



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



PATRIOTIC IAS

THE HINDU NEWSPAPER
DAILY CURRENT AFFAIRS
(04 MARCH 2025)

To watch an in-depth discussion on the topic, click on the YouTube link below: <https://www.youtube.com/@PatrioticIAS>

For regular updates on UPSC and PCS preparation, join our Telegram Channel: <https://t.me/patrioticIAS>

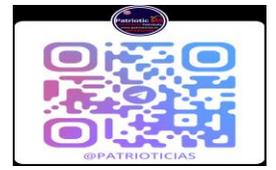
04_03_2025 DAILY CURRENT AFFAIRS

TOPICS COVERED (GS Paper I: History, Society and Geography)

1. Telangana CM calls on Union Minister, seeks 'fair' allocation of Krishna water

तेलंगाना मुख्यमंत्री ने केंद्रीय मंत्री से मुलाकात की, कृष्णा जल के 'न्यायपूर्ण' आवंटन की मांग की

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



Telangana CM calls on Union Minister, seeks 'fair' allocation of Krishna water

**GS Paper I:
Geography**

The
HYDERABAD

Stating that the State government will not compromise on protecting Telangana's water resources, Chief Minister A Revanth Reddy urged Union Jal Shakti Minister C.R. Patil not to give permissions for the Andhra Pradesh government's proposed Go-

avari-Banakacharla interlinking project.

The Andhra Pradesh government has not obtained any clearances from the **Central Water Commission, Godavari River Management Board (GRMB) and KRMB** for this project and it was also against the Andhra Pradesh Reorganisation Act, Mr. Reddy, accompanied by Minister for

Irrigation Uttam Kumar Reddy, said during a meeting with the Union Minister.

'Immediate clearance'

He sought immediate clearance for the Sitarama Lift Irrigation Project and the Sammakka Sagar Project taken up on Godavari.

Mr. Reddy said Telangana should be allocated 70%

of Krishna water as 70% of the catchment area was in the State and the remaining in Andhra Pradesh.

However, the **Krishna River Management Board (KRMB)** unilaterally allocated 66% of water to A.P. and 34% to Telangana. Further, Andhra Pradesh was drawing more than its allotted share, the Chief Minister said.

Telangana CM calls on Union Minister, seeks 'fair' allocation of Krishna water

तेलंगाना मुख्यमंत्री ने केंद्रीय मंत्री से मुलाकात की, कृष्णा जल के 'न्यायपूर्ण' आवंटन की मांग की

Telangana CM A Revanth Reddy emphasized that the State government will not compromise on protecting Telangana's water resources.

तेलंगाना के मुख्यमंत्री ए. रेवंत रेड्डी ने जोर दिया कि राज्य सरकार तेलंगाना के जल संसाधनों की सुरक्षा पर कोई समझौता नहीं करेगी।

- He urged Union Jal Shakti Minister C.R. Patil not to approve the Andhra Pradesh government's proposed Godavari-Banakacharla interlinking project. उन्होंने केंद्रीय जल शक्ति मंत्री सी.आर. पाटिल से अनुरोध किया कि वे आंध्र प्रदेश सरकार के प्रस्तावित गोदावरी-बनाकाचरला इंटरलिंकिंग परियोजना को अनुमति न दें।
- CM Reddy pointed out that Andhra Pradesh has not obtained clearances from the Central Water Commission, Godavari River Management Board (GRMB), and Krishna River Management Board (KRMB). मुख्यमंत्री रेड्डी ने बताया कि आंध्र प्रदेश ने केंद्रीय जल आयोग, गोदावरी नदी प्रबंधन बोर्ड (GRMB) और कृष्णा नदी प्रबंधन बोर्ड (KRMB) से कोई स्वीकृति प्राप्त नहीं की है।
- He further stated that the project violates the Andhra Pradesh Reorganisation Act. उन्होंने आगे कहा कि यह परियोजना आंध्र प्रदेश पुनर्गठन अधिनियम का उल्लंघन करती है।



Demand for immediate clearance of Telangana projects

तेलंगाना परियोजनाओं की त्वरित स्वीकृति की मांग

- **CM Reddy sought immediate clearance** for the **Sitarama Lift Irrigation Project** and **Sammakka Sagar Project** on the **Godavari River**.

मुख्यमंत्री रेड्डी ने गोदावरी नदी पर सीतारामा लिफ्ट सिंचाई परियोजना और सम्मक्का सागर परियोजना की त्वरित स्वीकृति की मांग की।

Dispute over Krishna River water allocation

कृष्णा नदी जल आवंटन पर विवाद

- **Telangana demands 70% of Krishna River water** as 70% of the catchment area lies in the State.
तेलंगाना 70% कृष्णा नदी जल का आवंटन मांग रहा है, क्योंकि इसका 70% जलग्रहण क्षेत्र राज्य में स्थित है।
- However, the **Krishna River Management Board (KRMB)** allocated 66% water to **Andhra Pradesh** and only 34% to **Telangana**.
लेकिन कृष्णा नदी प्रबंधन बोर्ड (KRMB) ने 66% पानी आंध्र प्रदेश को और केवल 34% तेलंगाना को आवंटित किया।
- **CM Reddy also accused Andhra Pradesh of drawing more water than its allocated share.**

मुख्यमंत्री रेड्डी ने आंध्र प्रदेश पर आवंटित हिस्से से अधिक पानी लेने का आरोप लगाया।



Krishna River



- **Origin:**
 - The Krishna River originates from **Mahabaleshwar** in the **Western Ghats**, Maharashtra.
- **Path:**
 - It flows through **Maharashtra, Karnataka, Telangana, and Andhra Pradesh** before emptying into the **Bay of Bengal**.
 - Major cities along the Krishna River: **Sangli, Vijayawada**.
- **Tributaries:**
 - **Right Bank:** Tungabhadra, Koyna, Ghataprabha, Malaprabha, Bhima.
 - **Left Bank:** Musi, Paleru, Munneru.

Godavari River

- **Origin:**
 - The Godavari River originates from **Trimbakeshwar, Nashik district, Maharashtra**.
- **Path:**
 - It is the **longest river in peninsular India**, flowing through **Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, and Odisha** before reaching the **Bay of Bengal**.
 - Major cities along the Godavari River: **Nashik, Nanded, Rajahmundry**.
- **Tributaries:**
 - **Right Bank:** Manjira, Pranhita, Indravati, Sabari.
 - **Left Bank:** Purna, Penganga, Wardha, Wainganga.

Key Differences Between Krishna and Godavari Rivers

| Feature | Krishna River | Godavari River |
|--------------------------|---|--|
| Origin | Mahabaleshwar (Maharashtra) | Trimbakeshwar (Maharashtra) |
| Length | ~1400 km | ~1465 km |
| States Covered | Maharashtra, Karnataka, Telangana, Andhra Pradesh | Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, Odisha |
| Major Tributaries | Tungabhadra, Bhima, Ghataprabha | Manjira, Pranhita, Indravati |
| Mouth | Bay of Bengal | Bay of Bengal |



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



Significance

Important for irrigation and hydroelectric projects

Known as the "Dakshina Ganga" due to its vast basin

(GS Paper II: Polity, Governance, and International Relations)

1. SC seeks regulatory steps against 'vulgarity' online

सुप्रीम कोर्ट ने ऑनलाइन 'अश्लीलता' पर नियामक कदम उठाने की मांग की

2. Police yet to understand fundamental right to free speech and expression: SC

पुलिस अब भी अभिव्यक्ति की स्वतंत्रता के मौलिक अधिकार को समझने में असफल: सुप्रीम कोर्ट

3. Australia, the Partner for India's Growth Trajectory

ऑस्ट्रेलिया: भारत की विकास यात्रा का भागीदार

4. China's Foreign Policy Structure

चीन की विदेश नीति की संरचना



SC seeks regulatory steps against 'vulgarity' online

Bench calls for measures to ensure programmes adhered to 'known moral standards' without censorship; allows Allahbadia to resume podcast subject to maintaining 'morality and decency'

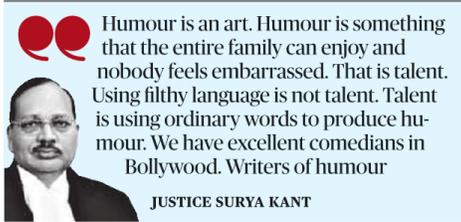
GS Paper II: Article 19

NEW DELHI

The Supreme Court on Monday asked Solicitor-General Tushar Mehta, appearing for the Centre, to suggest "regulatory measures" to rein in the use of "filthy language" and "vulgarity" which passes off as humour in programmes streamed online.

