



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>
YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>
CONTACT: 9971932488



PATRIOTIC IAS

DAILY CURRENT AFFAIRS

THE HINDU NEWSPAPER

23 DECEMBER 2025

YouTube link: <https://www.youtube.com/@PatrioticIAS>

Telegram Channel: <https://t.me/patrioticIAS>

PCS Special:	23 December 2025
1.	<p>Saudi Arabia confers top civilian honour on Pakistan military head Asim Munir सऊदी अरब ने पाकिस्तान के सैन्य प्रमुख आसिम मुनीर को सर्वोच्च नागरिक सम्मान प्रदान किया</p>
2.	<p>Japan votes today on restarting world's biggest nuclear plant जापान आज दुनिया के सबसे बड़े परमाणु संयंत्र को फिर से शुरू करने पर मतदान करेगा</p>

Address : 3rd Floor, KV Tower, Padleyganj Road, Gorakhpur
Email Id : info@patrioticias.in
Contact Number : 9971932488
Website : patrioticias.in



Saudi Arabia confers top civilian honour on Pakistan military head Asim Munir

PCS

Associated Press

ISLAMABAD

Saudi Arabia has awarded its highest national honor to Pakistan's Army Chief, Field Marshal Asim Munir, during his visit to Riyadh, Pakistan's military said on Monday, underscoring deepening ties between the two countries, including cooperation on counterterrorism.

Field Marshal Munir received the King Abdulaziz Medal of the Excellent Class on Sunday, months after Saudi Crown Prince Mohammed bin Salman signed a defence pact with Pakistani Prime Minister Shehbaz Sharif.

Field Marshal Munir's visit to Saudi Arabia and



Saudi Arabia's Defence Minister Prince Khalid presents the award to Pakistan's Chief of Army Staff Asim Munir. X/KBSALSAUD

other Islamic countries is his first since his promotion to Pakistan's newly created post of Chief of Defence Forces, aimed at improving coordination among the army, navy, and air force.

In a statement, Pakis-

tan's military said the award "underscores the depth of Pakistan-Saudi Arabia relations and the shared determination of both nations to strengthen further strategic cooperation in pursuit of regional and global peace."

Saudi Arabia confers top civilian honour on Pakistan military head Asim Munir सऊदी अरब ने पाकिस्तान के सैन्य प्रमुख आसिम मुनीर को सर्वोच्च नागरिक सम्मान प्रदान किया

- Saudi Arabia has awarded its **highest national honor** to Pakistan's **Army Chief, Field Marshal Asim Munir**, during his visit to **Riyadh**, Pakistan's military said on **Monday**, underscoring **deepening ties** between the two countries, including cooperation on **counterterrorism**.

सऊदी अरब ने रियाद यात्रा के दौरान पाकिस्तान के सेना प्रमुख, फील्ड मार्शल आसिम मुनीर को अपना सर्वोच्च राष्ट्रीय सम्मान प्रदान किया, पाकिस्तान की सेना ने सोमवार को कहा, जो दोनों देशों के बीच गहराते संबंधों, जिनमें आतंकवाद-रोधी सहयोग भी शामिल है, को रेखांकित करता है।

- Field Marshal Munir received the **King Abdulaziz Medal of the Excellent Class** on **Sunday**, months after **Saudi Crown Prince Mohammed bin Salman** signed a **defence pact** with Pakistani Prime Minister **Shehbaz Sharif**.

फील्ड मार्शल मुनीर को रविवार को किंग अब्दुलअज़ीज़ मेडल ऑफ द एक्सीलेंट क्लास प्रदान किया गया, यह सम्मान सऊदी क्राउन प्रिंस मोहम्मद बिन सलमान द्वारा पाकिस्तानी प्रधानमंत्री शहबाज़ शरीफ़ के साथ रक्षा समझौते पर हस्ताक्षर किए जाने के महीनों बाद दिया गया।

- Field Marshal Munir's visit to **Saudi Arabia** and other **Islamic countries** is his **first** since his promotion to Pakistan's newly created post of **Chief of Defence Forces**, aimed at improving coordination among the **army, navy, and air force**.

फील्ड मार्शल मुनीर की सऊदी अरब और अन्य इस्लामी देशों की यात्रा, पाकिस्तान के नव-निर्मित पद चीफ़ ऑफ़ डिफेंस फ़ोर्स में पदोन्नति के बाद उनकी पहली यात्रा है, जिसका उद्देश्य सेना, नौसेना और वायुसेना के बीच समन्वय को बेहतर बनाना है।





- In a statement, Pakistan's military said the award "underscores the depth of Pakistan-Saudi Arabia relations and the shared determination of both nations to strengthen further strategic cooperation in pursuit of regional and global peace."
एक बयान में पाकिस्तान की सेना ने कहा कि यह सम्मान "पाकिस्तान-सऊदी अरब संबंधों की गहराई और क्षेत्रीय व वैश्विक शांति की दिशा में रणनीतिक सहयोग को और मज़बूत करने के लिए दोनों देशों के साझा संकल्प को रेखांकित करता है।"

Japan votes today on restarting world's biggest nuclear plant

PCS
Reuters
NIIGATA

Japan is set to take the final step to restart world's largest nuclear power plant on Monday when the Assembly of Niigata prefecture in country votes on the resumption of operations a watershed moment for the country's pivot back to nuclear energy nearly 15 years after the Fukushima disaster.

Kashiwazaki-Kariwa, located about 220 km northwest of Tokyo, was among 54 reactors shut after the 2011 earthquake and tsunami crippled the Fukushima Daiichi plant in the worst nuclear disaster since Chernobyl. Since then, Japan has restarted 14 of the 33 that remain operable, as it tries to wean itself off imported fossil fuels. Kashiwazaki-Kariwa will be the first operated by Tokyo Electric Power Co (TEPCO), which ran the doomed Fukushima plant.

Around 300 protesters, mostly older people gathered in front of the Niigata prefecture assembly on a chilly, grey Monday, as local lawmakers prepared to make their decision later in the day.

"We remain firmly committed to never repeating such an accident and ensuring Niigata residents never experience anything similar," said TEPCO spokesperson Masakatsu Takata. Mr. Takata declined to comment on timing.

TEPCO earlier this year pledged to inject 100 billion yen (\$641 million) into the prefecture over the next 10 years as it sought to win the support of Niigata residents.

But many locals remain wary.

A survey published by the prefecture in October found 60% of residents did not think conditions for the restart had been met. Nearly 70% were worried about TEPCO operating the plant.

doomed Fukushima plant.

काशीवाज़ाकी-कारिवा टोक्यो इलेक्ट्रिक पावर कंपनी (TEPCO) द्वारा संचालित किया जाने वाला पहला संयंत्र होगा, जिसने दुर्भाग्यपूर्ण फुकुशिमा संयंत्र चलाया था।

- Around 300 protesters, mostly older people, gathered in front of the Niigata prefecture assembly on a chilly, grey Monday, as local lawmakers prepared to make their decision later in the day.
लगभग 300 प्रदर्शनकारी, जिनमें अधिकांश बुजुर्ग लोग थे, ठंडी और धूसर सोमवार को निगाता प्रांत विधानसभा के सामने एकत्र हुए, जब स्थानीय विधायक दिन में बाद में निर्णय लेने की तैयारी कर रहे थे।

Japan votes today on restarting world's biggest nuclear plant

जापान आज दुनिया के सबसे बड़े परमाणु संयंत्र को फिर से शुरू करने पर मतदान करेगा



- Japan is set to take the final step to restart the world's largest nuclear power plant on Monday when the Assembly of Niigata prefecture in the country votes on the resumption of operations, in a watershed moment for the

country's pivot back to nuclear energy nearly 15 years after the Fukushima disaster.

सोमवार को जापान दुनिया के सबसे बड़े परमाणु ऊर्जा संयंत्र को फिर से शुरू करने की दिशा में अंतिम कदम उठाने जा रहा है, जब देश की निगाता प्रांत विधानसभा संचालन बहाली पर मतदान करेगी, जो फुकुशिमा आपदा के लगभग 15 वर्ष बाद परमाणु ऊर्जा की ओर वापसी का एक महत्वपूर्ण क्षण है।

- Kashiwazaki-Kariwa, located about 220 km northwest of Tokyo, was among 54 reactors shut after the 2011 earthquake and tsunami crippled the Fukushima Daiichi plant in the worst nuclear disaster since Chernobyl.

काशीवाज़ाकी-कारिवा, जो टोक्यो से लगभग 220 किमी उत्तर-पश्चिम में स्थित है, उन 54 रिएक्टरों में शामिल था जिन्हें 2011 के भूकंप और सुनामी के बाद बंद कर दिया गया था, जब फुकुशिमा दाइची संयंत्र चेरनोबिल के बाद की सबसे भीषण परमाणु आपदा में क्षतिग्रस्त हो गया था।

- Since then, Japan has restarted 14 of the 33 that remain operable, as it tries to wean itself off imported fossil fuels.

तब से जापान ने संचालन योग्य 33 में से 14 रिएक्टरों को फिर से शुरू किया है, क्योंकि वह आयातित जीवाश्म ईंधनों पर निर्भरता कम करने की कोशिश कर रहा है।

- Kashiwazaki-Kariwa will be the first operated by Tokyo Electric Power Co (TEPCO), which ran the



- “We remain **firmly committed** to never repeating such an accident and ensuring **Niigata residents** never experience anything similar,” said **TEPCO spokesperson Masakatsu Takata**.
“हम ऐसे हादसे को दोहराने से **पूरी तरह प्रतिबद्ध** हैं और यह सुनिश्चित करेंगे कि **निगाता के निवासियों** को फिर कभी ऐसा अनुभव न हो,” **TEPCO के प्रवक्ता मासाकात्सु ताकाता** ने कहा।
- Mr. Takata declined to comment on **timing**.
श्री ताकाता ने **समयसीमा** पर टिप्पणी करने से इनकार किया।
- **TEPCO** earlier this year pledged to inject **100 billion yen (\$641 million)** into the prefecture over the next **10 years** as it sought to win the support of **Niigata residents**.
इस वर्ष की शुरुआत में **TEPCO** ने **निगाता निवासियों** का समर्थन पाने के लिए अगले **10 वर्षों** में प्रांत में **100 अरब येन (\$641 मिलियन)** निवेश करने का वादा किया था।
- But many **locals** remain wary.
लेकिन कई **स्थानीय निवासी** अब भी सशंकित हैं।
- A **survey** published by the prefecture in **October** found **60% of residents** did not think conditions for the restart had been met.
अक्टूबर में प्रांत द्वारा प्रकाशित एक **सर्वेक्षण** में पाया गया कि **60% निवासी** नहीं मानते कि पुनः संचालन की शर्तें पूरी हो चुकी हैं।
- Nearly **70%** were worried about **TEPCO** operating the plant.
लगभग **70%** लोग **TEPCO** द्वारा संयंत्र संचालन को लेकर चिंतित थे।

GS Paper 1: History,	
TOPICS COVERED	23 December 2025
1.	SC refuses to list urgent plea against PMO offering chadar पीएमओ द्वारा चादर चढ़ाने के खिलाफ तत्काल याचिका सूचीबद्ध करने से एससी ने इनकार किया



SC refuses to list urgent plea against PMO offering chadar

GS I: History: Bhakti
Kri Movement
NEW DELHI

A Special Vacation Bench of the Supreme Court on Monday, headed by Chief Justice of India Surya Kant, refused an oral mentioning to hear an urgent plea to stop the Prime Minister's Office from offering a ceremonial *chadar* at the dargah of the Sufi mystic Khwaja Moinuddin Chishtu in Ajmer during the Urs commemorating the saint's death anniversary.

Misleading message

The lawyer making the mentioning in court said the offer of the ceremonial cloth on behalf of the Prime Minister would send a wrong message as a suit filed by Vishnu Gupta, president of the Hindu Sena, seeking a declaration that the Ajmer dargah was built over an ancient and pre-existing Shiva temple, the 'Bhagwan Shri Sankatmochan Mahadev Virajman Temple', was pending in a Rajasthan court.

"We pray for a listing today itself. We are seeking a stay of that offer by the Office of the Prime Minister. There is a suit pending in an Ajmer court," the lawyer submitted. However, Chief Justice Surya Kant refused



Counsel says the move will send a wrong signal as a related suit is pending. ANI

to list the case later in the day. "No, I will not list any matter today. We are not listing any matter the same day," the CJI responded to the lawyer's request.

Counsel urged the court to at least then list the case on December 26. "For that, you follow the procedure," the Chief Justice replied.

The Rajasthan court had issued notices on the suit to the Ajmer Dargah Committee, Archeological Survey of India (ASI), and the Union Ministry of Minority Affairs late last year.

In December 2024, the Supreme Court had barred civil courts from registering fresh suits or passing orders in pending ones seeking to "re-claim" temples destroyed by Mughal "invaders" in the 16th century.

सेना के अध्यक्ष विष्णु गुप्ता द्वारा दायर एक वाद, जिसमें यह घोषणा मांगी गई है कि अजमेर दरगाह एक प्राचीन और पूर्व-विद्यमान शिव मंदिर, 'भगवान श्री संकटमोचन महादेव विराजमान मंदिर', पर बनी है, राजस्थान की अदालत में लंबित है।

- "We pray for a listing today itself. We are seeking a stay of that offer by the Office of the Prime Minister. There is a suit pending in an Ajmer court," the lawyer submitted.
"हम आज ही सूचीबद्ध करने की प्रार्थना करते हैं। हम प्रधानमंत्री कार्यालय द्वारा उस पेशकश पर रोक चाहते हैं। अजमेर की अदालत में एक वाद लंबित है," वकील ने प्रस्तुत किया।
- However, Chief Justice Surya Kant refused to list the case later in the day.
हालांकि, मुख्य न्यायाधीश सूर्य कांत ने दिन में बाद में मामले को सूचीबद्ध करने से इनकार कर दिया।

SC refuses to list urgent plea against PMO offering chadar पीएमओ द्वारा चादर चढ़ाने के खिलाफ तत्काल याचिका सूचीबद्ध करने से एससी ने इनकार किया

- SC refuses to list urgent plea against PMO offering chadar
पीएमओ द्वारा चादर चढ़ाने के खिलाफ तत्काल याचिका सूचीबद्ध करने से एससी ने इनकार किया

• A Special Vacation Bench of the Supreme Court on Monday, headed by Chief Justice of India Surya Kant, refused an oral mentioning to hear an urgent plea to stop the Prime Minister's Office from offering a ceremonial *chadar* at the dargah of the Sufi mystic Khwaja Moinuddin Chishtu in Ajmer during the Urs commemorating the saint's death anniversary.

सोमवार को भारत के मुख्य न्यायाधीश सूर्य कांत की अध्यक्षता वाली सुप्रीम कोर्ट की विशेष अवकाश पीठ ने प्रधानमंत्री कार्यालय को अजमेर में सूफी संत ख्वाजा मोइनुद्दीन चिश्ती की दरगाह पर संत की मृत्यु वर्षगांठ के अवसर पर होने वाले उर्स के दौरान औपचारिक चादर चढ़ाने से रोकने की तत्काल याचिका की मौखिक मंशनिंग सुनने से इनकार कर दिया।

Misleading message

भ्रामक संदेश

• The lawyer making the mentioning in court said the offer of the ceremonial cloth on behalf of the Prime Minister would send a wrong message as a suit filed by Vishnu Gupta, president of the Hindu Sena, seeking a declaration that the Ajmer dargah was built over an ancient and pre-existing Shiva temple, the 'Bhagwan Shri Sankatmochan Mahadev Virajman Temple', was pending in a Rajasthan court.

अदालत में मंशनिंग करने वाले वकील ने कहा कि प्रधानमंत्री की ओर से औपचारिक चादर चढ़ाने की पेशकश एक गलत संदेश देगी, क्योंकि हिंदू



- “No, I will not list any matter today. We are not listing any matter the same day,” the **CJI** responded to the lawyer’s request.
“नहीं, मैं आज कोई भी मामला सूचीबद्ध नहीं करूंगा। हम उसी दिन कोई भी मामला सूचीबद्ध नहीं कर रहे हैं,” **सीजेआई** ने वकील के अनुरोध पर जवाब दिया।
- Counsel urged the court to at least then list the case on **December 26**.
वकील ने अदालत से कम से कम **26 दिसंबर** को मामला सूचीबद्ध करने का आग्रह किया।
- “For that, you follow the procedure,” the **Chief Justice** replied.
“उसके लिए, आप प्रक्रिया का पालन करें,” **मुख्य न्यायाधीश** ने उत्तर दिया।
- The **Rajasthan court** had issued notices on the suit to the **Ajmer Dargah Committee**, **Archeological Survey of India (ASI)**, and the **Union Ministry of Minority Affairs** late last year.
राजस्थान की अदालत ने पिछले वर्ष के अंत में इस वाद पर **अजमेर दरगाह समिति**, **भारतीय पुरातत्व सर्वेक्षण (एएसआई)** और **केंद्रीय अल्पसंख्यक कार्य मंत्रालय** को नोटिस जारी किए थे।
- In **December 2024**, the **Supreme Court** had barred civil courts from registering fresh suits or passing orders in pending ones seeking to “re-claim” temples destroyed by **Mughal “invaders”** in the **16th century**.
दिसंबर 2024 में, **सुप्रीम कोर्ट** ने **16वीं सदी** में **मुगल “आक्रमणकारियों”** द्वारा नष्ट किए गए मंदिरों को “पुनः प्राप्त” करने से संबंधित नए वाद दर्ज करने या लंबित मामलों में आदेश पारित करने से दीवानी अदालतों को रोक दिया था।

GS Paper 1: Geography

TOPICS COVERED

23 December 2025

1. QUIZ

This geometry allows X to maintain better electrostatic control than flat transistors, reducing current leaks and better supporting miniaturisation. Name X.

Answers to December 18 quiz:

1. American astronomer who found Epimetheus – **Ans: Richard Walker**
2. Moon whose orbit Epimetheus shares – **Ans: Janus**
3. Epimetheus, Janus do this as they exchange momentum – **Ans: Swap orbits**
4. Name for Epimetheus, Janus for ‘sweeping’ their orbits – **Ans: Shepherd moons**
5. Material in which Epimetheus’s terrains are rich – **Ans: Water ice**

Visual: **Prometheus**

First contact: K.N. Viswanathan | Tamal Biswas | Mohammad Sohail | Rohit Koli | Anmol Agrawal

QUIZ

Richard Walker — Discoverer of Epimetheus

- **Richard A. Walker** was an **American astronomer** associated with **photographic and observational astronomy**.
- He is best known for his role in the **discovery of Epimetheus**, one of the **natural satellites (moons) of Saturn**.
- His work contributed to the understanding of **complex orbital dynamics** in the Saturnian system.

Discovery of Epimetheus

- **Epimetheus** was discovered in **1966** by **Richard Walker** using **ground-based telescopic photographic observations**.
- The discovery was made while analysing **photographic plates** taken of Saturn and its surrounding region.
- Epimetheus is a **small inner moon of Saturn**, located close to the planet’s ring system.

Why the Discovery Was Unusual

- After its initial observation in **1966**, Epimetheus was **lost for several years** because its orbit was **extremely difficult to predict**.
- The difficulty arose because **Epimetheus shares a co-orbital relationship with another Saturnian**



moon, **Janus**.

- Both moons occupy **nearly the same orbit** and periodically **swap positions** due to gravitational interaction.

Co-Orbital Relationship with Janus

- Epimetheus and **Janus** are famous for being **co-orbital moons**, a rare and unique phenomenon in the Solar System.
- **Approximately every four years**, the two moons exchange orbital positions:
 - The inner moon moves outward
 - The outer moon moves inward
- This behaviour initially caused confusion, leading astronomers to think they were observing **one object instead of two**.

Confirmation of Epimetheus

- Later, the **Voyager 1 and Voyager 2 missions** (1980–81) provided clear images and precise orbital data.
- When Epimetheus and Janus approach each other in their orbit:
 - **Gravitational forces cause an exchange of momentum**
 - The moon in the **inner orbit gains energy**
 - The moon in the **outer orbit loses energy**
- As a result:
 - The inner moon moves outward
 - The outer moon moves inward
- This process causes them to **swap orbits** without ever colliding.

Why They Do Not Collide

- Even though they share nearly the same orbit:
 - Their gravitational interaction **stabilises** the system
 - Momentum exchange ensures **safe separation**
- The laws of **classical mechanics and gravitation** govern this stable motion. **Shepherd Moons — Epimetheus and Janus**
- **Epimetheus and Janus** are called “**Shepherd Moons**” because they help in **sweeping and maintaining the structure of their orbits and nearby ring material**.

What Are Shepherd Moons

- **Shepherd moons** are **natural satellites** that orbit close to a planet’s **rings or ring gaps**.
- Their **gravitational influence** helps:
 - Confine ring particles
 - Prevent rings from spreading out
 - Maintain sharp edges and gaps in ring systems
- The term “shepherd” is used because these moons **guide and control particles**, much like a shepherd guides a flock.

Mechanism of ‘Sweeping’ Orbits

- As Epimetheus and Janus move along their shared orbit:
 - They exert **gravitational tugs** on nearby ring particles
 - Particles are nudged back into confined paths
 - This prevents the rings from becoming diffuse



- The combined effect of:
 - **Co-orbital motion**
 - **Momentum exchange**
 - **Gravitational shepherding**makes them effective **shepherd moons**.

Why Shepherd Moons Are Important in Astronomy

- Help explain **ring formation and longevity**
- Demonstrate **gravitational interactions at small scales**
- Provide real examples of **orbital resonance and momentum transfer**
- Essential for understanding **planetary ring systems** across the Solar System

Water Ice — Dominant Material on Epimetheus

- **Epimetheus's terrains are rich in water ice.**
 - It orbits close to Saturn's **ring system** and shares a **co-orbital configuration** with the moon **Janus**.
 - Its surface and internal composition have been studied mainly through data from **NASA's Voyager missions** and the **Cassini–Huygens mission**.

Surface Composition of Epimetheus

- Scientific observations show that **Epimetheus's surface is dominated by water ice.**
 - The ice-rich nature is indicated by:
 - **High surface reflectivity (albedo)**
 - Spectral signatures typical of **crystalline and amorphous water ice**
 - Only minor amounts of **rocky material and dark contaminants** are present.

Why Water Ice Dominates Epimetheus

- Epimetheus formed in the **cold outer regions of the Solar System**, where water readily froze.
- Saturn's moons formed from a **proto-satellite disk** rich in icy material.
- Low gravity prevents geological recycling, so **ancient ice-rich surfaces remain exposed**.
- **Cassini spacecraft (2004–2017)** delivered high-resolution spectral and imaging data.
- Cassini's instruments detected **strong water-ice absorption features**, confirming ice dominance.

Comparison with Other Saturnian Moons

- Many of Saturn's small inner moons, such as **Janus, Mimas, and Enceladus**, are also **rich in water ice**.
- Epimetheus is less geologically active than Enceladus, but compositionally similar.
- This reinforces the idea that **icy materials dominate the Saturn system**.



GS Paper II: Polity,	
TOPICS COVERED	23 December
1.	Right to Disconnect: Drawing the line after work डिस्कनेक्ट होने का अधिकार: काम के बाद सीमा खींचना
2.	Death knell for the rural job guarantee ग्रामीण रोजगार गारंटी के लिए मृत्यु घंटी

Right to Disconnect: Drawing the line after work

GS II: Polity

MOE

The Right to Disconnect Bill has been introduced as a private member's bill, a form of legislation that is rarely enacted. It comes in the context of India's recent consolidation of labour law through the four labour codes, which regulate working hours, overtime, and employer control. Against this background, the Bill marks a pivotal moment in Indian labour law. In this age of digital technologies, work increasingly extends beyond the physical workspace. Therefore, it is only prudent for the legislature to reconsider how labour law responds to constant connectivity. However, it does so in a framework that regulates work primarily through time-based constructs.

Indian labour law is yet to define what constitutes as 'work' in a digital economy. While the Bill regulates after-hours communication, it does so without clarifying the scope of 'work'. This omission becomes crucial when the Bill is read alongside other codes governing working time and employer control. Therefore, we examine unresolved questions concerning the definition of 'work', the scope of the proposed right, and its potential constitutional character, while drawing a comparison as well.

Some ambiguity

The Bill provides employees the right to not respond to work-related calls or mails beyond the prescribed working hours. However, it fails to address whether such after-hours engagement falls within the legal constructs of work.

This ambiguity is particularly obvious in the interaction of the Bill with the Occupational Safety, Health and Working Conditions Code, 2020, which continues governing working hours and overtime in Indian labour law. However, the Bill does not clarify whether after-hours digital



Vandana Tiwari

Advocate practising at the Calcutta High Court



Avantika Shukla

Advocate practising at the Delhi High Court

Until the Bill directly addresses how digital labour complies with existing labour laws, it continues to rely on a framework designed to regulate physical workplaces

engagement amounts to "work" under the Code. This inadvertently creates a conceptual gap where communication is regulated without being integrated in the legal framework governing working time. As a consequence, the right to disconnect operates more as a behavioural norm than a labour standard.

Approach of other jurisdictions

The gaps become apparent when compared with jurisdictions that have already imbibed the right to disconnect in their legal regimes. In the European Union, employer control became a key parameter for assessing working time. Through judicial precedents, an expansive definition was adopted, which included on-call time, standby periods, and other forms of availability, even where no active work is performed but the employer continues to exercise control. This principle further evolved through decisions such as *SIMAP*, *Tyco*, and *Jaeger*, where the European Court of Justice equated employer's control with work. Similarly, France does not try to redefine work. Instead, its labour law demarcates working time and rest time. Periods of availability under employer control are considered working time, and digital communication is integrated into this framework through collective bargaining.

Germany enforces strict working time and rest period regulations as well. These comparisons are not offered for replication in India, but to engage with an unresolved legal question: when does an employee's time belong to the employer?

The Indian labour code contains mandatory rules, prescribing limits on working hours, and contractual terms negotiated through employer policy and agreements. The Right to Disconnect Bill does not specify whether the given right is a mandatory labour standard or its term can be

modified via a contract.

Another question concerns the Bill's constitutional character. The freedom to disengage bears an evident relationship with Article 21 of the Constitution. Yet the Bill neither traces its constitutional lineage nor articulates how these guarantees are to be realised within the workplace. The Bill leaves unresolved whether the right to disconnect is purely statutory or indicative of a deeper constitutional engagement between work and individual autonomy.

Conclusion

The Bill recognises that digital work has blurred the traditional boundaries between working time and personal time, but it does not explain how this transformation is to be accommodated within the legal framework which governs working hours, overtime and employer control.

