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12_01_2025 DAILY CURRENT AFFAIRS

TOPICS COVERED

- 1. HAL asks civil operators to ground Dhruv helicopters**
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- 2. Many trapped as waiting hall collapses at Kannauj station**
कन्नौज स्टेशन पर प्रतीक्षालय ढहने से कई लोग फंसे (PCS)
- 3. Seven special courts will be set up to hear sexual assault cases, says T.N. CM**
महिलाओं पर यौन उत्पीड़न मामलों की सुनवाई के लिए तमिलनाडु में सात विशेष अदालतें स्थापित की जाएंगी: मुख्यमंत्री (PCS)
- 4. Four Arrested with Pair of White Rhino Horns**
गोरों के गंडे के सींग के साथ चार गिरफ्तार (GS Paper III: Environment)
- 5. 30 Cyber 'Fraudsters' Held in Jaipur under 'Operation Cyber Shield'**
जयपुर में 'ऑपरेशन साइबर शील्ड' के तहत 30 साइबर 'ठग' गिरफ्तार (GS Paper III: Cyber Security)
- 6. Kadamattam Church Gets a Makeover**
कदमतम चर्च को नया रूप मिला (GS Paper I: Art and Culture)
- 7. Sabarimala Gearing Up for Makaravilakku**
सबरीमाला मकरविलक्कु उत्सव की तैयारी में (GS Paper I: Art and Culture)
- 8. Health professionals urged to communicate proactively to allay concerns on HMPV**



स्वास्थ्य पेशेवरों से एचएमपीवी (HMPV) पर चिंताओं को दूर करने के लिए सक्रिय रूप से संवाद करने का आग्रह (GS Paper III: S&T)

9. 'West Bank a Cauldron That Can Explode Any Moment'

'वेस्ट बैंक: एक उबालते कड़ाह की तरह जो कभी भी फट सकता है'
(GS Paper II: Israel Palestine Issue)

10. Denotified Tribes' Anger Growing Amid a Stagnating Scheme, Classification Issues

मान्यता प्राप्त जातियों (DNT) का गुस्सा ठप योजना और वर्गीकरण मुद्दों के बीच बढ़ता हुआ (GS Paper I: Society)

11. New National Museum in Delhi to display artefacts in chronological and thematic order

दिल्ली में नया राष्ट्रीय संग्रहालय कालानुक्रमिक और थीम आधारित क्रम में वस्तुएं प्रदर्शित करेगा (PCS)

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14. India's Economy Likely to Be a Tad Weaker in 2025: IMF MD Georgieva

भारत की अर्थव्यवस्था 2025 में थोड़ी कमजोर हो सकती है: IMF एमडी जॉर्जिवा (GS Paper III: Economy PCS & SSC)

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आईआईटी रुड़की प्लास्टिसाइड्स को समाप्त करने के लिए बैक्टीरियल एंजाइमों का उपयोग करता है (GS Paper III: S&T)

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HAL asks civil operators to ground Dhruv helicopters

GS Paper III: Defence

Jagriti Chandra
NEW DELHI

Hindustan Aeronautics Ltd. has advised civilian operators to ground the indigenous Dhruv advanced light helicopter Mark-III until the cause of a crash in Porbandar last week is identified.

The armed forces have already temporarily grounded all their 330 Dhruvs following the January 5 crash of an Indian Coast Guard helicopter during a training sortie that killed all three crew members onboard.

HAL asks civil operators to ground Dhruv helicopters

HAL ने सिविल ऑपरेटर्स से ध्रुव हेलीकॉप्टर को ग्राउंड करने के लिए कहा

• Hindustan Aeronautics Ltd. (HAL) has advised civilian operators to ground the indigenous Dhruv advanced light helicopter Mark-III until the cause of a crash in Porbandar last week is identified.

हिंदुस्तान एरोनॉटिक्स लिमिटेड (HAL) ने सिविल ऑपरेटर्स को स्वदेशी ध्रुव एडवांस्ड लाइट हेलीकॉप्टर मार्क-III को ग्राउंड करने की सलाह दी है, जब तक कि पिछले सप्ताह पोरबंदर में हुई दुर्घटना का कारण पता नहीं चल जाता।

• The armed forces have already temporarily grounded all their 330 Dhruvs following the January 5 crash of an Indian Coast Guard helicopter during a training sortie that killed all three crew members onboard.

सशस्त्र बलों ने पहले ही अपने 330 ध्रुव हेलीकॉप्टर्स को अस्थायी रूप से ग्राउंड कर दिया है। यह कदम 5 जनवरी को भारतीय तटरक्षक बल के हेलीकॉप्टर की प्रशिक्षण उड़ान के दौरान हुई दुर्घटना के बाद उठाया गया, जिसमें सवार सभी तीन क्रू सदस्य मारे गए।

Dhruv Advanced Light Helicopter (ALH) Mark-III

- The Dhruv Advanced Light Helicopter (ALH) Mark-III is an indigenously developed, twin-engine, multi-role helicopter in the 5.5-ton weight class, designed and manufactured by Hindustan Aeronautics Limited (HAL) in India.
- It serves various branches of the Indian Armed Forces, including the Army, Navy, Air Force, and Coast Guard, fulfilling roles such as transport, search and rescue, reconnaissance, and medical evacuation.

Historical Background and Development

- **Initiation:** HAL initiated the Advanced Light Helicopter program in 1984 to replace the aging fleet of Chetak and Cheetah helicopters.
- **First Flight:** The prototype of the Dhruv helicopter had its maiden flight in 1992, marking a significant milestone in India's indigenous helicopter development program.
- **Variants:** The Dhruv has evolved through several variants, including Mk-I, Mk-II, Mk-III, and Mk-IV, each incorporating advancements in technology and capabilities.

Key Features and Specifications

- **Engines:** The Dhruv Mk-III is powered by two Shakti engines, co-developed by HAL and Turbomeca (now Safran Helicopter Engines), providing enhanced high-altitude performance.
- **Dimensions:**
 - Length with Rotors Turning: 15.87 meters
 - Height with Rotors Turning: 4.98 meters
 - Main Rotor Diameter: 13.2 meters
- **Performance:**
 - Maximum Speed: Approximately 250 km/h (135 knots)
 - Operational Range: Approximately 630 km (391 miles)
- **Maximum Takeoff Weight:** The Mk-III variant has a maximum takeoff weight of 5,750 kg (12,675 lb.), an increase from earlier variants.





- **Avionics:** Equipped with a glass cockpit, surveillance radar, electro-optical pod, and other advanced avionics, enhancing its operational capabilities.

Operational Roles

- **Military Operations:** The Dhruv Mk-III is utilized for troop transport, reconnaissance, search and rescue, and medical evacuation missions.
- **Coast Guard Operations:** The Indian Coast Guard employs the Dhruv Mk-III for maritime surveillance, search and rescue, and coastal security operations.

Recent Developments

- **Induction into Indian Navy:** In **March 2021**, the Indian Navy commissioned its first unit of the indigenously built ALH Dhruv Mk-III aircraft, enhancing its operational capabilities.
- **Contracts and Orders:**
 - In **March 2024**, the Ministry of Defence signed contracts worth ₹8,073 crore with HAL for 34 Dhruv Mk-III helicopters, with 25 units for the Indian Army and 9 for the Coast Guard.
 - In **December 2024**, the Defence Acquisition Council approved the procurement of 6 ALH (MR) variant helicopters for the Indian Coast Guard, further strengthening maritime security.
- **Operational Incidents:** As of **January 2025**, there have been reports of accidents involving the Dhruv Mk-III helicopters, prompting investigations to ensure safety and reliability.



Many trapped as waiting hall collapses at Kannauj station

GS Paper III: Disaster
Management
PCS

A partially built waiting hall collapsed at the Kannauj railway station in Uttar Pradesh on Saturday, trapping several construction workers and railway staff under the debris. At least seven people suffered serious injuries and have been taken to the local government hospital.

The two-storey building was under construction at the station, which is being renovated under the Amrit Bharat scheme.

A ceiling slab of the waiting hall suddenly collapsed. It is believed that nearly 40 people were present on the site at the time, of which at least 25 have



A rescue operation under way at the Kannauj railway station on Saturday. Seven persons suffer serious injuries. PTI

been rescued so far.

A rescue operation has been launched by the State Disaster Response Force (SDRF), the Government Railway Police (GRP), the Railway Protection Force (PRF), and the district administration.

“Our focus is to rescue

the workers who are trapped. We are using all resources at our disposal for the rescue efforts.” Kannauj District Magistrate Shubhrant Kumar Shukl said.

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Many trapped as waiting hall collapses at Kannauj station

कन्नौज स्टेशन पर प्रतीक्षालय ढहने से कई लोग फंसे

- A partially built waiting hall collapsed at the Kannauj railway station in Uttar Pradesh on Saturday, trapping several construction workers and railway staff under the debris.

उत्तर प्रदेश के कन्नौज रेलवे स्टेशन पर शनिवार को एक आधा निर्मित प्रतीक्षालय ढह गया, जिससे कई निर्माण श्रमिक और रेलवे कर्मचारी मलबे में दब गए।

- At least seven people suffered serious injuries and have been taken to the local government hospital.

कम से कम सात लोग गंभीर रूप से घायल हुए हैं और उन्हें स्थानीय सरकारी अस्पताल ले जाया गया है।



- The **two-storey building** was under **construction** at the station, which is being renovated under the **Amrit Bharat scheme**.
स्टेशन की यह दो मंजिला इमारत निर्माणाधीन थी और इसे अमृत भारत योजना के तहत पुनर्निर्मित किया जा रहा है।
- A **ceiling slab** of the waiting hall **suddenly collapsed**. It is believed that **nearly 40 people** were present on the site at the time, of which **at least 25 have been rescued so far**.
प्रतीक्षालय की छत का स्लैब अचानक ढह गया। ऐसा माना जा रहा है कि उस समय वहां लगभग 40 लोग मौजूद थे, जिनमें से कम से कम 25 लोगों को अब तक बचा लिया गया है।
- A **rescue operation** has been launched by the **State Disaster Response Force (SDRF)**, the **Government Railway Police (GRP)**, the **Railway Protection Force (RPF)**, and the **district administration**.
राज्य आपदा प्रतिक्रिया बल (SDRF), सरकारी रेलवे पुलिस (GRP), रेलवे सुरक्षा बल (RPF) और जिला प्रशासन द्वारा बचाव अभियान शुरू किया गया है।
- "Our focus is to **rescue the workers** who are trapped. We are using **all resources** at our disposal for the **rescue efforts**," said **Kannauj District Magistrate Shubhant Kumar Shukla**.
कन्नौज के जिलाधिकारी शुभांत कुमार शुक्ला ने कहा, "हमारा ध्यान फंसे हुए श्रमिकों को बचाने पर है। हम बचाव कार्यों के लिए सभी संसाधनों का उपयोग कर रहे हैं।"

Amrit Bharat Station Scheme

अमृत भारत स्टेशन योजना

- The **Amrit Bharat Station Scheme** is an ongoing mission of **Indian Railways**, launched by the **Ministry of Railways** in **February 2023**, aimed at the redevelopment of railway stations across India.
- अमृत भारत स्टेशन योजना भारतीय रेलवे का एक चल रहा मिशन है, जिसे **फरवरी 2023** में रेल मंत्रालय द्वारा पूरे भारत में रेलवे स्टेशनों के पुनर्विकास के लिए शुरू किया गया था।

Objective

उद्देश्य

- The scheme aims to transform railway stations into modern, well-equipped hubs with improved passenger amenities, better traffic circulation, inter-modal integration, and enhanced signage.
- इस योजना का उद्देश्य रेलवे स्टेशनों को आधुनिक, सुविधाजनक और बेहतर यात्री सुविधाओं, बेहतर यातायात परिसंचरण, अंतर-मोडल एकीकरण और उन्नत साइनबोर्ड के साथ एक हब में बदलना है।

Key Features of Amrit Bharat Station Scheme

अमृत भारत स्टेशन योजना की मुख्य विशेषताएँ

- **Modern Passenger Amenities:** The scheme aims to provide **clean and hygienic waiting areas, restrooms, special amenities for differently-abled persons, and food and beverage outlets**. यह योजना **स्वच्छ और सुरक्षित इंतजारों, पाचाल घर, अपाहिजों के लिए विशेष सुविधाएं, और खान्य-जलपान केंद्र** की सुविधा देती है।
- **Improved Traffic Circulation:** Separate **entry and exit points, widened roads and footpaths, and adequate parking facilities** will be developed to ensure smooth traffic flow. बेहतर यातायात प्रवेशों के लिए **आगमन और निकास की जगहें, चौड़े और चौड़े की चौड़ीकरण, और पार्किंग की सुविधाओं** की व्यवस्था की जायेगी।



- **Inter-Modal Integration:** The scheme promotes **seamless connectivity between railway stations and other transport modes** like buses, taxis, and autorickshaws. यह योजना रेलवे स्टेशनों और अन्य यातायात प्रणालों के बीच मानसिक संजोजनको प्रोत्साहित करता है, जैसे की केस टैक्सी ओर ऑटोरिक्शा।

Seven special courts will be set up to hear sexual assault cases, says T.N. CM

PCS

The Hindu Bureau

CHENNAI

Tamil Nadu Chief Minister M.K. Stalin on Saturday announced that seven special courts would hear cases pertaining to sexual assault on women.

The courts would be set up in places including Madurai, Tirunelveli, Coimbatore, Salem, Tiruchi, and Chennai.

In his reply to the address by the Governor, R.N. Ravi, in the Assembly, Mr. Stalin said that a special committee headed by the Additional Superintendent of Police would be set up to expedite trials in sexual assault cases in all the districts.

The Tamil Nadu Prison



For timely justice: CM Stalin said a special committee headed by Additional Superintendent of Police will be formed to expedite trials in sexual assault cases in all the districts.

Rules, 1983, would be amended to ensure that persons accused in such cases were not granted bail, the Chief Minister added.

Earlier in the day, the Assembly passed the Cri-

iminal Laws (Tamil Nadu Amendment) Bill, 2025, and the Tamil Nadu Prohibition of Harassment of Women (Amendment) Bill, 2025.

The Bills, moved by the Chief Minister in the House

on Friday, are aimed at enhancing the punishment for sexual offences against women and children, as well as prosecuting those harassing them on digital and electronic platforms.

The Criminal Laws Bill proposes a minimum of 14 years of rigorous imprisonment for a rape convict, up from the present 10 years.

If the rapist is a member of the police force, it seeks to double the minimum rigorous imprisonment to 20 years. If the rape victim is a girl aged below 12, the Bill calls for life term and death penalty as the minimum and maximum punishment respectively.

SEE ALSO
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Seven special courts will be set up to hear sexual assault cases, says T.N. CM

महिलाओं पर यौन उत्पीड़न मामलों की सुनवाई के लिए तमिलनाडु में सात विशेष अदालतें स्थापित की जाएंगी: मुख्यमंत्री

- Tamil Nadu Chief Minister M.K. Stalin on Saturday announced that **seven special courts** would be set up to hear cases related to **sexual assault on women**. तमिलनाडु के मुख्यमंत्री एम.के. स्टालिन ने शनिवार को घोषणा की कि महिलाओं पर यौन उत्पीड़न के मामलों की सुनवाई के लिए सात विशेष अदालतें स्थापित की जाएंगी।
- The courts would be established in places like **Madurai, Tirunelveli, Coimbatore, Salem, Tiruchi, and Chennai**.



ये अदालतें मदुरै, तिरुनेलवेली, कोयंबटूर, सेलम, तिरुचि और चेन्नई जैसे स्थानों पर स्थापित की जाएंगी।

- In his reply to the address by **Governor R.N. Ravi** in the **Assembly**, **Mr. Stalin** said that a **special committee**, headed by the **Additional Superintendent of Police**, would be set up to **expedite trials in sexual assault cases in all the districts**.

विधानसभा में राज्यपाल आर.एन. रवि के अभिभाषण के जवाब में श्री स्टालिन ने कहा कि यौन उत्पीड़न मामलों की शीघ्र सुनवाई के लिए सभी जिलों में अपर पुलिस अधीक्षक के नेतृत्व में एक विशेष समिति बनाई जाएगी।

- The **Tamil Nadu Prison Rules, 1983**, would be **amended** to ensure that persons accused in such cases were **not granted bail**, the Chief Minister added.
मुख्यमंत्री ने कहा कि तमिलनाडु जेल नियम, 1983 में संशोधन किया जाएगा ताकि यह सुनिश्चित किया जा सके कि ऐसे मामलों में आरोपियों को जमानत न दी जाए।
- Earlier in the day, the **Assembly** passed the **Criminal Laws (Tamil Nadu Amendment) Bill, 2025**, and the **Tamil Nadu Prohibition of Harassment of Women (Amendment) Bill, 2025**.

दिन में पहले, विधानसभा ने आपराधिक कानून (तमिलनाडु संशोधन) विधेयक, 2025 और तमिलनाडु महिलाओं के उत्पीड़न का निषेध (संशोधन) विधेयक, 2025 पारित किया।

- The **Bills**, moved by the **Chief Minister** in the **House** on **Friday**, are aimed at **enhancing the punishment for sexual offences against women and children**, as well as prosecuting those who **harass them on digital and electronic platforms**.
मुख्यमंत्री द्वारा शुक्रवार को विधानसभा में पेश किए गए ये विधेयक महिलाओं और बच्चों के खिलाफ यौन अपराधों के लिए सजा बढ़ाने और डिजिटल और इलेक्ट्रॉनिक प्लेटफार्मों पर उन्हें परेशान करने वालों पर कार्रवाई करने के उद्देश्य से हैं।
- The **Criminal Laws Bill** proposes a **minimum of 14 years of rigorous imprisonment for a rape convict**, up from the present **10 years**.

आपराधिक कानून विधेयक में बलात्कार के दोषी के लिए 14 साल का कठोर कारावास निर्धारित किया गया है, जो वर्तमान में 10 साल है।

- **If the rapist is a member of the police force, it seeks to double the minimum rigorous imprisonment to 20 years**.
अगर बलात्कारी पुलिस बल का सदस्य है, तो न्यूनतम कठोर कारावास को 20 साल तक दोगुना करने का प्रावधान है।
- **If the rape victim is a girl aged below 12, the Bill calls for life term and death penalty as the minimum and maximum punishment**, respectively.

अगर बलात्कार पीड़िता की उम्र 12 साल से कम है, तो विधेयक में आजीवन कारावास और मृत्युदंड को क्रमशः न्यूनतम और अधिकतम सजा के रूप में प्रस्तावित किया गया है।



Four arrested with pair of white rhino horns

GS Paper III: Environment

The Hindu Bureau

NEW DELHI

Four persons in illegal possession of a pair of horns of a rare white rhinoceros were arrested from Lajpat Nagar, police said on Saturday.

The accused, identified as Deepak Sharma, 57, Suresh Kumar, 57, Sant Ram, 57, Anil Kumar Sethi, 60, have been booked under various sections of the **BNS and Wild Life (Protection) Act**.

Following a tip-off, police officers acted as decoy customers and approached the accused to buy the horns. The deal was finalised for ₹1 crore, the officer said. As the police learnt about the accused's location, they raided

Horns were of an African rhino and had been in one of the accused's house for over 90 years

a flat in Lajpat Nagar and recovered the two horns.

Accused Deepak disclosed that his family had the horns since his grandfather's time. The horns were of an African rhinoceros and had been in his house for over 90 years, the police officer said.

Hit by COVID-19, Deepak said his business was at risk with ₹35 lakh debt. Knowing the horns were rare and could fetch over ₹3 crore, he lured another accused, Suresh, with a commission to help him sell them.

Four Arrested with Pair of White Rhino Horns

गोरों के गेंडे के सींग के साथ

चार गिरफ्तार

• Four persons in illegal possession of white rhino horns were arrested from Lajpat Nagar, police said on Saturday.

पुलिस ने बताया कि शनिवार को लाजपत नगर से गोरों के गेंडे के सींग के अवैध कब्जे में चार व्यक्तियों को गिरफ्तार किया गया।

• The accused were identified as Deepak Sharma (57), Suresh Kumar (57), Sant Ram (57), and Anil Kumar Sethi (60). They were booked under various sections of the **BNS and Wild Life (Protection) Act**.

आरोपियों की पहचान दीपक शर्मा (57), सुरेश कुमार (57), संत राम (57) और अनिल कुमार सेठी (60) के रूप में हुई है। उनके खिलाफ **BNS** और **वन्यजीव (संरक्षण) अधिनियम** की विभिन्न धाराओं के तहत मामला दर्ज किया गया है।

• Following a tip-off, police officers acted as decoy customers and approached the accused to buy the horns.

एक गुप्त सूचना के आधार पर, पुलिस अधिकारियों ने भेष बदलकर ग्राहक बनकर आरोपियों से सींग खरीदने के लिए संपर्क किया।

- The deal was finalized for ₹1 crore, according to the police officer. पुलिस अधिकारी के अनुसार, डील ₹1 करोड़ में फाइनल की गई थी।
- After learning the accused's location, police raided a flat in Lajpat Nagar and recovered two white rhino horns. आरोपियों की स्थिति की जानकारी मिलने के बाद पुलिस ने लाजपत नगर के एक फ्लैट पर छापा मारा और दो गोरों के गेंडे के सींग बरामद किए।
- Accused Deepak Sharma disclosed that the horns were of an African rhinoceros and had been with his family for over 90 years, since his grandfather's time. आरोपी दीपक शर्मा ने बताया कि ये सींग अफ्रीकी गेंडे के हैं और 90 वर्षों से उनके परिवार के पास हैं, जो उनके दादा के समय से हैं।
- Deepak said that his business was hit by COVID-19, and he was in ₹35 lakh debt. दीपक ने बताया कि कोविड-19 के कारण उनका व्यवसाय प्रभावित हुआ और वे ₹35 लाख के कर्ज में थे।
- Knowing that the horns were rare and could fetch over ₹3 crore, he lured another accused Suresh Kumar with a commission to help sell them.



दीपक को पता था कि ये सींग दुर्लभ हैं और ₹3 करोड़ से अधिक में बिक सकते हैं, इसलिए उन्होंने सुरेश कुमार को कमीशन का लालच देकर बेचने में मदद के लिए शामिल किया।

White Rhinoceros

The white rhinoceros (*Ceratotherium simum*), also known as the square-lipped rhinoceros, is the largest existing species of rhinoceros. It has a broad, flat mouth adapted for grazing and is recognized as the most social among rhino species. This species is divided into two subspecies:

- **Southern White Rhinoceros:** As of the end of 2023, there are approximately 17,464 individuals in the wild, marking a 3.7% increase from 2022.
- **Northern White Rhinoceros:** This subspecies is critically endangered, with only two females, Najin and Fatu, remaining. The last known male, Sudan, died on March 19, 2018, at the Ol Pejeta Conservancy in Kenya.