A Bench headed by Justice Surya Kant said there was a clear divide between humour and perversity.

The court said the regulatory measures were intended to ensure that programmes adhered to "well-known moral standards" of Indian society without sliding into a censorship of the fundamental right to free speech and expression. They were to



JUSTICE SURYA KANT

work as a reasonable restriction on freedom of speech to ensure decency and morality.

The court said it wanted a "healthy debate" on the issue with inputs from stakeholders.

The Bench was hearing an application filed by You-Tuber Ranveer Allahbadia seeking a modification of a clause in a February 18 order of the top court, which had provided him interim protection from arrest in

criminal cases registered in Maharashtra and Assam over his comments in the show "India Got Latent".

The clause in question barred him from airing or telecasting shows, podcasts, and so on.

Appearing for Mr. Allahbadia, advocate Abhinav Chandrachud said that his client had "no sense of humour", but the prohibition would affect his livelihood and that of his 280 employees who worked with

him on his show.

The court modified the bar, allowing Mr. Allahbadia to resume his podcast "The Ranveer Show", subject to maintaining "morality and decency" and making it suitable for viewers of all ages.

"Subject to the petitioner furnishing an undertaking to the effect that his whole podcast shows will maintain desired standards of decency and morality so that viewers of any age group can watch, the petitioner is permitted to resume 'The Ranveer Show'," the Bench said.

Mr. Mehta said humour for him was straightforward. "If you cannot make me laugh, you are not a good comedian," he said.

CONTINUED ON
» PAGE 10

SC seeks regulatory steps against 'vulgarity' online

सुप्रीम कोर्ट ने ऑनलाइन 'अश्लीलता' पर नियामक

कदम उठाने की मांग की

The Supreme Court on Monday asked Solicitor-General Tushar Mehta to suggest "regulatory measures" to curb the use of "filthy language" and "vulgarity" in online content.

सुप्रीम कोर्ट ने सोमवार को सॉलिसिटर जनरल तुषार

मेहता से "नियामक उपाय" सुझाने को कहा, जिससे "अश्लील भाषा" और "फूहड़ता" को ऑनलाइन सामग्री में रोका जा सके।

- A Bench led by Justice Surya Kant emphasized that there is a clear difference between humor and perversity. न्यायमूर्ति सूर्यकांत की अध्यक्षता वाली पीठ ने इस बात पर जोर दिया कि हास्य और विकृति के बीच स्पष्ट अंतर है।
- The court clarified that any regulatory measure must uphold "well-known moral standards" of Indian society without infringing on the fundamental right to free speech. अदालत ने स्पष्ट किया कि कोई भी नियामक उपाय भारतीय समाज के "स्वीकृत नैतिक मानकों" को बनाए रखना चाहिए लेकिन मौलिक अभिव्यक्ति की स्वतंत्रता का उल्लंघन नहीं होना चाहिए।
- These regulations should act as reasonable restrictions to ensure decency and morality. ये नियम शालीनता और नैतिकता सुनिश्चित करने के लिए उचित प्रतिबंध के रूप में कार्य करने चाहिए।



Hearing of Ranveer Allahbadia's case

रणवीर अल्लाबादिया के मामले की सुनवाई

- The court was hearing an application by YouTuber Ranveer Allahbadia, seeking modification of a **February 18** order.
अदालत यूट्यूबर रणवीर अल्लाबादिया की याचिका की सुनवाई कर रही थी, जिसमें उन्होंने 18 फरवरी के आदेश में संशोधन की मांग की थी।
- The earlier order **barred him from airing or telecasting shows and podcasts**, but he argued that this **impacted his livelihood and his 280 employees**.
पहले के आदेश ने उन्हें शो और पॉडकास्ट प्रसारित करने से रोक दिया था, लेकिन उन्होंने तर्क दिया कि इससे उनकी आजीविका और उनके 280 कर्मचारियों पर असर पड़ा।
- The **court modified the restriction**, allowing him to resume "**The Ranveer Show**," provided he maintains "**morality and decency**" for viewers of all ages.
अदालत ने इस प्रतिबंध में संशोधन किया, जिससे उन्हें "द रणवीर शो" फिर से शुरू करने की अनुमति दी गई, बशर्ते कि वह "नैतिकता और शालीनता" बनाए रखें।
- The court stated that he must **submit an undertaking** ensuring that his podcast content **adheres to moral standards** and is **appropriate for all age groups**.
अदालत ने कहा कि उन्हें एक प्रतिज्ञा पत्र दाखिल करना होगा, जिसमें यह सुनिश्चित किया जाए कि उनकी पॉडकास्ट सामग्री नैतिक मानकों का पालन करेगी और सभी आयु वर्ग के लिए उपयुक्त होगी।

Solicitor-General's remarks on humor

सॉलिसिटर जनरल की हास्य पर टिप्पणी

- Solicitor-General Tushar Mehta commented that **humor should be simple and genuine**.
सॉलिसिटर जनरल तुषार मेहता ने टिप्पणी की कि हास्य सरल और वास्तविक होना चाहिए।
- He remarked, "**If you cannot make me laugh, you are not a good comedian**."
उन्होंने कहा, "अगर आप मुझे हँसा नहीं सकते, तो आप अच्छे कॉमेडियन नहीं हैं।"



Police yet to understand fundamental right to free speech and expression: SC

GS Paper II: Article 19

The Hindu Bureau
NEW DELHI

The Supreme Court on Monday asked how a poem by Congress MP Imran Pratapgarhi, which plainly translates to the “suffering of injustice with love”, had stirred the Gujarat Police into registering a criminal case against him on the charge of promoting enmity among people of different groups on the basis of caste and religion.

A Bench of Justices A.S. Oka and Ujjal Bhuyan said the poem was a reference to non-violence, a path followed by Mahatma Gandhi



Imran Pratapgarhi

himself.

Solicitor-General Tushar Mehta, for the State of Gujarat, said the poem was at best “*sadak chaap*” (cheap) and not a *Faiz*. He objected to the comparison to Mahatma Gandhi.

“Please do not compare him [Pratapgarhi] with Mahatma Gandhi,” Mr. Mehta

urged the judges.

Justice Oka said the case raised the question whether the police of the country had still not wrapped their heads around the fundamental right of free speech and expression even 75 years after the Constitution.

The Bench referred to a tendency to stifle art and poetry. “Nobody has any respect for creativity. If you read this poem plainly, it says that even if we suffer injustice, we will suffer it with love,” Justice Oka said.

CONTINUED ON
» PAGE 10

Police yet to understand fundamental right to free speech and expression: SC

पुलिस अब भी

अभिव्यक्ति की

स्वतंत्रता के मौलिक

अधिकार को समझने में

असफल: सुप्रीम कोर्ट

The Supreme Court on Monday questioned why a poem by Congress MP Imran Pratapgarhi led the Gujarat Police to file a criminal case

against him for allegedly promoting enmity between different groups based on caste and religion.

सुप्रीम कोर्ट ने सोमवार को पूछा कि कांग्रेस सांसद इमरान प्रतापगढ़ी की एक कविता के कारण गुजरात पुलिस ने उनके खिलाफ जाति और धर्म के आधार पर विभिन्न समूहों के बीच दुश्मनी फैलाने का आपराधिक मामला क्यों दर्ज किया।

- A Bench of Justices A.S. Oka and Ujjal Bhuyan noted that the poem referred to non-violence, a principle followed by Mahatma Gandhi.