A comparative study reveals that the right to disconnect becomes effective when an employee's time is treated as working time. This gap is yet to be filled. Until the Bill addresses how digital labour complies with existing labour laws, it will continue to rely on a framework designed for regulating physical workplaces.

The Bill leaves open whether the right has a constitutional character. Although there is an evident connection between Right to Disconnect and individual autonomy under Article 21 of the Constitution, this is not made apparent by the legislature. The Bill neither identifies this gap nor acknowledges it, which leaves it open to divergent interpretations.

For these reasons, the Bill is best seen as the beginning of a broader conversation, one that the Indian labour law jurisprudence will eventually address.

Right to Disconnect: Drawing the line after work

डिस्कनेक्ट होने का अधिकार: काम के बाद सीमा खींचना

Right to Disconnect Bill

राइट टू डिस्कनेक्ट विधेयक

- The **Right to Disconnect Bill** has been introduced as a **private member's bill**, a form of legislation that is **rarely enacted**
राइट टू डिस्कनेक्ट विधेयक को प्राइवेट मेंबर बिल के रूप में पेश किया गया है, जो कानून निर्माण का एक ऐसा रूप है जिसे बहुत कम लागू किया जाता है
- It comes in the context of India's recent **consolidation of labour law** through the **four labour codes**, which regulate **working hours, overtime, and employer control**
यह भारत में हाल ही में किए गए **श्रम कानूनों के एकीकरण**, यानी **चार श्रम संहिताओं**, की पृष्ठभूमि में आया है, जो **कार्य समय, ओवरटाइम, और नियोक्ता नियंत्रण** को विनियमित करती हैं
- Against this background, the Bill marks a **pivotal moment in Indian labour law**
इस पृष्ठभूमि में यह विधेयक **भारतीय श्रम कानून** में एक **महत्वपूर्ण मोड़** को दर्शाता है



- In this age of **digital technologies**, work increasingly extends beyond the **physical workspace**
डिजिटल तकनीकों के इस युग में, काम लगातार **भौतिक कार्यस्थल** से बाहर तक फैलता जा रहा है
- Therefore, it is **only prudent** for the legislature to reconsider how labour law responds to **constant connectivity**
इसलिए यह **उचित** है कि विधायिका इस बात पर पुनर्विचार करे कि श्रम कानून **लगातार कनेक्टिविटी** पर कैसे प्रतिक्रिया देता है
- However, it does so in a framework that regulates work primarily through **time-based constructs**
हालाँकि, यह एक ऐसे ढाँचे में किया गया है जो काम को मुख्य रूप से **समय-आधारित संरचनाओं** के माध्यम से नियंत्रित करता है
- Indian labour law is yet to **define** what constitutes **'work'** in a **digital economy**
भारतीय श्रम कानून ने अभी तक यह **परिभाषित नहीं** किया है कि **डिजिटल अर्थव्यवस्था** में **'काम'** किसे माना जाएगा
- While the Bill regulates **after-hours communication**, it does so without clarifying the **scope of 'work'**
हालाँकि विधेयक **कार्य समय के बाद संचार** को नियंत्रित करता है, लेकिन यह **'काम'** के **दायरे** को स्पष्ट नहीं करता
- This omission becomes **crucial** when the Bill is read alongside other codes governing **working time** and **employer control**
यह कमी तब **महत्वपूर्ण** हो जाती है जब इस विधेयक को **कार्य समय** और **नियोक्ता नियंत्रण** से संबंधित अन्य संहिताओं के साथ पढ़ा जाता है
- Therefore, unresolved questions concerning the **definition of 'work'**, the **scope of the proposed right**, and its **potential constitutional character** need examination, along with a **comparative perspective**
इसलिए **'काम'** की **परिभाषा**, **प्रस्तावित अधिकार के दायरे**, और उसके **संभावित संवैधानिक स्वरूप** से जुड़े अनसुलझे प्रश्नों की **तुलनात्मक दृष्टिकोण** से जाँच आवश्यक हो जाती है

Some ambiguity कुछ अस्पष्टता

- The Bill provides employees the **right not to respond to work-related calls or mails beyond prescribed working hours**
यह विधेयक कर्मचारियों को **निर्धारित कार्य समय** के बाद **कार्य-संबंधी कॉल या ईमेल** का उत्तर न देने का **अधिकार** देता है
- However, it fails to address whether such **after-hours engagement** falls within the **legal constructs of work**
हालाँकि, यह स्पष्ट नहीं करता कि ऐसा **कार्य समय के बाद का जुड़ाव** कानूनी रूप से **काम** की श्रेणी में आता है या नहीं
- This ambiguity is particularly evident in the interaction of the Bill with the **Occupational Safety, Health and Working Conditions Code, 2020**
यह अस्पष्टता विशेष रूप से तब दिखाई देती है जब इस विधेयक को **व्यावसायिक सुरक्षा, स्वास्थ्य और कार्य परिस्थितियाँ संहिता, 2020** के साथ देखा जाता है
- The Code continues to govern **working hours** and **overtime** in Indian labour law
यह संहिता भारतीय श्रम कानून में **कार्य समय** और **ओवरटाइम** को नियंत्रित करती रहती है
- However, the Bill does not clarify whether **after-hours digital engagement** amounts to **'work'** under the Code
लेकिन विधेयक यह स्पष्ट नहीं करता कि **कार्य समय के बाद डिजिटल जुड़ाव** संहिता के तहत **'काम'** माना जाएगा या नहीं
- This **inadvertently creates a conceptual gap** where **communication** is regulated without **being integrated into the legal framework governing working time**
इससे अनजाने में एक **वैचारिक अंतर** पैदा हो जाता है, जहाँ **संचार** को तो नियंत्रित किया जाता है, लेकिन उसे **कार्य समय** के कानूनी ढाँचे में शामिल नहीं किया जाता
- As a consequence, the **right to disconnect** operates more as a **behavioural norm** than a **labour standard**



परिणामस्वरूप, डिस्कनेक्ट होने का अधिकार एक श्रम मानक की बजाय अधिकतर एक व्यवहारिक मानदंड के रूप में कार्य करता है

Approach of other jurisdictions अन्य न्यायक्षेत्रों का दृष्टिकोण

- The gaps become apparent when compared with jurisdictions that have already imbibed the **right to disconnect** in their **legal regimes**
ये कमियाँ तब स्पष्ट होती हैं जब उनकी तुलना उन न्यायक्षेत्रों से की जाती है जिन्होंने अपने **कानूनी ढाँचों** में पहले ही **डिस्कनेक्ट होने के अधिकार** को आत्मसात कर लिया है
- In the **European Union**, **employer control** became a key parameter for assessing **working time**
यूरोपीय संघ में **कार्य समय** के आकलन के लिए **नियोक्ता का नियंत्रण** एक प्रमुख मानदंड बन गया
- Through **judicial precedents**, an **expansive definition** was adopted, which included **on-call time**, **standby periods**, and other forms of **availability**, even where no active work is performed but the employer continues to exercise control
न्यायिक मिसालों के माध्यम से एक **विस्तृत परिभाषा** अपनाई गई, जिसमें **ऑन-कॉल समय**, **स्टैंडबाय अवधि**, और **उपलब्धता** के अन्य रूप शामिल थे, भले ही सक्रिय कार्य न किया जा रहा हो लेकिन नियोक्ता का नियंत्रण बना रहे
- This principle further evolved through decisions such as **SIMAP**, **Tyco**, and **Jaeger**, where the **European Court of Justice** equated **employer's control** with **work**
यह सिद्धांत **SIMAP**, **Tyco**, और **Jaeger** जैसे निर्णयों के माध्यम से और विकसित हुआ, जहाँ **यूरोपीय न्यायालय** ने **नियोक्ता के नियंत्रण** को **कार्य** के समान माना
- Similarly, **France** does not try to **redefine work**
इसी तरह **फ्रांस** काम को पुनः परिभाषित करने का प्रयास नहीं करता
- Instead, its **labour law** demarcates **working time** and **rest time**
इसके बजाय, उसका **श्रम कानून** **कार्य समय** और **विश्राम समय** के बीच स्पष्ट विभाजन करता है
- Periods of **availability under employer control** are considered **working time**, and **digital communication** is integrated into this framework through **collective bargaining**
नियोक्ता के नियंत्रण में उपलब्धता की अवधि को **कार्य समय** माना जाता है, और **डिजिटल संचार** को **सामूहिक सौदेबाजी** के माध्यम से इस ढाँचे में शामिल किया जाता है
- **Germany** enforces strict **working time** and **rest period regulations** as well
जर्मनी भी **कार्य समय** और **विश्राम अवधि** से संबंधित कड़े नियम लागू करता है
- These comparisons are not offered for **replication in India**, but to engage with an **unresolved legal question**
ये तुलनाएँ **भारत में प्रतिलिपि** के लिए नहीं दी गई हैं, बल्कि एक **अनसुलझे कानूनी प्रश्न** से जुड़ने के लिए हैं
- When does an **employee's time** belong to the **employer**
कब किसी **कर्मचारी का समय** नियोक्ता का माना जाएगा
- The **Indian labour code** contains **mandatory rules**, prescribing **limits on working hours**, and **contractual terms** negotiated through **employer policy and agreements**
भारतीय श्रम संहिता में **अनिवार्य नियम** शामिल हैं, जो **कार्य घंटों की सीमाएँ** तय करते हैं, और **नियोक्ता की नीतियों व समझौतों** के माध्यम से तय **संविदात्मक शर्तें** भी मौजूद हैं
- The **Right to Disconnect Bill** does not specify whether the given right is a **mandatory labour standard** or whether its terms can be **modified via a contract**
राइट टू डिस्कनेक्ट विधेयक यह स्पष्ट नहीं करता कि दिया गया अधिकार एक **अनिवार्य श्रम मानक** है या इसके प्रावधानों को **अनुबंध के माध्यम से बदला** जा सकता है
- Another question concerns the Bill's **constitutional character**
एक अन्य प्रश्न विधेयक के **संवैधानिक स्वरूप** से जुड़ा है
- The freedom to **disengage** bears an evident relationship with **Article 21 of the Constitution**
डिस्कनेक्ट होने की स्वतंत्रता का **संविधान के अनुच्छेद 21** से स्पष्ट संबंध है
- Yet the **Bill** neither traces its **constitutional lineage** nor articulates how these **guarantees are to be realised within the workplace**
फिर भी यह विधेयक न तो अपनी **संवैधानिक उत्पत्ति** को स्पष्ट करता है और न ही यह बताता है कि ये **गारंटियाँ** **कार्यस्थल में कैसे लागू होंगी**



- The Bill leaves unresolved whether the **right to disconnect** is purely **statutory** or indicative of a deeper **constitutional engagement** between work and **individual autonomy**
यह विधेयक यह प्रश्न खुला छोड़ देता है कि **डिस्कनेक्ट होने का अधिकार** केवल **कानूनी** है या **कार्य** और **व्यक्तिगत स्वायत्तता** के बीच किसी गहरे **संवैधानिक संबंध** का संकेत देता है

Conclusion निष्कर्ष

- The Bill recognises that **digital work** has blurred the traditional boundaries between **working time** and **personal time**
यह विधेयक स्वीकार करता है कि **डिजिटल कार्य** ने **कार्य समय** और **व्यक्तिगत समय** के बीच की पारंपरिक सीमाओं को धुंधला कर दिया है
- But it does not explain how this transformation is to be accommodated within the **legal framework governing working hours, overtime, and employer control**
लेकिन यह स्पष्ट नहीं करता कि इस परिवर्तन को **कार्य घंटे, ओवरटाइम, और नियोक्ता नियंत्रण** को नियंत्रित करने वाले **कानूनी ढाँचे** में कैसे समाहित किया जाएगा
- A **comparative study** reveals that the **right to disconnect** becomes effective when an **employee's time is treated as working time**
एक **तुलनात्मक अध्ययन** से पता चलता है कि **डिस्कनेक्ट होने का अधिकार** तब प्रभावी होता है जब **कर्मचारी के समय को कार्य समय** माना जाता है
- This **gap** is yet to be **filled**
यह **अंतर** अभी तक **पूरा नहीं** किया गया है
- Until the Bill addresses how **digital labour** complies with **existing labour laws**, it will continue to rely on a framework designed for **physical workplaces**
जब तक यह विधेयक यह नहीं बताता कि **डिजिटल श्रम मौजूदा श्रम कानूनों** के अनुरूप कैसे है, तब तक यह **भौतिक कार्यस्थलों** के लिए बनाए गए ढाँचे पर ही निर्भर रहेगा
- The Bill leaves open whether the right has a **constitutional character**
यह विधेयक यह प्रश्न खुला छोड़ देता है कि इस अधिकार का कोई **संवैधानिक स्वरूप** है या नहीं
- Although there is an evident connection between the **Right to Disconnect and individual autonomy under Article 21**, this is not made apparent by the legislature
हालाँकि **डिस्कनेक्ट होने के अधिकार** और **अनुच्छेद 21** के तहत **व्यक्तिगत स्वायत्तता** के बीच स्पष्ट संबंध है, लेकिन इसे **विधायिका** ने स्पष्ट नहीं किया है
- The Bill neither **identifies** this gap nor **acknowledges** it, leaving it open to **divergent interpretations**
विधेयक न तो इस अंतर को **चिह्नित** करता है और न ही इसे **स्वीकार** करता है, जिससे **भिन्न-भिन्न व्याख्याओं** की गुंजाइश बनी रहती है
- For these reasons, the Bill is best seen as the **beginning of a broader conversation** that **Indian labour law jurisprudence** will eventually address
इन कारणों से यह विधेयक एक **व्यापक विमर्श की शुरुआत** के रूप में देखा जाना चाहिए, जिसे **भारतीय श्रम कानून की न्यायिक परंपरा** अंततः संबोधित करेगी



Death knell for the rural job guarantee

GS II: Polity

The Viksit Bharat - Guarantee for Rozgar and Ajeevika Mission (Gramin) Act (VB-G RAM G), 2025 Act, which replaces the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), received the President's assent on Sunday.

Article 21 of the Constitution guarantees the right to life. The Supreme Court in *Olga Tellis v. Bombay Municipal Corporation* in 1985 ruled that "if there's an obligation upon the State to secure to the citizens an adequate means of livelihood and right to work, it would be sheer pedantry to exclude the right to livelihood from the content of the right to life."

MGNREGA, arrived at through sustained social movements and passed unanimously in Parliament, envisions the right to work as a necessary condition for the right to life. It is, therefore, a departure from earlier public works programmes as MGNREGA's provisions amount to justiciable rights – the right to work on demand, the right to unemployment allowance if work is not provided within 15 days, the right to payment of wages within 15 days and payment of delay compensation otherwise, gender parity in wages, minimum wages, among others. The Act also envisaged relief from ecological distress through the creation of long-term sustainable assets. **As an engine to implement the 73rd Constitutional Amendment, MGNREGA strengthened the panchayat raj institutions.**

Five broad positive outcomes of MGNREGA can be identified as (a) **it is universal and not targeted**, (b) **it resulted in an increase in rural incomes**, (c) **it counters gender and caste inequalities**, (d) **it creates quality assets** and (e) **it empowers communities**. Within a few years of MGNREGA, studies showed that **incomes of workers increased, overall poverty fell and school enrolment increased**. According to an India Human Development Survey, **reliance on**



Rajendran Narayanan

teaches in Azim Premji University, Bangalore and is affiliated with LibTech India. Views are personal

money lenders decreased by 21%. About 45% of female MGNREGA workers were either not working or worked only on family farms before the Act. Women's participation has been around 58% in MGNREGA over the last five years. In the face of mounting evidence, even the World Bank changed from referring to it as a "barrier to development" in 2009 to calling it a "stellar example" of rural development in 2014. MGNREGA's role during the COVID pandemic is widely known.

Many issues

Perhaps the chronicle of death was foretold over the last decade. Chronic underfunding has resulted in persistent wage payment delays, a fact acknowledged by the Ministry of Finance. Budget constraints have meant that officials have resorted to rationing work. Activists and researchers routinely brought up exclusions leading to denial of rights arising from opaque technocratic initiatives such as a photo-based attendance app and complex payment systems. Such initiatives gave new ammunition for corruption as these widened the gulf between workers and officials. Staff shortage exacerbated corruption. Built-in principles to mitigate corruption like social audits have been underfunded.

The VB-G RAM G Act was steamrolled in Parliament in such a scenario. Section 5(1) of this Act gives arbitrary, discretionary powers to the Union government to decide where, what and how public works will happen. According to Section 4(5), the Union government will determine and prescribe "State-wise normative allocations" of funds based on "objective parameters". Instead of demand-driven, as MP Manoj Jha put it, this makes it "command-driven" rendering it to a centrally sponsored allocation based model, putting States at the mercy of the Centre. Local autonomy ideas of MGNREGA stand compromised.

In the *Swaraj Abhiyan* case in 2018, the Supreme Court ordered the Union government to pay compensation for delays in payments caused by it. The new Act places no obligation on the Union government for payment delays. Roughly 90% of the MGNREGA expenditure is borne by the Union government and 10% by the States. As per Section 22 of the new Act, barring some States, the Centre to State ratio of funds has been altered to 60:40. Further, the new Act states that "expenditure by a State in excess of its normative allocation shall be borne by the State government". Taken together, these clauses might lead to political favouritism towards some States and victimisation of others.

Forced to be fiscally prudent, States are likely to stifle work demand leading to increased unemployment and distress migration.

The opportunity to work anytime in the year is vital, especially for the landless and women. However, the proposition (Section 6(2)) in the new Act to not provide any employment for 60 days during the agricultural season, will only ossify the entrenched land, caste and gender inequalities. Despite support for MGNREGA from farmers' platforms and evidence pointing to farmers benefiting from MGNREGA, the new Act attempts to legally pit farmers with labourers. The new Act claims to provide 125 days of employment per household per year. However, if in the current funding situation, average days of work per year per household was around 50, the claim of 125 days of employment in a year is a red herring. Finally, the new Act has no new provisions to mitigate corruption.

MGNREGA combines Mahatma Gandhi's ideas of local governance with B.R. Ambedkar's spirit of empowering citizens with rights. By formalising the decade-long slow poisoning of the MGNREGA, the new Act undermines both Gandhi and Ambedkar.

The MGNREGA envisions the right to work as a necessary condition for the right to life

Death knell for the rural job guarantee ग्रामीण रोजगार गारंटी के लिए मृत्यु घंटी

Viksit Bharat – Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025
विकसित भारत – रोजगार और आजीविका मिशन (ग्रामीण) अधिनियम, 2025



- **Article 21 of the Constitution** guarantees the **right to life**
संविधान का अनुच्छेद 21 जीवन के अधिकार की गारंटी देता है
- The **Supreme Court in Olga Tellis v. Bombay Municipal Corporation (1985)** ruled that if there is an obligation upon the State to secure adequate means of **livelihood and right to work**, it would be pedantic to exclude the **right to livelihood from the right to life**
सुप्रीम कोर्ट ने ओल्गा टेलिस बनाम बॉम्बे म्युनिसिपल कॉरपोरेशन (1985) में यह निर्णय दिया कि यदि राज्य पर **आजीविका और काम के अधिकार** को सुनिश्चित करने का दायित्व है, तो **जीवन के अधिकार** से **आजीविका के अधिकार** को बाहर करना अनुचित होगा
- **MGNREGA**, arrived at through **sustained social movements** and passed **unanimously in Parliament**, envisions the **right to work** as a necessary condition for the **right to life**
MGNREGA, जो दीर्घकालिक सामाजिक आंदोलनों के माध्यम से अस्तित्व में आया और **संसद में सर्वसम्मति** से पारित हुआ, **काम के अधिकार को जीवन के अधिकार** की आवश्यक शर्त मानता है
- It is, therefore, a **departure from earlier public works programmes** as MGNREGA's provisions amount to **justiciable rights**
इस प्रकार यह **पूर्ववर्ती सार्वजनिक कार्य कार्यक्रमों से एक विचलन** है क्योंकि MGNREGA के प्रावधान **न्यायालय में प्रवर्तनीय अधिकार** प्रदान करते हैं
- These include the **right to work on demand**, the **right to unemployment allowance** if work is not provided within **15 days**, the **right to payment of wages within 15 days**, **delay compensation**, **gender parity in wages**, and **minimum wages**
इनमें **मांग पर काम का अधिकार**, **15 दिनों में काम न मिलने पर बेरोज़गारी भत्ता**, **15 दिनों में मज़दूरी भुगतान का अधिकार**, **विलंब क्षतिपूर्ति**, **मज़दूरी में लैंगिक समानता**, और **न्यूनतम मज़दूरी** शामिल हैं
- The Act also envisaged **relief from ecological distress** through the creation of **long-term sustainable assets**
यह अधिनियम **दीर्घकालिक टिकाऊ परिसंपत्तियों** के निर्माण के माध्यम से **पारिस्थितिक संकट से राहत** की भी परिकल्पना करता है
- **As an engine to implement the 73rd Constitutional Amendment**, MGNREGA strengthened the **Panchayati Raj Institutions**
73वें संवैधानिक संशोधन को लागू करने के एक माध्यम के रूप में MGNREGA ने **पंचायती राज संस्थाओं** को सशक्त किया
- **Five broad positive outcomes of MGNREGA can be identified**
MGNREGA के पाँच प्रमुख **सकारात्मक परिणाम** पहचाने जा सकते हैं
- It is **universal** and not targeted
यह **सार्वभौमिक** है और लक्षित योजना नहीं है
- It resulted in an **increase in rural incomes**
इससे **ग्रामीण आय में वृद्धि** हुई
- It counters **gender and caste inequalities**
यह **लैंगिक और जातिगत असमानताओं** को कम करता है
- It creates **quality assets**
यह **गुणवत्तापूर्ण परिसंपत्तियों** का निर्माण करता है
- It **empowers communities**
यह **समुदायों को सशक्त** बनाता है
- Within a few years of MGNREGA, studies showed that **workers' incomes increased**, **overall poverty fell**, and **school enrolment increased**
MGNREGA के कुछ वर्षों के भीतर अध्ययनों से पता चला कि **श्रमिकों की आय बढ़ी**, **समग्र गरीबी घटी**, और **विद्यालय नामांकन में वृद्धि हुई**
- According to the **India Human Development Survey**, **reliance on moneylenders decreased by 21%**
भारत मानव विकास सर्वेक्षण के अनुसार **साहूकारों पर निर्भरता में 21% की कमी** आई
- **About 45% of female MGNREGA workers** were either not working or worked only on **family farms** before the Act
अधिनियम से पहले **MGNREGA की लगभग 45% महिला श्रमिक** या तो काम नहीं कर रही थीं या केवल **पारिवारिक खेतों** पर काम करती थीं
- **Women's participation** has been around **58%** in MGNREGA over the **last five years**
पिछले पाँच वर्षों में MGNREGA में महिलाओं की भागीदारी लगभग 58% रही है



- In the face of mounting evidence, even the **World Bank** shifted its view from calling it a **“barrier to development” in 2009** to a **“stellar example” of rural development in 2014**
बढ़ते प्रमाणों के मद्देनज़र विश्व बैंक ने भी 2009 में इसे **“विकास में बाधा”** कहने से हटकर 2014 में इसे **ग्रामीण विकास का “उत्कृष्ट उदाहरण”** कहा
- **MGNREGA's role during the COVID pandemic is widely known**
COVID महामारी के दौरान **MGNREGA की भूमिका व्यापक रूप से स्वीकृत और ज्ञात है**

Many issues कई मुद्दे

- Perhaps the **chronicle of death** was foretold over the **last decade**
संभवतः **पिछले एक दशक** में ही इस **अंत की कहानी** का संकेत मिल गया था
- **Chronic underfunding** has resulted in persistent **wage payment delays**, a fact acknowledged by the **Ministry of Finance**
दीर्घकालिक अपर्याप्त वित्तपोषण के कारण लगातार **मज़दूरी भुगतान में देरी** हुई है, जिसे वित्त मंत्रालय ने भी स्वीकार किया है
- **Budget constraints** have meant that officials have resorted to **rationing work**
बजट की सीमाओं के कारण अधिकारियों ने **काम को सीमित** करने का सहारा लिया
- **Activists and researchers** routinely brought up **exclusions** leading to **denial of rights** arising from **opaque technocratic initiatives** such as a **photo-based attendance app** and **complex payment systems**
कार्यकर्ता और शोधकर्ता नियमित रूप से **बहिष्करण** की ओर ध्यान दिलाते रहे, जिससे **अस्पष्ट तकनीकी पहलों** जैसे **फोटो-आधारित उपस्थिति ऐप** और **जटिल भुगतान प्रणालियों** के कारण **अधिकारों से वंचित** होना पड़ा
- Such initiatives gave new ammunition for **corruption** as these widened the **gulf between workers and officials**
ऐसी पहलों ने **भ्रष्टाचार** को नया आधार दिया क्योंकि इससे **मज़दूरों और अधिकारियों** के बीच की **खाई** और बढ़ गई
- **Staff shortage** exacerbated **corruption**
कर्मचारियों की कमी ने **भ्रष्टाचार** को और बढ़ा दिया
- Built-in principles to mitigate corruption like **social audits** have been **underfunded**
भ्रष्टाचार को कम करने के लिए अंतर्निहित व्यवस्थाएँ जैसे **सामाजिक अंकेक्षण अपर्याप्त रूप से वित्तपोषित** रहीं
- The **VB-G RAM G Act** was **steamrolled in Parliament** in such a scenario
ऐसे परिदृश्य में **VB-G RAM G अधिनियम** को **संसद में जल्दबाज़ी में पारित** कर दिया गया
- **Section 5(1)** of this Act gives **arbitrary discretionary powers** to the **Union government to decide where, what and how public works will happen**
इस अधिनियम की धारा **5(1)** **केंद्र सरकार** को यह तय करने के लिए **मनमाने विवेकाधीन अधिकार** देती है कि **सार्वजनिक कार्य कहाँ, क्या और कैसे होंगे**
- According to **Section 4(5)**, the Union government will determine **State-wise normative allocations** of funds based on **objective parameters**
धारा **4(5)** के अनुसार केंद्र सरकार **वस्तुनिष्ठ मानकों** के आधार पर **राज्य-वार मानक निधि आवंटन** तय करेगी
- Instead of **demand-driven**, as **MP Manoj Jha** put it, this makes it **command-driven**
सांसद मनोज झा के अनुसार यह व्यवस्था **मांग-आधारित** न होकर **आदेश-आधारित** बन जाती है
- It renders it a **centrally sponsored allocation-based model**, putting **States at the mercy of the Centre**
यह इसे **केंद्र प्रायोजित आवंटन-आधारित मॉडल** बना देता है, जिससे **राज्य केंद्र की दया पर निर्भर** हो जाते हैं
- **Local autonomy** ideas of **MGNREGA** stand **compromised**
MGNREGA की **स्थानीय स्वायत्तता** की अवधारणाएँ **कमज़ोर** हो जाती हैं
- In the **Swaraj Abhiyan case (2018)**, the **Supreme Court** ordered the Union government to **pay compensation for delays in payments** caused by it
स्वराज अभियान मामला (2018) में **सुप्रीम कोर्ट** ने केंद्र सरकार को उसके कारण हुई **भुगतान देरी** के लिए **मुआवज़ा** देने का आदेश दिया था