Naming and Etymology

- The term "white rhinoceros" is believed to have originated from a mistranslation of the Dutch word "wijd," meaning "wide," referring to its wide mouth.
- Early English settlers in South Africa misinterpreted "wijd" as "white," leading to the name "white rhino." Conversely, the other species, with a narrower mouth, was termed the "black rhinoceros."
- Ironically, Dutch later adopted the English term, now also calling it a "white rhino."
- The generic name *Ceratotherium* is derived from the Greek words "keras" (horn) and "thērion" (beast), while "simum" comes from "simos," meaning "flat-nosed."

Taxonomy and Evolution

- The white rhinoceros is thought to have descended from *Ceratotherium praecox*, which lived around seven million years ago.
- Fossils have been found at Langebaanweg near Cape Town.
- However, some studies suggest that these fossils may belong to a different genus.
- The modern white rhino's longer skull may have evolved to graze on shorter grasses resulting from Africa's drier conditions over time.
- The oldest definitive record of the white rhinoceros dates back to approximately 1.8 million years ago at Olduvai Gorge in Tanzania.

Conservation Status and Efforts

- **Southern White Rhinoceros:** Once thought extinct in the late 19th century, a small population of fewer than 100 individuals was discovered in 1895 in KwaZulu-Natal, South Africa. Through concerted conservation efforts, their numbers have rebounded to around 17,464 by the end of 2023. The majority (98.8%) of these rhinos are found in South Africa, Namibia, Zimbabwe, and Kenya.
- **Northern White Rhinoceros:** With only two females remaining, the subspecies is functionally extinct. Conservationists are exploring advanced reproductive technologies, such as in vitro fertilization (IVF) and stem-cell therapies, to revive the population. Semen from deceased males and eggs from the remaining females have been used to create embryos, which are intended for implantation into surrogate southern white rhino females.

Recent Developments

- The global white rhino population has shown a positive trend, increasing by 3.7% from 2022 to 17,464 at the end of 2023.
- This marks the first increase in a decade, attributed to intensified anti-poaching efforts and conservation initiatives.
- However, poaching remains a significant threat, necessitating continued vigilance and innovative conservation strategies.



30 cyber 'fraudsters' held in Jaipur under 'Operation Cyber Shield'

GS Paper III: Cyber Security

The Hindu Bureau
JAIPUR

In a major action taken under the ongoing 'Operation Cyber Shield', the police here on Saturday arrested 30 alleged cyber fraudsters after conducting raids at 40 places falling in five police station areas of the capital city. The accused had conducted transactions worth ₹30 crore to defraud the unsuspecting people.

Besides indulging in the nefarious activities, the accused were allegedly 'training' a new batch of 'fraudsters'. Along with the accused operating through eight gangs, two minors have also been detained.

Deputy Commissioner of Police (Jaipur West) Amit Kumar told *The Hindu* that three of the accused, disguised as monks and astrologers, had allegedly cheated some people and offered to conduct rituals for them.

"One of the accused, a 25-year-old resident of



Police officers seizing equipment used in cyber fraud from a building in Jaipur on Saturday. SPECIAL ARRANGEMENT

Tonk district's Kheda Kumbholav village, received training in 'cyber frauds' in Sri Lanka," he said.

Special drive

The Cyber Crime Branch of Rajasthan police launched the month-long 'operation' on January 2 as a special campaign aimed at tackling cybercrimes, apprehending offenders, and raising public awareness. The initiative seeks to dismantle the infrastructure supporting the organised cyber-enabled economic

crimes in the State and address rising cyber threats.

Mr. Kumar said his 13-member team had unearthed evidence of frauds worth ₹30 crore and blocked 135 bank accounts, 64 unified payments interfaces and 20 automated teller machines with account transactions. The material seized from the accused included laptop computers, mobile phones, ATM cards, WiFi routers, CCTV cameras, HDMI cables, bank pass books, cheque books and passports.

crore, targeting unsuspecting people.

आरोपियों ने ₹30 करोड़ के धोखाधड़ी वाले लेन-देन कर भोले-भाले लोगों को निशाना बनाया।

- The accused were also allegedly 'training' a new batch of fraudsters while conducting these fraudulent activities.

आरोपियों पर आरोप है कि वे धोखाधड़ी गतिविधियों के दौरान नए ठगों का एक बैच तैयार कर रहे थे।

- Along with the **eight gangs** involved, **two minors** were also **detained** during the operation.

इस कार्रवाई में शामिल आठ गिरोहों के साथ-साथ दो नाबालिगों को भी हिरासत में लिया गया।

- **Deputy Commissioner of Police (Jaipur West) Amit Kumar** said that **three of the accused** had disguised themselves as **monks and astrologers** to cheat people by offering **ritual services**.

जयपुर पश्चिम के उपायुक्त अमित कुमार ने बताया कि तीन आरोपी भिक्षु और ज्योतिषी के रूप में भेष बदलकर लोगों को पूजा-पाठ की सेवाएं देकर ठगते थे।

- One of the accused, a **25-year-old** from **Kheda Kumbholav village** in **Tonk district**, had received **training in cyber frauds** in **Sri Lanka**.

आरोपियों में से एक, टोंक जिले के खेड़ा कुम्भोलाव गांव का 25 वर्षीय व्यक्ति, ने श्रीलंका में साइबर धोखाधड़ी की ट्रेनिंग ली थी।

30 Cyber 'Fraudsters' Held in Jaipur under 'Operation Cyber Shield'

जयपुर में 'ऑपरेशन साइबर शील्ड' के तहत 30 साइबर 'ठग' गिरफ्तार

- In a major action under the ongoing '**Operation Cyber Shield**', police in **Jaipur** arrested **30 alleged cyber fraudsters** after raids at **40 places** across five police station areas of the city.

चल रहे 'ऑपरेशन साइबर शील्ड' के तहत जयपुर पुलिस ने शहर के पांच थाना क्षेत्रों में 40 स्थानों पर छापेमारी कर 30 कथित साइबर ठगों को गिरफ्तार किया।

- The accused had conducted **fraudulent transactions** worth **₹30**



Special Drive

विशेष अभियान

- The **Cyber Crime Branch** of Rajasthan Police launched the month-long ‘**Operation Cyber Shield**’ on **January 2** as a **special campaign** to tackle **cybercrimes**, apprehend **offenders**, and raise **public awareness**.

राजस्थान पुलिस की साइबर क्राइम शाखा ने 2 जनवरी को 'ऑपरेशन साइबर शील्ड' नामक एक महीने का विशेष अभियान शुरू किया, जिसका उद्देश्य साइबर अपराधों पर नियंत्रण करना, अपराधियों को पकड़ना और जन-जागरूकता बढ़ाना था।

- The operation aims to **dismantle the infrastructure supporting organised cyber-enabled economic crimes** in the state and address **rising cyber threats**.

इस अभियान का उद्देश्य संगठित साइबर आर्थिक अपराधों के लिए बुनियादी ढांचे को तोड़ना और बढ़ते साइबर खतरों का सामना करना है।

Evidence and Seizures

साक्ष्य और जब्ती

- **Mr. Amit Kumar** said that his **13-member team** had **unearthed fraud transactions worth ₹30 crore** and **blocked 135 bank accounts, 64 UPI IDs, and 20 ATMs** linked to these frauds.

अमित कुमार ने बताया कि उनकी 13 सदस्यीय टीम ने ₹30 करोड़ के धोखाधड़ी वाले लेन-देन का पता लगाया और 135 बैंक खाते, 64 यूपीआई आईडी, और 20 एटीएम ब्लॉक किए।

- The material **seized from the accused** included **laptops, mobile phones, ATM cards, WiFi routers, CCTV cameras, HDMI cables, bank passbooks, cheque books, and passports**.

आरोपियों से जप्त किए गए सामान में लैपटॉप, मोबाइल फोन, एटीएम कार्ड, वाईफाई राउटर, सीसीटीवी कैमरे, एचडीएमआई केबल, बैंक पासबुक, चेकबुक, और पासपोर्ट शामिल थे।



Kadamattam church gets a makeover

GS Paper I: Art and Culture

KOCHI

The popular Kadamattam St. George Orthodox Church has got a new lease of life thanks to efforts by history buffs, who see the preservation of the church and its famous murals in their original form as a way to provide a peek into the rich heritage of Christianity in Kerala.

The entire church has been restored using new materials with the damaged areas replaced by the same wood material as in the original church.

Father Sunny Varghese, vicar, who is also leading the team overseeing the work, said around 3,000 cubic feet of wood was used for the restoration



The mural of St. George and the dragon at the Kadamattam St. George Orthodox Church.

The murals at St. George Church provide a peek into the rich heritage of Christianity in Kerala

work. The original murals have been refurbished using natural colours. These organic colour combinations provide a view of the world when artists patiently experimented to get the right shades that went into the making of the murals. Father Varghese said the most prominent of the murals was that of St. George. He said that the church was originally believed to have been erected in the 9th century by Mar Abo, a Persian bishop.

“There is also a Persian

cross in the church, which is in prime condition even now,” he said.

The most important mural is that of St. George and the dragon. There are also scenes from the Christian lores. The original Church at Kadamattam was set up in the 9th century. The church authorities said they have no record of the renovations later except in the year 1945.

Many believe that the tomb found near the church is that of Father Kadamattam. However, the popular belief has not been accepted by historians and church authorities. The restoration work started over three years ago, and the church will be rededicated on February 6 and 7.

Kadamattam Church Gets a Makeover कदमतम चर्च को नया रूप मिला

- The popular Kadamattam St. George Orthodox Church has been restored to preserve its rich Christian heritage in Kerala.
लोकप्रिय कदमतम सेंट जॉर्ज ऑर्थोडॉक्स चर्च को केरल में इसके समृद्ध ईसाई विरासत को संरक्षित करने के लिए पुनर्स्थापित किया गया है।
- History enthusiasts have taken the initiative to preserve the famous murals in their original form.
इतिहास प्रेमियों ने चर्च की प्रसिद्ध भित्तिचित्रों को उनके मूल स्वरूप में संरक्षित करने का बीड़ा उठाया है।
- The entire church has been restored using new materials, with damaged areas replaced by the same type of wood used in the original construction.
पूरे चर्च को नए सामग्रियों का उपयोग करके बहाल किया गया है और क्षतिग्रस्त हिस्सों को उसी प्रकार की लकड़ी से बदला गया है, जो मूल निर्माण में उपयोग की गई थी।
- Father Sunny Varghese, the vicar leading the restoration, said around 3,000 cubic feet of wood was used in the process.



फादर सनी वर्गीस, जो इस पुनर्स्थापन कार्य का नेतृत्व कर रहे हैं, ने बताया कि लगभग 3,000 क्यूबिक फीट लकड़ी का उपयोग किया गया है।

- The **original murals** were refurbished using **natural, organic colors** that provide a glimpse into **traditional painting methods**.

मूल भित्तिचित्रों को प्राकृतिक और जैविक रंगों का उपयोग करके पुनर्निर्मित किया गया है, जो पारंपरिक चित्रकला विधियों की झलक प्रदान करते हैं।

- The **most prominent mural** is that of **St. George**, a significant figure in Christian history.

सबसे प्रमुख भित्तिचित्र सेंट जॉर्ज का है, जो ईसाई इतिहास में एक महत्वपूर्ण व्यक्ति हैं।

- The church is **believed to have been erected in the 9th century by Mar Abo, a Persian bishop**.

यह माना जाता है कि चर्च को 9वीं शताब्दी में मार अबो, जो एक फारसी बिशप थे, द्वारा स्थापित किया गया था।

- There is also a **Persian cross** inside the church, which is still in **prime condition**. चर्च के अंदर एक फारसी क्रॉस भी है, जो अभी भी उत्तम स्थिति में है।

- The **most important mural** is of **St. George and the dragon**, along with scenes from **Christian lores**.

सबसे महत्वपूर्ण भित्तिचित्र सेंट जॉर्ज और ड्रैगन का है, जिसमें ईसाई लोक कथाओं के दृश्य भी शामिल हैं।

- The **original church** at Kadamattam was **set up in the 9th century**, but **no record of renovations** exists except for one in **1945**.

कदमतम में मूल चर्च 9वीं शताब्दी में स्थापित किया गया था, लेकिन 1945 के अलावा किसी भी नवीनीकरण का कोई रिकॉर्ड नहीं है।

- Many believe that the **tomb near the church** is that of **Father Kadamattam**, though this claim is **not accepted** by historians.

कई लोग मानते हैं कि चर्च के पास की कब्र फादर कदमतम की है, हालांकि यह दावा इतिहासकारों द्वारा स्वीकार नहीं किया गया है।

- The **restoration work** started **over three years ago**, and the **rededication ceremony** will take place on **February 6 and 7**.

पुनर्स्थापन कार्य तीन साल पहले शुरू हुआ था, और इसका पुनः समर्पण समारोह 6 और 7 फरवरी को आयोजित किया जाएगा।



Sabarimala gearing up for Makaravilakku

GS Paper I: Art and Culture

PATHANAMTHITTA

To ensure the safety of pilgrims flocking to Sabarimala to witness the celestial light Makarajyothi during the Makaravilakku festival, authorities have implemented extensive arrangements.

Pathanamthitta District Collector S. Premkrishnan has announced strict limits on the number of devotees allowed at key viewpoints. Panjippara and Ilavunkal will each accommodate up to 1,000 pilgrims and Nelli-mala, 800. Attathode West will host 300 devotees and Attathode East, 2,500. The Pampa Hilltop, the largest viewing area, will hold 8,000 devotees. For safety reasons, entry to the Ay-



Taking stock: State police chief Sheikh Darvesh Sahib reviews the arrangements at Sabarimala on Saturday. LEJU KAMAL

yanmala viewpoint has been prohibited.

Each location will have medical support teams on standby, complemented by adequate parking facilities. As the festival concludes, 300 buses of the State transport utility will ferry devo-

tees from Pampa to Nilackal. To manage the anticipated influx, the area has been divided into 13 zones.

The Pathanamthitta District Medical Office has established a control room operating from Monday for

the next 72 hours. Devotees can reach the control room at 0468-2222642 and 0468-2228220. An additional fleet of 12 ambulances has been arranged, supplementing the existing 25. Seventeen emergency medical centres have been set up between Pampa and the Sannidhanam.

To bolster security, the Travancore Devaswom Board Vigilance has installed 245 advanced surveillance cameras from Marakkootam to the Sannidhanam.

State Police Chief Sheikh Darvesh Sahib, who visited Sabarimala on Saturday, said 5,000 police personnel would ensure safety and order during the Makaravilakku festival on Tuesday.

Sabarimala Gearing Up for Makaravilakk

सबरीमाला मकरविलकू उत्सव की तैयारी में

- To ensure the safety of pilgrims flocking to Sabarimala to witness the Makarajyothi during the Makaravilakku festival, authorities have implemented extensive arrangements.

सबरीमाला में मकरविलकू उत्सव के दौरान मकरज्योति देखने आने वाले भक्तों की सुरक्षा सुनिश्चित करने के लिए प्रशासन ने व्यापक इंतजाम किए हैं।

- Pathanamthitta District Collector S. Premkrishnan has announced strict limits on the number of devotees allowed at key viewpoints.

पथानामथिट्टा जिले के कलेक्टर एस. प्रेमकृष्णन ने प्रमुख दृश्य स्थलों पर भक्तों की संख्या पर कड़ा प्रतिबंध लगाया है।

- Panjippara and Ilavunkal will each accommodate up to 1,000 pilgrims, while Nelli-mala will allow 800 pilgrims.

पंजीपारा और इलावुंकल में प्रत्येक में 1,000 भक्तों को अनुमति दी जाएगी, जबकि नेल्लीमाला में 800 भक्तों को अनुमति मिलेगी।

- Attathode West will host 300 devotees, and Attathode East will accommodate 2,500 devotees.

अट्ठाथोड पश्चिम में 300 भक्तों और अट्ठाथोड पूर्व में 2,500 भक्तों को अनुमति दी जाएगी।

- The Pampa Hilltop, the largest viewing area, will hold 8,000 devotees.

पंपा हिलटॉप, जो सबसे बड़ा दृश्य स्थल है, में 8,000 भक्तों को अनुमति दी जाएगी।



- **Entry to the Ayyanmala viewpoint** has been **prohibited** for safety reasons.
अय्यनमला दृश्य स्थल में प्रवेश सुरक्षा कारणों से प्रतिबंधित कर दिया गया है।

Medical Support and Transportation Arrangements

चिकित्सा सहायता और परिवहन व्यवस्था

- Each location will have **medical support teams** on standby, along with **adequate parking facilities**.
प्रत्येक स्थल पर चिकित्सा सहायता दल तैनात रहेंगे, साथ ही पर्याप्त पार्किंग सुविधा भी उपलब्ध होगी।
- As the festival concludes, **300 buses of the State transport utility** will ferry devotees from **Pampa to Nilackal**.
उत्सव समाप्त होने के बाद राज्य परिवहन निगम की 300 बसें भक्तों को पंपा से निलककल ले जाएंगी।
- To manage the anticipated **influx of pilgrims**, the area has been divided into **13 zones**.
भक्तों की अनुमानित भीड़ को संभालने के लिए क्षेत्र को 13 क्षेत्रों में विभाजित किया गया है।

Emergency Services and Control Room

आपातकालीन सेवाएं और नियंत्रण कक्ष

- The **Pathanamthitta District Medical Office** has established a **control room** that will operate from **Monday for the next 72 hours**.
पथानामथिट्टा जिला चिकित्सा कार्यालय ने एक नियंत्रण कक्ष स्थापित किया है, जो सोमवार से अगले 72 घंटे तक काम करेगा।
- Devotees can reach the **control room** at **0468-2222642** and **0468-2228220**.
भक्त नियंत्रण कक्ष से 0468-2222642 और 0468-2228220 पर संपर्क कर सकते हैं।
- An **additional fleet of 12 ambulances** has been arranged, supplementing the existing **25 ambulances**.
12 अतिरिक्त एम्बुलेंस की व्यवस्था की गई है, जो पहले से मौजूद 25 एम्बुलेंस की संख्या में शामिल होगी।
- **Seventeen emergency medical centres** have been set up between **Pampa and Sannidhanam**.
पंपा और सन्निधानम के बीच 17 आपातकालीन चिकित्सा केंद्र स्थापित किए गए हैं।

Security Measures

सुरक्षा व्यवस्था

- To bolster security, the **Travancore Devaswom Board Vigilance** has installed **245 advanced surveillance cameras** from **Marakkootam to Sannidhanam**.
सुरक्षा को मजबूत करने के लिए त्रावणकोर देवस्वोम बोर्ड सतर्कता दल ने मरक्कूटम से सन्निधानम तक 245 उन्नत निगरानी कैमरे लगाए हैं।
- **State Police Chief Sheikh Darvesh Sahib** visited **Sabarimala** on **Saturday** and announced that **5,000 police personnel** will be deployed for the **Makaravilakku festival** on **Tuesday**.
राज्य पुलिस प्रमुख शेख दरवेश साहिब ने शनिवार को सबरीमाला का दौरा किया और घोषणा की कि मंगलवार को मकरविलक्कु उत्सव के लिए 5,000 पुलिसकर्मी तैनात किए जाएंगे।



Makaravilakku

- Makaravilakku is an annual festival celebrated at the Sabarimala Ayyappa Temple in Kerala, India, coinciding with Makara Sankranti, typically on January 14th or 15th.
मकरविलक्कू केरल के सबरीमाला अयप्पा मंदिर में मनाया जाने वाला एक वार्षिक उत्सव है, जो आमतौर पर 14 या 15 जनवरी को मकर संक्रांति के साथ पड़ता है।
- This event marks the culmination of the two-month-long pilgrimage season, attracting millions of devotees from across the country.
यह आयोजन दो महीने लंबे तीर्थयात्रा सीजन का समापन है, जो देशभर से लाखों श्रद्धालुओं को आकर्षित करता है।

Historical Background and Significance

ऐतिहासिक पृष्ठभूमि और महत्व

- **Thiruvabharanam Procession:** The festival begins with the Thiruvabharanam procession, where sacred ornaments from the Pandalam Palace are carried to the Sabarimala temple.
थिरुवाभरणम जुलूस: उत्सव की शुरुआत थिरुवाभरणम जुलूस से होती है, जिसमें पंडालम महल से भगवान अयप्पा के पवित्र आभूषण सबरीमाला मंदिर ले जाए जाते हैं।
- This ritual symbolizes the journey of Lord Ayyappa from his royal abode to his divine residence at Sabarimala.
यह अनुष्ठान भगवान अयप्पा की उनके राजसी निवास से उनके दिव्य निवास सबरीमाला तक की यात्रा का प्रतीक है।
- **Makarajyothi and Makaravilakku:** A significant aspect of the festival is the sighting of the Makarajyothi, a celestial star that appears on the eastern horizon, followed by the Makaravilakku, a ritualistic lighting of a lamp at Ponnambalamedu.
मकरज्योति और मकरविलक्कू: इस उत्सव का एक महत्वपूर्ण पहलू मकरज्योति का दर्शन है, जो पूर्वी क्षितिज पर दिखाई देने वाला एक दिव्य तारा है। इसके बाद पोनंबलमेडु में मकरविलक्कू, अर्थात् एक दीप प्रज्वलित किया जाता है।
- Historically, the Makaravilakku was a ritual performed by the Malayaraya tribe and later continued by the Travancore Devaswom Board.
ऐतिहासिक रूप से, मकरविलक्कू एक अनुष्ठान था जिसे मलयराया जनजाति द्वारा किया जाता था और बाद में इसे त्रावणकोर देवस्वोम बोर्ड द्वारा जारी रखा गया।

Key Rituals and Events

मुख्य अनुष्ठान और कार्यक्रम

- **Makara Sankrama Puja:** Performed at the exact moment of the sun's transition into the Makara (Capricorn) zodiac, this puja holds immense significance for devotees.
मकर संक्रांति पूजा: यह पूजा उस समय की जाती है जब सूर्य मकर राशि में प्रवेश करता है। यह श्रद्धालुओं के लिए बहुत महत्वपूर्ण मानी जाती है।
- **Deeparadhana:** The evening worship involves lighting lamps, creating a mesmerizing sight for the assembled devotees.
दीपराधना: शाम की पूजा में दीप जलाए जाते हैं, जो उपस्थित श्रद्धालुओं के लिए एक मनमोहक दृश्य प्रस्तुत करती है।
- **Guruthi Ritual:** Conducted on the concluding day of the festival, this ritual is performed at Malikappuram, symbolizing the purification and closure of the festival proceedings.



गुरुथी अनुष्ठान: यह अनुष्ठान उत्सव के अंतिम दिन मलिकापुरम में किया जाता है, जो उत्सव के समापन और शुद्धिकरण का प्रतीक है।

Health professionals urged to communicate proactively to allay concerns on HMPV

The Hindu Bureau
CHENNAI

GS Paper III: S&T

The need for public health professionals to proactively reach out to people with the right information rather than waiting for them to become concerned about information circulating on social media was emphasised during a webinar that sought to put out facts about Human Metapneumovirus (HMPV).