न्यायमूर्ति ए.एस. ओका और उज्जल भुइयां की पीठ ने कहा कि यह कविता अहिंसा का संदर्भ देती है, जो कि महात्मा गांधी द्वारा अपनाया गया मार्ग था।

Solicitor-General's response



सॉलिसिटर जनरल की प्रतिक्रिया

- Solicitor-General Tushar Mehta, representing Gujarat, described the poem as "sadak chaap" (cheap) and not comparable to Faiz.
गुजरात की ओर से सॉलिसिटर जनरल तुषार मेहता ने इस कविता को "सड़क छाप" (सस्ती) बताया और कहा कि इसकी तुलना फैंज़ से नहीं की जा सकती।
- He objected to linking Pratapgarhi's poem to Mahatma Gandhi and urged the judges not to compare them.
उन्होंने प्रतापगढ़ी की कविता की महात्मा गांधी से तुलना करने पर आपत्ति जताई और न्यायाधीशों से इसे न जोड़ने का अनुरोध किया।

SC's concern over free speech restrictions

सुप्रीम कोर्ट की अभिव्यक्ति की स्वतंत्रता पर चिंता

- Justice Oka questioned whether the police still fail to understand the fundamental right to free speech and expression, even after 75 years of the Constitution.
न्यायमूर्ति ओका ने सवाल किया कि क्या संविधान के 75 वर्षों बाद भी पुलिस अभिव्यक्ति की स्वतंत्रता के मौलिक अधिकार को समझने में असफल है।
- The Bench criticized the growing tendency to suppress art and poetry, stating that "nobody respects creativity anymore."
पीठ ने कला और कविता को दबाने की बढ़ती प्रवृत्ति की आलोचना की और कहा कि "आजकल रचनात्मकता का सम्मान नहीं किया जाता।"
- The court emphasized that the poem simply conveyed that even in the face of injustice, one should endure it with love.
अदालत ने कहा कि इस कविता का सीधा संदेश यह था कि अन्याय सहना पड़े तो भी उसे प्रेम के साथ सहन किया जाए।



Australia, the partner for India's growth trajectory

**GS Paper II:
India-Australia**

Australia believes that India has a bright future economically. We believe that it will be the third biggest economy in the world by 2030. And we believe that India warrants greater political influence as its economy grows – that is why we back India's claim for a seat on the United Nations Security Council.

We also believe that Australia is a natural partner for India's growth because our economies are complementary (we produce the things India needs, and vice versa); because we are strategically aligned; and because we are neighbours just across the Indian Ocean.

The new Roadmap, the next phase of ties For these reasons, Australian Prime Minister Anthony Albanese last week personally launched the New Roadmap for Australia's Economic Engagement with India. The Roadmap sets out how Australia can contribute to, and benefit from, India's phenomenal growth. Put simply, the Roadmap says that Australia believes in the Indian growth narrative, and the Roadmap then goes on to articulate how Australia has the skills, the resources and the commitment to support that narrative.

The Roadmap builds on the successful effort from our last economic strategy in 2018. But a lot has changed since then.

Fuelled by our free trade agreement, the Economic Cooperation and Trade Agreement (ECTA), the India-Australia relationship has grown at the high end of our expectations. Take this one telling statistic. India's exports to the world have grown by 35% in the last five years. Not bad, right? But India's exports to Australia have grown by 66% – nearly twice as fast as India's exports to the rest of the world.

That is because India is growing in ways that are complementary to Australia's own economy.

Australia produces the things that India will need for the next chapter of its growth – the



Philip Green

is Australia's High Commissioner to India

Australia has the skills, the resources and the commitment to support India's growth

energy to power the Indian economy; the resources (including the critical minerals) to power India's manufacturing drive; and the training capabilities that India needs to skill up the next generation of Indian professionals and workers.

The Roadmap charts the next phase of our partnership, and showcases how Australia can be part of India's economic story. It identifies four sectors – the "Superhighways of growth" – where the Australia-India partnership is most prospective. Those superhighways of growth are: clean energy; education and skills; agribusiness and tourism.

The Roadmap also describes another seven 'major economic roads' to mutual prosperity: investment; tech; sports; culture and the arts; resources; defence; space and health. These are the fields in which our complementary capabilities can be most naturally leveraged.

In framing our partnership, we are listening closely to India's ambitions.

A great example is India's ambition for manufacturing electric vehicles. When India's Prime Minister Narendra Modi talks about the number of electric vehicles growing eight-fold in India by 2030, Australia responds that we have the critical minerals and raw earth metals to realise that goal. Australia is the largest lithium producer in the world, and has the world's second largest reserves of nickel and cobalt.

Support for India's skill needs

We are also listening carefully to Indian voices about skills needs. And we hear that India needs to equip two crore Indians every year with the right skills and qualifications to maximise its growth. Australian universities are listening, and are gearing up to provide the high-quality training needed to support Indian ambitions. Australian universities have been the first foreign universities to open campuses here in India – in Gujarat International Finance Tech (GIFT) city,

and shortly in Noida (Uttar Pradesh), and more will follow in the coming years.

Australia also boasts a 'super power' when it comes to economic engagement with India. That super power is the Indian diaspora, already 10 lakh strong and the fastest growing population group in our country. Many of these Indian-Australians are prominent leaders in business, government and the community. And our new Centre for Australia India Relations, with ₹132 crore worth of support from our government, is, appropriately, headed by two eminent Australians of Indian origin. Our Prime Minister stood beside one of them as he launched the Roadmap.

The Indian diaspora is a bridge

The Indian diaspora in Australia is an invaluable asset. Indian-Australians deepen our understanding of each other and spark business opportunities. Because our government understands the value of this 'human bridge' (as Mr. Modi calls it), we are investing another ₹22 crore into our hugely successful Maitri grants program. This programme works to maximise the potential of our diaspora links.

The Roadmap signals to Australian business that they should look for further opportunities to partner with Indian counterparts, for mutual benefit.

And as they do that, it becomes even more important that we progress our Comprehensive Economic Cooperation Agreement (CECA), building a higher platform for the next stage of our economic partnership.

As the Australian Prime Minister says "Australia's relationship with India is stronger, deeper and more consequential than it has ever been – but there is much more to come. What is truly exciting is the sheer scale of the opportunities in the near future if we get things right in the present... With this Roadmap, the way ahead looks a lot clearer."

Australia, the Partner for India's Growth Trajectory

ऑस्ट्रेलिया: भारत की विकास यात्रा का भागीदार

Australia believes in India and its bright economic future.

ऑस्ट्रेलिया भारत में विश्वास करता है और उसके उज्ज्वल आर्थिक भविष्य में भी।

- Australia believes that India will be the third biggest economy in the world by 2030.

ऑस्ट्रेलिया का मानना है कि भारत 2030 तक दुनिया की तीसरी सबसे बड़ी अर्थव्यवस्था होगा।

- Australia supports India's claim for a seat on the United Nations Security Council.

ऑस्ट्रेलिया संयुक्त राष्ट्र सुरक्षा परिषद में भारत की सीट के दावे का समर्थन करता है।

- India and Australia are natural partners because:

भारत और ऑस्ट्रेलिया प्राकृतिक भागीदार हैं क्योंकि:

- Their economies are complementary.

उनकी अर्थव्यवस्थाएं एक-दूसरे के पूरक हैं।

- They are strategically aligned.