- The **new Act** places **no obligation** on the Union government for **payment delays**
नया अधिनियम भुगतान में देरी के लिए केंद्र सरकार पर कोई दायित्व नहीं डालता
- Roughly **90% of MGNREGA expenditure** is borne by the **Union government** and **10% by the States**
लगभग **MGNREGA का 90% व्यय केंद्र सरकार** और **10% राज्य सरकारों** द्वारा वहन किया जाता है
- As per **Section 22** of the new Act, barring some States, the **Centre–State fund ratio** has been altered to **60:40**
नए अधिनियम की धारा 22 के अनुसार, कुछ राज्यों को छोड़कर, **केंद्र–राज्य निधि अनुपात** को **60:40** कर दिया गया है
- Further, the new Act states that **expenditure by a State in excess of its normative allocation** shall be borne by the **State government**
इसके अतिरिक्त, नया अधिनियम कहता है कि **मानक आवंटन से अधिक व्यय राज्य सरकार** द्वारा वहन किया जाएगा
- Taken together, these clauses might lead to **political favouritism** towards some States and **victimisation** of others
इन प्रावधानों को मिलाकर देखा जाए तो यह कुछ राज्यों के प्रति **राजनीतिक पक्षपात** और अन्य के **उत्पीड़न** का कारण बन सकते हैं
- Forced to be **fiscally prudent**, States are likely to **stifle work demand** leading to increased **unemployment** and **distress migration**
राजकोषीय अनुशासन के लिए बाध्य होकर राज्य **काम की मांग को दबा** सकते हैं, जिससे **बेरोज़गारी** और **विपन्न प्रवासन** बढ़ेगा
- The opportunity to work **anytime in the year** is vital, especially for the **landless and women**
साल में कभी भी काम करने का अवसर विशेष रूप से **भूमिहीनों और महिलाओं** के लिए अत्यंत आवश्यक है
- However, **Section 6(2) in the new Act proposes to not provide any employment for 60 days during the agricultural season**
हालाँकि नए अधिनियम की धारा 6(2) **कृषि मौसम के दौरान 60 दिनों तक कोई रोजगार न देने** का प्रस्ताव करती है
- This will only **ossify entrenched land, caste and gender inequalities**
यह केवल **जमी हुई भूमि, जाति और लैंगिक असमानताओं** को और कठोर बनाएगा
- Despite support for **MGNREGA from farmers' platforms** and evidence showing **farmers benefiting from MGNREGA**, the new Act attempts to **legally pit farmers against labourers**
किसान मंचों से MGNREGA को समर्थन और किसानों को इससे लाभ होने के प्रमाणों के बावजूद, नया अधिनियम **कानूनी रूप से किसानों को मज़दूरों के विरुद्ध खड़ा** करने का प्रयास करता है
- The new Act claims to provide **125 days of employment per household per year**
नया अधिनियम प्रति परिवार प्रति वर्ष **125 दिनों के रोजगार** का दावा करता है
- However, when the **average days of work per household was around 50 days under current funding, the claim of 125 days is a red herring**
हालाँकि वर्तमान वित्तपोषण में प्रति परिवार **औसतन लगभग 50 दिन** का ही काम मिला, ऐसे में **125 दिनों का दावा एक भ्रमक दावा** है
- Finally, the **new Act has no new provisions to mitigate corruption**
अंततः, **नए अधिनियम में भ्रष्टाचार को कम करने के लिए कोई नए प्रावधान नहीं हैं**
- **MGNREGA combines Mahatma Gandhi's ideas of local governance with B.R. Ambedkar's spirit of empowering citizens with rights**
MGNREGA, महात्मा गांधी की स्थानीय शासन की अवधारणा को बी.आर. अंबेडकर की अधिकारों के माध्यम से नागरिकों को सशक्त करने की भावना से जोड़ता है
- By formalising the **decade-long slow poisoning of MGNREGA**, the **new Act undermines both Gandhi and Ambedkar**
MGNREGA के दशक भर चले धीमे क्षरण को औपचारिक रूप देकर, नया अधिनियम गांधी और अंबेडकर दोनों को कमजोर करता है



GS Paper II: Governance,	
TOPICS COVERED	23 December
1.	Step up कदम बढ़ाएँ
2.	India tops global doping list for the third consecutive year भारत लगातार तीसरे वर्ष वैश्विक डोपिंग सूची में शीर्ष पर है

Step up

GS II: Governance

CSR as corporate obligation can support costs of restoring grasslands

MOB

The December 19 judgment by a Supreme Court Bench placing corporate environmental responsibility inside the legal meaning of corporate social responsibility (CSR) reframes how the Court reads CSR in Indian company law while continuing its attempts since 2021 to reduce deaths of great Indian bustards from power infrastructure. The Bench has treated the CSR regime as an enforceable obligation rather than an undertaking at companies' discretion while also reading social responsibility to include environmental and wildlife protection through the Companies Act itself. According to the Court, a corporation as a legal person shares the duty under Article 51A(g), which means spending CSR funds on environmental measures can be framed as discharging one's constitutional obligation rather than engaging in charity. For great Indian bustards, the Court has thus strengthened the legal basis for conservationists to demand corporate financing for projects to recover species endangered by corporate activity. The Court's 2021 interim order restricted overhead transmission lines across 99,000 sq. km and required a committee-led approach to feasibility and under-grounding. In 2024, it constituted an expert committee to balance species protection with climate commitments and renewable energy build-out, which the new order has operationalised. If CSR and project-linked financing become easier to compel, they can support the recurring costs of breeding and releasing chicks and of restoring grasslands and maintaining them.

However, the verdict is also a legal interpretation; it does not specify which companies must pay how much, where, when, and with what audit trail (the penalty for non-compliance will remain according to existing provisions). The Court's shift from a large-area approach, as in its 2021 order, to revised priority areas also reduces conflict with renewable energy deployments while pushing some of the onus to the accurate mapping of habitats – a problem given bustards move around and infrastructure risks can lie outside formal boundaries. The judgment improves the legal position for getting companies to pay for prevention and recovery and specifies a narrower but more detailed habitat and infrastructure plan. Whether it is sufficient will depend less on the doctrine it announces and more on whether governments and utilities can deliver the under-grounding and rerouting work at the required pace, and whether corporate funding translates to outcomes on the ground.

Step up

कदम बढ़ाएँ

• CSR as corporate obligation can support costs of restoring grasslands

कॉर्पोरेट दायित्व के रूप में CSR, घासभूमि (grasslands) के पुनर्स्थापन की लागत को समर्थन दे सकता है

Supreme Court on CSR and environmental responsibility
कॉर्पोरेट सामाजिक उत्तरदायित्व और पर्यावरणीय जिम्मेदारी पर सर्वोच्च न्यायालय

• The **December 19 judgment by a Supreme Court Bench placing corporate environmental responsibility inside the legal meaning of corporate social responsibility (CSR)** reframes how the Court reads CSR in **Indian company law** while continuing its attempts since **2021** to reduce deaths of **great Indian bustards** from **power infrastructure**

19 दिसंबर के सुप्रीम कोर्ट बेंच के फैसले ने कॉर्पोरेट पर्यावरणीय जिम्मेदारी को कॉर्पोरेट सामाजिक उत्तरदायित्व (CSR) के कानूनी अर्थ के भीतर रखते हुए भारतीय कंपनी कानून में CSR की व्याख्या को नया रूप दिया और साथ ही 2021 से ग्रेट इंडियन बस्टर्ड की बिजली अवसंरचना से होने वाली मौतों को कम करने के प्रयासों को आगे बढ़ाया

• The Bench has treated the **CSR regime as an enforceable obligation** rather than an undertaking at companies' discretion while also reading **social responsibility** to include **environmental and wildlife protection** through the **Companies Act** itself

बेंच ने **CSR व्यवस्था** को कंपनियों की इच्छा पर आधारित पहल के बजाय एक प्रवर्तनीय दायित्व माना और कंपनी अधिनियम के माध्यम से सामाजिक उत्तरदायित्व में पर्यावरण और वन्यजीव संरक्षण को भी शामिल किया

• According to the Court, a **corporation as a legal person** shares the duty under **Article 51A(g)** which means spending **CSR funds** on environmental measures can be framed as discharging one's **constitutional obligation** rather than engaging in charity
न्यायालय के अनुसार **कानूनी व्यक्ति** के रूप में एक **कॉर्पोरेशन** पर **अनुच्छेद 51A(g)** के अंतर्गत दायित्व लागू होता है, अर्थात् **CSR निधि** को पर्यावरणीय उपायों पर खर्च करना **संवैधानिक दायित्व** के निर्वहन के रूप में देखा जा सकता है न कि दान के रूप में

• For **great Indian bustards**, the Court has thus strengthened the **legal basis** for conservationists to demand **corporate financing** for projects to recover species endangered by **corporate activity**



ग्रेट इंडियन बस्टर्ड के लिए न्यायालय ने संरक्षणवादियों के लिए कानूनी आधार मजबूत किया है ताकि कॉरपोरेट गतिविधियों से संकटग्रस्त प्रजातियों की बहाली के लिए कॉरपोरेट वित्तपोषण की मांग की जा सके

- The Court's **2021 interim order** restricted **overhead transmission lines** across **99,000 sq. km** and required a **committee-led approach** to feasibility and **undergrounding**
न्यायालय के **2021** के अंतरिम आदेश ने **99,000 वर्ग किलोमीटर** क्षेत्र में **ओवरहेड ट्रांसमिशन लाइनों** को सीमित किया और **व्यवहार्यता** तथा **भूमिगत करने** के लिए **समिति-नेतृत्वित दृष्टिकोण** अपनाने की आवश्यकता रखी
- In **2024**, it constituted an **expert committee** to balance **species protection** with **climate commitments** and **renewable energy build-out**, which the new order has **operationalised**
2024 में **प्रजाति संरक्षण**, **जलवायु प्रतिबद्धताओं**, और **नवीकरणीय ऊर्जा विस्तार** के बीच संतुलन के लिए एक **विशेषज्ञ समिति** गठित की गई, जिसे नए आदेश ने **कार्यान्वित** किया
- If **CSR** and **project-linked financing** become easier to compel, they can support the **recurring costs of breeding and releasing chicks** and of **restoring grasslands and maintaining them**
यदि **CSR** और **परियोजना-आधारित वित्तपोषण** को लागू करना आसान होता है, तो यह **चूजों के प्रजनन** और **विमोचन**, तथा **घासभूमि की बहाली** और **रखरखाव** की निरंतर **लागतों** का समर्थन कर सकता है
- However, the verdict is also a **legal interpretation** and it does not specify **which companies** must pay **how much, where, when, and with what audit trail**, while the **penalty for non-compliance** will remain according to **existing provisions**
हालाँकि यह फैसला एक **कानूनी व्याख्या** भी है और यह स्पष्ट नहीं करता कि **कौन-सी कंपनियाँ**, **कितनी राशि**, **कहाँ**, **कब**, और किस **ऑडिट ट्रेल** के साथ भुगतान करेंगी, जबकि **अनुपालन न करने पर दंड मौजूदा प्रावधानों** के अनुसार ही रहेगा
- The Court's shift from a **large-area approach** in **2021** to **revised priority areas** also reduces conflict with **renewable energy deployments** while pushing some onus to **accurate mapping of habitats**
2021 की **बड़े क्षेत्र की रणनीति** से हटकर **संशोधित प्राथमिक क्षेत्रों** पर जाने से **नवीकरणीय ऊर्जा परियोजनाओं** के साथ टकराव कम होता है और **आवासों के सटीक मानचित्रण** की जिम्मेदारी बढ़ती है
- This is a problem given **bustards move around** and **infrastructure risks can lie outside formal boundaries**
यह एक समस्या है क्योंकि **बस्टर्ड्स घूमते रहते हैं** और **अवसंरचना जोखिम औपचारिक सीमाओं** के बाहर भी हो सकते हैं
- The judgment improves the **legal position** for getting companies to pay for **prevention and recovery** and specifies a **narrower but more detailed habitat and infrastructure plan**
यह निर्णय **रोकथाम** और **बहाली** के लिए कंपनियों से भुगतान सुनिश्चित करने की **कानूनी स्थिति** को बेहतर बनाता है और एक **संकीर्ण लेकिन अधिक विस्तृत आवास और अवसंरचना योजना** निर्दिष्ट करता है
- Whether it is **sufficient** will depend less on the **doctrine** it announces and more on whether **governments and utilities** can deliver **undergrounding and rerouting** at the required **pace**, and whether **corporate funding** translates into **outcomes on the ground**
यह **पर्याप्त** होगा या नहीं, यह घोषित **सिद्धांत** से कम और इस बात से अधिक तय होगा कि **सरकारें और यूटिलिटीज** आवश्यक गति से **भूमिगतकरण और पुनर्मार्गीकरण** कर पाती हैं या नहीं, और क्या **कॉरपोरेट फंडिंग** वास्तव में **जमीनी परिणामों** में बदलती है



India tops global doping list for the third consecutive year

Global comparisons show that despite more rigorous testing regimes, the doping rate is much lower in many other countries

GS II: Governance

DATA POINT

Devvanshi Bihani

India has recorded the highest number of doping offenders globally for the third consecutive year, according to the latest World Anti-Doping Agency's (WADA) report. According to the WADA's 2024 report, India recorded 260 positive doping cases from 7,113 samples (Chart 1A) – a 3.6% positivity rate (Chart 1B). This figure is more than double of any other nation's numbers, as no other country exceeded a 1.75% positivity rate in 2024.

Norway documented the second-highest proportion of positive cases at 1.75%, followed by the U.S. at 1.15% (Chart 2). In terms of absolute figures, France registered the next highest volume of violations in 2024 with 91 cases, followed closely by Italy with 85, Russia and the U.S. reported 76 cases each, while Germany and China recorded 54 and 43 cases, respectively.

Crucially, these nations recorded fewer positive results in both absolute and percentage terms than India, despite maintaining much more rigorous testing regimes. China, for example, conducted over 24,000 tests in 2024 (Chart 3), more than triple India's volume, yet reported fewer than one-fifth of the violations.

The findings have come at a time when India is positioning itself as a credible global sporting host. The country is preparing to host the 2030 Commonwealth Games, seen as a stepping stone towards its larger ambition of hosting the 2036 Olympics.

Sport-wise data from India shows that athletics recorded the most positive results in absolute terms. Of the 260 positive cases in 2024, as many as 76 came from athletics, followed by weightlifting (43) and wrestling (29). Boxing and judo recorded 17 cases each, while kabaddi accounted for

10 cases. (Table 4) These figures reflect a pattern that has held over several years, with endurance and strength-based sports dominating the list of violations. In July, under-23 wrestling champion and Paris Olympics quarter-finalist Reetika Hooda tested positive for banned substances and was provisionally suspended, drawing attention to doping risks even among elite athletes.

At the grass-roots level, enforcement itself appears to be a deterrent. During India's University Games earlier this month, there were reports of several athletes skipping track and field events after anti-doping officials arrived at venues, in some cases leaving only a single competitor to participate.

India's National Anti-Doping Agency (NADA) has defended its record, arguing that higher numbers reflect improved detection rather than rising drug use. In a statement issued on Wednesday, the agency said India had "significantly strengthened" its anti-doping framework in recent years.

However, global comparisons suggest that India's problem is not merely one of testing volume. Several countries with comparable or higher testing numbers continue to report far lower positivity rates.

The WADA report comes months after the International Olympic Committee (IOC) expressed concern over the widespread use of performance-enhancing drugs in India and urged authorities to "set their house in order". In response, the Indian Olympic Association constituted a new anti-doping panel in August.

The government has also moved to tighten the legal framework. Parliament recently passed the National Anti-Doping (Amendment) Bill, 2025, incorporating changes sought by WADA to bring India's anti-doping regime in line with global standards. The Bill prohibits doping in sports, and provides a framework for testing, enforcement, and adjudication of violations.

Playing it dirty

The data for the charts were sourced from the World Anti-Doping Agency's (WADA) Anti-Doping Rule Violations (ADRVs) Report 2022, 2023 and 2024

CHART 1A: The total number of samples tested in India over the past four years

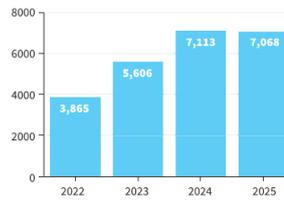


CHART 1B: The positivity rate (in %) of the tests conducted in India over the past four years

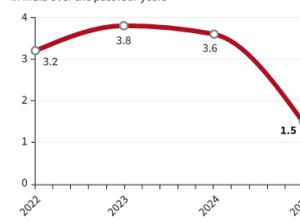


CHART 3: The number of doping tests conducted in 2024 by the 10 countries that recorded the highest number of AAFs*

China (24,212)	Italy (9,304)	U.K. (8,273)
France (11,744)	U.S. (6,592)	India (7,113)
Germany (15,081)	Russia (10,514)	Canada
Brazil (4,880)	Kenya (4,796)	Turkey
		Norway
		Sweden

CHART 2: The positive doping rate (in %) reported in 2024 by the 10 countries that recorded the highest number of AAFs*

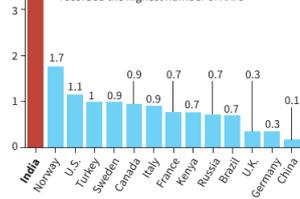


TABLE 4: The total number of samples collected, total AAFs, and the corresponding positivity rate across the 10 sports that recorded the highest number of AAFs* in India

Sport	Total Samples	Total AAFs	Positivity rate (in %)
Athletics	1,862	76	4.1
Weightlifting	664	43	6.5
Wrestling	414	29	7
Powerlifting	54	17	31.5
Boxing	413	17	4.1
Kabaddi	181	10	5.5
Bodybuilding	12	8	66.7
Judo	186	6	3.2
Wushu	111	5	4.5

Note: An Adverse Analytical Findings (AAFs) is a laboratory report identifying the presence of a prohibited substance or its metabolites or markers (including elevated quantities of endogenous substances) or evidence of the use of a prohibited method, in line with WADA standards

India tops global doping list for the third consecutive year

भारत लगातार तीसरे वर्ष वैश्विक डोपिंग सूची में शीर्ष पर है

- **Global comparisons show that despite more rigorous testing regimes, the doping rate is much lower in many other countries**
वैश्विक तुलनाएँ दिखाती हैं कि अधिक कठोर परीक्षण व्यवस्थाओं के बावजूद कई अन्य देशों में डोपिंग की दर कहीं कम है
- **India has recorded the highest number of doping offenders globally for the third consecutive year, according to the latest World Anti-Doping Agency (WADA) report**
नवीनतम विश्व डोपिंग रोधी एजेंसी (WADA) की रिपोर्ट के अनुसार, भारत ने लगातार तीसरे वर्ष वैश्विक स्तर पर सबसे अधिक डोपिंग उल्लंघनकर्ता दर्ज किए हैं
- **According to the WADA 2024 report, India recorded 260 positive doping cases from 7,113 samples — a 3.6% positivity rate**
WADA 2024 रिपोर्ट के अनुसार, भारत में 7,113 नमूनों में से 260 डोपिंग के सकारात्मक मामले पाए गए, जो 3.6% सकारात्मकता दर है
- **This figure is more than double that of any other nation, as no other country exceeded a 1.75% positivity rate in 2024**
यह आँकड़ा किसी भी अन्य देश से दो गुना से अधिक है, क्योंकि 2024 में किसी भी अन्य देश की सकारात्मकता दर 1.75% से अधिक नहीं थी
- **Norway documented the second-highest proportion of positive cases at 1.75%, followed by the U.S. at 1.15%**
नॉर्वे में 1.75% के साथ दूसरा सबसे अधिक अनुपात दर्ज किया गया, इसके बाद अमेरिका 1.15% पर रहा



- In terms of **absolute figures**, **France** registered **91 cases**, followed by **Italy with 85 cases**
कुल मामलों के संदर्भ में, फ्रांस में 91 मामले दर्ज हुए, इसके बाद इटली में 85 मामले रहे
- **Russia and the U.S. reported 76 cases each**, while **Germany and China recorded 54 and 43 cases respectively**
रूस और अमेरिका ने 76-76 मामले दर्ज किए, जबकि जर्मनी में 54 और चीन में 43 मामले सामने आए
- Crucially, these nations recorded **fewer positive results in both absolute and percentage terms than India**, despite **much more rigorous testing regimes**
महत्वपूर्ण बात यह है कि कठोर परीक्षण व्यवस्थाओं के बावजूद इन देशों में भारत की तुलना में कुल और प्रतिशत दोनों ही रूपों में कम सकारात्मक मामले दर्ज हुए
- **China**, for example, conducted **over 24,000 tests in 2024**, more than **triple India's volume**, yet reported **fewer than one-fifth of the violations**
उदाहरण के लिए, चीन ने 2024 में 24,000 से अधिक परीक्षण किए, जो भारत से तीन गुना अधिक हैं, फिर भी वहाँ उल्लंघन भारत के पाँचवें हिस्से से भी कम रहे
- **Context of global sporting ambitions**
वैश्विक खेल महत्वाकांक्षाओं का संदर्भ
- These findings come at a time when **India is positioning itself as a credible global sporting host**
ये निष्कर्ष ऐसे समय सामने आए हैं जब भारत स्वयं को एक विश्वसनीय वैश्विक खेल आयोजक के रूप में स्थापित कर रहा है
- India is preparing to host the **2030 Commonwealth Games**, seen as a **stepping stone** towards hosting the **2036 Olympics**
भारत 2030 राष्ट्रमंडल खेलों की मेज़बानी की तैयारी कर रहा है, जिसे 2036 ओलंपिक की मेज़बानी की दिशा में एक महत्वपूर्ण कदम माना जा रहा है

Sport-wise pattern in India भारत में खेलवार डोपिंग प्रवृत्ति

- Sport-wise data from India shows that **athletics** recorded the **most positive results**
भारत के खेलवार आँकड़ों के अनुसार, एथलेटिक्स में सबसे अधिक सकारात्मक मामले दर्ज हुए
- Of the **260 positive cases in 2024**, **76 were from athletics**, followed by **weightlifting (43)** and **wrestling (29)**
2024 के 260 मामलों में से 76 एथलेटिक्स, 43 वेटलिफ्टिंग, और 29 कुश्ती से जुड़े थे
- **Boxing and powerlifting** recorded **17 cases each**, while **kabaddi** accounted for **10 cases**
मुक्केबाज़ी और पावरलिफ्टिंग में 17-17 मामले, जबकि कबड्डी में 10 मामले सामने आए
- These figures reflect a **long-standing pattern**, with **endurance and strength-based sports** dominating violations
ये आँकड़े एक दीर्घकालिक प्रवृत्ति को दर्शाते हैं, जहाँ सहनशक्ति और शक्ति आधारित खेल उल्लंघनों में आगे रहे हैं
- In **July**, **under-23 wrestling champion and Paris Olympics quarter-finalist Reetika Hooda** tested positive and was **provisionally suspended**
जुलाई में अंडर-23 कुश्ती चैंपियन और पेरिस ओलंपिक क्वार्टर-फाइनलिस्ट रीटिका हुड्डा डोपिंग में पॉज़िटिव पाई गईं और उन्हें अस्थायी रूप से निलंबित किया गया
- This highlighted **doping risks even among elite athletes**
इस घटना ने शीर्ष स्तर के खिलाड़ियों में भी डोपिंग के जोखिम को उजागर किया

Grass-roots enforcement issues जमीनी स्तर पर प्रवर्तन की समस्याएँ

- At the **grass-roots level**, enforcement itself appears to be a **deterrent**
जमीनी स्तर पर, प्रवर्तन की उपस्थिति ही एक डर का कारण बनती दिख रही है
- During **India's University Games** earlier this month, several athletes reportedly **skipped events** after **anti-doping officials arrived**
इस माह की शुरुआत में भारतीय विश्वविद्यालय खेलों के दौरान, एंटी-डोपिंग अधिकारियों के पहुँचते ही कई खिलाड़ियों ने प्रतियोगिताओं से दूरी बना ली



- In some cases, **only a single competitor** was left to participate
कुछ मामलों में **सिर्फ एक खिलाड़ी** ही प्रतिस्पर्धा के लिए बचा

Institutional response and reforms संस्थागत प्रतिक्रिया और सुधार

- India's **National Anti-Doping Agency (NADA)** has defended its record, arguing that higher numbers reflect **improved detection**
भारत की **राष्ट्रीय डोपिंग रोधी एजेंसी (NADA)** ने यह कहते हुए अपना बचाव किया कि अधिक मामले **बेहतर जाँच और पहचान** का परिणाम हैं
- In a statement issued on **Wednesday**, NADA said India had **significantly strengthened its anti-doping framework**
बुधवार को जारी बयान में NADA ने कहा कि भारत ने अपना **डोपिंग रोधी ढाँचा काफी मज़बूत** किया है
- However, **global comparisons** suggest that India's problem is **not merely one of testing volume**
हालाँकि **वैश्विक तुलना** यह दर्शाती है कि भारत की समस्या केवल **परीक्षण की संख्या** तक सीमित नहीं है
- The **WADA report** comes months after the **International Olympic Committee (IOC)** expressed concern and urged India to **"set its house in order"**
WADA रिपोर्ट, अंतरराष्ट्रीय ओलंपिक समिति (IOC) की उस चिंता के बाद आई है, जिसमें उसने भारत से **"अपने ढाँचे को दुरुस्त करने"** का आग्रह किया था
- In response, the **Indian Olympic Association** constituted a **new anti-doping panel in August**
इसके जवाब में **भारतीय ओलंपिक संघ** ने अगस्त में **एक नया एंटी-डोपिंग पैनल** गठित किया
- Parliament has passed the **National Anti-Doping (Amendment) Bill, 2025**, incorporating **WADA-sought changes**
संसद ने **राष्ट्रीय डोपिंग रोधी (संशोधन) विधेयक, 2025** पारित किया है, जिसमें **WADA द्वारा सुझाए गए बदलाव** शामिल हैं
- The Bill **prohibits doping in sports** and provides a **framework for testing, enforcement, and adjudication of violations**
यह विधेयक **खेलों में डोपिंग पर प्रतिबंध** लगाता है और **परीक्षण, प्रवर्तन तथा उल्लंघनों के निपटारे** के लिए एक **ढाँचा** प्रदान करता है

GS Paper II: Governance,	
TOPICS COVERED	23 December
1.	Putin's visit to India and the aftermath पुतिन की भारत यात्रा और उसके बाद की स्थिति
2.	Denmark vows to defend border as U.S. names envoy to Greenland ग्रीनलैंड के लिए अमेरिका द्वारा दूत नियुक्त किए जाने पर डेनमार्क ने सीमा की रक्षा करने का संकल्प लिया



Putin's visit to India and the aftermath

GS II, IR: India-Russia

MOB

Russian President Vladimir Putin's visit to India (December 4 and 5) for the India-Russia Annual Summit had sparked a great deal of interest across the world, apart from India itself, though for different reasons. The West, which since the Ukraine conflict in 2022, has boycotted the Russian President, was keen to see how the visit would turn out, and whether it would undermine the embargo they had imposed on him for reasons that are well known. The Elephant and the Bear, however, managed to adroitly handle the situation, and in a manner that gave little reason for satisfaction to the West, even while maintaining a veneer of strategic autonomy.