The webinar, "HMPV: differentiating fact from fiction", was organised by *The Hindu* and Naruvi Hospitals, Vellore, as part of their 'Healthy India, Happy India' initiative on Saturday. Soumya Swaminathan, chairperson, M.S. Swaminathan Research Foundation, and former chief scientist at World

Health Organization (WHO), emphasised the need to create more scientific literacy and scientific



awareness to avoid the kind of panic that was seen when news of HMPV came out.

Bernhard Schwartländer, epidemiologist and former WHO official, observed that not much thought has gone into developing new ways of communicating more proactively.

"It is no good to wait for the public to be concerned about information circulating on social media platforms when it is very difficult to then actually overcome it. As public health workers, we have to be much more proactive to reach out to people to explain what is going on. It is not good enough to have scientific statements hidden on websites of the national centre for disease

control because that is not where people will look every day. We have to learn to do better to avoid such concerns," he said.

On the HMPV situation in China, he said that the country has a strong surveillance system and what they have seen so far is an expected increase in respiratory infections, which until now is somewhat lower when compared to the same time in the previous years. The distribution of the viruses was also not dissimilar to previous outbreaks with the influenza virus being clearly in the lead, and a whole range of other viruses coming behind.

'Not a new virus'

"We have been exposed to HMPV for a long time. It is

not a new virus, and so, we have immunity, and most children are exposed to it. It is a part of the common respiratory infections that children get," Dr. Soumya Swaminathan said. She added that HMPV is considered a mild infection causing upper respiratory illnesses.

She stressed the need to take the 'One Health' approach considering the increasing risk of viruses and pathogens jumping from one species to another. It is important to understand the interconnections between various species and human beings, she added.

The webinar, moderated by Ramya Kannan, Health Editor, *The Hindu*, featured an exclusive question and answer session for subscribers.

Health professionals urged to communicate proactively to allay concerns on HMPV

स्वास्थ्य पेशेवरों से एचएमपीवी (HMPV) पर चिंताओं को दूर करने के लिए सक्रिय रूप से संवाद करने का आग्रह

- The need for **public health professionals** to **proactively reach out to people** with the right information, rather than waiting for them to become concerned about **social media information**, was emphasised during a webinar on **Human Metapneumovirus (HMPV)**.

स्वास्थ्य वेबिनार के दौरान जनस्वास्थ्य पेशेवरों से लोगों तक सही जानकारी पहुंचाने की जरूरत पर जोर दिया गया, बजाय इसके कि वे सोशल मीडिया पर फैल रही जानकारी को लेकर चिंतित हों।

- The webinar, titled "**HMPV: differentiating fact from fiction**", was organised by **The Hindu** and **Naruvi Hospitals, Vellore**, as part of their '**Healthy India, Happy India**' initiative on **Saturday**.

यह वेबिनार "एचएमपीवी: तथ्य और कल्पना में अंतर" शीर्षक से द हिंदू और नारुवी हॉस्पिटल्स, वेल्लोर द्वारा शनिवार को 'हेल्दी इंडिया, हैप्पी इंडिया' पहल के तहत आयोजित किया गया।



Creating Scientific Awareness to Avoid Panic

वैज्ञानिक जागरूकता पैदा करना ताकि घबराहट से बचा जा सके

- **Dr. Soumya Swaminathan**, chairperson of the **M.S. Swaminathan Research Foundation** and former **chief scientist at WHO**, stressed the need to create **more scientific literacy** to avoid the kind of **panic** seen when news about **HMPV** emerged.
डॉ. सौम्या स्वामीनाथन, एम.एस. स्वामीनाथन रिसर्च फाउंडेशन की चेयरपर्सन और डब्ल्यूएचओ की पूर्व मुख्य वैज्ञानिक, ने कहा कि वैज्ञानिक साक्षरता बढ़ाना जरूरी है ताकि एचएमपीवी से जुड़ी खबरों पर घबराहट से बचा जा सके।
- **Bernhard Schwartländer**, **epidemiologist** and former **WHO official**, observed that **new methods of proactive communication** are still lacking.
बर्नहार्ड श्वार्टलैंडर, महामारी विशेषज्ञ और डब्ल्यूएचओ के पूर्व अधिकारी, ने कहा कि सक्रिय संवाद के नए तरीकों पर अभी भी ज्यादा काम नहीं हुआ है।

Proactive Communication is Essential

सक्रिय संवाद आवश्यक है

- **Swartländer** emphasised that waiting for people to become concerned about **social media misinformation** makes it difficult to address their concerns.
श्वार्टलैंडर ने इस बात पर जोर दिया कि सोशल मीडिया पर गलत जानकारी को लेकर लोगों के चिंतित होने का इंतजार करना समस्या को हल करना मुश्किल बना देता है।
- He stated that **public health workers** must **proactively reach out to people** to explain what is going on.
उन्होंने कहा कि जन स्वास्थ्य कार्यकर्ताओं को लोगों तक सक्रिय रूप से पहुंचना चाहिए ताकि स्थिति को समझाया जा सके।
- It is not enough to have **scientific statements** hidden on **National Centre for Disease Control (NCDC)** websites, as people do not check them daily.
यह वैज्ञानिक बयानों को राष्ट्रीय रोग नियंत्रण केंद्र (NCDC) की वेबसाइट पर छिपाकर रखने से पर्याप्त नहीं है, क्योंकि लोग रोजाना वहां नहीं देखते।

HMPV Situation in China

चीन में एचएमपीवी की स्थिति

- On the **HMPV situation in China**, **Swartländer** said that **China's strong surveillance system** shows that there is an **expected increase in respiratory infections**.
चीन में एचएमपीवी की स्थिति पर, श्वार्टलैंडर ने कहा कि चीन की मजबूत निगरानी प्रणाली ने श्वसन संक्रमण में अपेक्षित वृद्धि दिखाई है।
- The **distribution of viruses** is similar to previous outbreaks, with **influenza virus** leading and other viruses following.
वायरस का वितरण पिछले प्रकोपों के समान है, जिसमें इन्फ्लूएंजा वायरस प्रमुख है और अन्य वायरस इसके बाद आते हैं।

HMPV: Not a New Virus

एचएमपीवी: कोई नया वायरस नहीं है

- **Dr. Soumya Swaminathan** stated that **HMPV is not a new virus** and that **most children** are already exposed to it.



डॉ. सौम्या स्वामीनाथन ने कहा कि एचएमपीवी कोई नया वायरस नहीं है और अधिकांश बच्चे पहले से ही इसके संपर्क में हैं।

- She added that it is part of the **common respiratory infections** that children get, causing **mild upper respiratory illnesses**.

उन्होंने कहा कि यह आम श्वसन संक्रमण का हिस्सा है जो बच्चों में हल्की ऊपरी श्वसन बीमारियों का कारण बनता है।

One Health Approach is Necessary

‘वन हेल्थ’ दृष्टिकोण जरूरी है

- Dr. Swaminathan highlighted the importance of the ‘One Health’ approach, considering the **increasing risk of viruses jumping between species**.

डॉ. स्वामीनाथन ने ‘वन हेल्थ’ दृष्टिकोण की आवश्यकता पर जोर दिया, क्योंकि विभिन्न प्रजातियों के बीच वायरस के फैलने का खतरा बढ़ रहा है।

- She emphasised understanding the **interconnections between human beings and various species** to manage future risks.

उन्होंने मानव और विभिन्न प्रजातियों के बीच आपसी संबंधों को समझने की आवश्यकता बताई ताकि भविष्य के खतरों को प्रबंधित किया जा सके।

Webinar Featured an Exclusive Q&A Session

वेबिनार में विशेष प्रश्नोत्तर सत्र शामिल था

- The **webinar was moderated by Ramya Kannan, Health Editor, The Hindu**, and featured an **exclusive question-and-answer session for subscribers**.

इस वेबिनार का संचालन द हिंदू की स्वास्थ्य संपादक रम्या कन्नन ने किया और इसमें सदस्यों के लिए विशेष प्रश्नोत्तर सत्र भी शामिल था।

Human Metapneumovirus (HMPV)

Human Metapneumovirus (HMPV) is a respiratory virus that belongs to the family *Paramyxoviridae* and the genus *Metapneumovirus*. It was first discovered in 2001.

ह्यूमन मेटापन्युमोवायरस (HMPV) एक श्वसन वायरस है जो पैरामिक्सोविरिडे परिवार और मेटापन्युमोवायरस जाति से संबंधित है। इसे पहली बार 2001 में खोजा गया था।

Basic Information and Symptoms

मूल जानकारी और लक्षण

- HMPV primarily causes respiratory infections, including the common cold, bronchitis, and pneumonia, particularly in children, elderly individuals, and those with compromised immune systems.

HMPV मुख्य रूप से श्वसन संक्रमणों का कारण बनता है, जिसमें सामान्य सर्दी, ब्रोंकाइटिस और निमोनिया शामिल हैं, विशेष रूप से बच्चों, बुजुर्गों और उन व्यक्तियों में जिनका प्रतिरक्षा तंत्र कमजोर है।

- Symptoms of an HMPV infection are similar to those of other respiratory infections and may include fever, cough, runny nose, sore throat, and wheezing.

HMPV संक्रमण के लक्षण अन्य श्वसन संक्रमणों के समान होते हैं और इनमें बुखार, खांसी, बहती नाक, गले में खराश और घरघराहट शामिल हो सकते हैं।



- The virus spreads through respiratory droplets when an infected person coughs or sneezes.

यह वायरस श्वसन कणों के माध्यम से फैलता है जब संक्रमित व्यक्ति खांसता या छींकता है।

Historical Background and Discovery

ऐतिहासिक पृष्ठभूमि और खोज

- HMPV was first identified by Dutch researchers in 2001 after they found it in the respiratory samples of children with respiratory infections.
HMPV को पहली बार डच शोधकर्ताओं ने 2001 में पहचाना था, जब उन्होंने इसे श्वसन संक्रमणों से पीड़ित बच्चों के श्वसन नमूनों में पाया।
- Since its discovery, HMPV has been identified as a major cause of respiratory illnesses, especially in children and the elderly.
इसकी खोज के बाद से, HMPV को श्वसन रोगों का एक प्रमुख कारण माना गया है, खासकर बच्चों और बुजुर्गों में।

Important Concepts

महत्वपूर्ण अवधारणाएँ

- **Transmission:** The virus spreads through close contact, respiratory droplets, and fomites (objects or materials likely to carry infection).
संक्रमण: यह वायरस निकट संपर्क, श्वसन कणों और फोमाइट्स (वस्तुएं या सामग्री जो संक्रमण फैलाने की संभावना रखते हैं) के माध्यम से फैलता है।
- **Risk Groups:** Infants, the elderly, and individuals with weakened immune systems are more susceptible to severe infections caused by HMPV.
जोखिम समूह: शिशु, बुजुर्ग और कमजोर प्रतिरक्षा तंत्र वाले व्यक्तियों को HMPV के कारण गंभीर संक्रमणों का खतरा अधिक होता है।
- **Diagnosis:** Diagnosis is usually made through laboratory tests, including PCR (Polymerase Chain Reaction) and viral culture.
नैदानिक परीक्षण: निदान सामान्यतः प्रयोगशाला परीक्षणों के माध्यम से किया जाता है, जिसमें PCR (पॉलिमरेज चेन रिएक्शन) और वायरस कल्चर शामिल होते हैं।

Data and Facts

डेटा और तथ्य

- HMPV is responsible for a significant number of respiratory infections globally, with research showing that around 5-10% of all respiratory infections in children are caused by HMPV.
HMPV वैश्विक स्तर पर श्वसन संक्रमणों की एक महत्वपूर्ण संख्या का कारण बनता है, जिसमें शोध से यह पता चलता है कि बच्चों में सभी श्वसन संक्रमणों का लगभग 5-10% HMPV के कारण होते हैं।
- In India, HMPV is recognized as an emerging virus, and its incidence has been increasing in recent years, particularly in the southern states like Kerala and Tamil Nadu.
भारत में, HMPV को एक उभरता हुआ वायरस माना गया है, और इसके प्रसार में हाल के वर्षों में वृद्धि हो रही है, विशेष रूप से दक्षिणी राज्यों जैसे केरल और तमिलनाडु में।

Recent Updates

हाल के अपडेट्स

- **India's Surveillance and Prevention:** The Indian government has been monitoring HMPV through its National Centre for Disease Control (NCDC) to track and control outbreaks.



भारत की निगरानी और रोकथाम: भारतीय सरकार ने राष्ट्रीय रोग नियंत्रण केंद्र (NCDC) के माध्यम से HMPV की निगरानी की है ताकि प्रकोपों को ट्रैक और नियंत्रित किया जा सके।

- **Vaccines and Treatment:** Currently, there is no specific vaccine or antiviral treatment for HMPV. Supportive care, such as hydration, fever management, and oxygen therapy, is provided to patients.

वैक्सिनेशन और उपचार: वर्तमान में, HMPV के लिए कोई विशिष्ट वैक्सिन या एंटीवायरल उपचार नहीं है। रोगियों को सहायक देखभाल, जैसे जलयोजन, बुखार प्रबंधन, और ऑक्सीजन थेरेपी प्रदान की जाती है।

‘West Bank a cauldron that can explode any moment’

The Israeli Indologist says a **third Palestinian intifada** is likely at any moment, adding that Israel has a dysfunctional political system; he emphasises the **worsening settler violence in the West Bank** and suggests **a confederation as a potential path to peace between Israelis and Palestinians**; the conversation also goes into the systemic changes in 16th century southern India in major arenas

GS Paper II: Israel Palestine Issue

INTERVIEW

David Shulman

Stanly Johny

David Shulman, Israeli Indologist, poet and peace activist, says the West Bank has witnessed enhanced settler violence ever since the latest war between Israel and Hamas broke out. Today's Israel looks like the South Africa at the height of Apartheid, "just a few years before the system collapsed", he says. Mr. Shulman speaks about his works on southern India, the crisis in West Asia and the prospects for peace. Edited excerpts:

You have written about 'systemic change' in 16th century South India. The 16th century was also a period where you saw, in Europe, the Reformation, the Thirty Years' War, and the rise of the Westphalian system. Do you see any parallels between the 16th century and Europe?

I think in both cases, there was a systemic change, a civilisational change, you

could say. In Europe, that was the great watershed when the Catholic Church split into Protestants and Catholics and they went to war with one another, and that was also the time of the emerging imperial autocracies like the Habsburgs in Vienna and Spain, and also the French. That eventually produced the modern revolutions in France and in America, and later in Russia. It happened here, in India, in a very different way, in an indigenous way that had nothing to do with the influence of what was happening in Europe.

Systemic change means that in all of the major arenas, there are substantial structural changes – in the social realm, in the economic sphere, in the political domain, for example. We had a new kind of South Indian States, with a new mode of political thinking, and new kinds of political legitimisation. And in the expressive domains, that is, literature, music, graphics, sculpture, architecture, theatre, you can see that there is a whole new world.

A new conceptual world, a new understanding of how the mind works, a new understanding of what it means to be a human being. You begin to see these

new themes emerging and crystallising.

You have also written about 'newness'. Can you explain that?

Many people, for example Sheldon Pollock, actually have written about *navata* or newness. In early modern times, before the massive intrusion of the European powers, there was a palpable sense of novelty. Suddenly, people are talking about something being and feeling really new. This is also true of music, literature, and painting. There is an amazing sense of new discoveries. So, in music for example, in Carnatic music, which was formalised – you could say 'grammaticalised' – in 16th century Thanjavur, we begin to see an emerging corpus of Carnatic compositions, with strong introspective elements. In literature, we have what we call *prabandha* texts. This is something quite new. A *prabandha* text is a self-contained book, usually not too long, that can be recited over a period of maybe a week or two. It's meant to be read from the beginning via the middle to the end. That's a rather new thing in South India. The new *prabandha* forms demand sequential reading, that comes with



an acquired newness of taste and themes.

How do you look at the developments in West Asia in light of Hamas's October 7, 2023 attack and Israel's subsequent war on Gaza?

Well, we are in a very deep crisis. And that includes the humanitarian catastrophe in Gaza. The Hamas atrocities of October 7 were unparalleled in Israel's history. Now the war has gone on for some 15 months and shows no sign of stopping.

On the West Bank, we have Israeli colonisation that has been going on for several decades. All of the Israeli settlements, without exception, sit upon stolen Palestinian land, and the

settlement population has grown to several lakhs planted in the midst of a Palestinian population of the West Bank of some two-and-a-half million. The extremist settlers... are driving the Palestinians on the West Bank into a situation of horrible precariousness.

There is a system in place that supports this. That means the Army, the police, the military courts, the Israeli media, public and social media, and the government, which funds and supports the settlements.

States generally are violent. Still, you might see internal and external constraints on states. Do you think it doesn't work in the case of Israel?

I think it works to some extent. There are still some constraints, including on the Army operations in Gaza. But the figures of killed and wounded are shocking. In the northern part of Gaza, there are no buildings left standing, and the population has been displaced into tent cities farthest south.

We have some two million people living in tents. There is not enough food, although there are attempts to bring in food. There is no clean water to drink. Obviously, no elec-

tricity. It's cold. And the shooting and the bombing continue. In the north, to make it even worse, now that they have cleared out most of the population, the Army is paving roads and putting up military camps. It looks like the government wants to stay there permanently, to annex it, either by some act of the Knesset or just de facto.

What is the way out, for Israel and Palestine?

I can tell you the way-out – that is constant, eternal war. The only real way out is some kind of settlement with the Palestinians who are our neighbours. The only way to make life viable for everybody, Israelis as well as Palestinians, is to reach an agreement in which the Palestinians have some form of political framework which will allow them to realise their own cultural and civilisational ambitions. For the Israelis, for the Jews, we've got that, we have a State that embodies some form of collective identities. It's not a very effective State, in many ways, but it's there. But Palestinians don't have any such framework.

We have a dysfunctional political system, which is like a crazy jigsaw puzzle. This structural situation

perpetuates the logic where the extreme right has complete control over what is happening. [Israeli Prime Minister Benjamin] Netanyahu has devoted his life to preventing the emergence of a Palestinian State. There are two things that he really cares about. That is one, and the second is the perpetuation of his own government. And they are linked.

I think what should emerge someday, somehow, is some system that could be like a confederation, in which the Palestinians would have control over their own lives and their own security. It would have to be a demilitarised state. Israelis would have control over their lives, and there would be some overarching framework addressing security, policies, social services and everyday needs. I'm not saying it would be easy to achieve it. But people said that about Ireland. South Africa is another example. It is not a happy place, but nonetheless, the Apartheid was overturned. I think sometimes that today, we in Israel may be experiencing something like South Africa at the height of the Apartheid system. Just a few years before the system collapsed.

‘West Bank a Cauldron That Can Explode Any Moment’

'वेस्ट बैंक: एक उबालते कड़ाह की तरह जो कभी भी फट सकता है'

David Shulman, an Israeli Indologist, poet, and peace activist, says the West Bank has seen increased settler violence since the latest Israel-Hamas war broke out.

डेविड शुलमैन, जो एक इसराइली इंडोलॉजिस्ट, कवि और शांति कार्यकर्ता हैं, कहते हैं



कि हालिया इज़राइल-हमास युद्ध के बाद से वेस्ट बैंक में बसने वालों की हिंसा बढ़ गई है।

- He compares the current situation in Israel to **South Africa during Apartheid**, saying it resembles the **period just before Apartheid collapsed**.
उन्होंने इज़राइल की वर्तमान स्थिति की तुलना दक्षिण अफ्रीका के अपार्थाइड काल से की, यह कहते हुए कि यह उसी समय जैसा है जब अपार्थाइड का पतन हुआ था।

Systemic Change in 16th Century Southern India

16वीं शताब्दी के दक्षिण भारत में प्रणालीगत परिवर्तन

- The **16th century** saw a **civilisational change** in **southern India**, similar to the **Reformation period in Europe**, which led to the **Thirty Years' War** and the rise of the **Westphalian system**.
16वीं शताब्दी में दक्षिण भारत में सभ्यतागत परिवर्तन हुआ, जो यूरोप के सुधार युग से मिलता-जुलता था, जिससे तीस वर्षीय युद्ध और वेस्टफेलियन प्रणाली का उदय हुआ।
- In **Europe**, this change was marked by the **split of the Catholic Church into Protestants and Catholics**, leading to **wars and the rise of imperial autocracies** like the **Habsburgs**.
यूरोप में यह परिवर्तन कैथोलिक चर्च के विभाजन से शुरू हुआ, जिससे युद्ध और सम्राटीय निरंकुश शासन का उदय हुआ जैसे हैब्सबर्ग साम्राज्य।
- In **southern India**, there was a **new kind of political legitimacy** and **new modes of political thinking** that were **indigenous** and not influenced by **European changes**.
दक्षिण भारत में नए प्रकार की राजनीतिक वैधता और नई राजनीतिक सोच उभरी, जो पूरी तरह स्थानीय थी और यूरोपीय परिवर्तनों से प्रभावित नहीं थी।

Expressive Domains in 16th Century South India

16वीं शताब्दी के दक्षिण भारत में अभिव्यक्तिपूर्ण क्षेत्र

- In **literature, music, arts, and architecture**, a **new conceptual world** emerged with **novel ideas about human nature and the mind's functioning**.
साहित्य, संगीत, कला और वास्तुकला में एक नया वैचारिक संसार उभरा, जिसमें मानव स्वभाव और मस्तिष्क के कार्य के बारे में नई अवधारणाएं थीं।
- **Carnatic music** was **formalised** in the **16th century Thanjavur**, creating a **structured corpus of compositions with introspective elements**.
कर्नाटक संगीत को 16वीं शताब्दी के तंजावुर में औपचारिक रूप दिया गया, जिसमें गहन चिंतनशील तत्वों वाले संरचित रचनाओं का संग्रह बनाया गया।

Navata (Newness) in South India

दक्षिण भारत में नवता (नवीनता)

- Scholars like **Sheldon Pollock** have written about the concept of **navata** or **newness**, which refers to the **sense of novelty** in **early modern India**, especially in **music, literature, and painting**.
शेल्डन पोलक जैसे विद्वानों ने नवता या नवीनता की अवधारणा पर लिखा है, जो आधुनिक भारत के प्रारंभिक समय में संगीत, साहित्य और चित्रकला में नवाचार की भावना को दर्शाता है।
- **Prabandha texts** emerged during this period, which were **self-contained literary works** meant to be **read sequentially**, representing a **new literary taste**.