वे रणनीतिक रूप से जुड़े हुए हैं।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- They are **neighbors across the Indian Ocean**.
वे हिंद महासागर के पार पड़ोसी हैं।

The New Roadmap, The Next Phase of Ties

नया रोडमैप: संबंधों का अगला चरण

- Australian Prime Minister Anthony Albanese launched the New Roadmap for economic engagement with India.
ऑस्ट्रेलियाई प्रधानमंत्री एंथनी अल्बनीज़ ने भारत के साथ आर्थिक सहयोग के लिए नया रोडमैप लॉन्च किया।
- The Roadmap explains how Australia can contribute to and benefit from India's growth.
यह रोडमैप बताता है कि ऑस्ट्रेलिया भारत की वृद्धि में कैसे योगदान दे सकता है और इससे लाभान्वित हो सकता है।
- The Roadmap builds on the 2018 economic strategy, but much has changed since then.
यह रोडमैप 2018 की आर्थिक रणनीति पर आधारित है, लेकिन तब से बहुत कुछ बदल चुका है।

Growth in Trade: The Impact of ECTA

व्यापार में वृद्धि: ECTA का प्रभाव

- The **Economic Cooperation and Trade Agreement (ECTA)** has accelerated India-Australia relations.
आर्थिक सहयोग और व्यापार समझौते (ECTA) ने भारत-ऑस्ट्रेलिया संबंधों को तेज कर दिया है।
- **India's exports to the world grew by 35% in the last five years, while India's exports to Australia grew by 66%.**
पिछले पांच वर्षों में भारत का वैश्विक निर्यात 35% बढ़ा, जबकि ऑस्ट्रेलिया को निर्यात 66% बढ़ा।
- This growth is due to **complementary economic structures** between the two nations.
यह वृद्धि दोनों देशों की पूरक अर्थव्यवस्थाओं के कारण हुई है।

Australia's Key Contributions to India's Growth

भारत की वृद्धि में ऑस्ट्रेलिया का योगदान

- **Australia provides:**
ऑस्ट्रेलिया प्रदान करता है:
 - **Energy** to power India's economy.
ऊर्जा, जिससे भारत की अर्थव्यवस्था को शक्ति मिलती है।
 - **Resources and critical minerals** for India's manufacturing sector.
संसाधन और महत्वपूर्ण खनिज, जो भारत के विनिर्माण क्षेत्र के लिए आवश्यक हैं।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- **Training capabilities** to skill Indian professionals and workers.
प्रशिक्षण क्षमताएं, जो भारतीय पेशेवरों और श्रमिकों को कुशल बनाती हैं।

The Superhighways of Growth

विकास के सुपरहाईवे

- The Roadmap identifies **four priority sectors** for India-Australia cooperation:
यह रोडमैप भारत-ऑस्ट्रेलिया सहयोग के चार प्राथमिक क्षेत्र दर्शाता है:

1. **Clean Energy**
स्वच्छ ऊर्जा
2. **Education and Skills**
शिक्षा और कौशल
3. **Agribusiness**
कृषि व्यवसाय
4. **Tourism**
पर्यटन

The Roadmap and Major Economic Roads

रोडमैप और प्रमुख आर्थिक रास्ते

- The Roadmap describes **seven 'major economic roads'** for mutual prosperity.
रोडमैप में आपसी समृद्धि के लिए सात 'प्रमुख आर्थिक रास्तों' का उल्लेख किया गया है।

- These include:

इनमें शामिल हैं:

- **Investment**
निवेश
- **Tech**
तकनीक
- **Sports**
खेल
- **Culture and the Arts**
संस्कृति और कला
- **Resources**
संसाधन
- **Defence**
रक्षा
- **Space and Health**
अंतरिक्ष और स्वास्थ्य



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- These are the **fields where India and Australia can leverage their complementary capabilities.**

ये वे क्षेत्र हैं जहां भारत और ऑस्ट्रेलिया अपनी पूरक क्षमताओं का अधिकतम लाभ उठा सकते हैं।

India's Ambition for Electric Vehicles and Australia's Role

भारत की इलेक्ट्रिक वाहन महत्वाकांक्षा और ऑस्ट्रेलिया की भूमिका

- India aims to increase the number of **electric vehicles eight-fold by 2030.**
भारत 2030 तक इलेक्ट्रिक वाहनों की संख्या को आठ गुना बढ़ाने का लक्ष्य रखता है।
- Australia supports this goal by providing **critical minerals and raw earth metals.**
ऑस्ट्रेलिया इस लक्ष्य का समर्थन करता है और महत्वपूर्ण खनिज व कच्ची धातुएं उपलब्ध कराता है।
- **Australia is the largest lithium producer in the world.**
ऑस्ट्रेलिया दुनिया का सबसे बड़ा लिथियम उत्पादक देश है।
- **Australia has the second largest reserves of nickel and cobalt.**
ऑस्ट्रेलिया के पास निकल और कोबाल्ट का दुनिया में दूसरा सबसे बड़ा भंडार है।

Support for India's Skill Needs

भारत की कौशल आवश्यकताओं के लिए समर्थन

- **India needs to equip two crore people every year with the right skills and qualifications.**
भारत को हर साल दो करोड़ लोगों को सही कौशल और योग्यताओं से लैस करना होगा।
- **Australian universities are actively providing high-quality training to support India's ambitions.**
भारतीय महत्वाकांक्षाओं का समर्थन करने के लिए ऑस्ट्रेलियाई विश्वविद्यालय उच्च गुणवत्ता वाला प्रशिक्षण प्रदान कर रहे हैं।
- **Australian universities are the first foreign universities to open campuses in India.**
ऑस्ट्रेलियाई विश्वविद्यालय भारत में कैंपस खोलने वाले पहले विदेशी विश्वविद्यालय हैं।
- **They have already set up campuses in Gujarat International Finance Tech (GIFT) City and soon in Noida (Uttar Pradesh).**
उन्होंने गुजरात इंटरनेशनल फाइनेंस टेक (GIFT) सिटी में कैंपस खोला है और जल्द ही नोएडा (उत्तर प्रदेश) में भी खोलने जा रहे हैं।

The Indian Diaspora: A 'Super Power' in Economic Engagement

भारतीय प्रवासी: आर्थिक संबंधों में 'सुपर पावर'

- **Australia has 10 lakh Indian diaspora members, making it the fastest-growing population group.**
ऑस्ट्रेलिया में 10 लाख भारतीय प्रवासी हैं, जो वहां की सबसे तेजी से बढ़ती आबादी में शामिल हैं।

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



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- Many Indian-Australians hold leadership positions in business, government, and communities.
कई भारतीय-ऑस्ट्रेलियाई व्यापार, सरकार और समुदायों में नेतृत्व की भूमिकाओं में हैं।
- Australia has established the Centre for Australia-India Relations with ₹132 crore support.
ऑस्ट्रेलिया ने भारत-ऑस्ट्रेलिया संबंध केंद्र को ₹132 करोड़ के समर्थन के साथ स्थापित किया है।
- This centre is led by two eminent Australians of Indian origin.
इस केंद्र का नेतृत्व दो प्रतिष्ठित भारतीय मूल के ऑस्ट्रेलियाई कर रहे हैं।

The Indian Diaspora: A Bridge Between Nations

भारतीय प्रवासी: दोनों देशों के बीच एक सेतु

- The Indian diaspora deepens mutual understanding and creates business opportunities.
भारतीय प्रवासी आपसी समझ को मजबूत करता है और व्यापारिक अवसर उत्पन्न करता है।
- The Australian government values this 'human bridge' and is investing ₹22 crore in the **Maitri Grants Program**.
ऑस्ट्रेलियाई सरकार इस 'मानव सेतु' को महत्व देती है और मैत्री अनुदान कार्यक्रम में ₹22 करोड़ का निवेश कर रही है।
- **This program aims to maximize the potential of diaspora connections.**
इस कार्यक्रम का उद्देश्य प्रवासी संबंधों की संभावनाओं को अधिकतम करना है।

Encouraging Business Partnerships and CECA

व्यापारिक साझेदारी और CECA को बढ़ावा देना

- The Roadmap encourages Australian businesses to explore more partnerships with Indian counterparts.
यह रोडमैप ऑस्ट्रेलियाई व्यवसायों को भारतीय भागीदारों के साथ अधिक साझेदारी खोजने के लिए प्रोत्साहित करता है।
- Progressing the **Comprehensive Economic Cooperation Agreement (CECA)** is crucial for strengthening economic ties.
व्यापक आर्थिक सहयोग समझौते (CECA) को आगे बढ़ाना आर्थिक संबंधों को मजबूत करने के लिए महत्वपूर्ण है।

Australian Prime Minister's Vision

ऑस्ट्रेलियाई प्रधानमंत्री का दृष्टिकोण

- "Australia's relationship with India is stronger, deeper, and more consequential than ever".
"ऑस्ट्रेलिया और भारत का संबंध पहले से अधिक मजबूत, गहरा और प्रभावशाली है"।



- “There is much more to come, and the opportunities ahead are immense”.
"अब भी बहुत कुछ आना बाकी है, और आगे की संभावनाएं विशाल हैं"।
- “With this Roadmap, the way ahead looks a lot clearer”.
"इस रोडमैप के साथ, आगे का रास्ता अधिक स्पष्ट दिखता है"।

How is China’s foreign policy structured?