A deep connection

Meetings between the heads of state of India and Russia have always been viewed as seminal events. They have often produced transformative results. Few in India can possibly forget how the India-Soviet Treaty of Peace, Friendship and Cooperation signed between the two countries in 1971, when Indira Gandhi was the Prime Minister of India and Leonid Brezhnev was the General Secretary of the Communist Party of the Soviet Union, transformed the strategic landscape of South Asia. It enabled India to defeat Pakistan and ensure the liberation of East Pakistan, which became the nascent state of Bangladesh. Less significant, but reminiscent of Russia's willingness to extend its hand of friendship to India, was Mr. Putin's gesture in 2009 during a summit meeting with Prime Minister Manmohan Singh of waiving penalties to enable India to secure its second aircraft carrier supplied by Russia. Other instances, not all of it known to the outside world, but significant in so far as the close friendship between the leaders of the two countries, also exist. This has been the glue sustaining a relationship born out of mutual accommodation and faith.

The closeness of the relationship has often irked the West, which, even as it tilted towards Pakistan most of the time and railed against India's policy of non-alignment, viewed Russia's backing for India as an anti-West manoeuvre.

After 1971, the India-Russia relationship took on a fresh dimension, and since the Gorbachev era in Russia, India-Russia ties have gone from strength to strength. The presidency of Mr. Putin for the past quarter of a century further cemented the friendship. Successive Indian Prime Ministers have sustained this relationship.

The Russia-Ukraine war, however, became a test case in so far as India-Russia relations were concerned; India maintained strict neutrality, but it refused to join the anti-Russia bandwagon. This has since been a point of contention between India and the West.

The recent visit of the Russian leader is his first to India after the West imposed embargo on visits and meetings. Mr. Putin's Delhi visit was, hence,



M.K. Narayanan

Former Director, Intelligence Bureau, former National Security Adviser, and former Governor of West Bengal

India and Russia adroitly handled the situation, and in a manner that gave little reason for satisfaction to the West, even while maintaining a veneer of strategic autonomy

invested with far greater interest than might otherwise have been the case. An earlier summit between the Indian and Russian leaders had taken place in Tianjin (in China), where Mr. Putin and Mr. Modi had displayed a great deal of warmth towards each other. This had, however, been anathema to the West.

The Joint Statement

Relations between Russia and the West have, if anything, deteriorated further ever since. Some in the West were possibly anticipating a shift in the content of the India-Russia relationship given the current flux in global politics, U.S. President Trump's heightened tariffs on India for continuing to purchase Russian oil in the wake of the conflict in Ukraine, and other aspects. However, this has been belied, as the optics of the latest visit indicate.

The West, especially the U.S. and countries of the European Union, are certain to be disappointed at the outcome. Apart from the public display of warmth by the Indian Prime Minister and the Russian President on the latter's arrival in Delhi, the relationship between the two countries, often touted as a relationship carved in stone, remains unaffected.

The Joint Statement issued following the 23rd India-Russia Annual Summit makes this clear. Support for a further strengthening of the Special and Privileged Strategic Partnership between India and Russia (marking the 25th Anniversary of the Declaration of Strategic Partnership between India and Russia), for instance, remains unchanged. The statement reiterates the special nature of the longstanding time-tested relationship characterised by mutual trust and respect for each other's core national interests. The Joint Statement further envisages exploring new avenues for cooperation, while strengthening cooperation in traditional areas.

The optics of the visit were, hence, excellent. The media coverage exceeded expectations. The body language demonstrated by the two principals left nothing to be desired. There were more than the usual references to connectivity, and cooperation on transport corridors, especially on the Northern Sea route through the Arctic, and the Chennai-Vladivostok Eastern Maritime Corridor. Technology and industrial collaboration also found prominent mention.

Leaving out defence matters

Yet, defence matters, which had so far provided the main spark as far as the relationship was concerned, were conspicuously absent from the Joint Statement. This has been a core item during the Putin era – and unless there was a deliberate decision to maintain diplomatic silence on supposedly controversial aspects and subjects, it would appear that the essence of the India-Russia relationship was changing. The reasons for this have yet to be explained, and give room for deep

thought, especially during a period of global flux. The defence relationship and cooperation had always been seen and accepted as the bedrock of India-Russia relations; in this instance, however, it has been pushed into the background as of now. This is not merely significant, but could mark a shift in India's attitude and approach, which has so far been (at least in defence matters) largely pro-Russia in outlook.

India has, of late, diversified its defence purchases to include countries such as Israel and France. Nevertheless, Russia has over the years provided the main sinews for India's defence. It has been India's most consistent ally in conflicts with countries such as Pakistan, with the latter being consistently backed by the West. It is not merely the consistency of Russian support, but also the quality of many of the items that Russia has been willing to supply India that has added a great deal of heft to India's defence capabilities.

At present, as was amply proved during Operation Sindoore in May 2025, Russia's S-400 air and missile defence system (which has acquired a near mythical status and is widely credited with India's success during the conflict), the Brahmos missile that India has jointly developed with Russia, and is a critical part of India's arsenal, apart from items such as the Sukhoi SU-30 MKI, the T-90 Tanks, and transport helicopters, form an integral part of India's defence structure. Considerable advances have also been made with regard to joint manufacturing and future collaboration between India and Russia in the arcane area of defence.

While India, no doubt, has certain new options to enlarge its military stockpile, Russia has historically been its largest most reliable and significant supplier of state-of-the-art weaponry on land, sea, and air. Of late, Russia has offered more of the same. A shift towards Western sources, given the current state of global politics, could therefore prove detrimental to India's interests. While this might bring about greater European and U.S. endorsement of India's policies, the actual costs need to be weighed carefully. It should be evident that little scope for a change exists, given that the West has never been a reliable partner while Russia has been.

To provide verisimilitude to what has been mentioned here about the less-than-friendly ties between India and the U.S., the U.S. Administration has recently notified Congress of a \$686 million sustaining and modernisation package for Pakistan's F-16 fighter jet fleet. The package would include avionics upgrades and cryptographic modules, mission planning software, simulators and logistical support from contractors. The latest notification comes on top of the \$400 million upgrade programme, announced earlier in 2025. This is notwithstanding a recent Washington Declaration that has averred that U.S.-India ties are the defining relationship of the 21st century.

PATRIOTIC



Putin's visit to India and the aftermath पुतिन की भारत यात्रा और उसके बाद की स्थिति

- **Russian President Vladimir Putin's visit to India on December 4 and 5 for the India-Russia Annual Summit** sparked a great deal of interest across the world apart from India itself though for different reasons
रूसी राष्ट्रपति व्लादिमीर पुतिन की भारत यात्रा 4 और 5 दिसंबर को भारत-रूस वार्षिक शिखर सम्मेलन के लिए हुई जिसने भारत के अलावा पूरी दुनिया में भी अलग-अलग कारणों से व्यापक रुचि पैदा की
- The **West**, which since the **Ukraine conflict in 2022** has boycotted the Russian President was keen to see how the visit would turn out and whether it would undermine the **embargo** they had imposed on him
पश्चिमी देश, जिन्होंने 2022 के यूक्रेन संघर्ष के बाद रूसी राष्ट्रपति का बहिष्कार किया था यह देखने के इच्छुक थे कि यह यात्रा कैसी रहती है और क्या इससे उनके द्वारा लगाए गए प्रतिबंध कमजोर पड़ते हैं
- The **Elephant and the Bear** however managed to adroitly handle the situation in a manner that gave little reason for satisfaction to the West even while maintaining a veneer of **strategic autonomy**
हालाँकि हाथी और भालू ने इस स्थिति को कुशलता से संभाला और रणनीतिक स्वायत्तता की झलक बनाए रखते हुए पश्चिम को संतुष्टि का कोई विशेष कारण नहीं दिया

A deep connection

गहरा संबंध

- Meetings between the **heads of state of India and Russia** have always been viewed as **seminal events** and have often produced **transformative results**
भारत और रूस के राष्ट्राध्यक्षों के बीच बैठकें हमेशा महत्वपूर्ण घटनाओं के रूप में देखी गई हैं और इन्होंने अक्सर परिवर्तनकारी परिणाम दिए हैं
- Few in India can forget the **India-Soviet Treaty of Peace Friendship and Cooperation of 1971** when **Indira Gandhi** was Prime Minister of India and **Leonid Brezhnev** was the **General Secretary of the Communist Party of the Soviet Union**
भारत में बहुत कम लोग 1971 की भारत-सोवियत शांति मित्रता और सहयोग संधि को भूल सकते हैं जब इंदिरा गांधी भारत की प्रधानमंत्री थीं और लियोनिद ब्रेज़नेव सोवियत कम्युनिस्ट पार्टी के महासचिव थे
- This treaty transformed the **strategic landscape of South Asia** and enabled India to **defeat Pakistan** and ensure the **liberation of East Pakistan** which became **Bangladesh**
इस संधि ने दक्षिण एशिया के रणनीतिक परिदृश्य को बदल दिया और भारत को पाकिस्तान को पराजित करने तथा पूर्वी पाकिस्तान की मुक्ति सुनिश्चित करने में सक्षम बनाया जो आगे चलकर बांग्लादेश बना
- Less significant but symbolic was **Mr. Putin's 2009 gesture** during a summit with **Prime Minister Manmohan Singh** of waiving penalties to help India secure its **second Russian aircraft carrier**
कम महत्वपूर्ण लेकिन प्रतीकात्मक था 2009 में पुतिन का कदम जब उन्होंने प्रधानमंत्री मनमोहन सिंह के साथ शिखर सम्मेलन में भारत को उसका दूसरा रूसी विमानवाहक पोत दिलाने के लिए दंड माफ किए
- Several other instances reflecting the **close friendship between the leaders** of the two countries exist even if not all are known publicly
दोनों देशों के नेताओं के बीच घनिष्ठ मित्रता को दर्शाने वाली कई अन्य घटनाएँ भी हैं भले ही वे सभी सार्वजनिक रूप से ज्ञात न हों
- This has been the **glue** sustaining a relationship born out of **mutual accommodation and faith**
यही गोंद रही है जिसने पारस्परिक समायोजन और विश्वास से जन्मे इस संबंध को बनाए रखा है
- The closeness of the relationship has often **irked the West** which while tilting towards **Pakistan** and criticising India's **non-alignment**, viewed Russia's backing of India as an **anti-West manoeuvre**
इस रिश्ते की निकटता ने अक्सर पश्चिम को खटकाया, जो अधिकतर पाकिस्तान की ओर झुकते हुए और भारत की गुटनिरपेक्ष नीति की आलोचना करते हुए रूस के भारत समर्थन को पश्चिम-विरोधी कदम मानता रहा
- After **1971**, India-Russia relations acquired a **new dimension** and since the **Gorbachev era** have gone from **strength to strength**



1971 के बाद भारत-रूस संबंधों ने नया आयाम ग्रहण किया और गोर्बाचेव युग से ये संबंध लगातार मजबूत होते गए

- The **presidency of Mr. Putin** over the past **quarter century** further **cemented the friendship** and successive **Indian Prime Ministers** have sustained this relationship
पिछले पच्चीस वर्षों में पुतिन की अध्यक्षता ने इस मित्रता को और मजबूत किया और लगातार आने वाले भारतीय प्रधानमंत्रियों ने इस संबंध को बनाए रखा
- The **Russia-Ukraine war** became a **test case** for India-Russia relations as India maintained **strict neutrality** but refused to join the **anti-Russia bandwagon**
रूस-यूक्रेन युद्ध भारत-रूस संबंधों के लिए एक परीक्षण बन गया क्योंकि भारत ने सख्त तटस्थता बनाए रखी लेकिन रूस-विरोधी अभियान में शामिल होने से इनकार किया
- This has since been a **point of contention** between **India and the West**
इसके बाद से यह भारत और पश्चिम के बीच विवाद का विषय बना हुआ है
- The recent visit of the Russian leader is his **first visit to India** after the West imposed **embargoes on visits and meetings**
रूसी नेता की यह हालिया यात्रा पश्चिम द्वारा यात्राओं और बैठकों पर प्रतिबंध लगाए जाने के बाद उनकी भारत की पहली यात्रा है
- Mr. Putin's **Delhi visit** was therefore invested with **far greater interest** than might otherwise have been the case
इसलिए पुतिन की दिल्ली यात्रा सामान्य से कहीं अधिक महत्व और रुचि का विषय बन गई
- An earlier summit between the Indian and Russian leaders had taken place in **Tianjin in China** where **Mr. Putin and Mr. Modi** displayed considerable **warmth** towards each other
इससे पहले भारतीय और रूसी नेताओं के बीच एक शिखर सम्मेलन चीन के तियानजिन में हुआ था जहाँ पुतिन और मोदी ने एक-दूसरे के प्रति विशेष सौहार्द दिखाया था
- This display however had been **anathema to the West**
हालाँकि यह दृश्य पश्चिम के लिए असहज और अस्वीकार्य था

The Joint Statement

संयुक्त वक्तव्य

- Relations between **Russia and the West** have, if anything, **deteriorated further** ever since
रूस और पश्चिम के बीच संबंध, यदि कुछ बदले हैं, तो वे तब से और अधिक खराब ही हुए हैं
- Some in the West were possibly anticipating a **shift** in the content of the **India-Russia relationship** given the current **flux in global politics**, **U.S. President Trump's heightened tariffs on India** for continuing to purchase **Russian oil** after the **Ukraine conflict**, and other aspects
पश्चिम में कुछ लोग वैश्विक राजनीति में उथल-पुथल, यूक्रेन संघर्ष के बाद रूसी तेल की खरीद जारी रखने पर अमेरिकी राष्ट्रपति ट्रम्प द्वारा भारत पर बढ़ाए गए टैरिफ, और अन्य कारणों के चलते भारत-रूस संबंधों की दिशा में बदलाव की उम्मीद कर रहे थे
- However, this has been **belied**, as the **optics of the latest visit** indicate
हालाँकि, हालिया यात्रा के संकेतों ने इन उम्मीदों को गलत साबित कर दिया
- The **West**, especially the **U.S.** and countries of the **European Union**, are certain to be **disappointed** at the outcome
पश्चिम, विशेषकर अमेरिका और यूरोपीय संघ के देश, इस परिणाम से निश्चित रूप से निराश होंगे
- Apart from the public display of **warmth** by the **Indian Prime Minister** and the **Russian President** on the latter's arrival in **Delhi**, the relationship between the two countries, often touted as a relationship **carved in stone**, remains **unaffected**
दिल्ली आगमन पर भारतीय प्रधानमंत्री और रूसी राष्ट्रपति द्वारा प्रदर्शित सार्वजनिक सौहार्द के अलावा, दोनों देशों के बीच संबंध, जिन्हें अक्सर पत्थर की लकीर कहा जाता है, अप्रभावित बने हुए हैं
- The Joint Statement issued following the **23rd India-Russia Annual Summit** makes this clear
23वें भारत-रूस वार्षिक शिखर सम्मेलन के बाद जारी संयुक्त वक्तव्य ने इसे स्पष्ट कर दिया
- Support for a further strengthening of the **Special and Privileged Strategic Partnership between India and Russia**, marking the **25th Anniversary of the Declaration of Strategic Partnership**, remains **unchanged**



भारत और रूस के बीच विशेष और विशेषाधिकार प्राप्त रणनीतिक साझेदारी को और मजबूत करने का समर्थन, रणनीतिक साझेदारी की घोषणा की 25वीं वर्षगांठ के अवसर पर, अपरिवर्तित बना हुआ है

- The statement reiterates the **special nature of the longstanding time-tested relationship characterised by mutual trust and respect for each other's core national interests**
- Especially on the **Northern Sea Route through the Arctic and the Chennai–Vladivostok Eastern Maritime Corridor**
Yet, **defence matters**, which had so far provided the **main spark** in the relationship, were **conspicuously absent** from the Joint Statement
- The **defence relationship and cooperation** had always been seen as the **bedrock** of India-Russia relations, but in this instance it has been **pushed into the background**
- India has, of late, **diversified its defence purchases** to include countries such as **Israel and France**
- As proved during **Operation Sindoor in May 2025**, Russia's **S-400 air and missile defence system, the BrahMos missile, Sukhoi SU-30 MKI, T-90 tanks, and transport helicopters** form an **integral part** of India's defence structure
मई 2025 में ऑपरेशन सिंदूर के दौरान यह स्पष्ट हुआ कि रूस का S-400 वायु एवं मिसाइल रक्षा प्रणाली, ब्रह्मोस मिसाइल, सुखोई SU-30 MKI, T-90 टैंक, और परिवहन हेलीकॉप्टर भारत की रक्षा संरचना का अभिन्न हिस्सा हैं
- Considerable advances have also been made in **joint manufacturing and future defence collaboration** between India and Russia
भारत और रूस के बीच **संयुक्त विनिर्माण और भविष्य के रक्षा सहयोग** में भी उल्लेखनीय प्रगति हुई है
- While India has some **new options** to expand its military stockpile, Russia remains its **largest and most reliable supplier of state-of-the-art weaponry on land, sea, and air**
हालाँकि भारत के पास सैन्य भंडार बढ़ाने के लिए कुछ **नए विकल्प** हैं, फिर भी **स्थल, समुद्र और वायु में आधुनिक हथियारों** का सबसे विश्वसनीय और **बड़ा आपूर्तिकर्ता** रूस ही रहा है
- A shift towards **Western sources**, given current **global politics**, could prove **detrimental to India's interests**
वर्तमान **वैश्विक राजनीति** को देखते हुए **पश्चिमी स्रोतों** की ओर झुकाव भारत के **हितों के लिए नुकसानदायक** हो सकता है
- While it may bring greater **U.S. and European endorsement**, the **actual costs** need careful evaluation
हालाँकि इससे **अमेरिका और यूरोप** का समर्थन बढ़ सकता है, लेकिन **वास्तविक लागतों** का सावधानीपूर्वक आकलन आवश्यक है
- It is evident that the **West has never been a reliable partner**, whereas **Russia has been**
यह स्पष्ट है कि **पश्चिम कभी विश्वसनीय भागीदार नहीं रहा**, जबकि **रूस रहा है**
- To underscore this, the **U.S. Administration** recently notified **Congress** of a **\$686 million package for Pakistan's F-16 fighter jet fleet**
इसे रेखांकित करने के लिए **अमेरिकी प्रशासन** ने हाल ही में **कांग्रेस** को **पाकिस्तान के F-16 लड़ाकू विमानों** के लिए **\$686 मिलियन** के पैकेज की सूचना दी
- The **package includes avionic upgrades, cryptographic modules, mission planning software, simulators, and logistical support**
इस पैकेज में **एवियोनिक्स उन्नयन, क्रिप्टोग्राफिक मॉड्यूल, मिशन प्लानिंग सॉफ्टवेयर, सिमुलेटर, और लॉजिस्टिक समर्थन** शामिल हैं
- This follows an earlier **\$400 million upgrade programme** announced in **2025**
यह **2025** में घोषित पहले के **\$400 मिलियन उन्नयन कार्यक्रम** के अतिरिक्त है
- This is notwithstanding the **Washington Declaration** claiming **U.S.–India ties as the defining relationship of the 21st century**
यह सब उस **वॉशिंगटन घोषणा** के बावजूद है जिसमें **अमेरिका–भारत संबंधों** को **21वीं सदी का निर्णायक संबंध** बताया गया था



COPENHAGEN

Denmark vows to defend border as U.S. names envoy to Greenland



Danish Foreign Minister Lars Lokke Rasmussen said on Monday the United States must respect the "territorial integrity of the Kingdom of Denmark" after President Donald Trump announced the appointment of a special envoy to Greenland, who said his goal would be to make the territory "a part of the U.S." AP

Denmark vows to defend border as U.S. names envoy to Greenland

ग्रीनलैंड के लिए अमेरिका द्वारा दूत नियुक्त किए जाने पर डेनमार्क ने सीमा की रक्षा करने का संकल्प लिया

• Danish Foreign Minister Lars Lokke Rasmussen said on Monday the United States must respect the "territorial integrity of the Kingdom of Denmark" after President Donald Trump announced the appointment of a special envoy to Greenland, who said his goal would be to make the territory "a part of the U.S"

डेनमार्क के विदेश मंत्री लार्स लोके रासमुसेन ने सोमवार को कहा कि संयुक्त राज्य अमेरिका को "डेनमार्क साम्राज्य की क्षेत्रीय अखंडता" का सम्मान करना चाहिए, जब राष्ट्रपति डोनाल्ड ट्रंप ने ग्रीनलैंड के लिए एक विशेष दूत की नियुक्ति की घोषणा की, जिसने कहा कि उसका लक्ष्य उस क्षेत्र को "यू.एस. का हिस्सा" बनाना होगा

GS Paper III: Economy,

TOPICS COVERED

23 12 2025

- India, New Zealand conclude trade talks**
भारत और न्यूज़ीलैंड ने व्यापार वार्ता पूरी की
- India's core sector grows at 1.8% in Nov.**
नवंबर में भारत के कोर सेक्टर की वृद्धि 1.8%

India, New Zealand conclude trade talks

New Delhi hopes to double bilateral trade to \$5 billion, and bring in \$20 billion in investments

New Zealand will provide 5,000 employment visas annually and a stay of up to three years

The trade pact will help Indian exporters, who are reeling under 50% tariffs imposed by U.S.

GS III: Economy
The Hindu Bureau
NEW DELHI

India and New Zealand on Monday concluded discussions on a free trade agreement (FTA) that will give India tariff-free access to the island nation's markets, bring in \$20 billion in investments over 15 years, and help double bilateral trade to \$5 billion in the next five years.

The deal will remove or cut tariffs on 95% of New Zealand's exports – from timber to fruits – to India, but New Delhi safeguarded the interests of its agricultural and dairy farmers, considered politically sensitive, and made no concessions on import of dairy, onions, sugar, spices, edible oils, and rubber. New Zealand will give temporary employment visas for Indian professionals in skilled jobs with a quota of 5,000 visas annually and a

stay of up to three years. Union Minister for Commerce Piyush Goyal said the government has been "sensitive in protecting interests" of agricultural and dairy farmers. "Rice, wheat, dairy, soya and various other agricultural products have not been opened up with any access," he said.

Hailing the FTA, to be signed in the first half of 2026, Prime Minister Narendra Modi said, "Concluded in just nine months, this historic milestone reflects a strong political will and shared ambition to deepen economic ties between our two countries."

'FTA will boost ties'
Mr. Modi spoke to his New Zealand counterpart Christopher Luxon over the phone before jointly announcing the conclusion of the FTA, said an official statement.

Easing access

The proposed deal will give duty-free access to a range of domestic goods and includes an FDI commitment of \$20 billion over 15 years

New Zealand to get

- Duty-free access to goods such as sheep meat, wool, coal and over 95% of forestry and wood articles
- Duty concessions on items such as kiwi fruit, wine, seafood, cherries, avocados, persimmons, bulk infant formula, Manuka honey, and milk albumins
- No concessions in dairy sector

Indian professionals in skilled occupations to get temporary employment entry visa pathway and stay of up to 3 years

"The FTA would significantly deepen bilateral economic engagement, enhance market access, promote investment flows, strengthen strategic cooperation between the two countries, and also open up new opportunities for innovators, entrepreneurs, farmers, MSMEs, students and youths of both coun-

tries across various sectors," the External Affairs Ministry said. The pact will help Indian exporters, reeling under the impact of 50% tariffs imposed by the Trump administration on Indian goods, diversify shipments in the Oceania region. India has already implemented a trade pact with



Ties on track: Union Minister Piyush Goyal with New Zealand Minister Todd McClay in New Delhi on Monday, PTI

The deal is expected to be signed in the first half of 2026 and aims at doubling bilateral trade to \$5 billion in five years

Australia. Underlining this, Mr. Goyal said the deal will give "opportunities for all sections of our export communities" and exporters wishing to "diversify their export basket". Speaking at a press conference, he said that India has been "very cautious of ensuring that our micro, medium and

small enterprises, innovators and start-ups get big opportunities in New Zealand."

The Minister said the agreement will provide a filip to labour-intensive sectors such as apparel, leather, textiles, rubber, footwear and home decor. It will encourage export of automobiles, auto components, machinery, electronic goods and electrical and pharmaceuticals, he said.

The temporary employment visas cover AYUSH practitioners, yoga instructors, Indian chefs, and music teachers, as well as high-demand sectors including IT, engineering, healthcare, education, and construction, strengthening workforce mobility and services trade.

For New Zealand, Mr. Luxon said "the gains are wide-ranging and significant". "India is the world's

most populous country and is the fastest-growing big economy, and that creates opportunities for jobs for Kiwis, exports and growth," he said.

Products not covered
Under the pact, New Zealand will get duty-free access to goods such as sheep meat, wool, coal and over 95% of forestry and wood articles. It will get duty concessions on a number of other items such as kiwi fruit, wine, some seafood, cherries, avocados, persimmons, bulk infant formula, Manuka honey and milk albumins.

But the deal does not cover vegetable products (onions, chana, peas, corn, almonds), sugar, artificial honey, animal, vegetable or microbial fats and oils, arms and ammunition, gems and jewellery, copper and its products, and aluminium and articles.