इस समय प्रबंध ग्रंथ उभरे, जो स्वतंत्र साहित्यिक रचनाएं थीं, जिन्हें क्रमिक रूप से पढ़ा जाना था, और यह नई साहित्यिक रुचि का प्रतीक थे।

Humanitarian Catastrophe in Gaza

गाजा में मानवीय आपदा

- **The Hamas atrocities of October 7 were unparalleled in Israel's history.**
7 अक्टूबर को हमास की क्रूरता इज़राइल के इतिहास में अद्वितीय थी।
- **The war has been ongoing for 15 months** and shows no sign of stopping.
युद्ध 15 महीने से जारी है और रुकने का कोई संकेत नहीं है।
- **Israeli colonisation on the West Bank** has been going on for **several decades.**
पश्चिमी तट पर इज़राइली उपनिवेशवाद कई दशकों से जारी है।
- All Israeli **settlements sit on stolen Palestinian land**, and the settler population has grown to **several lakhs.**
सभी इज़राइली बस्तियाँ चुराई गई फिलिस्तीनी ज़मीन पर स्थित हैं, और बस्तियों की जनसंख्या कई लाखों में बढ़ गई है।
- The extremist settlers are driving the Palestinians into **precariousness.**
अतिवादी बस्तिवाले फिलिस्तीनियों को कठिनाई की ओर धकेल रहे हैं।
- **Military operations** and settler violence are making the West Bank a **cauldron** that could explode at any moment.
सैन्य अभियान और बस्तिवादी हिंसा पश्चिमी तट को उबालने वाला बना रहे हैं, जो किसी भी समय फट सकता है।
- **A third intifada** is highly likely, worse than the first two.
तीसरी इंटिफादा बहुत संभावित है, जो पहली दो से अधिक भयंकर हो सकती है।

State Violence and Constraints

राज्यीय हिंसा और सीमाएँ

- States are generally violent, but there are still **internal and external constraints.**
राज्य सामान्यतः हिंसक होते हैं, लेकिन फिर भी कुछ आंतरिक और बाहरी सीमाएँ होती हैं।
- Despite some constraints, the figures of killed and wounded are **shocking.**
कुछ सीमाओं के बावजूद, मारे गए और घायल होने वालों के आंकड़े चौंकाने वाले हैं।
- In the northern part of Gaza, **there are no buildings left standing**, and the population has been displaced into **tent cities.**
गाजा के उत्तरी भाग में कोई इमारतें नहीं बची हैं, और जनसंख्या को तम्बू शहरों में विस्थापित किया गया है।
- **Two million people** are living in tents, and there is **not enough food.**
दो मिलियन लोग तम्बू में रह रहे हैं, और काफी खाना नहीं है।
- **There is no clean water**, no electricity, and the shooting and bombing continue.
स्वच्छ पानी नहीं है, बिजली नहीं है, और गोलीबारी और बमबारी जारी है।
- The Israeli government is building **military camps** and paving roads in the north, indicating **permanent annexation.**
इज़राइली सरकार उत्तर में सैन्य शिविर बना रही है और सड़कों का निर्माण कर रही है, जो स्थायी अधिग्रहण का संकेत है।



Path to Resolution

समाधान की दिशा

- The only way out is a **settlement with the Palestinians** for both **Israeli and Palestinian viability**.
इज़राइली और फिलिस्तीनी दोनों की जीवंतता के लिए, केवल एक फिलिस्तीनियों के साथ समझौता एकमात्र रास्ता है।
- Israelis have a state with **collective identities**, but Palestinians have no such framework.
इज़राइलियों के पास **सामूहिक पहचान** वाला एक राज्य है, लेकिन फिलिस्तीनियों के पास ऐसा कोई ढांचा नहीं है।
- The **extreme right** controls the situation, and Netanyahu has spent his life preventing a Palestinian state.
अतिवादी दायें स्थिति को नियंत्रित करता है, और नेतन्याहू ने फिलिस्तीनी राज्य को रोकने में अपना जीवन व्यतीत किया है।
- A **confederation** could be a possible solution, where Palestinians have control over their own lives and security.
एक **संघीकरण** एक संभावित समाधान हो सकता है, जहां फिलिस्तीनियों को अपने जीवन और सुरक्षा पर नियंत्रण हो।
- This confederation would require a **demilitarised state** for Palestinians and would involve overarching frameworks for security and social services.
इस संघीकरण के लिए फिलिस्तीनियों के लिए एक **निरस्त्रीकरण राज्य** की आवश्यकता होगी और इसमें सुरक्षा और सामाजिक सेवाओं के लिए एक सामान्य ढांचा शामिल होगा।
- While achieving this may be difficult, **South Africa** and **Ireland** are examples where peace was reached despite earlier conflicts.
जबकि इसे प्राप्त करना कठिन हो सकता है, **दक्षिण अफ्रीका** और **आयरलैंड** उदाहरण हैं जहां पहले के संघर्षों के बावजूद शांति प्राप्त की गई।
- The current situation in Israel may be similar to **South Africa during Apartheid** before its collapse.
इज़राइल की वर्तमान स्थिति **अपार्टेड के दौरान दक्षिण अफ्रीका** के समान हो सकती है, इससे पहले कि यह ढह जाए।





BPSC sends legal notice to JSP founder Prashant Kishor

The Bihar Public Service Commission (BPSC) has sent a legal notice to Jan Suraj Party (JSP) founder Prashant Kishor with regard to the allegations levelled by him on the commission. The commission has demanded evidence within seven days on the allegations of corruption levelled against the commission by him and his team. While speaking to *The Hindu*, BPSC secretary Satya Prakash Sharma said, "It was necessary to send him a legal notice because the kind of allegation he has levelled against the BPSC was unpardonable. The kind of atmosphere he has created was sending the wrong message among the genuine candidates."

में हैं।

- **BPSC secretary Satya Prakash Sharma** said it was necessary to send a legal notice due to the severity of the allegations against the commission. **बीपीएसपी सचिव सत्य प्रकाश शर्मा** ने कहा कि आयोग के खिलाफ आरोपों की गंभीरता के कारण कानूनी नोटिस भेजना जरूरी था।
- He added that the kind of atmosphere created by **Prashant Kishor** was sending the wrong message among genuine candidates. उन्होंने कहा कि **प्रशांत किशोर** द्वारा बनाए गए माहौल से वास्तविक उम्मीदवारों में गलत संदेश जा रहा था।

BPSC sends legal notice to JSP founder Prashant Kishor

बीपीएसपी ने जेएसपी के संस्थापक प्रशांत किशोर को कानूनी नोटिस भेजा

- The **Bihar Public Service Commission (BPSC)** has sent a **legal notice** to **Jan Suraj Party (JSP)** founder **Prashant Kishor** regarding allegations made by him against the commission.

बिहार लोक सेवा आयोग (BPSC) ने **जन सुराज पार्टी (जेएसपी)** के संस्थापक **प्रशांत किशोर** को आयोग के खिलाफ उनके द्वारा लगाए गए आरोपों के संदर्भ में कानूनी नोटिस भेजा है।

- The commission has demanded **evidence** within **seven days** on the allegations of **corruption** levelled against it by him and his team.

आयोग ने **प्रमाण** प्रस्तुत करने के लिए **सात दिन** के भीतर की मांग की है, जो **प्रशांत किशोर** और उनकी टीम द्वारा लगाए गए **भ्रष्टाचार** के आरोपों के संदर्भ



Denotified tribes' anger growing amid a stagnating scheme, classification issues

GS Paper I: Society

Abhinay Lakshman
NEW DELHI

With the Centre's SEED scheme for denotified tribes only now taking off, caste certificates being denied to them in 29 States, and the Idate Commission's 2017 report in cold storage, anger among the denotified tribes (DNT), semi-nomadic tribes (SNT), and nomadic tribes (NT) is growing across States such as Uttar Pradesh, Haryana, and Gujarat. This anger is now also frustrating members of the Union government's Development and Welfare Board for DNTs, SNTs, and NTs (DWBDNC), who are making fresh attempts to push for the implementation of the Idate panel recommendations, which include a permanent commission, proper classification, and a detailed caste census.

Bharatbhai Babubhai Patni, DWBDNC member, said that the government can no longer shut out voices calling for the Idate Commission's recommendations to be implemented. "A Schedule must be put out listing out all the DNTs. Alongside the issuing of SC/ST/OBC certificates, there must be directions to issue joint certificates like SC-DNT, ST-DNT, OBC-DNT."

The government had constituted the National Commission for DNTs/NTs/SNTs in 2015 under the chairmanship of Bhiku

Fresh attempts made to push for the implementation of the Idate Commission recommendations

Ramji Idate, which had put out its final report in 2017, calling for the government to expedite the final classification of these communities, count their population by including a caste census column in the 2021 census, and provide a sub-quota for them under SC/ST/OBC quotas in public education and employment. The Idate commission had concluded there were a total of 1,526 DNT, NT, and SNT communities across the country, of which 269 were not yet categorised as SC, ST, or OBC.

Certificates sought

B.K. Lodhi, who was Member Secretary in the Idate Commission and is now part of the Vimukt, Ghuman-tu Janjatiya Vikas Parishad (Akhil Bharatiya) in Uttar Pradesh, said, "We were the first to resist British rulers and branded criminal for it. How can this government not sort out these basic issues like DNT certificates across States?"

Uttar Pradesh is among the seven States that technically have begun issuing DNT community certificates. But Dr. Lodhi, who attended the national

workshop in New Delhi last week, said, "They are saying they have issued some 200-300 certificates and painting it as some huge achievement. It strikes at a core area, denying our identity. If the government cannot get States to issue DNT certificates, they might as well brand us criminal again, at least we will get our identity."

Welfare measures

The SEED scheme (Scheme for the Economic Empowerment of DNT/NT/SNT communities) was meant to be the Centre's flagship scheme for these communities. Launched in February 2022, the scheme offered assistance for livelihood, education, healthcare, and housing. But it took over two years for the scheme to take off.

In a meeting of top officials, chaired by Social Justice Minister Virendra Kumar last month, the government had resolved to urge States and UTs to start issuing DNT certification along with regular caste certificates.

"The Minister has assured us of action but there are real concerns about the lack of implementation of the Idate Commission's recommendations. So many people are not getting community certificates because of belonging to sub-castes, or spelling it differently, or having a hyphenated caste name," Mr. Patni said.

Denotified Tribes' Anger Growing Amid a Stagnating Scheme, Classification Issues

मान्यता प्राप्त जातियों (DNT) का गुस्सा ठप योजना और वर्गीकरण

मुद्दों के बीच बढ़ता हुआ

With the Centre's SEED scheme for denotified tribes only now taking off, caste certificates being denied to them in 29 States, and the Idate Commission's 2017 report in cold storage, anger among the denotified tribes (DNT), semi-nomadic tribes (SNT), and nomadic tribes (NT) is growing across States such as Uttar Pradesh, Haryana, and Gujarat.

केंद्र सरकार की SEED योजना (denotified tribes के लिए)

अब तक शुरू हुई है, 29 राज्यों में

इन जातियों को जाति प्रमाण पत्र नहीं मिल रहे हैं, और Idate आयोग की 2017 की रिपोर्ट को ठंडे बस्ते में डाला गया है, जिसके कारण denotified tribes (DNT), semi-nomadic tribes (SNT), और nomadic tribes (NT) के बीच गुस्सा बढ़ रहा है, विशेषकर उत्तर प्रदेश, हरियाणा, और गुजरात जैसे राज्यों में।

- This anger is now also frustrating members of the Union government's Development and Welfare Board for DNTs, SNTs, and NTs (DWBDNC), who are



making fresh attempts to push for the implementation of the **Idate panel recommendations**, which include a **permanent commission, proper classification**, and a **detailed caste census**.

यह गुस्सा अब **केंद्र सरकार की विकास और कल्याण बोर्ड (DWBDNC)** के सदस्यों को भी निराश कर रहा है, जो **Idate आयोग की सिफारिशों** के लागू होने के लिए नए प्रयास कर रहे हैं, जिसमें **स्थायी आयोग, सही वर्गीकरण, और विस्तृत जाति जनगणना** शामिल हैं।

- **Bharatbhai Babubhai Patni**, DWBDNC member, said that the government can no longer shut out voices calling for the **Idate Commission's recommendations** to be implemented.

भारतभाई बाबूभाई पटनी, DWBDNC सदस्य ने कहा कि सरकार अब **Idate आयोग की सिफारिशों** को लागू करने की मांग कर रहे आवाजों को अनसुना नहीं कर सकती।

- **"A Schedule must be put out listing out all the DNTs. Alongside the issuing of SC/ST/OBC certificates, there must be directions to issue joint certificates like SCDNT, ST-DNT, OBC-DNT."**
- **"एक सूची जारी की जानी चाहिए जिसमें सभी DNTs की सूची हो। SC/ST/OBC प्रमाण पत्र जारी करने के साथ-साथ, SCDNT, ST-DNT, OBC-DNT जैसे संयुक्त प्रमाण पत्र जारी करने के दिशा-निर्देश होने चाहिए।"**
- The government had constituted the **National Commission for DNTs/NTs/SNTs in 2015** under the chairmanship of **Bhiku Ramji Idate**, which had put out its final report in **2017**, calling for the government to expedite the final classification of these communities, count their population by including a **caste census column** in the **2021 census**, and provide a **sub-quota** for them under **SC/ST/OBC quotas** in public education and employment.

सरकार ने **2015** में **DNTs/NTs/SNTs** के लिए **राष्ट्रीय आयोग** का गठन किया था, जिसकी अध्यक्षता **भिकू रामजी इडेट** ने की थी, और इस आयोग ने अपनी **2017** में अंतिम रिपोर्ट जारी की थी, जिसमें सरकार से इन समुदायों के अंतिम वर्गीकरण को तेज करने, उनकी जनसंख्या को **2021 जनगणना** में **जाति जनगणना कॉलम** शामिल करके गिनने, और सार्वजनिक शिक्षा एवं रोजगार में **SC/ST/OBC कोटा** के तहत उनके लिए **उप-कोटा** प्रदान करने की सिफारिश की थी।

- The **Idate commission** had concluded there were a total of **1,526 DNT, NT, and SNT communities** across the country, of which **269 were not yet categorised as SC, ST, or OBC**.

Idate आयोग ने निष्कर्ष निकाला था कि देशभर में **1,526 DNT, NT, और SNT समुदाय** हैं, जिनमें से **269 अभी तक SC, ST, या OBC के रूप में वर्गीकृत नहीं हुए थे**।

- **B.K. Lodhi**, who was **Member Secretary** in the **Idate Commission** and is now part of the **Vimukt, Ghumantu, and Ardh-Ghumantu Janjatiya Vikas Parishad (Akhil Bharatiya)** in **Uttar Pradesh**, said, "We were the first to resist British rulers and branded criminals for it. How can this government not sort out these basic issues like DNT certificates across States?"

B.K. लोदी, जो **Idate आयोग** में **सदस्य सचिव** थे और अब **उत्तर प्रदेश** में **Vimukt, Ghumantu, और Ardh-Ghumantu Janjatiya Vikas Parishad (Akhil Bharatiya)** के सदस्य हैं, ने कहा, "हमने ब्रिटिश शासकों का सबसे पहले विरोध किया और इसके लिए हमें अपराधी घोषित किया गया। इस सरकार को राज्यों में **DNT प्रमाण पत्र** जैसे मूलभूत मुद्दे क्यों नहीं सुलझाने चाहिए?"

- **Uttar Pradesh** is among the seven States that technically have begun issuing **DNT community certificates**. But **Dr. Lodhi**, who attended the national workshop in **New Delhi** last week, said, "They are saying they have issued some **200-300 certificates** and painting it as some huge achievement. It strikes at a core area, denying our



identity. If the government cannot get States to issue **DNT certificates**, they might as well brand us criminals again, at least we will get our identity.”

उत्तर प्रदेश उन सात राज्यों में शामिल है जिन्होंने तकनीकी रूप से **DNT समुदाय प्रमाण पत्र** जारी करना शुरू किया है। लेकिन **डॉ. लोदी**, जिन्होंने पिछले सप्ताह **नई दिल्ली** में राष्ट्रीय कार्यशाला में भाग लिया था, ने कहा, “वह कह रहे हैं कि उन्होंने कुछ **200-300 प्रमाण पत्र** जारी किए हैं और इसे बड़ी उपलब्धि के रूप में पेश कर रहे हैं। यह हमारे पहचान को नकारने वाले एक महत्वपूर्ण क्षेत्र पर चोट करता है। अगर सरकार राज्यों से **DNT प्रमाण पत्र** जारी नहीं करवा सकती, तो हमें फिर से अपराधी घोषित कर दे, कम से कम हमें हमारी पहचान तो मिल जाएगी।”

- The **SEED scheme (Scheme for the Economic Empowerment of DNT/NT/SNT communities)** was meant to be the Centre’s flagship scheme for these communities. Launched in **February 2022**, the scheme offered assistance for **livelihood, education, healthcare, and housing**. But it took over **two years** for the scheme to take off.

SEED योजना (DNT/NT/SNT समुदायों के लिए आर्थिक सशक्तिकरण योजना) इन समुदायों के लिए केंद्र की प्रमुख योजना मानी जाती थी। **फरवरी 2022** में लॉन्च की गई, इस योजना में **आजीविका, शिक्षा, स्वास्थ्य देखभाल, और आवास** के लिए सहायता प्रदान की गई थी। लेकिन इस योजना को शुरू होने में **दो साल** का समय लग गया।

- In a meeting of top officials, chaired by **Social Justice Minister Virendra Kumar** last month, the government had resolved to urge States and UTs to start issuing **DNT certification** along with regular caste certificates.

पिछले महीने **सामाजिक न्याय मंत्री विराट कुमार** की अध्यक्षता में उच्च अधिकारियों की बैठक में, सरकार ने राज्यों और केंद्र शासित प्रदेशों से **DNT प्रमाणपत्र** नियमित जाति प्रमाणपत्रों के साथ जारी करने का आग्रह किया।

- “The Minister has assured us of action but there are real concerns about the lack of implementation of the **Idate Commission’s recommendations**. So many people are not getting community certificates because of belonging to sub-castes, or spelling it differently, or having a hyphenated caste name,” **Mr. Patni** said.

“मंत्री ने हमें कार्रवाई का आश्वासन दिया है लेकिन **Idate आयोग की सिफारिशों** के लागू न होने को लेकर असल चिंताएं हैं। बहुत से लोग समुदाय प्रमाणपत्र नहीं पा रहे हैं क्योंकि वे उप-जातियों से संबंधित हैं, या नाम में अलग-अलग वर्तनी है, या नाम में हाइफन का प्रयोग है,” **Mr. Patni** ने कहा।



New National Museum in Delhi to display artefacts in chronological and thematic order

PCS
Sreeparna Chakrabarty
NEW DELHI

North Block and South Block in the national capital, which are set to house the new National Museum, will have artefacts arranged chronologically and thematically, according to a draft proposal under consideration of the Union Culture Ministry.

North Block, which is likely to be the first one of the buildings where retrofitting will be completed, is expected to house the artefacts in a chronological order, while South Block is likely to have theme-based sections, sources told *The Hindu*.

India signed a memorandum of understanding with France on December



Plans made: India signed an agreement with France on December 19 last year for the development of the new museum. PTI

19 last year for the development of the new museum, along the lines of the Louvre in Paris. The museum will be developed through adaptive reuse in collaboration with France, which is renowned for its expertise in such projects – exemplified by the

Louvre, the Grand Palais, and the Hotel de la Marine. This approach mirrors France's 'Grand Projects' initiative that transformed government buildings into iconic cultural spaces.

The chronological arrangement will have about 50 sections each with 5-6

rooms and thus around 250 galleries in total. The thematic section would have displays based on different subjects such as literature, architecture, and art. There would also be galleries with augmented reality, educational centres and children's corners.

2,06,000 artefacts

North Block houses the Ministries of Finance and Home Affairs, while South Block houses the Prime Minister's Office, and the Ministries of Defence and External Affairs.

Offices in both the buildings are being moved to the Common Central Secretariat (CCS) building on Janpath as part of the Central Vista plan.

The new museum,

which has been named 'Yug Yugeen Bharat' museum, will be able to house an estimated 25,000-30,000 artefacts and is expected to be the largest such museum in the world when completed.

As of now, the National Museum has 2,06,000 artefacts in total, out of which, 7,000-8,000 are on display.

"We have sought artefacts from all museums across the country for display in the upcoming new museum. While they are most welcome to send things on a permanent basis, we can also display them on a temporary basis and keep rotating them," B.R. Mani, Director General of the National Museum, told *The Hindu*.

New National Museum in Delhi to display artefacts in chronological and thematic order

दिल्ली में नया राष्ट्रीय संग्रहालय कालानुक्रमिक और थीम आधारित क्रम में वस्तुएं प्रदर्शित करेगा

- **North Block and South Block** in the national capital will house the new **National Museum**.

राष्ट्रीय राजधानी में उत्तर ब्लॉक और दक्षिण ब्लॉक नया राष्ट्रीय संग्रहालय घर बनाएंगे।

- Artefacts will be arranged **chronologically** and **thematically** as per a draft proposal under consideration of the Union Culture Ministry.

संग्रहालय में वस्तुओं को कालानुक्रमिक और थीम आधारित तरीके से रखा जाएगा, जैसा कि केंद्रीय संस्कृति मंत्रालय के प्रस्ताव में विचाराधीन है।

- **North Block** will likely house artefacts in a **chronological order**, while **South Block** will have theme-based sections.

उत्तर ब्लॉक में वस्तुएं कालानुक्रमिक क्रम में रखी जाएंगी, जबकि दक्षिण ब्लॉक में थीम आधारित अनुभाग होंगे।

- India signed a **memorandum of understanding** with **France** on **December 19** last year for the development of the new museum, modeled along the lines of the **Louvre** in **Paris**.



भारत ने 19 दिसंबर को पिछले साल फ्रांस के साथ नए संग्रहालय के विकास के लिए एक सहमति पत्र पर हस्ताक्षर किए, जो पेरिस के लौवर की तर्ज पर होगा।

- The museum will be developed through **adaptive reuse** in collaboration with France, renowned for its expertise in such projects like the **Louvre, the Grand Palais, and the Hotel de la Marine.**

संग्रहालय का विकास **अनुकूल पुनः उपयोग** के माध्यम से फ्रांस के साथ सहयोग में किया जाएगा, जो इस प्रकार की परियोजनाओं में अपनी विशेषज्ञता के लिए प्रसिद्ध है, जैसे **लौवर, ग्रांडे पैलैस, और होटल दे ला मरीन**।

- This approach mirrors France's '**Grand Projects**' initiative, which transformed government buildings into iconic cultural spaces.
यह दृष्टिकोण फ्रांस की '**ग्रांडे प्रोजेक्ट्स**' पहल के समान है, जिसने सरकारी भवनों को प्रतीकात्मक सांस्कृतिक स्थानों में बदल दिया।
- The **chronological arrangement** will have about **50 sections**, each with **5-6 rooms**, making up around **250 galleries** in total.

कालानुक्रमिक व्यवस्था में लगभग **50 अनुभाग** होंगे, जिनमें से प्रत्येक में **5-6 कमरे** होंगे, कुल मिलाकर लगभग **250 गैलरी** होंगी।

- The thematic section will display artefacts based on subjects like **literature, architecture, and art.**
थीम आधारित अनुभाग में **साहित्य, वास्तुकला, और कला** जैसे विषयों पर आधारित वस्तुएं प्रदर्शित की जाएंगी।
- There will also be **galleries with augmented reality**, educational centres, and children's corners.