Which are the two main decision-making bodies with respect to China’s foreign policy? What is the role of the International Department of the Communist Party of China? Has the Ministry of Foreign Affairs been increasing in stature in China?

GS Paper II: China

EXPLAINER

Shruti Jargad

The story so far:

During his visit to China in January, Foreign Secretary Vikram Misri had separate meetings with the Chinese Vice Foreign Minister, Sun Weidong, with Foreign Minister Wang Yi, who is also a member of the Politburo of the Communist Party of China (CPC), and Liu Jianchao, head of the International Department of the CPC (IDCPC). While in India, there is a clear distinction between the party and the state, in the Chinese system, party and state bodies are intermeshed, with the CPC holding ultimate authority over the government.

Who are decision makers in China?

At the top of all political decision making is the Politburo Standing Committee (PBSC). While the PBSC sets the overall policy direction, it is the CPC Central Committee’s Foreign Affairs Commission (FAC) that takes charge of policy coordination, inter-departmental communications and actual decision making. Little information is available about the membership and meetings of this body. However, it is known that the commission is headed by Chinese President Xi Jinping, with Li Qiang as its deputy head. Secretarial and administrative services to this commission are provided by the Office of the FAC. This office is headed by Wang Yi, who concurrently holds the position of China’s Foreign Minister. The daily workings of the organisation is managed by Deputy Director, Guo Yezhou. This office is significant as it has the function of agenda setting, information gathering from line agencies, and making recommendations to top leaders.

What does the CPC’s diplomatic arm look like?

While the above two are decision-making

Top level design

While in India, there is a clear distinction between the party and the state, in the Chinese system, party and state bodies are intermeshed, with the Communist Party of China holding authority over the government



| PARTY ORGANISATION | FUNCTION | LEADER |
|-------------------------------------|--|---|
| Politburo Standing Committee | Overall policy direction | Xi Jinping |
| Foreign Affairs Commission (FAC) | Decision making, inter departmental coordination | Head: Xi Jinping Deputy: Li Qiang |
| Office of the FAC | Secretarial co-ordination, agenda setting, research | Director: Wang Yi Deputy: Guo Yezhou |
| International Department of the CPC | Party-to-party diplomacy, research | Department Head: Liu Jianchao |
| United Front Work Department | Overseas Chinese, Taiwan, Hong Kong, ethnic minority affairs | Department Head: Shi Taifeng |

bodies, the main organisation engaged in the CPC’s diplomatic outreach is the International Liaison Department of the CPC Central Committee (IDCPC). Liu Jianchao, the IDCPC head, is a former foreign ministry spokesperson, diplomat and official in the Central Commission for Discipline Inspection. As the head, Mr. Liu holds a provincial-ministerial level ranking, which technically puts him at par with ministers in the state council, but because of party-state hierarchy, he outranks state ministers.

The IDCPC has been conducting the party’s diplomatic outreach to political parties across the ideological spectrum in more than 150 countries with an aim to supplement state to state relations, but also to increase the international legitimacy of the CPC. It is organised in

regional bureaux like ‘South and Southeast Asian Affairs’ that conducts research on political conditions and maintains contact with major parties and organisations. Party-to-party diplomacy has been a key tool for the CPC in South Asia. The IDCPC has hosted delegations from India’s major political parties too.

Another important party organisation in the realm of foreign policy is the United Front Work Department (UFW), headed by Politburo member Shi Taifeng. The UFW is tasked with managing relations with overseas Chinese diaspora as well as Hong Kong and Taiwan affairs.

It also oversees narratives around ethnic minorities in Tibet and Xinjiang and seeks to influence international messaging on China by reaching out to intellectuals in foreign countries.

Do they handle state-to-state diplomacy as well?

The Ministry of Foreign Affairs (MFA) is a governmental body and is a constituent ministry under the state council. It is headed by the Foreign Minister, whose position has fluctuated in the party hierarchy over decades.

In the early years of the People’s Republic of China, the Ministry was headed by the powerful Chinese premier, Zhou Enlai, but later saw a decline in power and influence. The MFA is primarily responsible for the implementation of foreign policy decisions through its bureaucratic and diplomatic corps. Though considered to be at the ‘middle level’ in terms of hierarchy – with little power to give a unique perspective on foreign policy issues – it is the official interface of the Chinese state with the rest of the world. Through its statements and press releases, it communicates China’s position on various issues related to foreign policy, security, domestic politics, etc. Furthermore, research shows that since coming to power, Xi Jinping has taken a keen interest in foreign affairs, increasing the stature of the MFA. He is also said to regularly summon foreign service bureaucrats and serving ambassadors for direct instructions, an indication of the ‘top level design’ in foreign policy.

There are other organisations like the National Security Commission, the Chinese People’s Political Consultative Conference, National People’s Congress, etc. that also have a diplomatic component. Based on this, it can be concluded that China has quite a distinct foreign policy apparatus that requires engagement at multiple levels involving both party and state actors. It also necessitates that Indian policymakers pay special attention to the Chinese Communist Party and its various official formulations, as these are fundamental in setting state policies.

Shruti Jargad is a research analyst at Centre for Social and Economic Progress

THE GIST

While the PBSC sets the overall policy direction, it is the CPC Central Committee’s Foreign Affairs Commission (FAC) that takes charge of policy coordination, inter-departmental communications and actual decision making.

The Ministry of Foreign Affairs (MFA) is a governmental body and is a constituent ministry under the state council. It is headed by the Foreign Minister.

There are other organisations like the National Security Commission, the Chinese People’s Political Consultative Conference, National People’s Congress, etc. that also have a diplomatic component.

China’s Foreign Policy Structure

चीन की विदेश नीति की संरचना

In China, party and state bodies are intermeshed, with the Communist Party of China (CPC) holding ultimate authority over the government.

चीन में पार्टी और सरकारी संस्थाएं आपस में जुड़ी हुई हैं, जहां चीनी कम्युनिस्ट पार्टी (CPC) सरकार पर अंतिम अधिकार रखती है।

- Foreign Secretary Vikram Misri met Chinese Vice Foreign Minister Sun Weidong, Foreign Minister Wang Yi, and IDCPC head Liu Jianchao during his visit to China in January.



जनवरी में चीन दौरे के दौरान, विदेश सचिव विक्रम मिश्री ने चीनी उप विदेश मंत्री सुन वेइडोंग, विदेश मंत्री वांग यी और IDCPC प्रमुख लियू जियानचाओ से मुलाकात की।

Who Are the Decision Makers in China?

चीन में निर्णय लेने वाले कौन हैं?