India, New Zealand conclude trade talks भारत और न्यूज़ीलैंड ने व्यापार वार्ता पूरी की

- India, New Zealand conclude trade talks
भारत और न्यूज़ीलैंड ने व्यापार वार्ता पूरी की
- New Delhi hopes to **double bilateral trade to \$5 billion**, and bring in **\$20 billion in investments**
- New Zealand will provide **5,000 employment visas annually** and a stay of up to **three years**
- The trade pact will help Indian exporters, who are **reeling under 50% tariffs imposed by U.S.**
- India and New Zealand on Monday concluded discussions on a **free trade agreement (FTA)** that will give India tariff-free access to the island nation's markets, bring in **\$20 billion in investments over 15 years**, and help **double bilateral trade to \$5 billion in the next five years**
- The deal will remove or cut tariffs on **95% of New Zealand's exports** — from timber to fruits — to India, but New Delhi safeguarded the interests of its **agricultural and dairy farmers, considered politically sensitive, and made no concessions on import of dairy, onions, sugar, spices, edible oils, and rubber**
- New Zealand will give temporary employment visas for Indian professionals in skilled jobs with a quota of **5,000 visas annually and a stay of up to three years**
- **Union Minister for Commerce Piyush Goyal** said the government has been “sensitive in protecting interests” of agricultural and dairy farmers
- “Rice, wheat, dairy, soya and various other agricultural products have not been opened up with any access,” he said

‘FTA will boost ties’ ‘एफटीए से संबंध मज़बूत होंगे’

- “The FTA would significantly deepen bilateral economic engagement, enhance market access, promote investment flows, strengthen strategic cooperation between the two countries, and also open up new opportunities for innovators, entrepreneurs, farmers, MSMEs, students and youths of both countries,” the External Affairs Ministry said Australia.
- Underlining this, Mr. Goyal said the deal will give “opportunities for all sections of our export communities” and exporters wishing to “diversify their export basket”
- Speaking at a press conference, he said that India has been “very cautious of ensuring that our micro, medium and small enterprises, innovators and start-ups get big opportunities in New Zealand.”
- The Minister said the **agreement will provide a fillip to labour-intensive sectors such as apparel, leather, textiles, rubber, footwear and home decor**
- **It will encourage export of automobiles, auto components, machinery, electronic goods and electrical and pharmaceuticals**, he said
- The temporary employment visas cover **AYUSH practitioners, yoga instructors, Indian chefs, and music teachers**, as well as high-demand sectors including **IT, engineering, healthcare, education, and construction**, strengthening workforce mobility and services trade
- For New Zealand, Mr. Luxon said “the gains are wide-ranging and significant”
- “India is the world's most populous country and is the fastest-growing big economy, and that creates opportunities for jobs for Kiwis, exports and growth,” he said

Products not covered शामिल न किए गए उत्पाद

- Under the pact, **New Zealand will get duty-free access to goods such as sheep meat, wool, coal and over 95% of forestry and wood articles**
- It will get duty concessions on a number of other items such as **kiwi fruit, wine, some seafood, cherries, avocados, persimmons, bulk infant formula, Manuka honey and milk albumins**
- But the **deal does not cover vegetable products (onions, chana, peas, corn, almonds), sugar, artificial honey, animal, vegetable or microbial fats and oils, arms and ammunition, gems and jewellery, copper and its products, and aluminium and articles**



- tries across various sectors.
- The pact will help Indian exporters, reeling under the impact of **50% tariffs** imposed by the **Trump administration** on Indian goods, diversify shipments in the **Oceania region**
- India has already implemented a trade pact with

Australia

- Underlining this, Mr. **Goyal** said the deal will give “opportunities for all sections of our **export communities**” and exporters wishing to “**diversify their export basket**”.
- Speaking at a press conference, he said that India has been “**very cautious** of ensuring that our **micro, medium and small enterprises**, innovators and **start-ups** get big opportunities in **New Zealand**.”
- The Minister said the **agreement will provide a fillip to labour-intensive sectors** such as **apparel, leather, textiles, rubber, footwear and home decor**.
- It will encourage export of **automobiles, auto components, machinery, electronic goods and electrical and pharmaceuticals**.
- The temporary employment visas cover **AYUSH practitioners, yoga instructors, Indian chefs, and music teachers**, as well as **high-demand sectors** including **IT, engineering, healthcare, education, and construction**, strengthening **workforce mobility and services trade**.
- “**India is the world’s most populous country** and is the **fastest-growing big economy**, and that creates opportunities for **jobs for Kiwis, exports and growth**,” he said.

Products not covered

शामिल न किए गए उत्पाद

- Under the pact, **New Zealand will get duty-free access** to goods such as **sheep meat, wool, coal** and over **95% of forestry and wood articles**.
समझौते के तहत **न्यूज़ीलैंड** को **भेड़ का मांस, ऊन, कोयला** और **वानिकी व लकड़ी** से जुड़े **95% से अधिक उत्पादों** पर **शुल्क-मुक्त पहुँच** मिलेगी।
- It will get **duty concessions** on a number of other items such as **kiwi fruit, wine, some seafood, cherries, avocados, persimmons, bulk infant formula, Manuka honey and milk albumins**.
इसे **कीवी फल, वाइन, कुछ समुद्री खाद्य, चेरी, एवोकाडो, पर्सिमन, थोक शिशु फ़ॉर्मूला, मनुका शहद और मिल्क एल्ब्यूमिन्स** जैसे कई अन्य उत्पादों पर **शुल्क रियायत** मिलेगी।
- But the deal does not cover **vegetable products (onions, chana, peas, corn, almonds), sugar, artificial honey, animal, vegetable or microbial fats and oils, arms and ammunition, gems and jewellery, copper and its products, and aluminium and articles**.



India's core sector grows at 1.8% in Nov.

Cement, steel, fertiliser and coal in positive territory; production of crude oil records contraction of 3.2%; natural gas output falls by 2.5%

GS III: Economy

Asian News International
NEW DELHI

The combined Index of Eight Core Industries (ICI) increased by 1.8% in November compared with the same period last year, data released by the Ministry of Commerce and Industry said on Monday.

Production of cement, steel, fertiliser and coal recorded positive growth in November 2025, it said.

Coal production rose by 2.1% in November. However, on a cumulative basis, coal output declined by 1.4% during the April-November 2025-26 period.

Crude oil production recorded a contraction of 3.2% in November compared with the year earlier.

The cumulative crude oil index has declined by 1.3% in the current financial year so far.

Natural gas output fell



Good show: Cement emerged as the best-performing segment, recording the highest YoY growth of 14.5%. C. VENKATACHALAPATHY

by 2.5% year-on-year in November 2025, continuing its downward trend. Cumulatively, natural gas production declined by 3% during April-November 2025-26. Petroleum refinery products, the largest component of the core industries index, saw a decline of 0.9% in November.

Despite a monthly decline, refinery output posted marginal cumulative growth of 0.2% during the period under review.

Fertiliser production re-

gistered a strong growth of 5.6% in November 2025.

On a cumulative basis, fertiliser output increased by 1.3% during April-November 2025-26. Steel production rose by 6.1% in November, reflecting robust performance in the sector. The cumulative steel index recorded a strong growth of 9.7% during the April-November 2025-26 period.

Cement emerged as the best-performing segment, recording the highest year-on-year growth of 14.5%.

India's core sector grows at 1.8% in Nov.

नवंबर में भारत के कोर सेक्टर की वृद्धि 1.8%

- **Cement, steel, fertiliser and coal** in positive territory; production of crude oil records contraction of 3.2%; natural gas output falls by 2.5%
सीमेंट, स्टील, उर्वरक और कोयला सकारात्मक क्षेत्र में; कच्चे तेल का उत्पादन 3.2% घटा; प्राकृतिक गैस उत्पादन 2.5% गिरा



- The **combined Index of Eight Core Industries (ICI)** increased by **1.8% in November** compared with the same period last year, data released by the **Ministry of Commerce and Industry** said on **Monday**.
आठ प्रमुख उद्योगों के संयुक्त सूचकांक (ICI) में पिछले वर्ष की समान अवधि की तुलना में नवंबर में 1.8% की वृद्धि हुई, वाणिज्य और उद्योग मंत्रालय द्वारा सोमवार को जारी आंकड़ों में कहा गया।
- **Production of cement, steel, fertiliser and coal** recorded **positive growth** in **November 2025**, it said.
इसमें कहा गया कि नवंबर 2025 में सीमेंट, स्टील, उर्वरक और कोयले के उत्पादन में सकारात्मक वृद्धि दर्ज की गई।
- **Coal production rose by 2.1% in November**. However, on a **cumulative basis**, coal output declined by **1.4%** during the **April–November 2025-26** period.
कोयला उत्पादन नवंबर में 2.1% बढ़ा। हालांकि, संचयी आधार पर अप्रैल–नवंबर 2025-26 अवधि के दौरान कोयला उत्पादन 1.4% घटा।
- **Crude oil production** recorded a **contraction of 3.2%** in **November** compared with the year earlier.
कच्चे तेल का उत्पादन पिछले वर्ष की तुलना में नवंबर में 3.2% की गिरावट दर्ज करता है।
- The **cumulative crude oil index** has declined by **1.3%** in the **current financial year** so far. अब तक वर्तमान वित्तीय वर्ष में संचयी कच्चे तेल सूचकांक में 1.3% की गिरावट आई है।
- **Natural gas output** fell by **2.5%** year-on-year in **November 2025**, continuing its downward trend.
प्राकृतिक गैस उत्पादन नवंबर 2025 में वर्ष-दर-वर्ष 2.5% घटा, जिससे इसकी गिरावट की प्रवृत्ति जारी रही।
- Cumulatively, **natural gas production** declined by **3%** during **April–November 2025-26**. संचयी रूप से, अप्रैल–नवंबर 2025-26 के दौरान प्राकृतिक गैस उत्पादन 3% घटा।
- **Petroleum refinery products**, the **largest component** of the **core industries index**, saw a **decline of 0.9%** in **November**.
कोर उद्योग सूचकांक का सबसे बड़ा घटक, पेट्रोलियम रिफाइनरी उत्पाद, नवंबर में 0.9% की गिरावट देखी गई।
- Despite a **monthly decline**, refinery output posted **marginal cumulative growth of 0.2%** during the period under review.
मासिक गिरावट के बावजूद, समीक्षा अवधि के दौरान रिफाइनरी उत्पादन में 0.2% की हल्की संचयी वृद्धि दर्ज की गई।
- **Fertiliser production** registered a **strong growth of 5.6%** in **November 2025**.
उर्वरक उत्पादन ने नवंबर 2025 में 5.6% की मजबूत वृद्धि दर्ज की।
- On a **cumulative basis**, **fertilizer output** increased by **1.3%** during **April–November 2025-26**.
संचयी आधार पर, अप्रैल–नवंबर 2025-26 के दौरान उर्वरक उत्पादन 1.3% बढ़ा।
- **Steel production** rose by **6.1%** in **November**, reflecting **robust performance** in the sector.
स्टील उत्पादन नवंबर में 6.1% बढ़ा, जो इस क्षेत्र के मजबूत प्रदर्शन को दर्शाता है।
- The **cumulative steel index** recorded a **strong growth of 9.7%** during the **April–November 2025-26** period.
संचयी स्टील सूचकांक ने अप्रैल–नवंबर 2025-26 अवधि के दौरान 9.7% की मजबूत वृद्धि दर्ज की।
- **Cement** emerged as the **best-performing segment**, recording the **highest year-on-year growth of 14.5%**.
सीमेंट सर्वश्रेष्ठ प्रदर्शन करने वाला खंड बनकर उभरा, जिसमें 14.5% की सबसे अधिक वर्ष-दर-वर्ष वृद्धि दर्ज की गई।

Eight Core Industries and IIP

- Eight core industries form the **backbone of industrial activity**
- Together they account for **about 40.27%** of the total weight in IIP



List of Eight Core Industries

- **Eight Core Industries – Descending Order of Weight (%)**
- **Refinery Products: 28.04%**
- Largest contributor due to its central role in fuel supply and downstream industries
- **Electricity: 19.85%**
- Acts as a key indicator of overall economic and industrial activity
- **Steel: 17.92%**
- Essential for infrastructure, construction, and manufacturing sectors
- **Coal: 10.33%**
- Primary fuel for power generation and core industrial processes
- **Crude Oil: 8.98%**
- Critical input for refinery products and energy security
- **Natural Gas: 6.88%**
- Used in power, fertilisers, city gas distribution, and industries
- **Cement: 5.37%**
- Strongly linked with housing, infrastructure, and construction activity
- **Fertilisers: 2.63%**
- Supports agricultural productivity and food security

GS Paper III: S&T,	
TOPICS COVERED	23 12 2025
1.	Bengaluru firm begins ground testing of country's largest electric flying taxi बेंगलुरु की कंपनी ने देश की सबसे बड़ी इलेक्ट्रिक फ्लाइंग टैक्सी का ग्राउंड परीक्षण शुरू किया
2.	Regeneration in axolotls, flatworms, is a whole-body event, studies find एक्सोलोटल, फ्लैटवर्म में पुनर्जनन एक सम्पूर्ण-शरीर की प्रक्रिया है, ऐसा अध्ययनों में पाया गया
3.	NASA loses touch with MAVEN craft नासा का MAVEN अंतरिक्ष यान से संपर्क टूट गया
4.	How are we protecting astronauts from deadly space debris? घातक अंतरिक्ष मलबे से अंतरिक्ष यात्रियों की सुरक्षा कैसे की जा रही है?
5.	QUIZ
6.	EV revolution rolls on but battery metals lose their charge ईवी क्रांति जारी है लेकिन बैटरी धातुओं की चमक फीकी पड़ रही है



Bengaluru firm begins ground testing of country's largest electric flying taxi

GS III: S&T

The Hindu Bureau
BENGALURU

The ground testing for the half-scale electric vertical take-off and landing (eVTOL) demonstrator, SYLLA SYL-X1 developed by Bengaluru-based Sarla Aviation, took place on Monday.

The Sarla Aviation said that with a 7.5-meter wingspan, SYL-X1 represents the largest and most advanced private eVTOL demonstrator currently under development in India.

With ground testing now under way, the company said its air taxi programme enters its core validation phase, moving beyond digital concepts



The testing for SYLLA SYL-X1 developed by Sarla Aviation took place on Monday in Bengaluru. SPECIAL ARRANGEMENT

and laboratory-scale experimentation into real aircraft-scale testing.

The current demonstrator is a functional sub-scale aircraft, purpose-built to validate structural beha-

viour, propulsion integration, and system-level safety architecture. Unlike academic prototypes or small RC-scale platforms, the SYL-X1 is designed with certification intent from

the outset, forming a direct bridge toward the Sarla Aviation's 15-meter wingspan full-scale aircraft.

Sarla's flagship programme is a six-seater electric flying taxi, is designed to reduce commute times in India's congested cities like Bengaluru, Mumbai, Delhi, and Pune.

In 2024, the Bangalore International Airport Limited, which operates the Kempegowda International Airport, entered into a partnership with the Sarla Aviation to launch electric flying taxis. The two entities signed a statement of collaboration to explore sustainable air mobility, specifically the eVTOL aircraft.

Bengaluru firm begins ground testing of country's largest electric flying taxi बेंगलुरु की कंपनी ने देश की सबसे बड़ी इलेक्ट्रिक फ्लाईंग टैक्सी का ग्राउंड परीक्षण शुरू किया

- Bengaluru firm begins ground testing of **country's largest electric flying taxi**
बेंगलुरु की कंपनी ने देश की सबसे बड़ी इलेक्ट्रिक फ्लाईंग टैक्सी का ग्राउंड परीक्षण शुरू किया
- The ground testing for the half-scale electric vertical take-off and landing (eVTOL) demonstrator, **SYLLA SYL-X1 developed by Bengaluru-based Sarla Aviation**, took place on **Monday**.
आधे पैमाने के इलेक्ट्रिक वर्टिकल टेक-ऑफ एंड लैंडिंग (eVTOL) डेमॉन्स्ट्रेटर **SYLLA SYL-X1**, जिसे बेंगलुरु स्थित सरला एविएशन ने विकसित किया है, का ग्राउंड परीक्षण **सोमवार** को हुआ।
- Sarla Aviation said that with a **7.5-meter wingspan, SYL-X1 represents the largest and most advanced private eVTOL demonstrator** currently under development in **India**.
सरला एविएशन ने कहा कि **7.5 मीटर विंगस्पैन** के साथ **SYL-X1**, **भारत** में वर्तमान में विकसित हो रहा **सबसे बड़ा और सबसे उन्नत निजी eVTOL डेमॉन्स्ट्रेटर** है।
- With ground testing now under way, the company said **its air taxi programme enters its core validation phase, moving beyond digital concepts and laboratory-scale experimentation into real aircraft-scale testing**.
ग्राउंड परीक्षण शुरू होने के साथ, कंपनी ने कहा कि उसका **एयर टैक्सी कार्यक्रम** अपने **मुख्य सत्यापन चरण** में प्रवेश कर रहा है, जो **डिजिटल अवधारणाओं** और **प्रयोगशाला-स्तरीय प्रयोगों** से आगे बढ़कर **वास्तविक विमान-स्तरीय परीक्षण** की ओर जा रहा है।
- The **current demonstrator is a functional sub-scale aircraft, purpose-built to validate structural behaviour, propulsion integration, and system-level safety architecture**.
वर्तमान डेमॉन्स्ट्रेटर एक **कार्यात्मक उप-स्तरीय विमान** है, जिसे **संरचनात्मक व्यवहार, प्रणोदन एकीकरण, और सिस्टम-स्तरीय सुरक्षा संरचना** को सत्यापित करने के लिए विशेष रूप से बनाया गया है।



- Unlike **academic prototypes** or **small RC-scale platforms**, the **SYL-X1** is designed with **certification intent** from the outset, forming a **direct bridge** toward the **Sarla Aviation's 15-meter wingspan full-scale aircraft**.
शैक्षणिक प्रोटोटाइप या छोटे आरसी-स्केल प्लेटफॉर्म के विपरीत, **SYL-X1** को शुरुआत से ही प्रमाणीकरण के उद्देश्य से डिज़ाइन किया गया है, जो सरला एविएशन के **15 मीटर विंगस्पैन वाले पूर्ण-स्तरीय विमान** की ओर एक **सीधा सेतु** बनाता है।
- **Sarla's flagship programme is a six-seater electric flying taxi, designed to reduce commute times in India's congested cities like Bengaluru, Mumbai, Delhi, and Pune.**
सरला का **फ्लैगशिप कार्यक्रम** एक **छह-सीटर इलेक्ट्रिक फ्लाईंग टैक्सी** है, जिसे **भारत के भीड़भाड़ वाले शहरों** जैसे **बेंगलुरु, मुंबई, दिल्ली और पुणे** में **यात्रा समय कम करने** के लिए डिज़ाइन किया गया है।
- **In 2024, the Bangalore International Airport Limited, which operates the Kempegowda International Airport, entered into a partnership with the Sarla Aviation to launch electric flying taxis.**
2024 में, **केम्पेगौड़ा अंतरराष्ट्रीय हवाई अड्डे** का संचालन करने वाली **बेंगलुरु इंटरनेशनल एयरपोर्ट लिमिटेड** ने **इलेक्ट्रिक फ्लाईंग टैक्सियों** को लॉन्च करने के लिए **सरला एविएशन** के साथ **साझेदारी** की।
- The two entities signed a **statement of collaboration** to explore **sustainable air mobility**, specifically the **eVTOL aircraft**.
दोनों संस्थाओं ने **सतत हवाई गतिशीलता**, विशेष रूप से **eVTOL विमान**, की खोज के लिए एक **सहयोग वक्तव्य** पर हस्ताक्षर किए।

PATRIOTIC IAS



Regeneration in axolotls, flatworms, is a whole-body event, studies find

When an axolotl loses a limb, the cells at the stump gather and multiply into a mound of tissue that becomes an engine of new growth; for decades, scientists believed this small structure contained a major part of the regenerative programme; new studies say the whole body itself joins in the act

SS III S&T

Anirban Mukhopadhyay

Planarian flatworms are small, unassuming creatures with an astonishing talent. Cut one into pieces, and each fragment can regrow a complete animal. This seemingly magical ability comes from their prolific stem cells, known as neoblasts, which can produce every tissue in the body.

In most animals, such regenerative stem cells grow under the care of nearby niche cells, small micro-environments that signal when to divide. But planarians, despite their extraordinary powers of renewal, appear to lack any such neighbourhoods, leaving biologists puzzled about where their stem cells get their cues.

In a new study in *Cell Reports*, researchers at the Stowers Institute for Medical Research in Missouri, USA, found that the missing niche might not be local at all, but comes from the gut. They combined a powerful gene-mapping tool called Slide-seqV2 with electron microscopy to chart where thousands of stem cells sit and which genes they switch on. The maps revealed that neoblasts rarely stay in contact with nearby tissues, yet their activity depends on chemical messages sent from the intestine. When key intestinal genes were turned off, the usual post-injury burst of cell division disappeared and regeneration faltered; even day-to-day cell replacement changed.

"The planarian gut functions as a central regulator for whole-body regeneration," the study's corresponding author Alejandro Sánchez Alvarado, a molecular biologist at the Stowers Institute, said. He added that the same gut signals may also help guide routine tissue renewal across the body.

The findings don't put the intestine in charge. Instead, they point to a cooperative system in which many tissues, including the gut, help steer stem cells through shared chemical cues. Because stem and intestinal cells sit only a few micrometres apart (roughly a single cell's width), their conversations are likely carried by molecules such as small proteins, fats or other metabolic signals rather than direct contact.

That is to say, in planarians, regeneration seems to depend on a diffuse web of nearby chemical signals rather than a single, fixed neighborhood.

Poised to heal

In another species, that same kind of long-range communication runs through the nervous system rather than the gut.

When an axolotl (*Ambystoma mexicanum*) loses a limb, the cells at the stump gather and multiply into a mound of tissue called the blastema, which becomes an engine of new growth. For decades, scientists believed this small structure contained a major part of the regenerative programme. But a new study in *Cell* by a group at the Harvard Stem Cell Institute in Massachusetts, USA, has reported that the body itself joins the act.

After amputation, a burst of activity in the animal's stress response nerves briefly drives cells throughout the body to reenter the cycle of division. This organism-wide systemic activation seems to prime the animal for repair. When a previously uninjured limb is later amputated, its blastema is noticeably



A composite image of a planarian flatworm regrowing itself from a truncated form. SPECIAL ARRANGEMENT

larger by two weeks.

The response was found to be carried by special proteins on cells that sensed stress signals. In distant tissues, one group of these proteins switched on a growth control system called mTOR, putting the body into a temporary state of readiness. At the injury site, another group kept the new limb growing. In both places, the same stress hormone, norepinephrine, a close chemical cousin of adrenaline, acted as the messenger.

When the researchers blocked the animal's stress nerves, regeneration slowed down. But when they used common blood pressure drugs to mimic or block those stress signals, they could dial the response up or down, showing that the body's repair mode could be switched on and off chemically. The primed state itself faded after about four weeks, suggesting that regeneration is not a permanent condition but a short-lived 'repair mode' under the nervous system's control.

The group also expressed suspicion that the system actively shut down this



A close-up view of planarian flatworms. SPECIAL ARRANGEMENT



The studies reveal a more complex, coordinated response where the entire organism is involved in the regenerative process

NADIA ROSENTHAL
IMPERIAL COLLEGE OF LONDON

state rather than letting it fade, perhaps through a surveillance mechanism that reined in cell growth once the injury response had served its purpose.

Rethinking regeneration

The same signalling machinery exists in mammals, so scientists are now wondering if mammals could have such abilities, too. However, regenerative biologist and associate professor Jessica Whitel, who led the Harvard group, strongly emphasised that any parallels to humans remain speculative.

"It could be possible that humans have latent regenerative abilities that need to be coaxed out with the proper molecular instructions, in a specific sequence," she said, stressing that such hypotheses still require direct testing.

Her team is considering whether mammals could even trigger a similar adrenergic response after severe injury but become "stuck" before the process can proceed, a failure that could reflect molecular brakes blocking the later steps of regeneration.

Even in axolotls, she noted, regeneration is tightly confined to the wound.

"Stematically activated cells don't grow new limbs all over the body," she said. "They appear to be held in check by brakes that limit where and how regeneration proceeds."

Some of these cells near the stump may themselves become blastema

precursors while others might act indirectly, signalling to their neighbors to initiate growth. In both cases, she said, the process depends on communication across tissues rather than within a single compartment.

Even so, the way this global coordination works is not the same in every animal. Ken Poss, a biologist at Duke University in North Carolina in the USA, said evolution seems to have invented several ways to achieve that coordination.

"Innate regeneration as a whole certainly uses different architectures," Mr. Poss said. "Nerves and their signals can have major, minor or no role in regeneration, depending on the species and tissue. Finding commonalities and differences helps us piece the puzzle together."

However, those differences don't contradict the idea of body-wide coordination; they refine it.

"These studies address an outstanding question: how local is the regenerative response to injury?" Nadia Rosenthal, a researcher at Imperial College of London, said. "They reveal a more complex, coordinated response where the entire organism is involved in the regenerative process."

Salamanders may rely on neural signals and flatworms on metabolic cues, but both, she added, expose "a dynamic balance between local responses and whole-body governance of tissue repair."

Together, the two studies recast regeneration as a team effort, not a solo act. Whether driven by gut signals or nerve impulses, the process depends on a dialogue between the wound and the rest of the body. The next challenge is to learn how those conversations start, and how the body knows when to stop them.