यहां **आगमंटेड रियलिटी वाली गैलरी, शैक्षिक केंद्र, और बच्चों के कोने** भी होंगे।

- The museum will be able to house an estimated **25,000-30,000 artefacts** and is expected to be the **largest such museum in the world** when completed.
संग्रहालय लगभग **25,000-30,000 वस्तुएं** समायोजित करने में सक्षम होगा और पूरा होने पर यह दुनिया का **सबसे बड़ा संग्रहालय** बनने की संभावना है।
- As of now, the **National Museum** has **2,06,000 artefacts**, with **7,000-8,000** on display.
अब तक, **राष्ट्रीय संग्रहालय** में **2,06,000 वस्तुएं** हैं, जिनमें से **7,000-8,000** प्रदर्शित की गई हैं।
- **B.R. Mani**, Director General of the **National Museum**, stated that artefacts from all museums across the country are being sought for display in the upcoming new museum.



बी.आर. मणि, राष्ट्रीय संग्रहालय के महानिदेशक ने कहा कि देश भर के सभी संग्रहालयों से आगामी नए संग्रहालय में प्रदर्शित करने के लिए वस्तुएं मांगी जा रही हैं।

India joins UN panel on data for official statistics

GS Paper II
PCS

NEW DELHI

India has joined the UN Committee of Experts on Big Data and Data Science for Official Statistics, a statement by Ministry of Statistics and Programme Implementation said.

The panel was created to further investigate the challenges of Big Data, including the potential for monitoring and reporting on Sustainable Development Goals. India will contribute to shaping global standards and practices in harnessing Big Data and data science for official statistical purposes.

This membership is a strategic opportunity for India to align its domestic advancements in Big Data and data science.

India Joins UN Panel on Data for Official Statistics

भारत आधिकारिक आंकड़ों के लिए UN पैनल में शामिल हुआ

• India has joined the UN Committee of Experts on Big Data and Data Science for Official Statistics, as per a statement by the Ministry of Statistics and Programme Implementation.

भारत आधिकारिक आंकड़ों के लिए बड़े डेटा और डेटा विज्ञान पर UN विशेषज्ञ समिति में शामिल हो गया है, जैसा कि सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय द्वारा एक बयान में कहा गया है।

• The panel was created to address challenges of Big Data, including its potential for monitoring and reporting on Sustainable Development Goals (SDGs).

यह पैनल बड़े डेटा से संबंधित चुनौतियों पर चर्चा करने के लिए बनाया गया है, जिसमें सतत विकास लक्ष्यों (SDGs) की निगरानी और रिपोर्टिंग की संभावनाएं भी शामिल हैं।

• India will contribute to shaping global standards and practices in harnessing Big Data and data science for official statistical purposes.

भारत वैश्विक मानकों और प्रथाओं को आकार देने में योगदान देगा, खासकर आधिकारिक आंकड़ों के लिए बड़े डेटा और डेटा विज्ञान का उपयोग करने में।

• This membership is a strategic opportunity for India to align its domestic advancements in Big Data and data science with global developments.

यह सदस्यता भारत के लिए एक रणनीतिक अवसर है, ताकि वह अपने देश में बड़े डेटा और डेटा विज्ञान में प्रगति को वैश्विक विकास के साथ संरेखित कर सके।



No more actions to curb derivatives trading on anvil: SEBI

The stock market regulator's wholetime member Ananth Narayan said an expert group is examining steps to improve risk management systems

GS Paper III: Capital Market

MUMBAI

The capital markets regulator is not planning any more measures to curb or restrict activity in derivatives, SEBI's wholetime member Ananth Narayan said on Saturday.

An expert group under former RBI executive director G. Padmanabhan continues to work on bettering the system, and some moves on ease of doing business and better risk management are being mulled, he added.

"At this point in time, there is no thought of SEBI taking any further steps in this particular regard," Mr. Narayan said, addressing an event organised by SEBI-promoted NISM here.

He also made it clear that the SEBI was not mulling any steps on "suitability and appropriability", which would determine who could trade in the derivatives market.

It may be noted that in November, SEBI imposed a set of restrictions to curb highly speculative trades in the futures and options market after data pointed out that retail investors lost money in 93% of the trades over the last three years.

Making it clear that SEBI had nothing against derivatives and that they helped in price discovery and de-



Refrain mode: SEBI is not mulling any steps on "suitability and appropriability", said Mr. Ananth Narayan. ANI

pening the market, Mr. Narayan assured that the tweaks would be introduced only after consultations.

Some of the measures being discussed within the markets regulator included steps to better measure risk in the derivatives market. "What you need ideally is that the volumes in the cash market should be nice and liquid, and there should be depth in the market. And likewise, the volumes in the derivative market should also have depth, should also have good volumes," he noted.

It is important to make sure that there is some kind of connectivity in the liquidity of the two markets, he said.

Mr. Narayan said the SEBI is also considering linking market-wide position limits to delivery volumes.

Linked to the same, it is considering a revision of index training limits imposed during the COVID

pandemic to control volatility, the wholetime member said. SEBI is also looking at the question of having indices with futures and options with very high concentrated weightages of some specific stocks from a perspective of ensuring trust in the system, Mr. Narayan added.

"Often in social media, we hear murmurs that something wrong is happening, especially in index trading. That there is some manipulation happening in the cash market, which is leading to some kind of activity in the derivative markets, and overall, it is creating...either huge volatility or no volatility and that it is being done as a manipulation for some people to profit," he said.

One of the questions the regulator is grappling with, is whether should there be restrictions on how much weightage the top stock or the top three stocks have in the F&O indices.

No More Actions to Curb Derivatives Trading on Anvil: SEBI

डेरिवेटिव्स ट्रेडिंग को रोकने के लिए और कोई कदम नहीं उठाए जाएंगे:

सेबी

- The capital markets regulator SEBI is not planning any more measures to curb or restrict activity in derivatives, said Ananth Narayan, SEBI's wholetime member, on Saturday.

पूंजी बाजार नियामक SEBI डेरिवेटिव्स गतिविधियों को रोकने या सीमित करने के लिए कोई नया कदम उठाने की योजना नहीं बना रहा है, SEBI के पूर्णकालिक सदस्य अनंत नारायण ने शनिवार को कहा।

- An expert group, led by former RBI executive director G. Padmanabhan, is working on improving risk management systems and ease of doing business, Narayan added.

पूर्व RBI कार्यकारी निदेशक जी.

पद्मनाभन के नेतृत्व में एक विशेषज्ञ

समूह जोखिम प्रबंधन प्रणाली में सुधार

और व्यवसाय करने में आसानी पर काम कर रहा है, नारायण ने कहा।

- SEBI is not considering any further steps on "suitability and appropriability", which

means there will be no restrictions on who can trade in the derivatives market.

SEBI फिलहाल "उपयुक्तता और उपयुक्तता" पर कोई अतिरिक्त कदम उठाने की योजना नहीं बना रहा है, जिसका मतलब है कि डेरिवेटिव्स बाजार में किसे ट्रेड करने की अनुमति होगी, इस पर कोई प्रतिबंध नहीं लगाया जाएगा।



- In November 2023, SEBI imposed restrictions on highly speculative trades in the futures and options market after data showed that retail investors lost money in 93% of trades over the past three years.

नवंबर 2023 में, SEBI ने फ्यूचर्स और ऑप्शन्स मार्केट में अत्यधिक सट्टा व्यापारों पर प्रतिबंध लगाए, क्योंकि आंकड़ों में दिखाया गया कि पिछले तीन वर्षों में 93% खुदरा निवेशक को नुकसान हुआ।

- Narayan clarified that **SEBI is not against derivatives trading**. He stated that **derivatives help in price discovery and market deepening**, and any **changes will be made after consultations**.

नारायण ने स्पष्ट किया कि **SEBI डेरिवेटिव्स ट्रेडिंग के खिलाफ नहीं है**। उन्होंने कहा कि डेरिवेटिव्स मूल्य निर्धारण और बाजार को गहरा करने में मदद करते हैं, और परिवर्तन परामर्श के बाद ही किए जाएंगे।

- **SEBI is discussing measures to better measure risk in the derivatives market**. Narayan stressed that **both the cash and derivatives markets should have sufficient liquidity and depth**.

SEBI डेरिवेटिव्स बाजार में जोखिम मापन में सुधार के लिए कदम उठाने पर विचार कर रहा है।

नारायण ने कहा कि कैश और डेरिवेटिव्स बाजार दोनों में पर्याप्त तरलता और गहराई होनी चाहिए।

- **SEBI is considering linking market-wide position limits to delivery volumes**. It is also **revising index trading limits** imposed during the **COVID pandemic to control volatility**.

SEBI बाजार-व्यापी पोजीशन लिमिट्स को डिलीवरी वॉल्यूम्स से जोड़ने पर विचार कर रहा है। साथ ही, यह **COVID महामारी के दौरान लगाए गए इंडेक्स ट्रेडिंग लिमिट्स की पुनरीक्षा कर रहा है** ताकि उतार-चढ़ाव को नियंत्रित किया जा सके।

- **SEBI is also analyzing whether indices with high concentrated weightages of a few stocks could pose a risk to market stability**.

SEBI यह भी विश्लेषण कर रहा है कि क्या कुछ शेयरों के उच्च वेटेज वाले इंडेक्स बाजार की स्थिरता के लिए जोखिम पैदा कर सकते हैं।

- Narayan stated that there are **concerns about manipulation in index trading**. He mentioned that **rumors on social media** often suggest that **cash market manipulation** impacts the **derivatives market**, creating **either huge volatility or no volatility**.

नारायण ने कहा कि **इंडेक्स ट्रेडिंग में हेरफेर को लेकर चिंताएं हैं**। उन्होंने बताया कि **सोशल मीडिया पर अक्सर अफवाहें सुनाई देती हैं कि कैश बाजार में हेरफेर डेरिवेटिव्स बाजार को प्रभावित करता है**, जिससे या तो बहुत अधिक उतार-चढ़ाव होता है या बिल्कुल भी नहीं होता।

- The **regulator is discussing whether restrictions** should be placed on **how much weightage the top stocks have in F&O indices** to ensure **trust in the system**.

नियामक यह चर्चा कर रहा है कि क्या F&O इंडेक्स में शीर्ष शेयरों के वेटेज पर प्रतिबंध लगाया जाना चाहिए ताकि प्रणाली में विश्वास सुनिश्चित किया जा सके।



India's economy likely to be a tad weaker in 2025: IMF MD Georgieva

**GS Paper III: Economy
PCS & SSC**

WASHINGTON

The Indian economy is expected to be "a little weaker" in 2025 despite steady global growth, IMF Managing Director Kristalina Georgieva has said.

Ms. Georgieva also said she expected quite a lot of uncertainty in the world this year mainly around the trade policy of the U.S.

In her annual media roundtable with a group of reporters on Friday, she said global growth was expected to be steady in 2025, but with regional divergence.

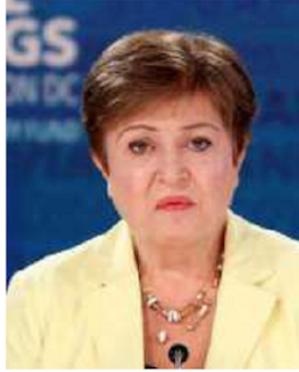
Ms. Georgieva said she expects the Indian economy to be a little weaker in 2025. However, she did not explain it any further. The World Economy Outlook update week will have more details about it.

"The U.S. is doing quite a bit better than we expected before, the EU is somewhat stalling, (and) India a little weaker," she said.

Brazil was facing somewhat higher inflation, she said. In China, the world's second-largest economy, the International Monetary Fund (IMF) was seeing deflationary pressure and ongoing challenges with domestic demand, she said.

"Low-income countries, despite all the efforts they are making, are in a position when any new shock can affect them quite negatively," Ms. Georgieva said.

"What we expect in



Kristalina Georgieva

2025 is to have quite a lot of uncertainty, especially in terms of economic policies. Not surprisingly, given the size and role of the US economy, there is keen interest globally in the policy directions of the incoming administration, in particular on tariffs, taxes, deregulation and government efficiency," Ms. Georgieva said.

"This uncertainty is particularly high around the path for trade policy going forward, adding to the headwinds facing the global economy, especially for countries and regions that are more integrated in global supply chains, medium-sized economies, (and) Asia as a region," she said.

That uncertainty is actually expressed globally through higher long-term interest rates, even though short-term interest rates have gone down, the IMF Managing Director said.

On inflation, the IMF expects global disinflation to continue, Ms. Georgieva remarked.

India's Economy Likely to Be a Tad Weaker in 2025: IMF MD Georgieva

भारत की अर्थव्यवस्था 2025 में थोड़ी कमजोर हो सकती है: IMF एमडी जॉर्जीवा

• The **Indian economy** is expected to be "a little weaker" in **2025**, despite steady global growth, according to **IMF Managing Director Kristalina Georgieva**.

आईएमएफ की प्रबंध निदेशक क्रिस्टालिना जॉर्जीवा के

अनुसार, **2025 में भारत की अर्थव्यवस्था "थोड़ी कमजोर"** हो सकती है, भले ही वैश्विक वृद्धि स्थिर बनी रहे।

• Ms. Georgieva said she expected **quite a lot of uncertainty** in the world this year, mainly around the **trade policy of the U.S.**

सुश्री जॉर्जीवा ने कहा कि इस वर्ष दुनिया में काफी

अनिश्चितता की उम्मीद है, खासकर अमेरिका की व्यापार नीति के आसपास।

• In her **annual media roundtable** with reporters on **Friday**, she mentioned that **global growth** would be **steady in 2025** but with **regional divergence**.

उन्होंने **शुक्रवार** को पत्रकारों के साथ **वार्षिक मीडिया**

राउंडटेबल में कहा कि **2025 में वैश्विक विकास स्थिर रहेगा**, लेकिन **क्षेत्रीय भिन्नता** होगी।

• Ms. Georgieva stated that she expects the **Indian economy** to be a **little weaker** in **2025** but did not explain further.

सुश्री जॉर्जीवा ने कहा कि वह **2025 में भारतीय अर्थव्यवस्था** को **थोड़ा कमजोर** मानती हैं, लेकिन उन्होंने इसका कोई और विवरण नहीं दिया।

• The **World Economy Outlook update** will provide more details about this.

इसका अधिक विवरण **वर्ल्ड इकोनॉमी आउटलुक अपडेट** में मिलेगा।

• The **U.S.** is performing **better than expected**, the **EU is stalling**, and **India is slightly weaker**, according to Ms. Georgieva.

सुश्री जॉर्जीवा के अनुसार, **अमेरिका अपेक्षा से बेहतर प्रदर्शन**



कर रहा है, यूरोपीय संघ (EU) रुक रहा है, और भारत थोड़ा कमजोर हो रहा है।

- **Brazil** is facing **higher inflation**, while **China** is experiencing **deflationary pressure and ongoing challenges with domestic demand**.

ब्राज़ील में उच्च मुद्रास्फीति का सामना हो रहा है, जबकि चीन में मुद्रास्फीति कम होने का दबाव और घरेलू मांग में निरंतर चुनौतियां देखी जा रही हैं।

- **Low-income countries** are vulnerable to any **new shock**, despite their efforts.

कम आय वाले देश अपनी कोशिशों के बावजूद किसी भी नए झटके के प्रति कमजोर हैं।

- Ms. Georgieva mentioned that **2025** could see a lot of **economic policy uncertainty**, particularly regarding the **U.S. administration's directions on tariffs, taxes, deregulation, and government efficiency**.

सुश्री जॉर्जीवा ने कहा कि **2025** में आर्थिक नीतियों को लेकर काफी अनिश्चितता हो सकती है, खासकर अमेरिकी प्रशासन की शुल्क, कर, विनियमन में ढील और सरकारी दक्षता पर दिशा को लेकर।

- She highlighted **trade policy** as a significant factor causing uncertainty, especially for **countries integrated in global supply chains, medium-sized economies, and Asia as a region**.

उन्होंने व्यापार नीति को अनिश्चितता का प्रमुख कारक बताया, खासकर वैश्विक आपूर्ति श्रृंखलाओं में शामिल देशों, मध्यम आकार की अर्थव्यवस्थाओं और एशिया क्षेत्र के लिए।

- **Higher long-term interest rates** globally reflect this uncertainty, even though **short-term interest rates** have declined.

यह अनिश्चितता वैश्विक स्तर पर लंबी अवधि के उच्च ब्याज दरों में दिखाई देती है, जबकि कम अवधि की ब्याज दरें कम हो गई हैं।

- On **inflation**, the **IMF** expects **global disinflation to continue**.

मुद्रास्फीति के बारे में, आईएमएफ ने कहा कि वह वैश्विक मुद्रास्फीति में कमी की प्रक्रिया के जारी रहने की उम्मीद करता है।

Millions of diabetes, heart disease cases linked to sugary drinks

GS Paper III: S&T

The Hindu Bureau

A new study estimates that in 2020, 2.2 million new cases of type 2 diabetes and 1.2 million new cases of cardiovascular disease occur each year globally due to consumption of sugar-sweetened beverages, representing 9.8% and 3.1%, respectively, of all incident cases. The study estimated sugar-sweetened beverage-attributable type 2 diabetes and cardiovascular disease burdens

across 184 countries in 1990 and 2020.

As per the study, in developing countries, the case count is particularly sobering. The highest sugar-sweetened beverage-attributable percentage burdens were in Latin America, the Caribbean and sub-Saharan Africa. In Latin America and the Caribbean, they contributed to nearly 24% of new diabetes cases and more than 11% of new cases of cardiovascular disease. In Sub-

Saharan Africa, it found that sugar-sweetened beverages contributed to more than 21% of all new diabetes cases. "From 1990 to 2020, the largest proportional increases in sugar-sweetened beverage-attributable incident type 2 diabetes and cardiovascular disease cases were in sub-Saharan Africa, 8.8% and 4.4%, respectively," the study found.

Colombia, Mexico, and South Africa are countries that have been hard

hit. While more than 48% of all new diabetes cases in Colombia were attributable to consumption of sugary drinks, nearly one-third of all new diabetes cases in Mexico were linked to sugary drink consumption. In South Africa, 27.6% of new diabetes cases and 14.6% of cardiovascular disease cases were attributable to sugary drink consumption.

Sugary beverages are rapidly digested, causing a spike in blood sugar levels

with little nutritional value. Regular consumption over time leads to weight gain, insulin resistance, and a host of metabolic issues tied to type 2 diabetes and heart disease, two of the world's leading causes of death. Men are more likely than women to suffer the consequences of sugary drink consumption, as are younger adults compared to their older counterparts, the researchers say.

They call for a multi-

pronged approach, including public health campaigns, regulation of sugary drink advertising, and taxes on sugar-sweetened beverages. Some countries have taken steps in this direction. Mexico, which has one of the highest per capita rates of sugary drink consumption in the world, introduced a tax on the beverages in 2014. Early evidence suggests that the tax has been effective, particularly among lower-income individuals.



Millions of Diabetes, Heart Disease Cases Linked to Sugary Drinks

शुगर ड्रिंक्स से जुड़े लाखों डायबिटीज और हृदय रोग के मामले

- A new study estimated that in 2020, 2.2 million new cases of type 2 diabetes and 1.2 million new cases of cardiovascular disease globally were linked to sugar-sweetened beverages. These represent 9.8% and 3.1% of all new cases, respectively.

एक नए अध्ययन के अनुसार, 2020 में दुनिया भर में 2.2 मिलियन टाइप 2 डायबिटीज के नए मामले और 1.2 मिलियन हृदय रोग के नए मामले शुगर-स्वीटेड बेवरेजेस के कारण हुए, जो क्रमशः 9.8% और 3.1% नए मामलों का प्रतिनिधित्व करते हैं।

- The study analyzed sugar-sweetened beverage-attributable burdens for 184 countries in 1990 and 2020.

इस अध्ययन में 184 देशों में 1990 और 2020 के बीच शुगर-स्वीटेड बेवरेज से जुड़े बोझ का विश्लेषण किया गया।

Higher Disease Burdens in Developing Countries

विकासशील देशों में अधिक बीमारी का बोझ

- In developing countries, the burden of diseases caused by sugary drinks is higher.

विकासशील देशों में शुगर ड्रिंक्स के कारण बीमारियों का बोझ अधिक है।

- The highest burden was seen in Latin America, the Caribbean, and sub-Saharan Africa.

सबसे अधिक बोझ लैटिन अमेरिका, कैरेबियन, और सब-सहारा अफ्रीका में देखा गया।

- In Latin America and the Caribbean, sugary drinks contributed to nearly 24% of new diabetes cases and more than 11% of new cardiovascular disease cases. लैटिन अमेरिका और कैरेबियन में, शुगर ड्रिंक्स ने लगभग 24% नए डायबिटीज मामलों और 11% से अधिक हृदय रोग मामलों में योगदान दिया।

- In sub-Saharan Africa, sugary drinks contributed to more than 21% of all new diabetes cases.

सब-सहारा अफ्रीका में, शुगर ड्रिंक्स ने 21% से अधिक नए डायबिटीज मामलों में योगदान दिया।

Countries Hard-Hit by Sugary Drinks

शुगर ड्रिंक्स से गंभीर रूप से प्रभावित देश

- Colombia, Mexico, and South Africa were among the hard-hit countries.

कोलंबिया, मैक्सिको, और दक्षिण अफ्रीका सबसे प्रभावित देशों में से हैं।

- In Colombia, more than 48% of new diabetes cases were linked to sugary drinks.

कोलंबिया में 48% से अधिक नए डायबिटीज मामले शुगर ड्रिंक्स के कारण हुए।

- In Mexico, one-third of new diabetes cases were linked to sugary drinks.

मैक्सिको में एक-तिहाई नए डायबिटीज मामले शुगर ड्रिंक्स के कारण थे।

- In South Africa, 27.6% of new diabetes cases and 14.6% of cardiovascular disease cases were linked to sugary drinks.