- The **Politburo Standing Committee (PBSC)** is at the top of all political decision-making in China.
चीन में सभी राजनीतिक निर्णय लेने की प्रक्रिया के शीर्ष पर पोलितब्यूरो स्थायी समिति (PBSC) होती है।
- The **CPC Central Committee's Foreign Affairs Commission (FAC)** is responsible for policy coordination, inter-departmental communication, and decision-making.
CPC केंद्रीय समिति का विदेश मामलों का आयोग (FAC) नीति समन्वय, विभागीय संचार और निर्णय लेने के लिए जिम्मेदार है।
- The FAC is headed by President Xi Jinping, with Li Qiang as its deputy head.
FAC का नेतृत्व राष्ट्रपति शी जिनपिंग कर रहे हैं, और ली कियांग इसके उप प्रमुख हैं।
- The Office of the FAC, headed by Wang Yi, manages agenda setting, information gathering, and recommendations for top leaders.
FAC का कार्यालय, जिसका नेतृत्व वांग यी कर रहे हैं, नीति निर्माण, सूचना एकत्र करने और शीर्ष नेताओं को सिफारिशें देने का कार्य करता है।
- The Deputy Director of this office is Guo Yezhou, who manages its daily operations.
इस कार्यालय के उप निदेशक गुओ येझोउ हैं, जो इसके दैनिक कार्यों को संभालते हैं।

The CPC's Diplomatic Arm

CPC की कूटनीतिक शाखा

- The main diplomatic organization of the CPC is the International Liaison Department of the CPC Central Committee (IDCPC).
CPC की मुख्य कूटनीतिक संस्था CPC केंद्रीय समिति का अंतर्राष्ट्रीय संपर्क विभाग (IDCPC) है।
- IDCPC is responsible for the CPC's diplomatic outreach and political engagements with foreign parties.
IDCPC CPC की कूटनीतिक गतिविधियों और विदेशी दलों के साथ राजनीतिक संपर्कों के लिए जिम्मेदार है।
- Liu Jianchao, the IDCPC head, is a former foreign ministry spokesperson and diplomat.
IDCPC के प्रमुख लियू जियानचाओ पहले विदेश मंत्रालय के प्रवक्ता और राजनयिक रह चुके हैं।
- Liu holds a provincial-ministerial level ranking, which technically makes him equal to ministers in the State Council, but he outranks them due to the party-state hierarchy.



लियू का दर्जा प्रांतीय-मंत्रालयी स्तर का है, जो उन्हें तकनीकी रूप से राज्य परिषद के मंत्रियों के समकक्ष बनाता है, लेकिन पार्टी-सरकार पदानुक्रम के कारण वे उनसे ऊंचे पद पर होते हैं।

The Role of the IDCPC in China's Foreign Policy

चीन की विदेश नीति में IDCPC की भूमिका

- The International Liaison Department of the CPC Central Committee (IDCPC) conducts the party's diplomatic outreach to political parties in more than 150 countries.
चीनी कम्युनिस्ट पार्टी (CPC) की केंद्रीय समिति का अंतर्राष्ट्रीय संपर्क विभाग (IDCPC) 150 से अधिक देशों में राजनीतिक दलों से कूटनीतिक संपर्क स्थापित करता है।
- The goal is to supplement state-to-state relations and increase the CPC's international legitimacy.
इसका उद्देश्य राज्य-से-राज्य संबंधों को मजबूत करना और CPC की अंतर्राष्ट्रीय वैधता बढ़ाना है।
- The IDCPC has regional bureaus, such as 'South and Southeast Asian Affairs', which conduct research on political conditions and maintain contact with major parties and organizations.
IDCPC में क्षेत्रीय ब्यूरो हैं, जैसे 'दक्षिण और दक्षिण-पूर्व एशियाई मामले', जो राजनीतिक स्थितियों पर शोध करते हैं और प्रमुख दलों और संगठनों के साथ संपर्क बनाए रखते हैं।
- Party-to-party diplomacy is a key tool for the CPC in South Asia, and IDCPC has hosted delegations from India's major political parties.
दक्षिण एशिया में पार्टी-से-पार्टी कूटनीति CPC के लिए एक महत्वपूर्ण उपकरण है, और IDCPC ने भारत की प्रमुख राजनीतिक पार्टियों के प्रतिनिधिमंडलों की मेजबानी की है।

The Role of the United Front Work Department (UFWD)

यूनाइटेड फ्रंट वर्क डिपार्टमेंट (UFWD) की भूमिका

- The UFWD is another important party organization in foreign policy, headed by Politburo member Shi Taifeng.
UFWD विदेश नीति में एक और महत्वपूर्ण पार्टी संगठन है, जिसका नेतृत्व पोलितब्यूरो सदस्य शी ताइफेंग कर रहे हैं।
- UFWD manages relations with the overseas Chinese diaspora, as well as Hong Kong and Taiwan affairs.
UFWD प्रवासी चीनी समुदायों के साथ संबंधों का प्रबंधन करता है, साथ ही हांगकांग और ताइवान मामलों को भी देखता है।
- It oversees narratives around ethnic minorities in Tibet and Xinjiang and tries to influence international messaging on China by engaging with foreign intellectuals.
यह तिब्बत और शिनजियांग में जातीय अल्पसंख्यकों से संबंधित कथाओं की निगरानी करता है और विदेशी बुद्धिजीवियों के माध्यम से चीन की अंतर्राष्ट्रीय छवि को प्रभावित करने का प्रयास करता है।



Do These Bodies Handle State-to-State Diplomacy?

क्या ये संगठन राज्य-से-राज्य कूटनीति को भी संभालते हैं?

- The Ministry of Foreign Affairs (MFA) is a governmental body under the State Council.
विदेश मंत्रालय (MFA) राज्य परिषद के अधीन एक सरकारी निकाय है।
- It is headed by the Foreign Minister, whose position has fluctuated in the party hierarchy over decades.
इसका नेतृत्व विदेश मंत्री करते हैं, जिनकी स्थिति पार्टी के पदानुक्रम में दशकों से बदलती रही है।
- In the early years of the People's Republic of China, the Ministry was headed by Premier Zhou Enlai, but later, its power and influence declined.
चीनी जनवादी गणराज्य के शुरुआती वर्षों में, इस मंत्रालय का नेतृत्व प्रधानमंत्री झोउ एनलाई ने किया था, लेकिन बाद में इसकी शक्ति और प्रभाव में गिरावट आई।
- The MFA is primarily responsible for implementing foreign policy decisions through its bureaucratic and diplomatic corps.
MFA मुख्य रूप से अपनी नौकरशाही और कूटनीतिक सेवाओं के माध्यम से विदेश नीति के निर्णयों को लागू करने के लिए जिम्मेदार है।
- Though considered a 'middle-level' organization with limited power, it is the official interface of the Chinese state with the world.
हालांकि इसे 'मध्य-स्तर' की संस्था माना जाता है, जिसके पास सीमित शक्ति है, लेकिन यह चीनी राज्य का आधिकारिक वैश्विक संपर्क बिंदु है।
- Through statements and press releases, the MFA communicates China's position on foreign policy, security, and domestic politics.
बयान और प्रेस विज्ञप्तियों के माध्यम से, MFA विदेश नीति, सुरक्षा और आंतरिक राजनीति पर चीन की स्थिति स्पष्ट करता है।

Xi Jinping's Influence on the MFA

शी जिनपिंग का MFA पर प्रभाव

- Since coming to power, Xi Jinping has taken a keen interest in foreign affairs, leading to an increase in the MFA's stature.
सत्ता में आने के बाद से, शी जिनपिंग ने विदेश मामलों में गहरी रुचि ली है, जिससे MFA की स्थिति मजबूत हुई है।
- He is known to regularly summon foreign service bureaucrats and ambassadors for direct instructions, reflecting 'top-level design' in foreign policy.
वे नियमित रूप से विदेश सेवा अधिकारियों और राजदूतों को सीधे निर्देश देने के लिए बुलाते हैं, जो विदेश नीति में 'शीर्ष-स्तरीय डिजाइन' को दर्शाता है।

Other Organizations Involved in Diplomacy



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



अन्य कूटनीतिक संगठनों की भूमिका

- Apart from the MFA, there are several other organizations with a diplomatic role, such as:

MFA के अलावा, कई अन्य संगठन भी कूटनीति में शामिल हैं, जैसे:

- **National Security Commission (NSC)**
राष्ट्रीय सुरक्षा आयोग (NSC)
 - **Chinese People's Political Consultative Conference (CPPCC)**
चीनी जन राजनीतिक सलाहकार सम्मेलन (CPPCC)
 - **National People's Congress (NPC)**
राष्ट्रीय जन कांग्रेस (NPC)
- These bodies play a role in shaping China's international engagement.
ये संगठन चीन की अंतर्राष्ट्रीय भागीदारी को आकार देने में भूमिका निभाते हैं।

Implications for India

भारत के लिए प्रभाव

- **China has a unique foreign policy structure that requires engagement at multiple levels, involving both party and state actors.**
चीन की एक विशिष्ट विदेश नीति संरचना है, जिसमें कई स्तरों पर संपर्क की आवश्यकता होती है, जिसमें पार्टी और सरकारी दोनों संस्थाएं शामिल हैं।
- **Indian policymakers should closely monitor the CPC and its official statements, as they play a fundamental role in shaping China's state policies.**
भारतीय नीति-निर्माताओं को CPC और इसकी आधिकारिक घोषणाओं पर विशेष ध्यान देना चाहिए, क्योंकि वे चीन की राज्य नीतियों को आकार देने में महत्वपूर्ण भूमिका निभाते हैं।

(GS Paper III: Economy, S&T, Environment, DM, IS)

1. Paytm's parent firm gets ED notice for FEMA breach

पेमेंट की मूल कंपनी को FEMA उल्लंघन के लिए ED का नोटिस

2. The Way to Protect Orans

ओरनों की सुरक्षा का मार्ग

3. Why is the Parandur Airport Project Facing Opposition?

परंदूर हवाई अड्डा परियोजना का विरोध क्यों हो रहा है?

4. The Implications of Treating Virtual Digital Assets as Taxable Properties



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



वर्चुअल डिजिटल संपत्तियों को कर योग्य संपत्ति के रूप में मानने के प्रभाव

5.India Launches Multi-Nation Alliance for Collaboration on Sustainable Development

भारत ने सतत विकास पर सहयोग के लिए बहुराष्ट्रीय गठबंधन शुरू किया

6.Study Finds 6,327 Gangetic Dolphins Across Four States

अध्ययन में चार राज्यों में 6,327 गंगा डॉल्फिन पाई गईं

7.ISRO Releases Second Set of Scientific Data from Aditya Mission

इसरो ने आदित्य मिशन से दूसरा वैज्ञानिक डेटा जारी किया

8.Feb. Manufacturing PMI Slips on Slowdown in Sales Growth

फरवरी में बिक्री वृद्धि में मंदी के कारण विनिर्माण पीएमआई में गिरावट

9. Research team takes big step towards making a Bose metal

शोध दल ने बोस मेटल बनाने की दिशा में बड़ा कदम उठाया

10.NASA to Launch SPHEREx to Explore What Happened Right After Big Bang

बिग बैंग के तुरंत बाद क्या हुआ, इसे जानने के लिए नासा SPHEREx लॉन्च करेगा



Paytm's parent firm gets ED notice for FEMA breach

GS Paper III: Internal Security

NEW DELHI

The Enforcement Directorate (ED) has issued a show-cause notice to One97 Communication Ltd., the parent company of Paytm, its managing director, and others for alleged contraventions of the provisions of the Foreign Exchange Management Act (FEMA) involving ₹611 crore.

"We are working towards resolving the matter in accordance with applicable laws and regulatory processes. We remain committed to strengthening processes in adherence and upholding the highest standards of compliance and governance," a Paytm spokesperson said.

The show-cause notice has been issued by the Special Director of Enforcement (Adjudication) to Paytm's flagship company and Paytm's subsidiary companies.

Paytm's parent firm gets ED notice for FEMA breach

पेमेंट की मूल कंपनी को FEMA उल्लंघन के लिए ED का नोटिस

The Enforcement Directorate (ED) has issued a show-cause notice to One97 Communications Ltd., the parent company of Paytm, along with its managing director and others.

प्रवर्तन निदेशालय (ED) ने वन97 कम्युनिकेशंस लिमिटेड, जो कि पेटीएम की मूल कंपनी है, इसके प्रबंध निदेशक और अन्य संबंधित व्यक्तियों को शो-काँज नोटिस जारी किया है।

- The alleged violations are related to the Foreign Exchange Management Act (FEMA) and involve ₹611 crore.

कथित उल्लंघन विदेशी मुद्रा प्रबंधन अधिनियम (FEMA) से जुड़े हैं और इसमें ₹611 करोड़ की राशि शामिल है।

Paytm's response to ED notice

पेटीएम की ED नोटिस पर प्रतिक्रिया

- Paytm stated that it is working towards resolving the matter in compliance with applicable laws and regulations.

पेटीएम ने कहा कि वह इस मामले को कानूनों और नियामक प्रक्रियाओं के अनुसार हल करने की दिशा में काम कर रहा है।

- The company reaffirmed its commitment to strengthening compliance and upholding the highest governance standards.

कंपनी ने अनुपालन को मजबूत करने और सर्वोच्च प्रशासनिक मानकों को बनाए रखने की प्रतिबद्धता दोहराई।

Details of the notice

नोटिस का विवरण



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- The **show-cause notice** was issued by the **Special Director of Enforcement (Adjudication)**.
शो-काँज नोटिस प्रवर्तन निदेशालय (ED) के विशेष निदेशक (विचारण) द्वारा जारी किया गया।
- The notice was **sent to Paytm's flagship company** as well as its **subsidiary companies**.
यह नोटिस पेटीएम की मुख्य कंपनी और उसकी सहायक कंपनियों को जारी किया गया।

PATRIOTIC IAS



The way to protect orans

GS Paper III: Environment

In December 2024, in T.N. *Godavarman Thirumulpad v. Union of India*, the Supreme Court recognised the socio-ecological and cultural importance of orans (sacred forests) for local communities in Rajasthan, and passed protectionist orders for their conservation. The judgment aims to further the protection of orans and harness local communities' agency for doing so. It seeks to achieve these objectives by formalising the governance and management of orans – that is, by bringing them within the purview of biodiversity-related laws. While this is a well-intended move, formalisation may not produce the desired outcomes.

Orans are sacred groves established by local communities since pre-agrarian times. Every oran is presided by a local deity whose idol is placed inside it. While different socio-religious traditions may be associated with different orans, a shared tradition is the prohibition on cutting trees using an axe. It is believed that anyone who contravenes this may be harmed by the deity.

In addition to their socio-religious and economic importance, by enhancing local fauna, orans also support traditional water sources. By trapping surface runoff, they increase groundwater levels in the area. This augments water availability in sources both above and below the ground. In some villages of Rajasthan, orans are established and governed by informal community institutions as a part of comprehensive watershed management.

Problems with formalisation

The Court's objective of encouraging community-led protection of orans is evident throughout the judgment. It acknowledges and reiterates the crucial role played by formal and informal community institutions in governing orans. However, the pathway laid down to achieve this objective is contentious.



Kanika Jamwal

Doctoral candidate,
Faculty of Law,
National University of
Singapore

In the judgment, the first step towards formalisation is the Court's declaration of orans as 'forests' under the Forest (Conservation) Act, 1980. While this will ensure that orans receive protection under the Act, it will also subject them to the wide exemptions that circumvent such protection. Some exemptions introduced through the Forest (Conservation) Amendment Act, 2023, have been criticised on the grounds that they dilute the protections accorded by the Act. For example, the Act requires that diversion of forest land for non-forest purposes requires permission from the Central government. However, diversion for inter alia zoos, safaris, and ecotourism has been exempted from this requirement. Bringing orans under the purview of the Act foregrounds them and opens them for such contentious use. Not only would this defeat the purpose of conserving them, but also conflict with the local communities' use of and approach towards orans. In fact, in May 2024, *Down To Earth* had reported that local communities in Rajasthan have expressed their reservations against the declaration of orans as forests; they apprehend that any such formalisation will lead to loss of their access over their orans.