(Anirban Mukhopadhyay is a geneticist by training and science communicator from New Delhi.
anirban.genetics@south.du.ac.in)

Regeneration in axolotls, flatworms, is a whole-body event, studies find



एक्सोलोटल, फ्लैटवर्म में पुनर्जनन एक सम्पूर्ण-शरीर की प्रक्रिया है, ऐसा अध्ययनों में पाया गया

- **Planarian flatworms** are small, unassuming creatures with an astonishing talent प्लैनैरियन फ्लैटवर्म्स छोटे, साधारण दिखने वाले जीव हैं जिनमें एक अद्भुत क्षमता होती है
- **Cut one into pieces, and each fragment can regrow a complete animal** यदि इन्हें टुकड़ों में काट दिया जाए, तो प्रत्येक टुकड़ा एक पूरा जीव दोबारा विकसित कर सकता है
- **This seemingly magical ability comes from their prolific stem cells, known as neoblasts, which can produce every tissue in the body** यह चमत्कारिक लगने वाली क्षमता उनके **प्रचुर स्टेम सेल्स**, जिन्हें **नियोब्लास्ट्स** कहा जाता है, से आती है, जो शरीर के हर ऊतक का निर्माण कर सकते हैं
- **In most animals, such regenerative stem cells grow under the care of nearby niche cells, small micro-environments that signal when to divide**
- **Because stem and intestinal cells sit only a few micrometres apart (roughly a single cell's width), their conversations are likely carried by molecules such as small proteins, fats or other metabolic signals rather than direct contact**
- **"Systemically activated cells don't grow new limbs all over the body," she said**
"प्रणालीगत रूप से सक्रिय कोशिकाएँ पूरे शरीर में नए अंग नहीं उगाती," उन्होंने कहा
- **"They appear to be held in check by brakes that limit where and how regeneration proceeds."**
"वे ऐसे ब्रेक्स द्वारा नियंत्रित प्रतीत होती हैं जो यह सीमित करते हैं कि पुनर्जनन कहाँ और कैसे आगे बढ़ेगा।"
- **Some of these cells near the stump may themselves become blastema precursors while others might act indirectly, signalling to their neighbors to initiate growth**
- **Ken Poss, a biologist at Duke University in North Carolina in the USA, said evolution seems to have invented several ways to achieve that coordination**
- **"Nerves and their signals can have major, minor or no role in regeneration, depending on the species and tissue**



NASA loses touch with MAVEN craft which reached Mars just before Mangalyaan

Vasudevan Mukunth

CS III: S&T

NASA has lost contact with its Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft, the Mars orbiter that has worked for more than a decade to study how the planet's atmosphere is escaping into space. The spacecraft went silent in early December, and engineers are still trying to re-establish communication.

MAVEN's job at Mars has been to measure the thin upper atmosphere and the ionosphere (charged particles high above the surface), and to watch how sunlight and the solar wind interact with them. Those measurements help scientists estimate how Mars went from a planet that once had flowing water to the cold, dry world we see today.

Beyond science, MAVEN also carries a relay radio that can pass messages between the earth and rovers on the ground, including NASA's Curiosity and Perseverance.

On December 4, MAVEN sent its last full set of routine "health" data about its systems. Two days later, it passed behind Mars from the earth's point of view. This kind of temporary blackout is normal: when a planet blocks the line of sight, radio signals can't get through. But after MAVEN was expected to reappear, NASA's Deep Space Network didn't detect its usual signal. NASA publicly described the problem on December 9 and said it was investigating.

In an update on December 15, NASA reported a small clue: during an ongoing radio science campaign, the team recovered a brief fragment of tracking data from December 6. From that fragment, NASA said MAVEN appeared to be rotating in an unexpected way when it emerged from behind Mars. The signal's frequency also suggested MAVEN's orbit may have changed. NASA hasn't yet said what caused these changes.

MAVEN orbits Mars and repeatedly samples different heights above the planet, which is useful because the upper atmosphere changes with time of day, season, and solar activity. Its instruments measure gases and ions as well as the solar wind and magnetic environment around Mars. When it serves as a relay, MAVEN receives short UHF

MAVEN appeared to be rotating in an unexpected way. The signal frequency also suggested its orbit may have changed

(ultra-high-frequency) transmissions from a rover, then sends the data back to the earth using a high power radio link.

With MAVEN having gone silent, NASA has shifted more relay work to other orbiters, including the Mars Reconnaissance Orbiter and Mars Odyssey, and has coordinated with European orbiters as needed as well.

NASA launched MAVEN in November 2013 from Cape Canaveral in Florida. After a months-long cruise through interplanetary space, it reached Mars and entered orbit in September 2014. MAVEN was designed for a two-year primary mission but has continued operating on an extended mission since, building a long record of how Mars's upper atmosphere responds to the Sun.

India's Mars Orbiter Mission (MOM), or Mangalyaan, entered Mars orbit on September 24, 2014, days after MAVEN arrived. The Indian Space Research Organisation framed MOM as a technology demonstrator, with five instruments added for basic imaging and atmospheric studies.

Many in India often compared MOM to MAVEN at the time using their headline costs – about ₹450 crore for MOM v. \$671 million for MAVEN – but the missions were built for different goals and payloads. MAVEN was also the more technically ambitious science mission.

the surface), and to watch how sunlight and the solar wind interact with them

मंगल पर MAVEN का कार्य पतले ऊपरी वायुमंडल और आयनमंडल (सतह के ऊपर आवेशित कण) को मापना और यह देखना रहा है कि सूर्य का प्रकाश और सौर

NASA loses touch with MAVEN craft नासा का MAVEN अंतरिक्ष यान से संपर्क टूट गया

NASA has lost contact with its Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft, the Mars orbiter that has worked for more than a decade to study how the planet's atmosphere is escaping into space

नासा का अपने Mars Atmosphere and Volatile Evolution (MAVEN) अंतरिक्षयान से संपर्क टूट गया है, यह मंगल ऑर्बिटर पिछले एक दशक से यह अध्ययन कर रहा था कि ग्रह का वायुमंडल कैसे अंतरिक्ष में जा रहा है

The spacecraft went silent in early December, and engineers are still trying to re-establish communication

यह अंतरिक्षयान दिसंबर की शुरुआत में खामोश हो गया और इंजीनियर अब भी संपर्क बहाल करने की कोशिश कर रहे हैं

MAVEN's job at Mars has been to measure the thin upper atmosphere and the ionosphere (charged particles high above

the surface) and the solar wind interact

पवन इनके साथ कैसे अंतःक्रिया करते हैं

- Those measurements help scientists estimate how Mars went from a planet that once had flowing water to the cold, dry world we see today
ये मापन वैज्ञानिकों को यह अनुमान लगाने में मदद करते हैं कि मंगल कैसे कभी बहते पानी वाले ग्रह से आज के ठंडे और शुष्क संसार में बदल गया
- Beyond science, MAVEN also carries a relay radio that can pass messages between the earth and rovers on the ground, including NASA's Curiosity and Perseverance
वैज्ञानिक कार्यों के अलावा, MAVEN में एक रिले रेडियो भी है जो पृथ्वी और सतह पर मौजूद रोवर्स के बीच संदेश भेज सकता है, जिनमें नासा के Curiosity और Perseverance शामिल हैं
- On December 4, MAVEN sent its last full set of routine health data about its systems
4 दिसंबर को MAVEN ने अपने सिस्टम से जुड़ा अंतिम पूर्ण स्वास्थ्य डेटा भेजा
- Two days later, it passed behind Mars from the earth's point of view
दो दिन बाद, पृथ्वी के दृष्टिकोण से यह मंगल के पीछे चला गया
- This kind of temporary blackout is normal when a planet blocks the line of sight and radio signals can't get through



- MAVEN orbits Mars and repeatedly samples **different heights** above the planet
MAVEN मंगल की कक्षा में घूमता है और ग्रह के ऊपर **विभिन्न ऊँचाइयों** पर बार-बार नमूने लेता है
- **The upper atmosphere changes with time of day, season, and solar activity**
- With MAVEN having gone silent, NASA has shifted more relay work to other orbiters including the **Mars Reconnaissance Orbiter** and **Mars Odyssey**
- NASA launched MAVEN in **November 2013** from **Cape Canaveral in Florida**
- It has built a long record of how Mars's **upper atmosphere** responds to the **Sun**
इसने यह दर्शाने वाला एक लंबा रिकॉर्ड बनाया कि मंगल का **ऊपरी वायुमंडल सूर्य** के प्रति कैसे प्रतिक्रिया देता है
- India's **Mars Orbiter Mission (MOM)** or **Mangalyaan** entered Mars orbit on **September 24, 2014**, days after MAVEN arrived
भारत का **Mars Orbiter Mission (MOM)** या **मंगलयान 24 सितंबर 2014** को मंगल की कक्षा में पहुँचा, जो MAVEN के कुछ दिन बाद था
- **The Indian Space Research Organisation (ISRO)** framed MOM as a **technology demonstrator with five instruments** for basic imaging and atmospheric studies
भारतीय अंतरिक्ष अनुसंधान संगठन (ISRO) ने MOM को एक **प्रौद्योगिकी प्रदर्शन मिशन** के रूप में प्रस्तुत किया, जिसमें बुनियादी इमेजिंग और वायुमंडलीय अध्ययन के लिए **पाँच उपकरण** थे
- **Many in India compared MOM to MAVEN using headline costs about ₹450 crore for MOM versus \$671 million for MAVEN**
भारत में कई लोगों ने MOM और MAVEN की तुलना उनके **लागत आँकड़ों** के आधार पर की, MOM के लिए लगभग **₹450 करोड़** और MAVEN के लिए **\$671 मिलियन**
- **But the missions were built for different goals and payloads**
लेकिन ये मिशन **अलग-अलग उद्देश्यों और पेलोड्स** के लिए बनाए गए थे
- **MAVEN was the more technically ambitious science mission**
MAVEN एक अधिक तकनीकी रूप से महत्वाकांक्षी वैज्ञानिक मिशन था

PATRIOTIC IAS



How are we protecting astronauts from deadly space debris?

Orbital debris consists of human-made objects in the Earth's orbit that no longer serve any useful purpose. All orbital debris originated primarily from exploded rocket stages, satellites, accidental collisions and intentional anti-satellite weapon tests

GS III: S&T

MOE

Unnikrishnan Nair S.

The story so far:

Millions of naturally occurring Micrometeoroids and Orbital Debris (MMOD) orbit the earth, posing a constant threat to all spacecraft and space stations. The menace attracted global attention recently when a piece of debris struck the Chinese crewed vehicle Shenzhou-20, causing a minor crack in the window of its return capsule, rendering it unusable for crew travel.

What is MMOD?

Micrometeoroids are typically extremely small, with sizes ranging from a few micrometres (a millionth of a meter) – the approximate size of a grain of dust – to up to about two millimetres. Each weigh less than a dried grape. Most of them (about 80 to 90%) originate from collisions between asteroids in the Asteroid belt (between Mars and Jupiter) with a small portion coming from comets. They also travel at extremely high velocities (about 11 to 72 km/s).

Orbital debris (also called space debris, space junk or space trash) consists of human-made objects in the Earth's orbit that no longer serve any useful purpose. All orbital debris originated primarily from exploded rocket stages, satellites, accidental collisions and intentional anti-satellite weapon tests. The typical average speed of orbital debris is about 10 km/s. With increase in density of space debris, there could be a theoretical scenario wherein collisions between them may create a cascade of further collisions, eventually making space travel impossible, a phenomenon known as the Kessler Syndrome.

The Inter-Agency Space Debris

Coordination Committee (IADC) – an international forum of major space agencies such as NASA, ESA, ISRO, JAXA, etc. – plays a vital technical role by generating the foundational standards for space debris mitigation. These technical standards form the basis for the space debris mitigation guidelines adopted by the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS). However, the guidelines are considered as “soft law” implying that they are voluntary, and have no legally binding enforcement mechanism to compel the countries to adopt them.

How is MMOD distributed in space?

Orbital debris is mostly concentrated in a “shell” around the Earth in Low earth Orbit (LEO) ranging from about 200 km up to 2,000 km altitude. In contrast, micrometeoroids exist everywhere in space, but due to the Earth's gravity pull their distribution is slightly higher near our planet. There are hundreds of millions of pieces of orbital debris in the LEO – an estimated 34,000 objects larger than 10 cm (and are accurately tracked) and over 128 million pieces greater than 1 mm in size. The micrometeoroids in Earth's orbital environment are effectively uncountable and they deliver billions of impacts to orbiting spacecrafts annually.

How are space systems designed for MMOD impact?

The risk of being hit by MMOD in the LEO is not uniform; it is highly directional. The face of the spacecraft in the direction of travel experiences the maximum overall hazard because the debris collides directly with the highest relative speed. Because of the very high velocity of the debris, even tiny fragments carry enough kinetic energy to cause catastrophic

failure or critical damage to onboard systems.

Space agencies utilise complex engineering models that process tracking and statistical data to determine the MMOD flux, which is the expected number of particles of a given size that will hit a spacecraft over its mission lifetime. This data with other relevant information is fed into specially developed software tools to perform a vulnerability analysis and to calculate the probability of loss or failure of critical components under the impact of MMOD. If the calculated risk exceeds the established safety standard, then the spacecraft is protected by physical shielding against the impact.

How are satellites protected from MMOD?

MMOD threats are countered using a strategy of design and operational methods. Engineers rely on Whipple shields to protect the space vehicle from MMOD where energy dissipation is achieved through fragmentation and turbulence, analogous to sea waves breaking against tetra pods and splitting its energy. Whipple shields have an outer “bumper” and inner “rear wall” with a stand-off or gap between two. The bumper shatters the incoming high-velocity debris into a cloud of fragments. As the cloud expands across the standoff distance, the momentum is distributed over a wide area, allowing the rear wall to absorb the energy without failing.

For avoiding the risk from larger debris, space agencies maintain detailed tracking catalogs of objects larger than 10 cm. When a potential collision with a trackable object is projected, a debris avoidance manoeuvre is executed by

firing the spacecraft's thrusters to slightly alter its orbit and move out of the projected impact zone.

How is Gaganyaan crew protected?

The main difference in Gaganyaan compared to other ongoing human space missions is that it is a standalone mission as there is no space station where the orbital module can dock and seek help in case of any exigency during the orbital phase. Since the mission duration is very short (less than a week), the probability of being hit by a catalogued space debris is extremely low, though the risk from small un-catalogued, high-velocity fragments still necessitates protective measures.

The MMOD protection scheme for Gaganyaan is based on internationally accepted standards, such as employing passive defences like Whipple shields. To ensure that these shields meet stringent human-rating requirements, ISRO uses specialised facilities and software tools for design and validation. The gas gun facility at DRDO's Terminal Ballistics Research Laboratory (TBRL), Chandigarh, is one of the facilities used for validating the design where a 7 mm spherical projectile can be accelerated to achieve an impact velocity of up to 5 km/s.

The era of expanding human presence beyond the Moon, driven by both nations and commercial entities, can only be secured if the global community collectively addresses the risks of debris and adopts stringent zero-junk practices to de-escalate the MMOD menace for ensuring a safe, sustainable orbital highway for all future endeavours.

Unnikrishnan Nair S. is Former Director, VSSC & IIST; founding director, HSFC; and an expert in launch vehicle systems, orbital re-entry and human spaceflight technologies.

How are we protecting astronauts from deadly space debris? घातक अंतरिक्ष मलबे से अंतरिक्ष यात्रियों की सुरक्षा कैसे की जा रही है?

Micrometeoroids and Orbital Debris (MMOD) सूक्ष्म उल्कापिंड और कक्षीय मलबा (MMOD)

- Millions of naturally occurring **Micrometeoroids and Orbital Debris (MMOD)** orbit the earth, posing a constant threat to all spacecraft and space stations प्राकृतिक रूप से पाए जाने वाले सूक्ष्म उल्कापिंड और कक्षीय मलबे (MMOD) के लाखों कण पृथ्वी की परिक्रमा कर रहे हैं, जो सभी अंतरिक्ष यानों और अंतरिक्ष स्टेशनों के लिए निरंतर खतरा उत्पन्न करते हैं
- The menace attracted global attention recently when a piece of debris struck the Chinese crewed vehicle Shenzhou-20





हाल ही में इस खतरे ने वैश्विक ध्यान आकर्षित किया जब मलबे का एक टुकड़ा चीनी मानवयुक्त यान शेनझोउ-20 से टकरा गया

- It caused a minor crack in the window of its return capsule, rendering it unusable for crew travel

इससे उसके रिटर्न कैप्सूल की खिड़की में मामूली दरार आ गई, जिससे वह चालक दल की यात्रा के लिए अनुपयोगी हो गया

What is MMOD MMOD क्या है

- Micrometeoroids** are typically **extremely small**, with sizes ranging from a **few micrometres** to up to about **two millimetres**

सूक्ष्म उल्कापिंड सामान्यतः अत्यंत छोटे होते हैं, जिनका आकार कुछ माइक्रोमीटर से लेकर लगभग दो मिलीमीटर तक होता है

- This is the approximate size of a **grain of dust**
यह आकार लगभग धूल के एक कण के बराबर होता है
- Each weigh **less than a dried grape**
प्रत्येक का वजन सूखे अंगूर से भी कम होता है
- Most of them about **80 to 90%** originate from **collisions between asteroids in the Asteroid belt between Mars and Jupiter**

इनमें से अधिकांश लगभग 80 से 90% मंगल और बृहस्पति के बीच स्थित क्षुद्रग्रह बेल्ट में क्षुद्रग्रहों की टक्करों से उत्पन्न होते हैं

- A small portion comes from **comets**
इनका एक छोटा भाग धूमकेतुओं से भी आता है
- They also travel at **extremely high velocities** of about **11 to 72 km/s**
ये लगभग 11 से 72 किमी प्रति सेकंड की अत्यंत उच्च गति से यात्रा करते हैं
- Orbital debris** also called **space debris, space junk or space trash** consists of **human-made objects** in the **Earth's orbit** that no longer serve any **useful purpose**
कक्षीय मलबा, जिसे स्पेस डेब्रिस, स्पेस जंक या स्पेस टैश भी कहा जाता है, पृथ्वी की कक्षा में मौजूद ऐसे मानव निर्मित वस्तुओं से बना है जिनका अब कोई उपयोगी उद्देश्य नहीं है
- All orbital debris originated primarily from exploded rocket stages, satellites, accidental collisions and intentional anti-satellite weapon tests**
सभी कक्षीय मलबे मुख्यतः रॉकेट चरणों के विस्फोट, उपग्रहों, आकस्मिक टक्करों और जानबूझकर किए गए एंटी-सैटेलाइट हथियार परीक्षणों से उत्पन्न हुए हैं

- The typical **average speed of orbital debris** is about **10 km/s**
कक्षीय मलबे की औसत गति लगभग 10 किमी प्रति सेकंड होती है
- With increase in **density of space debris**, there could be a **theoretical scenario** wherein **collisions** may create a **cascade of further collisions**
अंतरिक्ष मलबे के घनत्व में वृद्धि के साथ एक सैद्धांतिक स्थिति उत्पन्न हो सकती है, जिसमें टक्करों से और अधिक टक्करों की श्रृंखला बन सकती है

- Eventually making **space travel impossible**, a phenomenon known as the **Kessler Syndrome**

अंततः अंतरिक्ष यात्रा को असंभव बना देने वाली इस स्थिति को केसलर सिंड्रोम कहा जाता है

- Inter-Agency Space Debris Coordination Committee (IADC)**
अंतर-एजेंसी अंतरिक्ष मलबा समन्वय समिति (IADC)
- The **Inter-Agency Space Debris Coordination Committee (IADC)** is an **international forum** of major space agencies such as **NASA, ESA, ISRO, JAXA**
इंटर-एजेंसी स्पेस डेब्रिस कोऑर्डिनेशन कमेटी (IADC) NASA, ESA, ISRO, JAXA जैसी प्रमुख अंतरिक्ष एजेंसियों का एक अंतरराष्ट्रीय मंच है

- It plays a **vital technical role** by generating **foundational standards for space debris mitigation**

यह अंतरिक्ष मलबा न्यूनीकरण के लिए आधारभूत मानक तैयार कर महत्वपूर्ण तकनीकी भूमिका निभाता है

- These technical standards form the basis for the **space debris mitigation guidelines** adopted by the **United Nations Committee on the Peaceful Uses of Outer Space**



(UNCOPUOS)

ये तकनीकी मानक संयुक्त राष्ट्र की बाह्य अंतरिक्ष के शांतिपूर्ण उपयोग पर समिति (UNCOPUOS) द्वारा अपनाए गए अंतरिक्ष मलबा न्यूनीकरण दिशानिर्देशों का आधार बनते हैं

- However, the guidelines are considered “soft law”, implying that they are **voluntary** and **have no legally binding enforcement mechanism**
हालाँकि, इन दिशानिर्देशों को “सॉफ्ट लॉ” माना जाता है, जिसका अर्थ है कि ये **स्वैच्छिक** हैं और इनके पास **कानूनी रूप से बाध्यकारी प्रवर्तन तंत्र** नहीं है
- They cannot **compel countries** to adopt them
ये देशों को **इन्हें अपनाने के लिए बाध्य** नहीं कर सकते

How is MMOD distributed in space अंतरिक्ष में MMOD का वितरण कैसे है

- **Orbital debris is mostly concentrated in a “shell” around the Earth in Low Earth Orbit (LEO) ranging from about 200 km up to 2,000 km altitude**
कक्षीय मलबा मुख्यतः पृथ्वी के चारों ओर एक “शेल” में **लो अर्थ ऑर्बिट (LEO)** में केंद्रित है, जिसकी ऊँचाई लगभग **200 किमी से 2,000 किमी** तक होती है
- **In contrast, micrometeoroids exist everywhere in space**
इसके विपरीत, **सूक्ष्म उल्कापिंड** अंतरिक्ष में **हर जगह मौजूद** होते हैं
- Due to the **Earth’s gravity pull** their distribution is **slightly higher near our planet**
पृथ्वी के गुरुत्वाकर्षण बल के कारण उनका वितरण **हमारे ग्रह के पास थोड़ा अधिक** होता है
- There are **hundreds of millions of pieces of orbital debris** in the LEO
LEO में **कक्षीय मलबे के सैकड़ों मिलियन टुकड़े** मौजूद हैं
- **An estimated 34,000 objects larger than 10 cm are accurately tracked**
लगभग **10 सेमी से बड़े 34,000 वस्तुएँ** हैं जिन्हें **सटीक रूप से ट्रैक** किया जाता है
- **There are over 128 million pieces greater than 1 mm in size**
इसके अतिरिक्त **1 मिमी से बड़े 128 मिलियन से अधिक टुकड़े** मौजूद हैं
- The **micrometeoroids in Earth’s orbital environment** are effectively **uncountable**
पृथ्वी के कक्षीय परिवेश में मौजूद सूक्ष्म उल्कापिंड व्यावहारिक रूप से **अगणनीय** हैं
- They deliver **billions of impacts to orbiting spacecrafts annually**
ये हर वर्ष **कक्षा में घूम रहे अंतरिक्ष यानों पर अरबों टक्करों** का कारण बनते हैं
- **How are space systems designed for MMOD impact**
MMOD प्रभाव के लिए अंतरिक्ष प्रणालियाँ कैसे डिज़ाइन की जाती हैं
- How are space systems designed for MMOD impact
MMOD प्रभाव के लिए अंतरिक्ष प्रणालियाँ कैसे डिज़ाइन की जाती हैं
- The risk of being hit by **MMOD in the LEO is not uniform**
LEO में **MMOD से टकराने का जोखिम समान नहीं** होता
- It is **highly directional**
यह **अत्यधिक दिशात्मक** होता है
- The **face of the spacecraft in the direction of travel** experiences the **maximum overall hazard**
यात्रा की दिशा में स्थित अंतरिक्ष यान का अग्र भाग सबसे अधिक कुल खतरे का सामना करता है
- Because the debris collides **directly with the highest relative speed**
क्योंकि मलबा **सबसे अधिक सापेक्ष गति के साथ सीधे टकराता है**
- Due to the **very high velocity of the debris**, even **tiny fragments** carry enough **kinetic energy**
मलबे की **अत्यंत उच्च गति** के कारण **बहुत छोटे टुकड़े भी पर्याप्त गतिज ऊर्जा** रखते हैं
- They can cause **catastrophic failure or critical damage to onboard systems**
ये **ऑनबोर्ड प्रणालियों को विनाशकारी विफलता या गंभीर क्षति** पहुँचा सकते हैं
- **Space agencies** utilise **complex engineering models**
अंतरिक्ष एजेंसियाँ जटिल इंजीनियरिंग मॉडल का उपयोग करती हैं
- **These models process tracking and statistical data to determine the MMOD flux**
ये मॉडल **ट्रैकिंग और सांख्यिकीय डेटा** को संसाधित कर **MMOD फ्लक्स** निर्धारित करते हैं
- MMOD flux is the **expected number of particles of a given size** that will hit a spacecraft over its **mission lifetime**



MMOD फ्लक्स वह अनुमानित संख्या है जो किसी निर्धारित आकार के कणों द्वारा मिशन अवधि में अंतरिक्ष यान से टकरा सकती है

- This data with **other relevant information** is fed into **specialty developed software tools** इस डेटा को अन्य प्रासंगिक सूचनाओं के साथ विशेष रूप से विकसित सॉफ्टवेयर टूल्स में डाला जाता है
- These tools perform a **vulnerability analysis** ये टूल संवेदनशीलता विश्लेषण करते हैं
- They calculate the **probability of loss or failure of critical components** under **MMOD impact** ये **MMOD प्रभाव** के तहत महत्वपूर्ण घटकों के नुकसान या विफलता की संभावना की गणना करते हैं
- If the **calculated risk exceeds the established safety standard** यदि गणना किया गया जोखिम निर्धारित सुरक्षा मानक से अधिक हो जाता है
- Then the **spacecraft is protected by physical shielding** against the **impact** तब अंतरिक्ष यान को प्रभाव से बचाने के लिए भौतिक शील्डिंग प्रदान की जाती है

How are satellites protected from MMOD
उपग्रहों को MMOD से कैसे संरक्षित किया जाता है

- MMOD threats are countered using a **strategy of design and operational methods** MMOD से उत्पन्न खतरों का सामना डिज़ाइन और परिचालन विधियों की रणनीति के माध्यम से किया जाता है
- **Engineers rely on Whipple shields** to protect the **space vehicle** from **MMOD** इंजीनियर **MMOD** से अंतरिक्ष यान की सुरक्षा के लिए **व्हिपल शील्ड्स** पर निर्भर करते हैं
- Here **energy dissipation** is achieved through **fragmentation and turbulence** यहाँ ऊर्जा का अपसारण विखंडन और अशांति के माध्यम से किया जाता है
- This is analogous to **sea waves breaking against tetra pods and splitting its energy** यह समुद्री लहरों के टेद्रापॉड्स से टकराकर अपनी ऊर्जा को विभाजित करने के समान है
- **Whipple shields** have an outer **“bumper”** and inner **“rear wall”** with a **stand-off or gap** between the two **व्हिपल शील्ड्स** में एक बाहरी **“बम्पर”** और एक आंतरिक **“रियर वॉल”** होती है, जिनके बीच **स्टैंड-ऑफ** या अंतराल होता है
- **The bumper shatters the incoming high-velocity debris** into a **cloud of fragments** **बम्पर** आने वाले उच्च वेग वाले मलबे को **टुकड़ों के बादल** में तोड़ देता है
- As the cloud expands across the **stand-off distance**, the **momentum is distributed over a wide area** जैसे-जैसे यह बादल **स्टैंड-ऑफ** दूरी में फैलता है, **संवेग एक बड़े क्षेत्र में वितरित** हो जाता है
- This allows the **rear wall** to **absorb the energy without failing** इससे **रियर वॉल** बिना विफल हुए **ऊर्जा को अवशोषित** कर पाती है
- **For avoiding the risk from larger debris**, space agencies maintain **detailed tracking catalogs** of objects **larger than 10 cm** **बड़े मलबे** से जोखिम से बचने के लिए अंतरिक्ष एजेंसियाँ **10 सेमी से बड़े पिंडों के विस्तृत ट्रैकिंग कैटलॉग** बनाए रखती हैं
- When a **potential collision** with a **trackable object** is projected जब किसी **ट्रैक किए जा सकने वाले पिंड** से **संभावित टक्कर** का अनुमान लगाया जाता है
- A **debris avoidance manoeuvre** is executed तब एक **मलबा बचाव युद्धाभ्यास** किया जाता है
- This is done by **firing the spacecraft’s thrusters** to **slightly alter its orbit** इसके लिए **अंतरिक्ष यान के थ्रस्टर्स को प्रज्वलित** कर उसकी **कक्षा में हल्का परिवर्तन** किया जाता है
- So that it can **move out of the projected impact zone** ताकि वह **अनुमानित टक्कर क्षेत्र** से बाहर निकल सके