दक्षिण अफ्रीका में 27.6% नए डायबिटीज मामले और 14.6% हृदय रोग मामले शुगर ड्रिंक्स के कारण हुए।



Impact of Sugary Beverages on Health

शुगर युक्त पेय का स्वास्थ्य पर प्रभाव

- **Sugary beverages** are rapidly digested, causing a **spike in blood sugar levels** and have **little nutritional value**.
शुगर युक्त पेय तेजी से पचते हैं, जिससे ब्लड शुगर स्तर बढ़ जाता है और इनमें पोषण मूल्य बहुत कम होता है।
- Regular consumption leads to **weight gain, insulin resistance, and metabolic issues** linked to **type 2 diabetes** and **heart disease**.
नियमित सेवन से वजन बढ़ना, इंसुलिन प्रतिरोध, और मेटाबॉलिक समस्याएं होती हैं, जो टाइप 2 डायबिटीज और हृदय रोग से जुड़ी हैं।
- **Men and younger adults** are more likely to suffer from the effects of **sugary drinks**.
पुरुषों और युवा वयस्कों पर शुगर ड्रिंक्स का अधिक प्रभाव पड़ता है।

Recommendations by Researchers

शोधकर्ताओं की सिफारिशें

- Researchers recommend a **multi-pronged approach** including **public health campaigns, regulation of sugary drink advertising, and taxes on sugar-sweetened beverages**.
शोधकर्ता सार्वजनिक स्वास्थ्य अभियान, शुगर ड्रिंक विज्ञापन का विनियमन, और शुगर-युक्त पेय पर कर जैसी बहुआयामी रणनीतियों की सिफारिश करते हैं।
- **Mexico**, which has one of the **highest per capita rates of sugary drink consumption**, introduced a **tax on sugary beverages** in 2014.
मैक्सिको, जहां शुगर ड्रिंक खपत प्रति व्यक्ति दर सबसे उच्च है, ने 2014 में शुगर युक्त पेय पर कर लगाया।
- **Early evidence** shows that the **tax** was **effective**, especially among **lower-income individuals**.
प्रारंभिक प्रमाण बताते हैं कि यह कर विशेष रूप से कम आय वाले व्यक्तियों के लिए प्रभावी था।



IIT Roorkee uses bacterial enzymes to degrade plasticizers

Once integrated into bacteria, the enzymes remain active for a longer time and the bacteria can be used continuously for degrading the plasticizers

GS Paper III: S&T

R. Prasad

Besides plastics, the amount of carcinogenic plasticizers in the environment is increasing at an alarming rate. Plasticizers are chemicals added to plastics and personal care products to enhance flexibility and shine and are commonly found in items such as baby toys, shampoos, soaps, and food containers. Plasticizers can be absorbed through the skin, making them a direct threat to human health.

A team of researchers headed by Dr. Pravindra Kumar, Professor at the Department of Biosciences and Bioengineering, IIT Roorkee has successfully used an enzyme – esterase enzyme – produced by soil bacteria *Sulfobacillus acidophilus* to break down diethyl hexyl phthalate (DEHP) plasticizer. While a Chinese team had characterised this enzyme to degrade low molecular weight phthalate diester plasticizers, which can be degraded by several reported esterase enzymes, the IIT Roorkee team has identified its actual potential and used it for degrading difficult to degrade high molecular weight phthalate plasticizers. The research was funded by THDC India Limited, Rishikesh, and the results were published recently in the journal *Structure*. The group has also discovered that the esterase enzyme can bind to molecules similar to polypropylene used in plastics, making it a potential tool for extracting polypropylene from contaminated water sources.

Cleaning up using soil bacteria enzymes

Plasticizers, which are added to plastics and personal care products, can be absorbed through the skin

- The researchers have used esterase enzyme produced by soil bacteria *Sulfobacillus acidophilus* to break down diethyl hexyl phthalate (DEHP) plasticizer

- A Chinese team characterised the esterase enzyme to degrade low molecular weight phthalate diester plasticizers, while the IIT Roorkee team uses it to degrade high molecular weight phthalate plasticizers

- The esterase enzyme was structurally characterised using X-ray crystallography

- In 2017, the team isolated another soil bacteria which use three enzymes in sequence to break down phthalates into carbon-dioxide and water



Enzyme production: The esterase enzyme is produced in large-scale by cloning the enzyme genes into *E. coli* bacteria. REUTERS

- The researchers have used all five enzymes in sequence to break down DHEP plasticizer into water and carbon-dioxide

- The team is trying to insert the genes of all five enzymes into bacteria to directly convert DEHP plasticizer into water and carbon-dioxide

- Once integrated into bacteria, the enzymes remain active for a long time and the bacteria can be used continuously to degrade the plasticizer

The esterase enzyme was structurally characterised using X-ray crystallography. “This helped in identifying the active sites of the enzymes and in understanding the detailed mechanism by which this enzyme degrades the DEHP plasticizer,” says Shalja Verma from IIT Roorkee and the first author of the paper. Other sophisticated biochemical and biophysical approaches were also used to understand the efficiency of the enzyme to degrade the plasticizer.

The esterase enzyme remains active for about a month and catalyzes the degradation of DEHP plasticizer with significant efficiency. For large-scale production of this enzyme, the researchers cloned the genes of the EstSI esterase

enzyme into *E. coli* bacteria and the enzyme was produced on a large-scale through aerobic culture.

The enzyme breaks down the DEHP plasticizer into two products – mono-(2-ethylhexyl) phthalate (MEHP) and 2-ethyl hexanol. According to Prof. Kumar, this esterase enzyme, along with other enzymes identified by their group previously can convert high molecular weight phthalate plasticizers into water and carbon-dioxide. And this is where the IIT Roorkee team appears to have an edge. “The results of our research mark a significant advancement in addressing one of the most pressing environmental challenges – providing a promising path toward a plastic and plasticizer-free future,” says Dr. Kumar.

Other researchers involved in the work include Shweta Choudhary, Kamble Amith Kumar, Jai Krishna Mahto, Ishani Mishra, Dr. Ashwani Kumar Sharma, Dr. Shaaily Tomar, Dr. Debabrata Sircar and Dr. Jitin Singla.

In 2017, the team isolated another soil bacteria *Comamonas testosteroni* that breaks down the phthalates produced by DEHP degradation into carbon-dioxide and water. In the lab, the researchers used the enzymes in sequence to first break down DEHP to MEHP and 2-ethyl hexanol using esterase enzyme, which then was degraded to phthalate using another enzyme. The phthalate is then converted to intermediate compounds using a third enzyme (phthalate dioxygenase). The inter-

mediate compound produced after this step is converted into protocatechuate by the enzyme phthalate decarboxylase. Once protocatechuate is produced, the tricarboxylic acid cycle of the bacteria converts it to carbon-dioxide and water.

While the esterase enzyme used for breaking down DEHP into MEHP and 2-ethyl hexanol is from *Sulfobacillus acidophilus* bacteria, the three other enzymes used in sequence to break down DEHP into water and carbon-dioxide,” says Ms. Verma. “We are now trying to insert the genes of all the five enzymes into bacteria to directly convert the DEHP plasticizer into water and carbon-dioxide.”

Putting all five enzymes into bacteria will speed up the degradation process not only because the enzymes will act sequentially but also because degradation of the enzymes becomes a non-issue once they are integrated into bacteria. Once integrated into bacteria, the enzymes remain active for a longer time and the bacteria can be used continuously for degrading the plasticizers. But when the enzymes are used without integrating into bacteria, a fresh batch of enzymes needs to be produced to continue the degradation process. “We are also undertaking enzyme engineering to speed up the degradation process inside the bacteria,” says Ms. Verma.



IIT Roorkee uses bacterial enzymes to degrade plasticizers

आईआईटी रूड़की प्लास्टिसाइड्स को समाप्त करने के लिए बैक्टीरियल एंजाइमों का उपयोग करता है

- **Plasticizers** are chemicals added to plastics and personal care products to enhance **flexibility** and **shine**.

प्लास्टिसाइड्स ऐसे रसायन होते हैं जो प्लास्टिक और व्यक्तिगत देखभाल उत्पादों में लचीलापन और चमक बढ़ाने के लिए जोड़े जाते हैं।

- They are commonly found in items such as **baby toys, shampoos, soaps, and food containers**.

ये सामान्यतः बेबी टॉयज, शैंपू, साबुन, और खाद्य कंटेनरों जैसी वस्तुओं में पाए जाते हैं।

- **Plasticizers** can be absorbed through the skin, making them a direct threat to **human health**.

प्लास्टिसाइड्स को त्वचा के माध्यम से अवशोषित किया जा सकता है, जिससे यह मानव स्वास्थ्य के लिए सीधे खतरे का कारण बनते हैं।

- **Dr. Pravindra Kumar**, Professor at **IIT Roorkee**, led a team that used an enzyme — **esterase enzyme** — produced by the soil bacteria **Sulfobacillus acidophilus** to break down **DEHP plasticizer**.

डॉ. प्रविंदर कुमार, प्रोफेसर, आईआईटी रूड़की, ने एक टीम का नेतृत्व किया जिसने मिट्टी के बैक्टीरिया **Sulfobacillus acidophilus** द्वारा उत्पन्न एंजाइम — एस्टरेज एंजाइम — का उपयोग करके **DEHP प्लास्टिसाइड** को समाप्त किया।

- The research was funded by **THDC India Limited, Rishikesh**, and the results were published in the journal **Structure**.

इस शोध को **THDC इंडिया लिमिटेड, ऋषिकेश** द्वारा वित्त पोषित किया गया था, और इसके परिणाम जर्नल **Structure** में प्रकाशित हुए थे।

- The **esterase enzyme** was structurally characterised using **X-ray crystallography**. **एस्टरेज एंजाइम** की संरचनात्मक विशेषता **X-रे क्रिस्टलोग्राफी** का उपयोग करके की गई थी।

- The enzyme remains active for about **one month** and catalyzes the degradation of **DEHP plasticizer** with significant efficiency.

यह एंजाइम लगभग एक महीने तक सक्रिय रहता है और **DEHP प्लास्टिसाइड** के विघटन को महत्वपूर्ण दक्षता के साथ उत्प्रेरित करता है।

- The enzyme breaks down the **DEHP plasticizer** into two products — **mono-(2-ethylhexyl) phthalate (MEHP)** and **2-ethyl hexanol**.

यह एंजाइम **DEHP प्लास्टिसाइड** को दो उत्पादों में विभाजित करता है — **मोनो-(2-एथिलहेक्सिल) फ्थालेट (MEHP)** और **2-एथिल हेक्सानोल**।

- **IIT Roorkee's team** discovered that the **esterase enzyme** can also bind to **polypropylene molecules**, making it a potential tool for extracting **polypropylene** from contaminated water sources.

आईआईटी रूड़की की टीम ने यह खोजा कि **एस्टरेज एंजाइम पॉलीप्रोपलीन अणुओं** से भी जुड़ सकता है, जिससे यह प्रदूषित जल स्रोतों से **पॉलीप्रोपलीन** निकालने का एक संभावित उपकरण बनता है।

- For large-scale production, the researchers cloned the genes of the **EstS1 esterase enzyme** into **E. coli** bacteria.



बड़े पैमाने पर उत्पादन के लिए, शोधकर्ताओं ने **EstS1 एस्टरेज एंजाइम** के जीनों को **E. coli** बैक्टीरिया में क्लोन किया।

- The research also involved using other sophisticated biochemical and biophysical approaches to understand the enzyme's efficiency.

शोध में एंजाइम की दक्षता को समझने के लिए अन्य परिष्कृत जैव रासायनिक और जैव भौतिक दृष्टिकोणों का भी उपयोग किया गया था।

- The enzymes can break down **DEHP** to water and **carbon-dioxide** in sequence, using multiple enzymes.

एंजाइमों का उपयोग **DEHP** को पानी और **कार्बन-डाइऑक्साइड** में क्रमिक रूप से तोड़ने के लिए किया जा सकता है, जिसमें कई एंजाइमों का प्रयोग किया जाता है।

- The researchers are working on inserting the genes of all **five enzymes** into bacteria to convert **DEHP** directly into **water** and **carbon-dioxide**.

शोधकर्ता सभी **पाँच एंजाइमों** के जीनों को बैक्टीरिया में डालने पर काम कर रहे हैं ताकि **DEHP** को सीधे **पानी** और **कार्बन-डाइऑक्साइड** में बदल सकें।

- The integration of enzymes into bacteria will make the degradation process **faster** and more **efficient**.

एंजाइमों का बैक्टीरिया में एकीकरण विघटन प्रक्रिया को **तेज़** और अधिक **कुशल** बनाएगा।

- The team also plans **enzyme engineering** to speed up the degradation process inside the bacteria.

टीम **एंजाइम इंजीनियरिंग** की योजना भी बना रही है ताकि बैक्टीरिया के अंदर विघटन प्रक्रिया को तेज़ किया जा सके।



Putting the gene editing tool to use

GS Paper III: S&T



**SPEAKING OF
SCIENCE**

D. Balasubramanian

When you edit a letter or a document, you make specific changes in the words and phrases to make the meaning clearer. Gene editing involves changing the sequence of DNA using specific enzymes which can cut DNA at a precise location, thus permitting the removal, addition, or replacement of genetic information within a gene. The process is akin to correcting a misspelled word in a sentence or replacing it with a more appropriate word. In organisms, this modification directly alters the genetic instructions encoded in the DNA.

In earlier days, if we wanted to modify the mes-

sage in the DNA to a desired function, it involved two enzymes – one to cut the DNA at a specific site, and another to help insert the desired genetic change. While such twin-enzyme methods worked, they were laborious.

This was when Drs Jennifer Doudna of University of California, Berkeley, U.S., and Emmanuelle Charpentier of Humboldt University, Germany came out with a double action gene modification method, called CRISPR-Cas9. This is a mechanism that can edit the genomes of humans, pathogens, and plants. CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats, and Cas9 (which stands for CRISPR-associated Protein 9) cuts DNA strands at a specific location, creating a gap that can be filled with new DNA. Doudna and Char-



Restrictive: Researchers in India can use CRISPR-Cas9 only for academic purposes. GETTY IMAGES

pentier shared the Nobel Prize in 2012.

However, Prof. Feng Zhang who was then at a Southern California University, published a paper wherein he showed genome engineering using the CRISPR-Cas9 system. But he was not included as the third scientist by the Nobel Committee. He then went ahead, obtained a patent, and moved to Boston, where he works and this patent is owned today by

the MIT-Harvard University combine, called Broad Institute, which uses the CRISPR-Cas9 system for a variety of applications such as the mouse model for cancer, identifying genes that make cancer drugs ineffective, and modification of immune cells, plus training people in the technology.

While CRISPR-Cas9 patented technology has been used for the above-mentioned diagnostic and

genetic uses, agricultural scientists and botanical researchers have been using this method to genome engineer plants. The group of Dr. Holger Puchta of the Karlsruhe Botanical Institute, Germany has published several papers, notably on how to use Cas9, Cas 12, and Cas13, for targeting plant genomes. Most recently, CRISPR-Cas9 based 'knock-out' of two genes in tomato plants increased their sweetness with no loss in weight. Similar studies on other plants and fruits will surely follow.

However, a recent report by Dr. Anurag Chaurasia, titled "How CRISPR patent issues block Indian farmers from accessing biotech benefits", points out that the IPO has granted a local patent to ERS Genomics of Dublin, which allows Indian researchers to use CRISPR-Cas9 only for

academic purposes. Our rural farmers are thus still left 'classical'.

Visually handicapped

For people afflicted with eye disorders, scientists and clinicians at LV Prasad Eye Institute, Hyderabad, in collaboration with a group in IGIB, have used one of these high precision methods to correct inherited mutations in patient-specific stem cells (*Nature Communications*, June 2024). These mutation-corrected stem cells could then make retinal cells, which showed restored expression of the missing protein.

This has opened the possibility of developing autologous cell therapies for certain inherited eye disorders. A similar approach can be adapted for other diseases affecting other tissues and cell types of the body.

Putting the gene editing tool to use जीन संपादन उपकरण का उपयोग करना

- Gene editing involves changing the sequence of **DNA** using specific enzymes that can cut **DNA** at a precise location.

जीन संपादन में विशिष्ट एंजाइमों का उपयोग करके **डीएनए** की अनुक्रम को बदला जाता है, जो **डीएनए** को एक सटीक स्थान पर काट सकते हैं।

- This process allows the removal, addition, or replacement of **genetic information** within a gene.

इस प्रक्रिया से जीन के भीतर **जेनेटिक जानकारी** को हटाने, जोड़ने या बदलने की अनुमति मिलती है।

- In earlier methods, **two enzymes** were used: one to cut the **DNA** at a specific site and the other to insert the desired genetic change.

पुराने तरीकों में **दो एंजाइमों** का उपयोग किया जाता था: एक को **डीएनए** को एक विशिष्ट स्थान पर काटने के लिए और दूसरे को इच्छित जेनेटिक परिवर्तन डालने के लिए।

- Jennifer Doudna** (University of California, Berkeley, U.S.) and **Emmanuelle Charpentier** (Humboldt University, Germany) developed the **CRISPR-Cas9** method. **जेनिफर डाउडना** (कैलिफोर्निया विश्वविद्यालय, बर्कले, यू.एस.) और **एम्मानुएल शार्पेंटीयर** (हंबोल्ड विश्वविद्यालय, जर्मनी) ने **CRISPR-Cas9** पद्धति विकसित की।

- CRISPR-Cas9** is a mechanism that edits the **genomes** of humans, pathogens, and plants.

CRISPR-Cas9 एक प्रणाली है जो मानवों, रोगजनकों और पौधों के **जीनोम** को संपादित करती है।

- CRISPR** stands for **Clustered Regularly Interspaced Short Palindromic Repeats**, and **Cas9** stands for **CRISPR-associated Protein 9**.



CRISPR का मतलब है **क्लस्टर्ड रेग्युलरली इंटरस्पेस्ड शॉर्ट पलिंग्मिक रिपीट्स**, और **Cas9** का मतलब है **CRISPR-संलग्न प्रोटीन 9**।

- The **Nobel Prize** for this discovery was shared in **2012** by Doudna and Charpentier. इस खोज के लिए **नोबेल पुरस्कार 2012** में डाउडना और शार्पेटीयर को साझा किया गया।
- **Feng Zhang**, who was at Southern California University, demonstrated **genome engineering** using the **CRISPR-Cas9** system but was not included by the **Nobel Committee**.

फेंग झांग, जो साउथर्न कैलिफोर्निया विश्वविद्यालय में थे, ने **CRISPR-Cas9** प्रणाली का उपयोग करके **जीनोम इंजीनियरिंग** का प्रदर्शन किया, लेकिन उन्हें **नोबेल समिति** द्वारा शामिल नहीं किया गया।

- **Zhang** obtained a patent, which is now owned by the **MIT-Harvard University Broad Institute** for various applications.

झांग ने एक पेटेंट प्राप्त किया, जो अब **MIT-Harvard विश्वविद्यालय ब्रॉड संस्थान** के पास है, जो विभिन्न अनुप्रयोगों के लिए इसका उपयोग करता है।

- The **Broad Institute** uses **CRISPR-Cas9** for cancer models, identifying genes related to cancer drug ineffectiveness, and immune cell modifications.

ब्रॉड संस्थान CRISPR-Cas9 का उपयोग कैंसर मॉडल, कैंसर दवाओं की अप्रभाविता से संबंधित जीन की पहचान, और इम्यून सेल संशोधनों के लिए करता है।

- **Agricultural scientists** are using the **CRISPR-Cas9** method to engineer plant genomes.

कृषि वैज्ञानिक CRISPR-Cas9 पद्धति का उपयोग पौधों के जीनोम को इंजीनियर करने के लिए कर रहे हैं।

- Dr. **Holger Puchta** from **Karlsruhe Botanical Institute, Germany** has published several papers on using **Cas9, Cas12, and Cas13** for plant genome targeting.

डॉ. होल्गर पुचता ने **कर्सलर बोटैनिकल इंस्टीट्यूट, जर्मनी** से पौधों के जीनोम को लक्षित करने के लिए **Cas9, Cas12, और Cas13** का उपयोग करने पर कई पत्र प्रकाशित किए हैं।

- Recently, **CRISPR-Cas9** was used to **increase sweetness in tomato plants** without losing weight.

हाल ही में **CRISPR-Cas9** का उपयोग **टमाटर पौधों** में **मीठास बढ़ाने** के लिए किया गया था, बिना वजन घटाए।

- A report by Dr. **Anurag Chaurasia** mentions that **Indian farmers** are restricted to **academic uses** of **CRISPR-Cas9** due to a local patent granted to **ERS Genomics**.

डॉ. अनुराग चौधरी की एक रिपोर्ट में यह उल्लेख किया गया है कि **भारतीय किसानों** को **CRISPR-Cas9** का उपयोग केवल **अकादमिक उद्देश्यों** तक सीमित रखा गया है, क्योंकि **ERS जीनोमिक्स** को एक स्थानीय पेटेंट मिला है।

- In **June 2024**, **LV Prasad Eye Institute, Hyderabad** used gene editing to correct inherited mutations in stem cells for **eye disorders**.

जून 2024 में, **एलवी प्रसाद आई इंस्टीट्यूट, हैदराबाद** ने **आंखों के विकारों** के लिए **स्टेम कोशिकाओं** में उत्पन्न वंशानुगत उत्परिवर्तन को ठीक करने के लिए **जीन संपादन** का उपयोग किया।



Why is Meta shutting down fact-checkers?

Is crowd-sourced fact-checking a better way of implementing content moderation? What role did fact-checkers play during the COVID-19 pandemic? How have fact-checking communities responded to Zuckerberg's announcement? When are policy changes likely to be implemented?

GS Paper III: S&T

**John Xavier
Sahana Venugopal**

The story so far:

In January 7, Meta CEO Mark Zuckerberg said the company will get rid of fact-checkers and simplify content policies by removing restrictions on topics as it is "out of touch with mainstream discourse." In a five-minute video, he said that the company will return to its roots as the fact-checkers have been "too politically biased" and "destroyed more trust than they created, especially in the U.S."

How did Meta get into fact-checking?

After the 2016 U.S. presidential election results were out, Meta, then known as Facebook, faced serious backlash for amplifying political posts that helped tilt the election in favour of U.S. President-elect Donald Trump. To build back its reputation, Facebook roped in content moderators globally and developed technology to filter harmful content.

Meta started its independent fact-checking programme in partnership with the International Fact-Checking Network (IFCN) and the European Fact-Checking Standards Network (EFCNS). Over time, Meta became one of the largest donors to IFCN.

Meta worked with fact-checkers to address misinformation on its platforms, Facebook, Instagram and Threads. While the fact-checkers worked on finding misinformation and rating them based on the seriousness of content violation, Meta followed up with action and informed users of the measures it took. Beyond fact-checking, partner organisations worked across Meta's platforms to carry out research,

Topics including 'immigration and gender identity', a subject of frequent political discourse, will be discussed

and rate content on a qualitative scale – false, altered, partly false, missing context, satire, and true. Per IFCN's 'State of Fact-Checkers in 2023' report, income from Meta's Third-Party Fact-Checking Programme and grants remain fact-checkers' predominant revenue streams. And 68% of fact-checking organisations have 10 or fewer employees, whereas only 6.6% employ 31 or more people.

Why was there a need for fact-checkers?

Fact-checkers play a vital role in finding false and misleading content promoted on social media platforms by domestic accounts, and at times by foreign regimes. They also played a crucial role during the COVID-19 pandemic by correcting misinformation on social platforms. If the rated content on Meta is false or altered, its distribution across Meta's apps will be reduced. If key information is missing or the content is satirical, Meta might provide the needed facts. Content rated poorly by a fact-checker may not be suggested to users, and repeat offenders could be hit with penalties such as restricted reach, being unable to monetise their content or turn their content into a news page.

What other steps were taken by Meta?

