tendering processes, criteria should reward advanced technologies that offer superior system-wide benefits over their operational lifecycle.
- **Coordinated Development of Renewable Energy Zones (REZ):** To eliminate mismatches between site selection and transmission timelines, integrated planning of mega Renewable Energy Zones with matching grid corridors is essential.

Way Forward

- **Viewing the Grid as an Engine of Economic Growth:** The demand for 24x7 reliable and affordable power is no longer limited to households; India's heavy industries (steel, aluminum, cement), data centers, and chemical industries urgently need it to remain globally competitive.
- **Hybrid Policy on Storage:** To manage peak hours, the co-location of grid-scale Pumped Storage Projects (PSP) and lithium-ion/sodium-ion battery systems must be accelerated.

- **Public-Private Partnership (PPP):** Regulations should be simplified to attract private investment and global technical expertise into grid modernization and reconductoring projects.

Conclusion

India possesses a robust framework with an integrated national grid (One Nation, One Grid). However, to meet the massive energy demands of the coming times, merely laying down new transmission lines will not suffice. True strategic wisdom lies in executing "maximum power extraction from every existing line" alongside "building more transmission lines." The grid is no longer just background infrastructure; it is the strongest cornerstone for achieving India's future economic productivity, industrial growth, and Net-Zero (2070) targets.