How is Gaganyaan crew protected
गगनयान के चालक दल को कैसे सुरक्षित रखा जाता है

- The main **difference in Gaganyaan** compared to other ongoing **human space missions** अन्य चल रहे मानव अंतरिक्ष अभियानों की तुलना में **गगनयान** में मुख्य अंतर यह है



- It is a **standalone mission** as there is **no space station** where the **orbital module can dock**
यह एक स्वतंत्र मिशन है क्योंकि इसमें कोई अंतरिक्ष स्टेशन नहीं है जहाँ ऑर्बिटल मॉड्यूल डॉक कर सके
- And seek help in case of any **exigency during the orbital phase**
और कक्षीय चरण के दौरान किसी आपात स्थिति में सहायता ले सके
- Since the **mission duration is very short less than a week**
चूँकि मिशन की अवधि बहुत कम है, यानी एक सप्ताह से भी कम
- The **probability of being hit by a catalogued space debris is extremely low**
इसलिए कैटलॉग किए गए अंतरिक्ष मलबे से टकराने की संभावना अत्यंत कम होती है
- Though the risk from **small un-catalogued high-velocity fragments still necessitates protective measures**
हालाँकि छोटे, गैर-कैटलॉग किए गए उच्च वेग वाले टुकड़ों से जोखिम अब भी सुरक्षात्मक उपायों की आवश्यकता उत्पन्न करता है
- The **MMOD protection scheme for Gaganyaan is based on internationally accepted standards**
गगनयान के लिए MMOD सुरक्षा योजना अंतरराष्ट्रीय स्तर पर स्वीकृत मानकों पर आधारित है
- Such as employing **passive defences like Whipple shields**
जैसे कि व्हिपल शील्ड्स जैसी निष्क्रिय सुरक्षा प्रणालियों का उपयोग
- To ensure that these shields meet **stringent human-rating requirements**
यह सुनिश्चित करने के लिए कि ये शील्ड्स कठोर मानव-रेटिंग आवश्यकताओं को पूरा करें
- **ISRO uses specialised facilities and software tools for design and validation**
ISRO डिज़ाइन और प्रमाणीकरण के लिए विशेषीकृत सुविधाओं और सॉफ्टवेयर टूल्स का उपयोग करता है
- The **gas gun facility at DRDO's Terminal Ballistics Research Laboratory (TBRL), Chandigarh**
DRDO की टर्मिनल बैलिस्टिक्स रिसर्च लैबोरेटरी (TBRL), चंडीगढ़ में स्थित गैस गन सुविधा
- Is one of the facilities used for **validating the design**
डिज़ाइन के सत्यापन के लिए उपयोग की जाने वाली सुविधाओं में से एक है
- Where a **7 mm spherical projectile can be accelerated**
जहाँ एक 7 मिमी गोलाकार प्रोजेक्टाइल को त्वरित किया जा सकता है
- To achieve an **impact velocity of up to 5 km/s**
ताकि 5 किमी प्रति सेकंड तक की टक्कर गति प्राप्त की जा सके
- The era of **expanding human presence beyond the Moon**
चंद्रमा से परे मानव उपस्थिति के विस्तार का युग
- Driven by both **nations and commercial entities**
जो राष्ट्रों और वाणिज्यिक संस्थाओं दोनों द्वारा संचालित है
- Can only be secured if the **global community collectively addresses the risks of debris**
तभी सुरक्षित किया जा सकता है जब वैश्विक समुदाय मिलकर मलबे के जोखिमों का समाधान करे
- And adopts **stringent zero-junk practices**
और कठोर ज़ीरो-जंक प्रथाओं को अपनाए
- To **de-escalate the MMOD menace**
ताकि MMOD के खतरे को कम किया जा सके
- For ensuring a **safe, sustainable orbital highway for all future endeavours**
और भविष्य के सभी अभियानों के लिए एक सुरक्षित और सतत कक्षीय मार्ग सुनिश्चित किया जा सके



Questions and Answers to the

previous day's daily quiz: 1. This word

was declared the word of 2025 by

Cambridge Dictionary. **Ans: Parasocial**

2. This word refers to the vacant

expression that members of this

particular generation seem to have in a

situation where a spoken response is

usually expected. **Ans: Gen Z stare**

3. The meaning of the word brologarchy.

Ans: It is a slang term describing a

system dominated by wealthy male

figures in positions of power

especially in the tech sector

4. The origin of the modern use of this

term is thought to be from a song. **Ans:**

67

5. A word that refers to the low quality

content that is produced using AI. **Ans:**

Slop

Visual: Name the word and the person.

Ans: Bio hack and Bryan Johnson

Early Birds: C. Saravanan| Siddhartha

Viswanathan

chatbots.

Why Parasocial Became the Word of 2025

- **Digital platforms** increasingly blur the boundary between **public figures and private life**, encouraging emotional engagement.
- **Social media algorithms** promote repeated exposure, personal storytelling, and simulated intimacy.
- **Influencer culture** encourages followers to feel personally invested in the lives, emotions, and decisions of public figures.
- **Artificial Intelligence tools and chatbots** now simulate empathy and conversation, strengthening one-sided emotional bonds.
- These trends made *parasocial* a widely searched, discussed, and used word in **2025**, moving it from academic usage into everyday language.

Gen Z Stare — Understanding the Term

- **Gen Z stare** is a popular informal term used to describe a **blank, vacant, or expressionless look** that some members of **Generation Z** display in situations where a **spoken response or visible reaction is socially expected**.
- It usually occurs during **face-to-face conversations**, customer interactions, classrooms, workplaces, or casual social exchanges.
- The term is descriptive, not medical, and reflects a **perceived communication style**, not a psychological disorder.

Who Are Gen Z

- **Generation Z (Gen Z)** generally includes people born between **1997 and 2012**.
- They are the first generation to grow up fully immersed in **smartphones, social media, and constant digital connectivity**.
- Their communication patterns differ significantly from earlier generations such as Millennials or Gen X.

QUIZ

Cambridge Dictionary Word of the Year 2025 — Parasocial

- **Cambridge Dictionary** declared "**Parasocial**" as the **Word of the Year 2025**.
- *Parasocial* refers to a **one-sided emotional or psychological relationship** in which an individual feels a sense of **closeness, familiarity, or attachment** to a person, character, influencer, or even an AI entity **who does not know them personally**.
 - The relationship exists **only from one side**, without mutual interaction or real social reciprocity.
- The concept of **parasocial interaction** was first introduced in **1956** by sociologists **Donald Horton** and **Richard Wohl**.
 - It originally described how audiences developed a sense of intimacy with **television presenters and performers** who appeared regularly on screen.
 - With the rise of **digital media**, the concept expanded far beyond television to include **social media influencers, YouTubers, streamers, podcasters, celebrities, and AI**



Meaning and Social Context of the “Stare”

- The “stare” refers to a moment of **silence and neutral facial expression**, rather than verbal acknowledgment like “yes,” “okay,” or “I understand.”
- It is often interpreted by older generations as **rudeness, disinterest, confusion, or disengagement**, even though this may not be the intention.
- For many Gen Z individuals, the stare represents **processing time, non-verbal listening**, or a preference for **minimal reaction**.

Broligarchy — Meaning and Explanation

- **Broligarchy** is a **slang term** used to describe a **system of power dominated by wealthy male elites**, particularly **influential figures within the technology sector**.
- The word combines “**bro**” (a colloquial term often associated with male-dominated social and corporate cultures) and “**oligarchy**” (rule by a small, powerful elite).
- It is **not a formal political or legal term**, but a **critical social and cultural expression**.

Slop — Low-Quality AI-Generated Content

- **Slop** is a **modern slang term** used to describe **low-quality, repetitive, shallow, or meaningless content produced using Artificial Intelligence (AI)**.
- It refers especially to content that is **mass-generated, poorly curated, and lacks originality, depth, or factual reliability**.
- The term is **informal, critical in tone**, and widely used in discussions on **AI ethics, digital media, and information quality**.

GS Paper III: Environment,	
TOPICS COVERED	23_12_2025
1.	On the right to a healthy environment स्वस्थ पर्यावरण के अधिकार पर



On the right to a healthy environment

Amid rising air pollution, legal interpretations linking environmental rights to the right to life and explicit constitutional provisions to enforce environmental protections, emphasising the state's responsibility, is the need of the hour

Part III Environment
MOE

LETTER & SPIRIT

C.B.P. Srivastava

Some winter and the national capital wakes up with thick smog and severely low air quality, which cripples the city and poses serious health challenges. The directions given by the Delhi government and the Directorate of Education to ensure work from home and to run classes in schools in hybrid mode respectively do not bring much success, as possible health hazards continue to haunt Delhiites and those living in the National Capital Region (NCR) districts.

Some of the major causes of air pollution include the burning of fossil fuels, transport, industrial processes, waste management, demolition and agriculture. However, particulate matter is the most deadly of them all causing major health hazards like stroke, heart and lung diseases which kill large number of people every year.

Severity of particulate matter

Particulate matter is defined for the purpose of quality regulations. Particles having a diameter of 10 microns or less (PM 10) may enter the body through breathing and adversely affect health. On the other hand, fine particulate matter includes particles having a diameter of less than 2.5 microns (PM2.5). Particles emitted from the burning of diesel called DPM (Diesel Particulate Matter) are mostly less than 1 micron in size and constitute a sub-category of PM2.5. These cause severe health hazards, even in children. In this context, the Commission for Air Quality Management (CAQM) has amended the Graded Response Action Plan (GRAP) and made it mandatory to close schools in Delhi and NCR districts under Phases 3 and 4 of the plan. Earlier, the decision to implement these measures was at the discretion of the State government. Moreover, as an additional directive under Phase 3 of the GRAP, State governments will now have to stagger the timings of public offices and municipal bodies in Delhi and NCR districts.

Constitutional provisions

Though the original Constitution did not mention any provisions for environmental protection, the concepts of natural justice and protection of nature were enshrined in the entire constitutional scheme. This is the reason why, by way of literal interpretation, the Supreme Court gave its opinion that clean environment should be included in the meaning of life under Article 21 in *Maneka Gandhi versus Union of India, 1978*.

However, over the years, especially after growing demands for proper safeguards for the protection of the environment and sustainable development, India has adopted policies for which it needs proper and effective constitutional provisions. This led to the insertion of Articles 48A and 51A (g) as responsibilities of the state and citizens respectively. A significant aspect of Article 48A is that the Constitution intends to make agriculture and environment compatible. In *Subhash Kumar versus State of Bihar, 1991*, the Supreme Court read Articles 48A and 51A (g) with Article 21, and inferred that the state is constitutionally obliged to take steps to protect and improve the environment so that every citizen is able to enjoy his right to pollution-free air and water, which are necessary for a meaningful life.

However, since the mid-1980s,



Intense pollution: A layer of smog seen over moving traffic near the ITO area, in New Delhi on December 22. SUSHIL KUMAR VERMA

increasing privatisation and economic liberalisation have degraded the environment on a large scale due to which the judiciary had to step in to provide guidelines to strike a balance between economic development and environmental protection. The judiciary's commitment to social good in general, and environmental protection in particular, has resulted in the innovative use of Public Interest Litigations (PILs) under Articles 32 and 226 of the Constitution, as a tool for social and environmental justice.

Moreover, a healthy environment is also one of the elements of a welfare state. Under Section 2(a) of the Environment (Protection) Act, 1986, 'environment' includes water, air and land, and the interrelationship which exists between the three and human beings, other living creatures, plants, microorganisms and property. The right to live in an environment free of danger of disease and infection is an important attribute of the right to live with human dignity.

The right to live in a healthy environment as part of Article 21 of the Constitution was first recognised in *Rural Litigation and Entitlement Kendra versus State of U.P., 1985*. In 1987, the Supreme Court in *M.C. Mehta versus Union of India* treated the right to live in a pollution free environment as part of the fundamental right to life under Article 21 of the Constitution.

Disasters and environmental protection

During times of disasters and calamity, whether natural or man-made, the issue of protecting the environment assumes greater significance. The concept of 'absolute liability' was introduced for disasters arising out of the storage, leak or use of hazardous substances such as in the *Oleum Gas Leak case*. While strict liability is the concept that makes a defendant responsible for the consequences of an action, even if he did not intend to cause harm or was not at fault, absolute liability is the imposition of legal responsibility on a party for damages caused, regardless of fault or

negligence, but with certain exceptions. Moreover, strict liability is used in both criminal and civil law.

Two more principles that assume significance in cases of disasters which affect the environment include the 'precautionary principle' and the 'polluter pays principle'. These concepts were explained in the *Vellore Citizens' Welfare Forum versus Union of India, 1996*.

The precautionary principle is an approach wherein states should adopt precautionary measures if there are serious threats to the environment. According to the United Nations, this principle needs to be widely adopted by nations according to their own capabilities. In cases where there are threats of serious or irreversible damage, a lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures which could prevent environmental degradation. The precautionary principle is a part of the law of the land and should be applied when there is a threat of serious or irreversible environmental damage. The traditional concept that development and ecology are opposed to each other, is no longer acceptable. Sustainable development should be prioritised.

On the other hand, the polluter pays principle is the commonly accepted practice that those who are responsible for the pollution should bear the costs of managing it to prevent damage to human health or the environment. For instance, a factory that produces a potentially poisonous substance as a by-product of its activities is held responsible for its safe disposal. The polluter pays principle is part of a set of broader principles to guide sustainable development worldwide.

Public trust doctrine

Another major idea behind the principles of environmental protection is the public trust doctrine. In *M.C. Mehta versus Kamal Nath*, the Supreme Court explained the doctrine as a reflection of a social contract between the state and the people, in which the state serves as the trustee while the people or the communities own the resources.

Although the state holds certain rights over said resources, it shall not utilise them for personal gains and shall be used only for the benefits of the people.

In India, Clause (b) of Article 39 provides that material resources shall be owned by the community and Clause (c) of the Article says that the state shall have the responsibility to prevent any concentration of the means of production. Further, when the state takes steps for the welfare of the people, the citizens have a duty to allow the state to do so. Thus, the relationship of the state and citizens is guided by *jus publicum*, or public law. It also refers to the right, title or dominion of public ownership which means that the government has the right to own resources for the benefit of the public. This is very well articulated in the Constitution, especially in the Directive Principles.

For example, in *Radhey Shyam Sahu*, the Supreme Court held that the doctrine of public trust emanates from the provisions of Article 21 of the Constitution protecting the life of the people and put the state under the obligation to maintain public parks for the citizens.

So far as the effects of climate change are concerned, the top Court in *M. K. Ranjitsinh versus Union of India, 2024* recognised the right against adverse effects of climate change as being part of the right to life under Article 21 and also with the right to equality under Article 14 of the Constitution.

Despite the fact that national and foreign governments have claimed to have taken steps for the protection of the environment, their claims have been far from satisfactory. Moreover, as judicially recognised rights cannot be directly claimed unless linked to any of the rights provided in Part III of the Constitution, the state may also become reluctant to take steps with concern. It is therefore, the opportune moment to expressly include the right to a clean and healthy environment in the Constitution to make both the state and the citizens equally responsible.

The author is President, Centre for Applied Research in Governance, Delhi

THE GIST

The directions given by the Delhi government and the Directorate of Education to ensure work from home and to run classes in schools in hybrid mode respectively do not bring much success, as possible health hazards continue to haunt Delhiites and those living in the National Capital Region (NCR) districts.

During times of disasters and calamity, whether natural or man-made, the issue of protecting the environment assumes greater significance.

Despite the fact that national and foreign governments have claimed to have taken steps for the protection of the environment, their claims have been far from satisfactory.

On the right to a healthy environment स्वस्थ पर्यावरण के अधिकार पर

- Amid rising air pollution, legal interpretations linking environmental rights to the right to life and explicit constitutional provisions to enforce environmental protections, emphasising the state's responsibility, is the need of the hour
बढ़ते वायु प्रदूषण के बीच पर्यावरणीय अधिकारों को जीवन के अधिकार से जोड़ने वाली कानूनी व्याख्याएँ तथा पर्यावरण संरक्षण को लागू करने के लिए स्पष्ट संवैधानिक प्रावधान, जो राज्य की जिम्मेदारी पर जोर देते हैं, समय की आवश्यकता हैं
- Come winter and the national capital wakes up with thick smog and severely low air quality, which cripples the city and poses serious health challenges



सर्दियाँ आते ही राष्ट्रीय राजधानी घने स्मॉग और अत्यंत निम्न वायु गुणवत्ता के साथ जागती है, जो शहर को पंगु बना देती है और गंभीर स्वास्थ्य चुनौतियाँ उत्पन्न करती है

- The directions given by the **Delhi government** and the **Directorate of Education** to ensure **work from home** and to run classes in schools in **hybrid mode** respectively do not bring much succour
दिल्ली सरकार और शिक्षा निदेशालय द्वारा क्रमशः वर्क फ्रॉम होम सुनिश्चित करने और स्कूलों में हाइब्रिड मोड में कक्षाएँ चलाने के निर्देश अधिक राहत नहीं देते
- As possible **health hazards** continue to haunt **Delhiites** and those living in the **National Capital Region (NCR) districts**
क्योंकि संभावित **स्वास्थ्य जोखिम दिल्लीवासियों** और **राष्ट्रीय राजधानी क्षेत्र (NCR) के जिलों** में रहने वाले लोगों को लगातार परेशान करते रहते हैं
- Some of the major causes of air pollution include the burning of fossil fuels, transport, industrial processes, waste management, demolition and agriculture**
वायु प्रदूषण के कुछ प्रमुख कारणों में **जीवाश्म ईंधनों का दहन, परिवहन, औद्योगिक प्रक्रियाएँ, कचरा प्रबंधन, विध्वंस और कृषि** शामिल हैं
- However, **particulate matter** is the most deadly of them all causing major **health hazards like stroke, heart and lung diseases** which kill a **large number of people every year**
हालांकि, **पार्टिकुलेट मैटर** इनमें सबसे अधिक घातक है, जो **स्ट्रोक, हृदय और फेफड़ों की बीमारियों** जैसे प्रमुख **स्वास्थ्य जोखिम** पैदा करता है और हर वर्ष **बड़ी संख्या में लोगों** की मृत्यु का कारण बनता है

Severity of particulate matter पार्टिकुलेट मैटर की गंभीरता

- Particulate matter is **defined for the purpose of quality regulations**
पार्टिकुलेट मैटर को **गुणवत्ता विनियमों के उद्देश्य से परिभाषित** किया गया है
- Particles having a **diameter of 10 microns or less (PM 10)** may enter the body through **breathing** and **adversely affect health**
10 माइक्रॉन या उससे कम व्यास (PM 10) वाले कण सांस के माध्यम से शरीर में प्रवेश कर सकते हैं और **स्वास्थ्य पर प्रतिकूल प्रभाव** डालते हैं
- On the other hand, **fine particulate matter** includes particles having a **diameter of less than 2.5 microns (PM2.5)**
दूसरी ओर, **सूक्ष्म पार्टिकुलेट मैटर** में **2.5 माइक्रॉन से कम व्यास (PM2.5)** वाले कण शामिल होते हैं
- Particles emitted from the **burning of diesel** called **DPM (Diesel Particulate Matter)** are **mostly less than 1 micron in size** and constitute a **sub-category of PM2.5**
डीजल के दहन से निकलने वाले कण जिन्हें **DPM (डीजल पार्टिकुलेट मैटर)** कहा जाता है, प्रायः **1 माइक्रॉन से भी छोटे** होते हैं और **PM2.5 की उप-श्रेणी** का गठन करते हैं
- These cause **severe health hazards, even in children**
ये **गंभीर स्वास्थ्य जोखिम** उत्पन्न करते हैं, यहाँ तक कि **बच्चों** में भी
- In this context, the **Commission for Air Quality Management (CAQM)** has **amended the Graded Response Action Plan (GRAP)**
इस संदर्भ में, **वायु गुणवत्ता प्रबंधन आयोग (CAQM)** ने **ग्रेडेड रिस्पॉन्स एक्शन प्लान (GRAP)** में संशोधन किया है
- It has made it **mandatory to close schools in Delhi and NCR districts under Phases 3 and 4 of the plan**
इसके तहत **दिल्ली और NCR जिलों में फेज़ 3 और 4 के अंतर्गत स्कूलों को बंद करना अनिवार्य** कर दिया गया है
- Earlier, the decision to implement these measures was at the **discretion of the State government**
पहले इन उपायों को लागू करने का निर्णय **राज्य सरकार के विवेक** पर निर्भर था
- Moreover, **as an additional directive under Phase 3 of the GRAP, State governments will now have to stagger the timings of public offices and municipal bodies in Delhi and NCR districts**
इसके अलावा, **GRAP के फेज़ 3 के अंतर्गत एक अतिरिक्त निर्देश** के रूप में अब **राज्य सरकारों को दिल्ली और NCR जिलों में सार्वजनिक कार्यालयों और नगर निकायों के समय में बदलाव** करना होगा



Constitutional provisions संवैधानिक प्रावधान

- Though the **original Constitution** did not mention any provisions for **environmental protection**
यद्यपि मूल संविधान में पर्यावरण संरक्षण से संबंधित कोई प्रावधान नहीं थे
- The concepts of **natural justice** and **protection of nature** were enshrined in the **entire constitutional scheme**
फिर भी प्राकृतिक न्याय और प्रकृति संरक्षण की अवधारणाएँ सम्पूर्ण संवैधानिक व्यवस्था में निहित थीं
- This is the reason why, by way of **literal interpretation**, the **Supreme Court** gave its opinion that **clean environment shall be included in the meaning of life under Article 21 in Maneka Gandhi versus Union of India, 1978**
इसी कारण शाब्दिक व्याख्या के माध्यम से सुप्रीम कोर्ट ने यह मत दिया कि स्वच्छ पर्यावरण को अनुच्छेद 21 के अंतर्गत जीवन के अर्थ में शामिल किया जाएगा, जैसा कि मेनका गांधी बनाम भारत संघ, 1978 में कहा गया
- However, over the years, especially after growing demands for proper safeguards for the protection of the environment and sustainable development, India has adopted policies for which it needs proper and effective constitutional provisions
हालांकि, वर्षों के दौरान, विशेष रूप से पर्यावरण संरक्षण और सतत विकास के लिए उचित सुरक्षा उपायों की बढ़ती माँग के बाद, भारत ने ऐसी नीतियाँ अपनाई हैं जिनके लिए उचित और प्रभावी संवैधानिक प्रावधानों की आवश्यकता है
- This led to the **insertion of Articles 48A and 51A (g) as responsibilities of the state and citizens respectively**
इससे अनुच्छेद 48A और 51A (g) को क्रमशः राज्य और नागरिकों के दायित्वों के रूप में जोड़ा गया
- **A significant aspect of Article 48A is that the Constitution intends to make agriculture and environment compatible**
अनुच्छेद 48A का एक महत्वपूर्ण पहलू यह है कि संविधान कृषि और पर्यावरण को परस्पर अनुकूल बनाना चाहता है
- In **Subhash Kumar versus State of Bihar, 1991**, the **Supreme Court read Articles 48A and 51A (g) with Article 21**
सुभाष कुमार बनाम बिहार राज्य, 1991 में सुप्रीम कोर्ट ने अनुच्छेद 48A और 51A (g) को अनुच्छेद 21 के साथ पढ़ा
- The Court inferred that the **state is constitutionally obliged** to take steps to **protect and improve the environment**
न्यायालय ने यह निष्कर्ष निकाला कि राज्य संवैधानिक रूप से बाध्य है कि वह पर्यावरण की रक्षा और सुधार के लिए कदम उठाए
- So that every citizen is able to enjoy his right to **pollution-free air and water**, which are necessary for a **meaningful life**
ताकि प्रत्येक नागरिक प्रदूषण-मुक्त वायु और जल के अपने अधिकार का उपभोग कर सके, जो सार्थक जीवन के लिए आवश्यक हैं
- However, since the **mid-1980s**, increasing **privatisation and economic liberalisation** have degraded the **environment on a large scale**
हालांकि, 1980 के दशक के मध्य से बढ़ते निजीकरण और आर्थिक उदारीकरण ने बड़े पैमाने पर पर्यावरण को क्षति पहुँचाई है
- Due to which the **judiciary had to step in** to provide guidelines to strike a **balance between economic development and environmental protection**
जिसके कारण न्यायपालिका को हस्तक्षेप कर आर्थिक विकास और पर्यावरण संरक्षण के बीच संतुलन स्थापित करने हेतु दिशानिर्देश देने पड़े
- The judiciary's **commitment to social good** in general, and **environmental protection** in particular, has resulted in the **innovative use of Public Interest Litigations (PILs)**
सामान्य रूप से सामाजिक कल्याण और विशेष रूप से पर्यावरण संरक्षण के प्रति न्यायपालिका की प्रतिबद्धता के परिणामस्वरूप जनहित याचिकाओं (PILs) का नवाचारी उपयोग हुआ
- These PILs were used under **Articles 32 and 226 of the Constitution** as a tool for **social and environmental justice**



इन जनहित याचिकाओं का उपयोग संविधान के अनुच्छेद 32 और 226 के अंतर्गत सामाजिक और पर्यावरणीय न्याय के एक साधन के रूप में किया गया