Apart from relying on fact-checkers, Meta set up an Oversight Board to adjudicate cases involving serious content policy violations. The board heard serious content violation cases and made binding decisions to uphold or overturn Meta's own actions. Gradually, Meta started to move away from news content in general to keep its platform free from disinformation-prone content. The company said it will not "proactively recommend content about politics on recommendation surfaces across Instagram and Threads", noting that it wants these apps to be a "great experience" for all.

Now that is starting to change under Joel Kaplan, Meta's new chief of global affairs. Mr. Kaplan said "civic content" about elections and politics would return to the apps, and that users can choose what they want to see. He expanded on Mr. Zuckerberg's video clip, noting that the platform will also get rid of a number of restrictions "on topics like immigration and gender identity that are the subject of frequent political discourse and debate". He said, "It's not right that things can be said on TV or the floor of Congress, but not on our platforms."

What is Community Notes?

Meta will be moving towards an X platform styled content moderation system called 'Community Notes'. Under this model, instead of a centralised authority taking action against

misinformation, users work together to add additional context that will appear under false or even blatantly illegal content.

The feature itself goes beyond the Elon Musk-era Twitter. It was originally conceived as Birdwatch, where users could add context to posts they see that require more information. Initially launched in 2021, the feature gained prominence in March 2022 when misinformation on the Russia-Ukraine conflict was rife on the platform.

While crowd-sourced fact-checking is seen as a better way of implementing content moderation, Community Notes can also reflect biased majority viewpoints regarding controversial subjects. The feature can also be slow, meaning false or hateful content may go viral long before the specific context is added to clarify the post. Furthermore, under X's current style of content moderation, even posts glorifying slavery and Nazism are allowed to remain online, unchallenged.

In an open letter to Mr. Zuckerberg, IFCN said, "There is no reason Community Notes couldn't co-exist with the third-party fact-checking programme; they are not mutually exclusive. A Community Notes model that works in collaboration with professional fact-checking would have strong potential as a new model for promoting accurate information."

But, Meta has decided on a hands-off approach to content moderation, by stopping its demotion of fact-checked content and removing the full-screen warnings over flagged posts. The company will focus more on illegal content and high-severity violations while adjusting content filters to make it more challenging to take down flagged content – even though this means catching "less bad stuff," as per Mr. Zuckerberg.

What is the significance of the new policy?

Mr. Zuckerberg's shift in stance comes at a time when a new Trump administration takes charge. The tech CEO dined with the President-elect at his Mar-a-Lago resort in November to repair a fraught relationship. Earlier, he publicly praised Mr. Trump's conduct after the former President survived an assassination attempt. In the video clip, Mr. Zuckerberg referenced the 2024 election as a "cultural tipping point" and committed to "restoring" free expression across Meta platforms. In essence, he was aligning his values with the new conservative government by making a clean break from the old one.

While the plan to end the fact-checking programme in 2025 applies only to the U.S., there are similar programmes Meta is running in more than 100 countries. Some of these countries are highly vulnerable to misinformation that spurs political instability, election interference, mob violence and even genocide. If Meta decides to stop the programme worldwide, it is almost certain to result in real-world harm in many places, the IFCN said in its open letter.



Policy shift: Mark Zuckerberg, the CEO of Meta. AFP

Meta Shutting Down Fact-Checkers

फैक्ट-चेकर्स को बंद कर रही है मेटा

- On January 7, 2025, Meta CEO Mark Zuckerberg announced that the company will shut down its fact-checking programme and simplify its content policies. He mentioned that restrictions on certain topics were "out of touch with mainstream discourse."

7 जनवरी 2025 को मेटा के सीईओ मार्क जुकरबर्ग ने घोषणा की कि कंपनी फैक्ट-चेकिंग प्रोग्राम बंद कर देगी और कंटेंट नीतियों को सरल बनाएगी। उन्होंने कहा कि कुछ विषयों पर प्रतिबंध मुख्यधारा की बातचीत से अलग हैं।

Website: patrioticias.in

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



- In a **five-minute video**, Mr. Zuckerberg said that **fact-checkers were politically biased** and **destroyed more trust than they created**, especially in the **U.S.**
पांच मिनट के वीडियो में जुकरबर्ग ने कहा कि फैक्ट-चेकर्स राजनीतिक रूप से पक्षपाती हैं और उन्होंने जितना विश्वास बनाया उससे अधिक नुकसान पहुंचाया, खासकर अमेरिका में।

How did Meta get into fact-checking?

मेटा फैक्ट-चेकिंग में कैसे आई?

- After the **2016 U.S. presidential elections**, Meta (then **Facebook**) faced **criticism for amplifying political posts** that allegedly helped **Donald Trump** win the election.
2016 के अमेरिकी राष्ट्रपति चुनावों के बाद, मेटा (तब फेसबुक) को यह कहकर आलोचना झेलनी पड़ी कि उसने राजनीतिक पोस्ट्स को बढ़ावा दिया, जिससे डोनाल्ड ट्रंप की जीत हुई।
- To rebuild its **reputation**, Facebook **partnered with fact-checkers globally** and developed technology to **filter harmful content**.
अपनी साख सुधारने के लिए फेसबुक ने दुनिया भर के फैक्ट-चेकर्स के साथ साझेदारी की और हानिकारक कंटेंट को फ़िल्टर करने के लिए तकनीक विकसित की।
- Meta started an **independent fact-checking programme** in partnership with the **International Fact-Checking Network (IFCN)** and the **European Fact-Checking Standards Network (EFCSN)**.
मेटा ने इंटरनेशनल फैक्ट-चेकिंग नेटवर्क (IFCN) और यूरोपियन फैक्ट-चेकिंग स्टैंडर्ड्स नेटवर्क (EFCSN) के साथ मिलकर एक स्वतंत्र फैक्ट-चेकिंग प्रोग्राम शुरू किया।

Why was there a need for fact-checkers?

फैक्ट-चेकर्स की जरूरत क्यों पड़ी?

- Fact-checkers play a crucial role** in identifying **false and misleading content** on social media.
फैक्ट-चेकर्स सोशल मीडिया पर झूठी और भ्रामक सामग्री की पहचान करने में महत्वपूर्ण भूमिका निभाते हैं।
- During the **COVID-19 pandemic**, they helped **curb misinformation** by providing **accurate facts** to users.
कोविड-19 महामारी के दौरान, उन्होंने गलत सूचनाओं को रोकने और उपयोगकर्ताओं को सटीक जानकारी प्रदान करने में मदद की।

What is Community Notes?

कम्युनिटी नोट्स क्या है?

- Meta will now **adopt a crowd-sourced content moderation model** called **Community Notes**, similar to the **X platform (formerly Twitter)**.
मेटा अब भीड़-स्रोत आधारित कंटेंट मॉडरेशन मॉडल अपनाएगा, जिसे कम्युनिटी नोट्स कहा जाएगा, जो एक्स प्लेटफॉर्म (पहले ट्विटर) जैसा है।
- Users will add additional context** to posts that appear **misleading or false**.
उपयोगकर्ता गलत या भ्रामक दिखने वाले पोस्ट्स में अतिरिक्त संदर्भ जोड़ेंगे।

How have fact-checking communities responded?

फैक्ट-चेकिंग समुदाय ने कैसे प्रतिक्रिया दी?

- In an **open letter** to Mark Zuckerberg, the **IFCN** said that **Community Notes** and **third-party fact-checking programmes** can **co-exist**.



मार्क जुकरबर्ग को खुले पत्र में, IFCN ने कहा कि कम्युनिटी नोट्स और तृतीय-पक्ष फेक्ट-चेकिंग कार्यक्रम साथ-साथ चला सकते हैं।

Are lithium batteries on flights dangerous?

क्या उड़ानों में लिथियम बैटरियां खतरनाक होती हैं?

The International Federation of Air Line Pilots' Associations (IFALPA) issued three position papers on January 2 regarding the fire risks of lithium-ion batteries in airport and aircraft settings.

2 जनवरी को इंटरनेशनल फेडरेशन ऑफ एयर लाइन पायलट्स एसोसिएशंस (IFALPA) ने एयरपोर्ट और एयरक्राफ्ट सेटिंग्स में लिथियम-आयन बैटरी से होने वाले आग के खतरे पर तीन पोजिशन पेपर जारी किए।

What is IFALPA?

IFALPA क्या है?

- IFALPA is a global non-profit organization representing professional pilots worldwide.
IFALPA एक वैश्विक गैर-लाभकारी संगठन है जो दुनिया भर के पेशेवर पायलटों का प्रतिनिधित्व करता है।
- It was founded in 1948 during a conference organized by the International Civil Aviation Organisation (ICAO) in London.
यह 1948 में ICAO द्वारा लंदन में आयोजित एक सम्मेलन के दौरान स्थापित किया गया था।
- As of 2013, IFALPA represented 104 member associations and one lakh professional pilots worldwide.
2013 तक, IFALPA ने 104 सदस्य संघों और एक लाख पेशेवर पायलटों का प्रतिनिधित्व किया।

Why are there fears about lithium batteries?

लिथियम बैटरियों के बारे में डर क्यों है?

- Lithium-ion batteries are widely used in electric vehicles (EVs) and other devices due to their high energy density, rechargeability, and space efficiency.
लिथियम-आयन बैटरियां अपनी उच्च ऊर्जा घनत्व, रिचार्जबिलिटी और जगह की बचत के कारण इलेक्ट्रिक वाहनों (EVs) और अन्य उपकरणों में व्यापक रूप से उपयोग की जाती हैं।
- However, they are prone to catch fire when exposed to certain physical stresses, causing short-circuits that generate electric current, heat, and oxygen, increasing the risk of fires.
हालांकि, ये विशिष्ट शारीरिक तनावों के संपर्क में आने पर आग पकड़ सकती हैं, जिससे शॉर्ट-सर्किट होता है, जो विद्युत प्रवाह, गर्मी और ऑक्सीजन उत्पन्न करता है, जिससे आग का खतरा बढ़ जाता है।
- For example, after Hurricane Helene struck the U.S. in November 2024, 48 lithium-ion batteries caught fire due to prolonged exposure to salt water.
उदाहरण के लिए, जब हॉरीकेन हेलेन ने नवंबर 2024 में अमेरिका पर हमला किया, तो 48 लिथियम-आयन बैटरियों में आग लग गई, क्योंकि वे लंबे समय तक खारे पानी के संपर्क में थीं।



What do the IFALPA papers say?

IFALPA के पेपर्स क्या कहते हैं?

- **POS01** focuses on the **safe transport of lithium-ion batteries** and **UN regulations 3480 and 3481** that classify these batteries as “**miscellaneous dangerous goods**”.
POS01 लिथियम-आयन बैटरियों के सुरक्षित परिवहन और **UN विनियम 3480 और 3481** पर केंद्रित है, जो इन बैटरियों को "विविध खतरनाक वस्तुओं" के रूप में वर्गीकृत करते हैं।
- **POS02** highlights the need for **fire-safety equipment and protocols** at **airports and aircraft** to tackle **different types of lithium-ion battery fires**.
POS02 एयरपोर्ट और एयरक्राफ्ट में आग-सुरक्षा उपकरणों और प्रोटोकॉल की आवश्यकता पर जोर देता है ताकि लिथियम-आयन बैटरी की विभिन्न प्रकार की आग से निपटा जा सके।
- **POS03** focuses on the **flight deck (cockpit)** and calls for **fire kits that can handle lithium-ion battery fires with energy ratings of 100 Wh or higher**.
POS03 फ्लाइट डेक (कॉकपिट) पर केंद्रित है और ऐसे फायर किट्स की मांग करता है जो 100 Wh या उससे अधिक की ऊर्जा रेटिंग वाली लिथियम-आयन बैटरी की आग को संभाल सकें।

PATRIOTIC IAS



Is groundwater contamination high in India?

What are the contaminants? What happens if nitrate presence is high in groundwater?

**GS Paper III:
Environment**

The story so far:

An assessment of India's groundwater by the Central Ground Water Board (CGWB) found that several States are grappling with a serious problem of nitrate contamination.

Which are the sources of contamination?

The most concerning finding was that the number of districts with excessive nitrate in their groundwater rose from 359 in 2017 to 440 in 2023. This works out to nearly 56% of India's districts having excessive nitrate in ground water, defined as having more than 45 mg/l (milligram per litre). Of the 15,239 groundwater samples collected from across the country for testing, 19.8% samples had nitrates – nitrogenous compounds – above safe limits though it must be said that this proportion has not substantially changed since 2017. In the 13,028 samples analysed in 2017 for instance, 21.6% had excessive nitrate. There are two major concerns with excess nitrate content: one is methemoglobinemia, or a reduced ability of red blood cells to carry oxygen.

A bigger problem with excessive nitrates are environmental: once the nitrates in the groundwater rise to the surface and become part of lakes and ponds, algal blooms throttle the health of aquatic ecosystems.

The most common contaminant identified in groundwater is dissolved nitrogen in the form of nitrate in sub-surface waters. Since, the nitrogen content of soil is generally quite low, farmers have to look for external sources of nitrogen

by using ammonium nitrate, calcium nitrate, urea, diammonium hydrogen phosphate etc. Although nitrate is the main form in which nitrogen occurs in groundwater, dissolved nitrogen also occurs in the form of ammonium (NH₄⁺), ammonia (NH₃), nitrite (NO₂⁻), nitrogen (N₂), nitrous oxide (N₂O) and organic nitrogen.

Which places had serious contamination?

Rajasthan, Karnataka and Tamil Nadu reported the highest proportion of tested groundwater blocks with nitrate exceeding permissible levels – 49%, 48% and 37% of the tested samples respectively reported numbers beyond the limit.

Rajasthan, Madhya Pradesh and Gujarat have a long-standing nitrate problem with relative levels fairly constant since 2017, the report says. However a growing concern are blocks in central and southern India, which are reporting an increasing trend, and therefore is a reason for worry. "Maharashtra (35.74%), Telangana (27.48%), Andhra Pradesh (23.5%) and Madhya Pradesh (22.58%) also show notable levels of nitrate contamination," the report notes.

Is nitrate the only chemical contaminant?

Other major chemical contaminants affecting groundwater quality are arsenic, iron, fluoride and uranium. Just as 19.8% samples of tested groundwater had excess nitrate, 9.04% of samples had fluoride levels above the limit.

Fluoride concentrations exceeding the permissible limit were "a major concern" in Rajasthan, Haryana, Karnataka, Andhra Pradesh and Telangana. Rajasthan and Punjab reported the maximum number of samples with uranium concentration exceeding 100 ppb (parts per billion). Anything over 30 ppb is considered unsafe and several of these samples were predominant in regions of Rajasthan, Gujarat, Haryana, Punjab, Tamil Nadu, Andhra Pradesh, and Karnataka, where groundwater was over-exploited: more water was being drawn out than replenished by rains or other means.

What was the state of groundwater in 2024?

Along with its report on groundwater quality, the organisation also produced a report on the quantity of groundwater in various blocks, enumerating the availability of groundwater across India. The CGWB estimates that on the whole, the country's degree of groundwater extraction is 60.4%, or roughly the same as it has been through the years since 2009. About 73% of the blocks are in the 'safe' zone, meaning that they are replenished enough to compensate for water drawn out.

How are groundwater levels measured?

The CGWB relies on a network of about 26,000 groundwater observation wells that require technicians to manually measure the state of groundwater in a region. Since 2023, however, around 16,000-17,000 digital water level recorders were connected to piezometers in the wells. Piezometers measure groundwater levels and transmit the information digitally to a centralised location. In the next three years, the CGWB aims to increase its network from the existing 26,000 to about 40,000. When combined with similar networks possessed by other institutions, India will have about 67,000 digitally recordable units to monitor ground water dynamics.



Groundwater Contamination in India

भारत में भूजल संदूषण

An assessment by the Central Ground Water Board (CGWB) found that several states in India are facing a serious problem of nitrate contamination.

केंद्रीय भूजल बोर्ड (CGWB) के एक आकलन में पाया गया है कि भारत के कई राज्यों को नाइट्रेट संदूषण की गंभीर समस्या का सामना करना पड़ रहा है।

- The number of districts with excessive nitrate in groundwater rose from 359 in 2017 to 440 in 2023, which means nearly 56% of India's districts have nitrate levels above 45 mg/l (milligram per litre).
2017 में 359 जिलों से बढ़कर 2023 में 440 जिले हो गए हैं, जहां भूजल में नाइट्रेट की मात्रा 45 mg/l से अधिक पाई गई। यह संख्या भारत के 56% जिलों के बराबर है।
- In 2023, 19.8% of groundwater samples had nitrate levels above the safe limit, while in 2017, 21.6% of samples exceeded the limit.
2023 में, 19.8% भूजल नमूनों में सुरक्षित सीमा से अधिक नाइट्रेट पाया गया, जबकि 2017 में यह संख्या 21.6% थी।

Health and Environmental Concerns of Excess Nitrate

नाइट्रेट की अधिकता के स्वास्थ्य और पर्यावरणीय प्रभाव

- Methemoglobinemia is a health concern caused by excessive nitrate, where red blood cells lose their ability to carry oxygen effectively.
नाइट्रेट की अधिकता से मेटहेमोग्लोबिनेमिया नामक समस्या हो सकती है, जिसमें लाल रक्त कणिकाओं की ऑक्सीजन ले जाने की क्षमता कम हो जाती है।
- A major environmental concern is that excess nitrate leads to algal blooms in lakes and ponds, which choke aquatic ecosystems.
मुख्य पर्यावरणीय चिंता यह है कि नाइट्रेट की अधिकता से जलाशयों में शैवाल (algal blooms) का प्रसार होता है, जो जलीय पारिस्थितिक तंत्र को नुकसान पहुंचाता है।

Sources of Nitrate Contamination

नाइट्रेट संदूषण के स्रोत

- The most common contaminant in groundwater is dissolved nitrogen in the form of nitrate.
भूजल में सबसे आम संदूषक नाइट्रेट के रूप में घुला हुआ नाइट्रोजन है।
- Farmers use ammonium nitrate, calcium nitrate, urea, diammonium hydrogen phosphate, etc., to increase nitrogen content in the soil, contributing to groundwater contamination.
किसान अमोनियम नाइट्रेट, कैल्शियम नाइट्रेट, यूरिया, डायमोनियम हाइड्रोजन फॉस्फेट आदि का उर्वरक के रूप में उपयोग करते हैं, जिससे भूजल प्रदूषित होता है।
- Other forms of dissolved nitrogen found in groundwater include ammonium (NH₄⁺), ammonia (NH₃), nitrite (NO₂⁻), nitrogen (N₂), nitrous oxide (N₂O), and organic nitrogen.
भूजल में अन्य नाइट्रोजन यौगिक जैसे अमोनियम (NH₄⁺), अमोनिया (NH₃), नाइट्राइट (NO₂⁻), नाइट्रोजन (N₂), नाइट्रस ऑक्साइड (N₂O) और जैविक नाइट्रोजन पाए जाते हैं।



States with High Nitrate Contamination

उच्च नाइट्रेट संदूषण वाले राज्य

- Rajasthan, Karnataka, and Tamil Nadu reported the **highest nitrate contamination**, with 49%, 48%, and 37% of tested samples exceeding permissible limits.

राजस्थान, कर्नाटक और तमिलनाडु में भूजल के 49%, 48% और 37% नमूनों में नाइट्रेट सुरक्षित सीमा से अधिक पाया गया।

- Madhya Pradesh, Gujarat, and Rajasthan have had **long-standing nitrate problems**, while Maharashtra (35.74%), Telangana (27.48%), Andhra Pradesh (23.5%), and Madhya Pradesh (22.58%) are showing an **increasing trend** in contamination.

मध्य प्रदेश, गुजरात और राजस्थान में लंबे समय से नाइट्रेट की समस्या है, जबकि महाराष्ट्र (35.74%), तेलंगाना (27.48%), आंध्र प्रदेश (23.5%) और मध्य प्रदेश (22.58%) में यह समस्या तेजी से बढ़ रही है।

Other Chemical Contaminants in Groundwater

भूजल में अन्य रासायनिक संदूषक

- Apart from nitrate, **other major contaminants** include arsenic, iron, fluoride, and uranium.

नाइट्रेट के अलावा, भूजल में अन्य प्रमुख संदूषक आर्सेनिक, लौह, फ्लोराइड और यूरेनियम हैं।

- **Fluoride levels above permissible limits** were reported in 9.04% of samples, especially in Rajasthan, Haryana, Karnataka, Andhra Pradesh, and Telangana.

9.04% नमूनों में फ्लोराइड की मात्रा सुरक्षित सीमा से अधिक पाई गई, खासकर राजस्थान, हरियाणा, कर्नाटक, आंध्र प्रदेश और तेलंगाना में।

- **Uranium contamination exceeding 100 ppb (parts per billion)** was a major concern in Rajasthan, Punjab, and Gujarat. Anything over 30 ppb is considered unsafe.

यूरेनियम संदूषण 100 ppb से अधिक होना गंभीर चिंता का विषय है, खासकर राजस्थान, पंजाब और गुजरात में। 30 ppb से अधिक मात्रा असुरक्षित मानी जाती है।

State of Groundwater in 2024

2024 में भूजल की स्थिति

- As of 2024, India's degree of groundwater extraction was at 60.4%, remaining fairly constant since 2009.

2024 तक, भारत में भूजल निकासी का स्तर 60.4% था और यह 2009 से स्थिर बना हुआ है।

- About 73% of groundwater blocks are in the 'safe' zone, meaning replenishment is sufficient to balance the water being drawn out.

लगभग 73% भूजल ब्लॉक 'सुरक्षित' ज़ोन में हैं, जिसका अर्थ है कि भूजल पुनर्भरण पर्याप्त है।

Groundwater Level Measurement Techniques

भूजल स्तर मापने की तकनीक

- The CGWB relies on 26,000 groundwater observation wells, where technicians manually measure water levels.

CGWB के पास 26,000 भूजल अवलोकन कुएं हैं, जहां तकनीशियन मैनुअली पानी के स्तर की माप करते हैं।

- Since 2023, about 16,000-17,000 digital water level recorders were connected to piezometers, which transmit data digitally to a central location.





**PATRIOTIC IAS: 3rd Floor KV Tower, Near Rajbanshi Hospital,
Paidleyganj Road, Gorakhpur
Contact Number: 9971932488**

2023 से, लगभग 16,000-17,000 डिजिटल जल स्तर रिकॉर्डर पाइजोमीटर से जोड़े गए, जो डिजिटल रूप से डेटा को केंद्रीकृत स्थान पर भेजते हैं।

- The CGWB plans to **increase the network to 40,000 wells** in the next **three years**, and with other networks combined, India will have about **67,000 digitally recordable units**.