- Moreover, a **healthy environment** is also one of the elements of a **welfare state**
इसके अलावा, **स्वस्थ पर्यावरण** भी **कल्याणकारी राज्य** के तत्वों में से एक है
- Under **Section 2(a) of the Environment (Protection) Act, 1986, environment includes water, air and land**
पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 2(a) के अंतर्गत पर्यावरण में **जल, वायु और भूमि** शामिल हैं
- It also includes the **interrelationship** which exists between these and **human beings, other living creatures, plants, microorganisms and property**
इसमें इनके और **मनुष्यों, अन्य जीवों, पौधों, सूक्ष्मजीवों और संपत्ति** के बीच मौजूद परस्पर संबंध भी शामिल हैं
- The right to live in an environment **free of danger of disease and infection** is an important attribute of the **right to live with human dignity**
रोग और संक्रमण के खतरे से मुक्त वातावरण में जीने का अधिकार, **मानवीय गरिमा के साथ जीवन के अधिकार** का एक महत्वपूर्ण पहलू है
- The right to live in a **healthy environment** as part of **Article 21 of the Constitution** was first recognised in **Rural Litigation and Entitlement Kendra versus State of U.P., 1985**
स्वस्थ पर्यावरण में जीने का अधिकार संविधान के **अनुच्छेद 21** के अंतर्गत पहली बार **रूरल लिटिगेशन एंड एंटाइटलमेंट केंद्र बनाम उत्तर प्रदेश राज्य, 1985** में मान्यता प्राप्त हुआ
- In **1987, the Supreme Court in M.C. Mehta versus Union of India** treated the right to live in a **pollution-free environment** as part of the **fundamental right to life under Article 21**
1987 में **एम.सी. मेहता बनाम भारत संघ** में **सुप्रीम कोर्ट** ने **प्रदूषण-मुक्त वातावरण** में जीने के अधिकार को **अनुच्छेद 21** के अंतर्गत **जीवन के मौलिक अधिकार** का हिस्सा माना

Disasters and environmental protection आपदाएँ और पर्यावरण संरक्षण

- During times of **disasters and calamity**, whether **natural or man-made**, the issue of **protecting the environment** assumes **greater significance**
आपदाओं और विपत्तियों के समय, चाहे वे **प्राकृतिक हों या मानव निर्मित**, **पर्यावरण संरक्षण** का विषय **अधिक महत्व** ग्रहण कर लेता है
- The concept of **'absolute liability'** was introduced for **disasters arising out of the storage, leak or use of hazardous substances** such as in the **Oleum Gas Leak case**
'पूर्ण दायित्व (Absolute Liability)' की अवधारणा **खतरनाक पदार्थों के भंडारण, रिसाव या उपयोग** से उत्पन्न आपदाओं के लिए प्रस्तुत की गई, जैसे कि **ओलियम गैस रिसाव मामला**
- While **strict liability** is the concept that makes a **defendant responsible** for the consequences of an action, even if he did not intend to cause harm or was not at fault
जबकि **सख्त दायित्व (Strict Liability)** वह अवधारणा है जिसमें **प्रतिवादी को उत्तरदायी** ठहराया जाता है, भले ही उसने नुकसान पहुँचाने का इरादा न किया हो या वह दोषी न हो
- **Absolute liability** is the imposition of **legal responsibility** on a party for **damages caused**, regardless of **fault or negligence**, but with **certain exceptions**
पूर्ण दायित्व वह स्थिति है जिसमें **दोष या लापरवाही** की परवाह किए बिना, **कुछ अपवादों** के साथ, क्षति के लिए **कानूनी उत्तरदायित्व** लगाया जाता है
- Moreover, **strict liability** is used in both **criminal and civil law**
इसके अतिरिक्त, **सख्त दायित्व** का उपयोग **आपराधिक और दीवानी कानून** दोनों में किया जाता है
- Two more principles that assume **significance in cases of disasters** which **affect the environment** include the **'precautionary principle'** and the **'polluter pays principle'**
दो अन्य सिद्धांत जो **पर्यावरण को प्रभावित करने वाली आपदाओं** के मामलों में **महत्वपूर्ण** हो जाते हैं, वे हैं **'एहतियाती सिद्धांत'** और **'प्रदूषक भुगतान सिद्धांत'**
- These concepts were explained in the **Vellore Citizens' Welfare Forum versus Union of India, 1996**
इन अवधारणाओं की व्याख्या **वेल्लोर सिटिज़न्स वेलफेयर फोरम बनाम भारत संघ, 1996** में की गई थी



- The **precautionary principle** is an approach wherein **states should adopt precautionary measures** if there are **serious threats to the environment**
एहतियाती सिद्धांत वह दृष्टिकोण है जिसके अंतर्गत यदि पर्यावरण के लिए गंभीर खतरे हों तो राज्यों को एहतियाती उपाय अपनाने चाहिए
- According to the **United Nations**, this principle needs to be **widely adopted by nations** according to their **own capabilities**
संयुक्त राष्ट्र के अनुसार, इस सिद्धांत को देशों द्वारा उनकी अपनी क्षमताओं के अनुसार व्यापक रूप से अपनाया जाना चाहिए
- In cases where there are threats of **serious or irreversible damage**, a lack of **full scientific certainty** shall not be used as a reason for **postponing cost-effective measures** which could prevent **environmental degradation**
जहाँ गंभीर या अपरिवर्तनीय क्षति का खतरा हो, वहाँ पूर्ण वैज्ञानिक निश्चितता के अभाव को पर्यावरणीय क्षरण को रोकने वाले लागत प्रभावी उपायों को टालने का कारण नहीं बनाया जाना चाहिए
- The **precautionary principle** is a **part of the law of the land** and should be applied when there is a threat of **serious or irreversible environmental damage**
एहतियाती सिद्धांत देश के कानून का हिस्सा है और इसे तब लागू किया जाना चाहिए जब गंभीर या अपरिवर्तनीय पर्यावरणीय क्षति का खतरा हो
- The traditional concept that **development and ecology are opposed to each other** is **no longer acceptable**
यह पारंपरिक अवधारणा कि विकास और पारिस्थितिकी एक-दूसरे के विरोधी हैं, अब स्वीकार्य नहीं है
- **Sustainable development** should be **prioritised**
सतत विकास को प्राथमिकता दी जानी चाहिए
- On the other hand, the **polluter pays principle** is the **commonly accepted practice** that those who are **responsible for the pollution** should **bear the costs of managing it** to prevent damage to **human health or the environment**
दूसरी ओर, प्रदूषक भुगतान सिद्धांत वह सामान्यतः स्वीकृत प्रथा है जिसके अनुसार प्रदूषण के लिए जिम्मेदार लोग मानव स्वास्थ्य या पर्यावरण को होने वाले नुकसान को रोकने हेतु उसके प्रबंधन की लागत वहन करें
- For instance, a **factory** that produces a **potentially poisonous substance** as a **by-product** of its activities is held **responsible for its safe disposal**
उदाहरण के लिए, कोई कारखाना जो अपनी गतिविधियों के उप-उत्पाद के रूप में संभावित रूप से विषैला पदार्थ उत्पन्न करता है, उसे उसके सुरक्षित निपटान के लिए उत्तरदायी ठहराया जाता है
- The **polluter pays principle** is part of a set of **broader principles** to guide **sustainable development worldwide**
प्रदूषक भुगतान सिद्धांत उन व्यापक सिद्धांतों के समूह का हिस्सा है जो विश्व स्तर पर सतत विकास का मार्गदर्शन करते हैं

Public trust doctrine लोक न्यास सिद्धांत

- Another major idea behind the principles of **environmental protection** is the **public trust doctrine**
पर्यावरण संरक्षण के सिद्धांतों के पीछे एक अन्य प्रमुख विचार लोक न्यास सिद्धांत है
- In **M.C. Mehta versus Kamal Nath**, the **Supreme Court** explained the doctrine as a **reflection of a social contract between the state and the people**
एम.सी. मेहता बनाम कमल नाथ में सुप्रीम कोर्ट ने इस सिद्धांत को राज्य और जनता के बीच सामाजिक अनुबंध का प्रतिबिंब बताया
- In this contract, the **state serves as the trustee while the people or the communities own the resources**
इस अनुबंध में राज्य न्यासी के रूप में कार्य करता है जबकि संसाधनों का स्वामित्व जनता या समुदायों के पास होता है
- Although the **state holds certain rights** over said resources, it shall **not utilise them for personal gains** and shall be used **only for the benefits of the people**
हालाँकि राज्य के पास इन संसाधनों पर कुछ अधिकार होते हैं, फिर भी वह इन्हें व्यक्तिगत लाभ के लिए उपयोग नहीं करेगा और इन्हें केवल जनता के हित में ही प्रयोग किया जाएगा



- In India, **Clause (b) of Article 39** provides that **material resources shall be owned by the community**
भारत में अनुच्छेद 39 की खंड (b) यह प्रावधान करती है कि भौतिक संसाधनों का स्वामित्व समुदाय के पास होगा
- **Clause (c) of the Article** says that the **state shall have the responsibility to prevent any concentration of the means of production**
उसी अनुच्छेद की खंड (c) यह कहती है कि उत्पादन के साधनों के संकेंद्रण को रोकने की जिम्मेदारी राज्य की होगी
- Further, when the **state takes steps for the welfare of the people**, the **citizens have a duty to allow the state to do so**
इसके अतिरिक्त, जब राज्य जनता के कल्याण के लिए कदम उठाता है, तो नागरिकों का कर्तव्य है कि वे राज्य को ऐसा करने दें
- Thus, the relationship of the **state and citizens** is guided by **jus publicum or public law**
इस प्रकार राज्य और नागरिकों का संबंध जस पब्लिकम अथवा सार्वजनिक कानून द्वारा निर्देशित होता है
- It also refers to the **right, title or dominion of public ownership** which means that the **government has the right to own resources for the benefit of the public**
यह सार्वजनिक स्वामित्व के अधिकार, शीर्षक या प्रभुत्व को भी दर्शाता है, जिसका अर्थ है कि सरकार को जनता के हित में संसाधनों का स्वामित्व रखने का अधिकार है
- This is very well articulated in the **Constitution**, especially in the **Directive Principles**
यह बात संविधान, विशेषकर नीति निदेशक सिद्धांतों में स्पष्ट रूप से व्यक्त की गई है
- For example, in **Radhey Shyam Sahu, the Supreme Court held that the doctrine of public trust emanates from Article 21 of the Constitution**
उदाहरण के लिए, राधे श्याम साहू मामले में सुप्रीम कोर्ट ने माना कि लोक न्यास सिद्धांत संविधान के अनुच्छेद 21 से उत्पन्न होता है
- It protects the **life of the people** and puts the **state under the obligation to maintain public parks for the citizens**
यह लोगों के जीवन की रक्षा करता है और राज्य पर नागरिकों के लिए सार्वजनिक उद्यानों को बनाए रखने का दायित्व डालता है
- **So far as the effects of climate change are concerned, the top Court in M. K. Ranjitsinh versus Union of India, 2024**
जहाँ तक जलवायु परिवर्तन के प्रभावों का संबंध है, एम.के. रणजीतसिंह बनाम भारत संघ, 2024 में शीर्ष न्यायालय ने
- Recognised the **right against adverse effects of climate change** as being part of the **right to life under Article 21**
जलवायु परिवर्तन के प्रतिकूल प्रभावों के विरुद्ध अधिकार को अनुच्छेद 21 के अंतर्गत जीवन के अधिकार का हिस्सा माना
- And also with the **right to equality under Article 14 of the Constitution**
साथ ही इसे संविधान के अनुच्छेद 14 के अंतर्गत समानता के अधिकार से भी जोड़ा
- Despite the fact that **national and foreign governments** have claimed to have taken steps for the **protection of the environment**
इस तथ्य के बावजूद कि राष्ट्रीय और विदेशी सरकारों ने पर्यावरण संरक्षण के लिए कदम उठाने का दावा किया है
- Their claims have been **far from satisfactory**
उनके दावे काफी हद तक असंतोषजनक रहे हैं
- Moreover, as **judicially recognised rights** cannot be directly claimed unless linked to **Part III of the Constitution**
इसके अलावा, क्योंकि न्यायिक रूप से मान्यता प्राप्त अधिकारों को सीधे दावा नहीं किया जा सकता जब तक वे संविधान के भाग III से जुड़े न हों
- The **state may also become reluctant** to take steps with concern
इस कारण राज्य भी चिंता के साथ कदम उठाने में हिचकिचा सकता है
- It is therefore the **opportune moment** to expressly include the **right to a clean and healthy environment in the Constitution**
अतः यह उपयुक्त समय है कि स्वच्छ और स्वस्थ पर्यावरण के अधिकार को संविधान में स्पष्ट रूप से शामिल किया जाए



- To make both the **state and the citizens equally responsible**
ताकि राज्य और नागरिक दोनों को समान रूप से उत्तरदायी बनाया जा सके

GS Paper III: IS

TOPICS COVERED

23 12 2025

1.

Anjadip, indigenous anti-submarine shallow water craft, joins the Navy
अंजादीप, स्वदेशी पनडुब्बी रोधी उथले जल युद्धपोत, नौसेना में शामिल

Anjadip, indigenous anti-submarine shallow water craft, joins the Navy

GS III: Internal Security: Defence

The Hindu Bureau
NEW DELHI

The Indian Navy on Monday received *Anjadip*, the third of eight anti-submarine warfare shallow water craft (ASW SWC), indigenously designed and built by Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.

The delivery took place in Chennai, marking another significant step in India's drive towards self-reliance in defence shipbuilding.

The Navy said that the ASW SWC project was being executed under a public-private partnership between the GRSE and the L&T Shipyard, Kattupalli. The vessels had been designed and constructed in accordance with the classification rules of the Indian Register of Shipping (IRS), demonstrating the success



Navy personnel and officials take delivery of *Anjadip*, an anti-submarine warfare shallow water craft, in Chennai. PTI

of collaborative defence manufacturing in India.

At approximately 77 metres in length, the ASW SWCs are the largest Indian naval warships to be propelled by waterjets. They are equipped with state-of-the-art lightweight torpedoes, indigenously developed anti-submarine rockets and shallow-water sonar, enabling effective

detection and engagement of underwater threats. These platforms will significantly enhance the Navy's anti-submarine warfare capability, coastal surveillance and mine-laying operations, the Navy added.

Anjadip is named after Anjadip Island off the coast of Karwar in Karnataka and is a reincarnation of the erstwhile *INS Anjadip*,

a Petya-class corvette that was decommissioned in 2003.

The naming underscores India's commitment to safeguarding its extensive maritime domain.

With this delivery, the GRSE has achieved the rare feat of delivering five warships to the Navy in a single year. *Anjadip* is the 115th warship built by the shipyard and the 77th delivered to the Navy. The vessel was accepted by Rear Admiral Gautam Marwaha, VSM, Chief Staff Officer (Technical), Eastern Naval Command.

Fitted with an indigenous 30-mm naval surface gun and boasting over 80% indigenous content, *Anjadip* exemplifies the government's *Aatmanirbhar* Bharat vision and the growing strength of India's domestic defence manufacturing ecosystem, the Navy said.

Anjadip, indigenous anti-submarine shallow water craft, joins the Navy

अंजादीप, स्वदेशी पनडुब्बी रोधी उथले जल युद्धपोत, नौसेना में शामिल

- Anjadip, indigenous anti-submarine shallow water craft, joins the Navy**
अंजादीप, स्वदेशी पनडुब्बी रोधी उथले जल युद्धपोत, नौसेना में शामिल
- The **Indian Navy** on **Monday** received **Anjadip**, the **third of eight anti-submarine warfare shallow water craft (ASW SWC)**, indigenously designed and built by **Garden Reach Shipbuilders and Engineers (GRSE), Kolkata**.
भारतीय नौसेना ने सोमवार को अंजादीप प्राप्त किया, जो आठ पनडुब्बी रोधी युद्ध उथले जल पोत (ASW SWC) में से तीसरा है, जिसे गार्डन रीच शिपबिल्डर्स एंड इंजीनियर्स (GRSE), कोलकाता द्वारा स्वदेशी रूप से डिजाइन और निर्मित किया गया है।



- The delivery took place in **Chennai**, marking another **significant step** in India's drive towards **self-reliance in defence shipbuilding**.
यह डिलीवरी चेन्नई में हुई, जो रक्षा जहाज निर्माण में आत्मनिर्भरता की दिशा में भारत की पहल का एक और महत्वपूर्ण कदम है।
- The Navy said that the **ASW SWC project** was being executed under a **public-private partnership** between the **GRSE** and the **L&T Shipyard, Kattupalli**.
नौसेना ने कहा कि **ASW SWC परियोजना** को **GRSE** और **एलएंडटी शिपयार्ड, कट्टुपल्ली** के बीच **सार्वजनिक-निजी भागीदारी** के तहत क्रियान्वित किया जा रहा है।
- The vessels had been designed and constructed in accordance with the **classification rules of the Indian Register of Shipping (IRS)**, demonstrating the success of **collaborative defence manufacturing in India**.
इन पोतों को **इंडियन रजिस्टर ऑफ शिपिंग (IRS)** के **वर्गीकरण नियमों** के अनुसार डिजाइन और निर्मित किया गया है, जो **भारत में सहयोगी रक्षा विनिर्माण** की सफलता को दर्शाता है।
- At approximately **77 metres in length**, the **ASW SWCs** are the **largest Indian naval warships** to be propelled by **waterjets**.
लगभग **77 मीटर** लंबाई के **ASW SWC वॉटरजेट्स** से संचालित होने वाले **भारतीय नौसेना के सबसे बड़े युद्धपोत** हैं।
- They are equipped with **state-of-the-art lightweight torpedoes, indigenously developed anti-submarine rockets and shallow-water sonar, enabling effective detection and engagement of underwater threats**.
इनमें **अत्याधुनिक हल्के टॉरपीडो, स्वदेशी रूप से विकसित पनडुब्बी रोधी रॉकेट और उथले जल का सोनार** लगा है, जो **पानी के नीचे खतरों की प्रभावी पहचान और उनसे निपटने में सक्षम बनाता है।**
- These platforms will **significantly enhance the Navy's anti-submarine warfare capability, coastal surveillance and mine-laying operations**.
नौसेना ने कहा कि ये प्लेटफॉर्म नौसेना की **पनडुब्बी रोधी युद्ध क्षमता, तटीय निगरानी और माइन बिछाने के अभियानों को काफी बढ़ाएंगे।**
- **Anjadip** is named after **Anjadip Island** off the coast of **Karwar in Karnataka** and is a reincarnation of the erstwhile **INS Anjadip**, a **Petya-class corvette** that was **decommissioned in 2003**.
अंजादीप का नाम **कर्नाटक के कारवार तट के पास स्थित अंजादीप द्वीप** के नाम पर रखा गया है और यह पूर्ववर्ती **INS अंजादीप**, एक **पेट्या-श्रेणी का कॉर्वेट**, का पुनर्जन्म है, जिसे **2003** में सेवामुक्त किया गया था।
- The naming underscores India's **commitment to safeguarding its extensive maritime domain**.
यह नामकरण भारत की **अपने विस्तृत समुद्री क्षेत्र की सुरक्षा के प्रति प्रतिबद्धता** को रेखांकित करता है।
- With this delivery, the **GRSE** has achieved the rare feat of delivering **five warships** to the Navy in a **single year**.
इस डिलीवरी के साथ, **GRSE** ने **एक ही वर्ष में नौसेना को पांच युद्धपोत** सौंपने की दुर्लभ उपलब्धि हासिल की है।
- **Anjadip** is the **115th warship** built by the shipyard and the **77th delivered to the Navy**.
अंजादीप शिपयार्ड द्वारा निर्मित **115वां युद्धपोत** और **नौसेना को सौंपा गया 77वां पोत** है।
- The vessel was accepted by **Rear Admiral Gautam Marwaha, VSM, Chief Staff Officer (Technical), Eastern Naval Command**.
इस पोत को **रियर एडमिरल गौतम मारवाहा, वीएसएम, चीफ स्टाफ ऑफिसर (तकनीकी), पूर्वी नौसेना कमान** द्वारा स्वीकार किया गया।
- Fitted with an **indigenous 30-mm naval surface gun** and boasting over **80% indigenous content**, **Anjadip** exemplifies the government's **Aatmanirbhar Bharat vision** and the growing strength of **India's domestic defence manufacturing ecosystem**, the Navy said.
स्वदेशी 30-मिमी नौसैनिक सतह तोप से सुसज्जित और **80% से अधिक स्वदेशी सामग्री** के साथ, **अंजादीप** सरकार की **आत्मनिर्भर भारत परिकल्पना** और **भारत के घरेलू रक्षा विनिर्माण पारिस्थितिकी तंत्र** की बढ़ती मजबूती का उदाहरण है, नौसेना ने कहा।

DAILY CURRENT AFFAIRS (GS Paper IV and Essay)

TOPICS COVERED

23 12 2025



1.

Duped of ₹8 crore, ex-IPS officer shoots himself in Punjab ₹8 करोड़ की ठगी, पूर्व आईपीएस अधिकारी ने पंजाब में खुद को गोली मारी

Duped of ₹8 crore, ex-IPS officer shoots himself in Punjab

GS IV: Ethics

Press Trust of India
PATIALA

Former IPS officer Amar Singh Chahal allegedly shot himself here on Monday and in a purported note claimed that he had been duped of ₹8.10 crore by cyber thugs who posed as wealth management advisors. He was shifted to the hospital in a critical condition, Patiala Senior Superintendent of Police Varun Sharma said.



Amar Singh Chahal

as per the note.

He urged authorities to constitute a Special Investigation Team or hand over the case to a specialised central agency to trace the money trail.

'Emotional trauma'

Expressing deep distress, financial ruin, and emotional trauma, Chahal wrote that he felt devastated and ashamed, apologising to his family and colleagues. He maintained that, except for the alleged scammers, no one else was responsible for his decision.

Police said they are probing the firing incident and the alleged fraud, examining the note, bank transactions, and digital evidence.

(Those in distress can contact Tele MANAS at 14416 to seek help)

In the note addressed to Director General of Police Gaurav Yadav, Chahal alleged that fraudsters operated through WhatsApp and Telegram groups under the name 'F-777 DBS Wealth Equity Research Group', falsely claiming links with the DBS Bank and its CEO.

The group lured investors by promising unusually high returns through stock trading, IPO allotments, OTC trades and so-called "quantitative funds",

Duped of ₹8 crore, ex-IPS officer shoots himself in Punjab ₹8 करोड़ की ठगी, पूर्व आईपीएस अधिकारी ने पंजाब में खुद को गोली मारी

• Duped of ₹8 crore, ex-IPS officer shoots himself in Punjab ₹8 करोड़ की ठगी, पूर्व आईपीएस अधिकारी ने पंजाब में खुद को गोली मारी

• Former IPS officer Amar Singh Chahal allegedly shot himself here on Monday and in a purported note claimed that he had been duped of ₹8.10 crore by cyber thugs who posed as wealth management advisors

पूर्व आईपीएस अधिकारी अमर सिंह चहल ने सोमवार को यहां कथित तौर पर खुद को गोली मार ली और एक कथित नोट में दावा किया कि वेल्थ मैनेजमेंट एडवाइज़र बनकर आए साइबर ठगों ने उनसे ₹8.10 करोड़ की ठगी की

• He was shifted to the hospital in a critical condition, Patiala Senior Superintendent of Police Varun Sharma said उन्हें गंभीर हालत में अस्पताल में भर्ती कराया गया, पटियाला के वरिष्ठ पुलिस अधीक्षक वरुण शर्मा ने कहा

• Chahal was one of the accused in the 2015 police firing cases related to anti-sacrilege protests in Faridkot चहल 2015 में फरीदकोट में हुए बेअदबी विरोधी प्रदर्शनों से जुड़े पुलिस फायरिंग मामलों में आरोपियों में से एक थे

• According to police, a note has been recovered from the scene, which shows that he was a victim of some financial fraud, police said

पुलिस के अनुसार, घटनास्थल से एक नोट बरामद हुआ है, जिससे पता चलता है कि वह किसी वित्तीय धोखाधड़ी के शिकार थे

• In the note addressed to Director General of Police Gaurav Yadav, Chahal alleged that fraudsters operated through WhatsApp and Telegram groups under the name 'F-777 DBS Wealth Equity Research Group', falsely claiming links with the DBS Bank and its CEO

पुलिस महानिदेशक गौरव यादव को संबोधित नोट में चहल ने आरोप

लगाया कि ठगों ने 'F-777 DBS Wealth Equity Research Group' के नाम से व्हाट्सएप और टेलीग्राम ग्रुप्स के जरिए काम किया और DBS बैंक व उसके सीईओ से झूठे संबंध होने का दावा किया

• The group lured investors by promising unusually high returns through stock trading, IPO allotments, OTC trades and so-called "quantitative funds", as per the note नोट के अनुसार, इस समूह ने स्टॉक ट्रेडिंग, आईपीओ आवंटन, ओटीसी ट्रेड्स और तथाकथित "क्वांटिटेटिव फंड्स" के जरिए असामान्य रूप से उच्च रिटर्न का वादा कर निवेशकों को फंसाया

• He urged authorities to constitute a Special Investigation Team or hand over the case to a specialised central agency to trace the money trail

उन्होंने अधिकारियों से स्पेशल इन्वेस्टिगेशन टीम गठित करने या मनी ट्रेल का पता लगाने के लिए मामला किसी विशेषीकृत केंद्रीय एजेंसी को सौंपने का आग्रह किया

'Emotional trauma'
'भावनात्मक आघात'



- Expressing deep distress, **financial ruin**, and **emotional trauma**, Chahal wrote that he felt **devastated and ashamed**, apologising to his **family and colleagues**
गहरे तनाव, **आर्थिक तबाही** और **भावनात्मक आघात** व्यक्त करते हुए चहल ने लिखा कि वह खुद को **टूटा हुआ और शर्मिंदा** महसूस कर रहे हैं और उन्होंने अपने **परिवार और सहकर्मियों** से माफी मांगी
- He maintained that, except for the alleged scammers, **no one else was responsible** for his decision
उन्होंने कहा कि कथित ठगों के अलावा **उनके फैसले के लिए कोई और जिम्मेदार नहीं** है
- Police said they are **probing** the firing incident and the alleged fraud, examining the **note, bank transactions, and digital evidence**
पुलिस ने कहा कि वे गोलीबारी की घटना और कथित धोखाधड़ी की **जांच** कर रहे हैं तथा **नोट, बैंक लेनदेन और डिजिटल सबूतों** की पड़ताल की जा रही है

PATRIOTIC IAS