CGWB अगले **तीन वर्षों में** अपने नेटवर्क को **40,000 कुओं तक** बढ़ाने की योजना बना रहा है। अन्य नेटवर्कों को मिलाकर, भारत के पास लगभग **67,000 डिजिटल रिकॉर्डिंग इकाइयां** होंगी।

PATRIOTIC IAS



Rocket scientist

V. Narayanan

The cryogenic pioneer is taking over ISRO when the agency is working on a series of high-profile missions, from the Gaganyaan human spaceflight programme to Chandrayaan-4

GS Paper III: S&T

ILLUSTRATION: SREEJITH R. KUMAR

Tiki Rajwi

The first big news from the Indian Space Research Organisation (ISRO) in the New Year seems to have an in-built element of surprise in it. On January 7, V. Narayanan, a rocket and spacecraft propulsion expert, who heads the ISRO's Liquid Propulsion Systems Centre (LPSC) in Thiruvananthapuram, was named successor to S. Somanath, the current chairman of the space agency.

The face of ISRO since January 2022, Mr. Somanath is highly regarded, cutting a dynamic and impressive figure, especially with the younger ISRO hands. Insider-speak is that many within the organisation were expecting his term to be extended. Comparisons with his predecessor will be par for the course when Mr. Narayanan, who joined the ISRO 40 years ago, eases into the top spot on January 14.

The change of guard is happening at a critical moment for ISRO, now guided by the Space Vision 2047. On the one hand, a series of high-profile missions are in the works; the Gaganyaan human spaceflight programme, the Chandrayaan-4 lunar mission, the development of the Bharatiya Antariksha Station – India's own space station – and landing an Indian on the moon by 2040, to name a few. On the other,



er, the Indian space sector is in a state of flux, with the Space Policy, 2023 opening it up to private players.

Ever since the first U.S.-made Nike-Apache sounding rocket lifted off from Thumba, Thiruvananthapuram, in November 1963, the Indian space programme has largely remained a jealously-guarded government concern.

To his credit, Mr. Narayanan is someone who knows the ins and outs of the ISRO, having joined the space agency's Vikram Sarabhai Space Centre (VSSC) in Thiruvananthapuram in 1984, where he worked on solid propulsion. He moved to the LPSC in 1989 to work on cryogenic propulsion, and has remained there since, initially playing his part, and in subsequent years taking the lead role, in the propulsion aspects of ISRO missions.

As LPSC Director, Mr. Narayanan was leading the development of propulsion systems for the Gaganyaan programme when he was named the next Se-

cretary, Department of Space, and Chairman, Space Commission, for a period of two years.

Success story

In many ways, his is the quintessential hard-won-success tale, the kind that parents in post-Independence India loved to inspire their children with.

Hailing from a humble background at Melakattuvilai, a village in Kanniyakumari district of Tamil Nadu, young Narayanan attended a nearby Tamil-medium school. Teachers announcing Neil Armstrong's successful 1969 moon landing is part of his childhood memories. He subsequently obtained his M.Tech. in cryogenic engineering in 1989 with a first rank from the IIT, Kharagpur. He took his Ph.D. in aerospace engineering in 2001.

At the ISRO, he has contributed to major missions and projects, including the Chandrayaan series and the successful development of the cryogenic upper stage for the Geosyn-

chronous Satellite Launch Vehicle (GSLV).

The LPSC website describes him as “one of the few cryogenic members who have worked in this area from the beginning, carrying out fundamental research, theoretical and experimental studies and contributing to the successful development and testing of cryogenic sub systems”.

One of the tried-and-tested hands of the space agency, Mr. Narayanan comes across as affable and polite. Within the ISRO community, he is viewed as hard-working and tenacious, as someone who gets things done. That his long career has largely been confined to LPSC is seen as a disadvantage, given the fast-evolving, multi-speciality nature of present-day space-tech.

Many of the past chairpersons have headed multiple ISRO facilities such the LPSC and VSSC before moving on to the Bengaluru headquarters.

To his advantage, Mr. Narayanan has experience on his side. In the changing, competition-driven global space ecosystem, ISRO has the added responsibility of hand-holding Indian space-tech startups and driving industry participation. As its next Chairman, Mr. Narayanan faces the task of steering the space agency through challenging and happening times.



Rocket Scientist

रॉकेट वैज्ञानिक

On January 7, V. Narayanan, a rocket and spacecraft propulsion expert, was named as the successor to S. Somanath, the current ISRO Chairman.

7 जनवरी को रॉकेट और अंतरिक्ष यान प्रणोदन विशेषज्ञ वी. नारायणन को इसरो अध्यक्ष एस. सोमनाथ का उत्तराधिकारी घोषित किया गया।

- S. Somanath has been ISRO Chairman since January 2022 and is known for his dynamic leadership.
एस. सोमनाथ जनवरी 2022 से इसरो अध्यक्ष हैं और अपनी सक्रिय नेतृत्व शैली के लिए प्रसिद्ध हैं।
- Many within ISRO were expecting an extension of his term, but Narayanan will take over on January 14.
इसरो के अंदर कई लोग उनके कार्यकाल के विस्तार की उम्मीद कर रहे थे, लेकिन अब 14 जनवरी को नारायणन पदभार संभालेंगे।

ISRO's Critical Moment

इसरो का महत्वपूर्ण समय

- The change of leadership is happening at a critical time with ISRO working on Space Vision 2047.
नेतृत्व परिवर्तन उस समय हो रहा है जब इसरो स्पेस विज़न 2047 पर काम कर रहा है।
- High-profile missions like Gaganyaan, Chandrayaan-4, Bharatiya Antariksha Station, and Indian moon landing by 2040 are in the pipeline.
महत्वपूर्ण मिशन जैसे गगनयान, चंद्रयान-4, भारतीय अंतरिक्ष स्टेशन और 2040 तक चंद्रमा पर भारतीय लैंडिंग प्रस्तावित हैं।
- The Space Policy 2023 has opened the Indian space sector to private players, creating new challenges and opportunities.
स्पेस पॉलिसी 2023 ने भारतीय अंतरिक्ष क्षेत्र को निजी कंपनियों के लिए खोला है, जिससे नई चुनौतियां और अवसर पैदा हुए हैं।

ISRO's History and Narayanan's Journey

इसरो का इतिहास और नारायणन की यात्रा

- The first Nike-Apache sounding rocket was launched from Thumba, Thiruvananthapuram, in November 1963.
पहला नाइक-अपाचे साउंडिंग रॉकेट थुंबा, तिरुवनंतपुरम से नवंबर 1963 में लॉन्च किया गया था।
- V. Narayanan joined ISRO's Vikram Sarabhai Space Centre (VSSC) in 1984 and worked on solid propulsion systems.
वी. नारायणन ने 1984 में इसरो के विक्रम साराभाई अंतरिक्ष केंद्र (वीएसएससी) में शामिल होकर सॉलिड प्रोपल्शन सिस्टम्स पर काम किया।
- He moved to the Liquid Propulsion Systems Centre (LPSC) in 1989 to work on cryogenic propulsion and has remained there since.
वे 1989 में लिक्विड प्रोपल्शन सिस्टम्स सेंटर (एलपीएससी) में शामिल हुए और क्रायोजेनिक प्रोपल्शन पर काम किया।



Achievements and Education

उपलब्धियां और शिक्षा

- He completed his **M.Tech in Cryogenic Engineering** from IIT Kharagpur in 1989, securing **first rank**.
उन्होंने 1989 में आईआईटी खड़गपुर से क्रायोजेनिक इंजीनियरिंग में एम.टेक प्रथम स्थान के साथ पूरा किया।
- In 2001, he earned a **Ph.D. in Aerospace Engineering**.
उन्होंने 2001 में एयरोस्पेस इंजीनियरिंग में पीएचडी प्राप्त की।
- He played a key role in developing the **cryogenic upper stage for the Geosynchronous Satellite Launch Vehicle (GSLV)**.
उन्होंने जियोसिंक्रोनस सैटेलाइट लॉन्च व्हीकल (जीएसएलवी) के लिए क्रायोजेनिक अपर स्टेज के विकास में महत्वपूर्ण भूमिका निभाई।

Narayanan's Reputation and Challenges

नारायणन की प्रतिष्ठा और चुनौतियां

- According to the **LPSC website**, Mr. Narayanan is one of the few **cryogenic propulsion experts** who has worked in this field from the beginning.
एलपीएससी वेबसाइट के अनुसार, श्री नारायणन उन कुछ क्रायोजेनिक प्रोपल्शन विशेषज्ञों में से हैं जिन्होंने शुरुआत से ही इस क्षेत्र में काम किया है।
- He is known within the ISRO community as **hard-working, tenacious, and results-driven**.
इसरो समुदाय में वे मेहनती, दृढ़ निश्चयी और परिणामोन्मुखी व्यक्ति के रूप में जाने जाते हैं।
- Critics believe his **experience is mostly limited to LPSC**, which could be a disadvantage in the current **multi-speciality space-tech environment**.
आलोचकों का मानना है कि उनकी अनुभव सीमा ज्यादातर एलपीएससी तक सीमित है, जो वर्तमान बहु-विशेषज्ञता अंतरिक्ष-तकनीक वातावरण में एक कमी हो सकती है।

Future Responsibilities

भविष्य की ज़िम्मेदारियां

- As ISRO Chairman, he will need to **guide Indian space-tech startups** and **drive industry participation** in the **competition-driven global space ecosystem**.
इसरो अध्यक्ष के रूप में उन्हें भारतीय अंतरिक्ष तकनीकी स्टार्टअप्स को मार्गदर्शन देना होगा और वैश्विक प्रतिस्पर्धात्मक अंतरिक्ष पारिस्थितिकी तंत्र में उद्योग भागीदारी को बढ़ावा देना होगा।



The island of interest

Greenland

U.S. President-elect Donald Trump says he won't rule out use of military force or coercion to annex or buy the world's largest island

GS Paper I: Geography

Joan Sony Cherian

In January 1, the King of Denmark unveiled a new coat of arms after more than 50 years. It features the polar bear and the ram (symbolising Greenland and the Faroe Islands, respectively) more prominently than before. Amid calls for independence in Greenland and U.S. President-elect Donald Trump's aggressive push to buy/annex the island, the Royal House seems to be underscoring the Danish realm's unity.

Greenland, the world's largest island with a population of 57,000, is an autonomous territory controlled by Denmark. This effectively means that while it has a Parliament which deals with domestic affairs such as business taxes, immigration, and mining, most of its foreign, monetary and military policy are dictated by Denmark. The Arctic island was colonised by the Danes in the 18th century and has been associated with Europe, though geographically it is part of the North American continent and closer to the U.S. than Copenhagen.

During the Second World War, the U.S. briefly occupied the region and defended it when Denmark was under siege by Nazi Germany.

Noting the region's geopolitical importance, the U.S. in 1946, after the War,



Greenland, with a population of 57,000, is an autonomous territory controlled by Denmark

had offered to buy it from Denmark. Denmark rejected the offer and ever since Greenland has been a part of the Danish realm with home rule granted to the island in 1979. The U.S. runs and operates an air base on the island. However, of late, calls for complete independence from Denmark have been rising in the island. Greenland's Prime Minister Múte Egede in his New Year address talked about taking the "next step" and removing the "shackles of colonialism".

U.S. aspirations

In his first term in office, Mr. Trump had floated the idea of buying Greenland. However, this time it seems the President-elect is serious. "For purposes of National Security and Free-

dom throughout the World, the United States of America feels that the ownership and control of Greenland is an absolute necessity," he said in December. Following such a declaration, Donald Trump Jr., Mr. Trump's son, visited Greenland this year as a "private individual". Both Greenland and Danish Prime Ministers have shut down such threats and plans. Mr. Egede has categorically stated that "Greenland belongs to the Greenlanders".

Mr. Trump seems unfazed. Speaking to the press last week, Mr. Trump said he won't rule out military or economic coercion to annex/buy the island.

The island is surrounded by the Atlantic on one side and the Arctic waters on the other. Due to climate change and global warming, glaciers and ice sheets in the Arctic Sea are melting, leading to potentially new shipping routes, which could greatly enhance trade. Moreover, Russia and China have already agreed to develop new trading routes in the Arctic waters as relations with the West sour and tensions in West Asia loom large.

Last November, both countries developed a sub-committee for cooperation on the northern sea route, which spans 5,600 km from the Barents Sea near Scandinavia to the Bering

Strait near Alaska. With the threat of Russia-China cooperation in the region, annexing Greenland could give the U.S. significant control over the area, letting it decide who gets to run and operate in these strategic waters.

The island is also rich in minerals. As per a 2025 survey, 25 of 34 critical raw materials, which are used in EVs and batteries, were found in Greenland. The melting of almost 28,000 square km of Greenland's ice sheets makes drilling for oil, gas and other critical raw materials easier. Currently, China is the world's largest exporter and producer of critical minerals. Buying Greenland could make the U.S. compete with China for that status.

Mr. Trump has also issued calls to buy/annex the Panama Canal and Canada. While all of them have been touted as necessary for the U.S.'s economic and national security, the U.S. is breaking the first and fundamental rule of the UN Charter: recognising the sovereignty of nations. With respect to Greenland, the U.S. is going against the NATO agreement as well.

Similarly, the Arctic waters are a global common under the UN Convention on the Law of the Sea. The incoming U.S. President's policies are bringing to the forefront the true anarchical nature of international politics.



The Island of Interest

दिलचस्पी का द्वीप

- U.S. President-elect Donald Trump has stated that he won't rule out **military force or coercion to annex or buy Greenland**, the **world's largest island**.
अमेरिका के राष्ट्रपति-चुने गए डोनाल्ड ट्रंप ने कहा है कि वह ग्रीनलैंड को हथियाने या खरीदने के लिए सैन्य बल या दबाव के उपयोग से इंकार नहीं करेंगे।

New Danish Coat of Arms

नया डेनिश राजचिह्न

- On **January 1**, the **King of Denmark** unveiled a **new coat of arms** that **prominently features the polar bear and the ram**, representing **Greenland** and the **Faroe Islands**, respectively.
1 जनवरी को डेनमार्क के राजा ने नया राजचिह्न जारी किया, जिसमें ध्रुवीय भालू और भेड़ का प्रतीक प्रमुखता से शामिल हैं, जो क्रमशः ग्रीनलैंड और फैरो द्वीप का प्रतिनिधित्व करते हैं।
- This move is seen as a way to underscore the **Danish realm's unity** amid rising calls for **Greenland's independence** and **Donald Trump's attempts to buy the island**.
इसे डेनिश साम्राज्य की एकता को दिखाने के प्रयास के रूप में देखा जा रहा है, क्योंकि ग्रीनलैंड की स्वतंत्रता की मांग और डोनाल्ड ट्रंप के द्वीप को खरीदने के प्रयास बढ़ रहे हैं।

Greenland's Political Status

ग्रीनलैंड की राजनीतिक स्थिति

- **Greenland is the world's largest island** with a population of **57,000** and is an **autonomous territory controlled by Denmark**.
ग्रीनलैंड दुनिया का सबसे बड़ा द्वीप है, जिसकी जनसंख्या 57,000 है और यह डेनमार्क द्वारा नियंत्रित एक स्वायत्त क्षेत्र है।
- While Greenland has a **Parliament** that manages **domestic affairs** like **business taxes, immigration, and mining, foreign, monetary, and military policies** are dictated by **Denmark**.
ग्रीनलैंड की संसद आंतरिक मामलों जैसे व्यापार कर, आव्रजन, और खनन का प्रबंधन करती है, लेकिन इसके विदेशी, मुद्रास्फीति, और सैन्य नीतियां डेनमार्क द्वारा नियंत्रित होती हैं।
- The island was **colonised by the Danes** in the **18th century** and, though geographically part of the **North American continent**, it has historically been associated with **Europe**.
इस द्वीप पर 18वीं सदी में डेनमार्क ने उपनिवेश बनाया था और भौगोलिक रूप से यह उत्तर अमेरिकी महाद्वीप का हिस्सा होने के बावजूद यूरोप से जुड़ा हुआ है।

Greenland's Geopolitical Importance

ग्रीनलैंड का भू-राजनीतिक महत्व

- During **World War II**, the **U.S. briefly occupied Greenland** to defend it from **Nazi Germany**.
द्वितीय विश्व युद्ध के दौरान अमेरिका ने ग्रीनलैंड पर कब्जा कर लिया था ताकि नाज़ी जर्मनी से उसकी रक्षा की जा सके।
- In **1946**, after the war, the **U.S. offered to buy Greenland** from Denmark, but the offer was **rejected**.



1946 में युद्ध के बाद, अमेरिका ने डेनमार्क से ग्रीनलैंड खरीदने की पेशकश की थी, लेकिन यह प्रस्ताव खारिज कर दिया गया।

- **Greenland's Prime Minister Múte Egede** recently talked about **removing the shackles of colonialism** and moving toward **complete independence**.

ग्रीनलैंड के प्रधानमंत्री मूटे एगडे ने हाल ही में औपनिवेशिक जंजीरों को हटाने और पूरी स्वतंत्रता की ओर बढ़ने की बात कही।

U.S. Aspirations to Buy Greenland

ग्रीनलैंड को खरीदने की अमेरिका की महत्वाकांक्षाएं

- **Donald Trump** previously floated the idea of buying Greenland during his first term. डोनाल्ड ट्रंप ने अपने पहले कार्यकाल में ग्रीनलैंड खरीदने का विचार रखा था।
- Recently, **Donald Trump Jr.** visited Greenland as a **private individual** to explore the island's resources and strategic importance.

हाल ही में, डोनाल्ड ट्रंप जूनियर ने ग्रीनलैंड का दौरा एक निजी व्यक्ति के रूप में किया ताकि द्वीप के संसाधनों और रणनीतिक महत्व का पता लगाया जा सके।

Strategic Importance of Greenland

ग्रीनलैंड का रणनीतिक महत्व

- The island is **surrounded by the Atlantic Ocean** on one side and **Arctic waters** on the other.
द्वीप एक तरफ से अटलांटिक महासागर और दूसरी तरफ से आर्कटिक जल से घिरा हुआ है।
- **Melting glaciers** due to **climate change** are opening **new shipping routes**, enhancing **trade opportunities**.
जलवायु परिवर्तन के कारण बर्फ की चादरों का पिघलना नए शिपिंग मार्गों को खोल रहा है, जिससे व्यापार के अवसर बढ़ रहे हैं।
- **Russia and China** have **agreed to develop new trade routes** in the **Arctic waters**, posing a **threat to U.S. interests**.
रूस और चीन ने आर्कटिक जल में नए व्यापार मार्ग विकसित करने पर सहमति जताई है, जो अमेरिका के हितों के लिए खतरा है।
- Greenland is also **rich in minerals**. A **2025 survey** found **25 out of 34 critical raw materials** required for **EVs and batteries** in Greenland.
ग्रीनलैंड खनिजों में समृद्ध है। एक 2025 के सर्वेक्षण में 34 में से 25 आवश्यक कच्चे माल ग्रीनलैंड में पाए गए, जो इलेक्ट्रिक वाहनों और बैटरियों के लिए महत्वपूर्ण हैं।

U.S. Violations of International Laws

अंतरराष्ट्रीय कानूनों का उल्लंघन

- Mr. Trump's plans to **buy/annex Greenland** violate the **UN Charter**, which **recognises the sovereignty of nations**.
ट्रंप की ग्रीनलैंड को खरीदने/हथियाने की योजना संयुक्त राष्ट्र चार्टर का उल्लंघन करती है, जो राष्ट्रों की संप्रभुता को मान्यता देती है।
- The **Arctic waters** are considered a **global common** under the **UN Convention on the Law of the Sea**.
आर्कटिक जल को समुद्र के कानून पर संयुक्त राष्ट्र सम्मेलन के तहत वैश्विक साझा क्षेत्र माना जाता है।
- These actions highlight the **anarchical nature of international politics**, where **superpowers** disregard **international agreements** for their **national interests**.



ये कदम अंतरराष्ट्रीय राजनीति के अराजक स्वभाव को उजागर करते हैं, जहां महाशक्तियां अपने राष्ट्रीय हितों के लिए अंतरराष्ट्रीय समझौतों की अनदेखी करती हैं।

Los Angeles fires expand as winds forecast to pick up



No respite: A helicopter drops water on the Palisades Fire behind a home with Christmas lights in Mandeville Canyon in Los Angeles. AP

PCS
Agence France-Press
LOS ANGELES

The largest of the Los Angeles fires spread toward previously untouched neighborhoods on Saturday, forcing new evacuations and dimming hopes that the disaster was coming under control.

Across the city, at least 11 persons have died as multiple fires have ripped through residential areas since Tuesday, razing thousands of homes in destruction that U.S. President Joe Biden likened to a “war

scene.”

Winds were forecast to pick up again on Saturday after a brief lull, posing the risk of new fires as embers are blown into dry brush.

Los Angeles residents have increasingly demanded to know who is at fault for the disaster as they grapple with the ruin.

As reports of looting grew, a sunset-to-sunrise curfew was imposed in evacuated areas.

Five separate fires have so far burned more than 37,000 acres, destroying around 12,000 buildings.

- **Winds** were forecast to pick up again on **Saturday** after a brief lull, posing the risk of new fires as embers are blown into dry brush.

हवाओं के फिर से शनिवार को बढ़ने का पूर्वानुमान था, जिससे नई आग लगने का खतरा था क्योंकि राख सूखी झाड़ी में उड़ाई जा रही थी।

- **Los Angeles** residents have increasingly demanded to know who is at fault for the disaster as they grapple with the ruin.

लॉस एंजिल्स के निवासी इस आपदा के लिए दोषी कौन है, यह जानने की मांग कर रहे हैं क्योंकि वे तबाही से जूझ रहे हैं।

- As reports of **looting** grew, a **sunset-to-sunrise curfew** was imposed in evacuated areas.

Los Angeles Fires Expand as Winds Forecast to Pick Up

लॉस एंजिल्स में आग का फैलना, हवाओं के बढ़ने का पूर्वानुमान

- The largest of the **Los Angeles fires** spread toward previously untouched neighborhoods on **Saturday**, forcing new evacuations and dimming hopes that the disaster was coming under control.

लॉस एंजिल्स की सबसे बड़ी आग शनिवार को पहले से अछूते इलाकों की ओर फैली, जिससे नई निकासी की गई और आपदा के नियंत्रण में आने की उम्मीदें कम हो गईं।

- Across the city, at least **11 persons** have died as multiple fires have ripped through residential areas since **Tuesday**, razing thousands of homes in destruction that **U.S. President Joe Biden** likened to a “war scene.”

शहर भर में, कम से कम **11 लोग** मारे गए हैं क्योंकि **मंगलवार** से कई आग ने आवासीय क्षेत्रों को जला दिया है, जिससे हजारों घर नष्ट हो गए हैं, जिसे **अमेरिकी राष्ट्रपति जो बाइडन** ने “युद्ध क्षेत्र” से तुलनात्मक बताया।





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लूटपाट की रिपोर्टों के बढ़ने के साथ, सूर्यास्त से सूर्योदय तक कफर्यू खाली किए गए क्षेत्रों में लगा दिया गया।

- **Five separate fires** have so far burned more than **37,000 acres**, destroying around **12,000 buildings**.

अब तक पाँच अलग-अलग आगों ने 37,000 एकड़ से अधिक क्षेत्र को जला दिया है, जिससे लगभग 12,000 इमारतें नष्ट हो गई हैं।

PATRIOTIC IAS