Second, the Court's objective to further community-led governance and management of orans will also be subdued by formalisation. Take, for example, the direction to declare orans as 'community reserves' under the Wildlife (Protection) Act, 1972. The Act provides for the setting up of a committee for the management of such reserves, consisting of representation from both the local community and the State. However, as has been noted by legal scholars, the role of this committee is limited to managerial tasks. The committee has been excluded from the decision-making process.

Further, under the Act, the ultimate control of any

'community reserve' is with the State, as will be the case with orans if they are declared as such. This could tether the current role played by informal community institutions in governing and managing orans.

Similarly, the suggestion to declare orans as 'common forest land' under the Forest Rights Act, 2006, may not necessarily empower communities or grant them rights. To claim rights, a community/individual must meet the eligibility criteria under the Act. The Court has directed the State government to identify such communities and grant them rights under the Act. However, in certain villages, orans have been established and are being managed by informal community institutions that may not meet the criteria. So, they may not be able to enjoy the rights guaranteed under the Act.

The better approach

One of the suggestions made by the Court is that the Environment Ministry should formulate a comprehensive policy for the governance and management of orans. This proposal emerges from the lack of a formal governance mechanism for managing orans – as noted by the Court, different States manage them in different ways, through various formal and informal institutions.

While a comprehensive policy is welcome, it should not be aimed at formalising informal community institutions or replacing them with a centralised body. Rather, as suggested in the judgment itself, successful models of informal governance should be identified, empowered, and replicated in similar contexts. Such empowerment and replication must be in consultation with local communities and other civil society actors. In other words, policies should encourage communities to take the lead in governing their orans, with the support of the state and civil society.

The Way to Protect Orans ओरनों की सुरक्षा का मार्ग

In December 2024,
the Supreme Court
in T.N.

**Godavarman
Thirumulpad v.
Union of India
recognized the
socio-ecological
and cultural
importance of
orans (sacred
forests) in
Rajasthan.**

दिसंबर 2024 में, सुप्रीम
कोर्ट ने टी.एन.

**गोडावरमन तिरुमुलपद
बनाम भारत संघ मामले
में राजस्थान में ओरनों
(पवित्र वनों) के
सामाजिक-पर्यावरणीय
और सांस्कृतिक महत्व
को मान्यता दी।**

- The Court passed protectionist orders for their conservation and emphasized the role of local communities in this effort.
कोर्ट ने ओरनों के संरक्षण के लिए सुरक्षात्मक आदेश पारित किए और इस प्रयास में स्थानीय समुदायों की भूमिका को महत्वपूर्ण बताया।



- The ruling aims to formalize the governance and management of orans by bringing them under biodiversity-related laws.
यह फैसला ओरनों के प्रबंधन और प्रशासन को औपचारिक रूप से जैव विविधता से संबंधित कानूनों के तहत लाने का प्रयास करता है।
- While well-intended, formalization may not produce the desired outcomes.
हालांकि यह कदम अच्छा है, लेकिन इसका परिणाम वांछित रूप में नहीं आ सकता।

What Are Orans?

ओरन क्या हैं?

- Orans are sacred groves established by local communities since pre-agrarian times.
ओरन स्थानीय समुदायों द्वारा कृषि पूर्व काल से स्थापित पवित्र वन हैं।
- Each oran is presided over by a local deity, whose idol is placed inside it.
प्रत्येक ओरन में एक स्थानीय देवता का वास होता है, जिसकी मूर्ति भीतर स्थापित होती है।
- A common tradition across orans is the prohibition of tree cutting using an axe, as it is believed that anyone violating this rule may be harmed by the deity.
सभी ओरनों में कुल्हाड़ी से पेड़ काटने पर प्रतिबंध होता है, क्योंकि यह माना जाता है कि इसका उल्लंघन करने वाले को देवता द्वारा दंडित किया जा सकता है।
- Orans enhance local fauna and support traditional water sources by trapping surface runoff, increasing groundwater levels.
ओरन स्थानीय जीव-जंतुओं को बढ़ावा देते हैं और सतही जल प्रवाह को अवरुद्ध करके पारंपरिक जल स्रोतों का समर्थन करते हैं, जिससे भूजल स्तर में वृद्धि होती है।
- In some villages of Rajasthan, orans are governed by informal community institutions as a part of watershed management.
राजस्थान के कुछ गांवों में, ओरनों का प्रबंधन सामुदायिक संस्थाओं द्वारा जलग्रहण प्रबंधन के तहत किया जाता है।

Problems with Formalization

औपचारिकता से जुड़ी समस्याएं

- The Supreme Court aims to encourage community-led protection of orans but the pathway for formalization is contentious.
सुप्रीम कोर्ट का उद्देश्य समुदायों के नेतृत्व में ओरनों की सुरक्षा को बढ़ावा देना है, लेकिन औपचारिकता की प्रक्रिया विवादास्पद है।

1. Declaring Orans as 'Forests' Under the Forest (Conservation) Act, 1980

1. ओरनों को वन (संरक्षण) अधिनियम, 1980 के तहत 'वन' घोषित करना



- The Court declared orans as forests under the Forest (Conservation) Act, 1980, ensuring legal protection.
कोर्ट ने ओरनों को वन (संरक्षण) अधिनियम, 1980 के तहत वन घोषित किया, जिससे उन्हें कानूनी सुरक्षा मिली।
- However, exemptions introduced through the Forest (Conservation) Amendment Act, 2023, dilute these protections.
लेकिन, वन (संरक्षण) संशोधन अधिनियम, 2023 में दिए गए कुछ अपवाद इन सुरक्षा उपायों को कमजोर कर सकते हैं।
- For example, diversion of forest land for zoos, safaris, and ecotourism does not require central government permission.
उदाहरण के लिए, चिड़ियाघरों, सफारी और इको-पर्यटन के लिए वन भूमि के उपयोग के लिए केंद्र सरकार की अनुमति की आवश्यकता नहीं है।
- Local communities in Rajasthan have expressed concerns that such formalization may lead to loss of access to their orans.
राजस्थान के स्थानीय समुदायों ने चिंता व्यक्त की है कि इस तरह की औपचारिकता से उनके ओरनों पर अधिकार खोने का खतरा हो सकता है।

2. Declaring Orans as 'Community Reserves' Under the Wildlife (Protection) Act, 1972

2. ओरनों को वन्यजीव (संरक्षण) अधिनियम, 1972 के तहत 'सामुदायिक रिजर्व' घोषित करना

- The Act requires the formation of a management committee with local community and State representation.
यह अधिनियम स्थानीय समुदाय और राज्य के प्रतिनिधित्व वाली एक प्रबंधन समिति के गठन का प्रावधान करता है।
- However, the committee has only managerial powers, with no role in decision-making.
लेकिन, इस समिति की भूमिका केवल प्रबंधन तक सीमित है और इसे निर्णय लेने का अधिकार नहीं है।
- The State holds ultimate control over any 'community reserve', which may undermine informal community governance of orans.
राज्य को 'सामुदायिक रिजर्व' पर अंतिम नियंत्रण प्राप्त होता है, जिससे स्थानीय समुदायों की स्वायत्तता कम हो सकती है।

3. Declaring Orans as 'Common Forest Land' Under the Forest Rights Act, 2006

3. ओरनों को वन अधिकार अधिनियम, 2006 के तहत 'सामान्य वन भूमि' घोषित करना



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- The Act requires communities to meet eligibility criteria to claim rights.
यह अधिनियम अधिकार प्राप्त करने के लिए समुदायों को पात्रता मानदंड पूरा करने की आवश्यकता रखता है।
- Some orans are managed by informal community institutions that may not qualify under the Act, leading to potential exclusion.
कुछ ओरनों का प्रबंधन अनौपचारिक सामुदायिक संस्थाओं द्वारा किया जाता है जो अधिनियम की पात्रता पूरी नहीं कर सकते, जिससे उन्हें अधिकार प्राप्त नहीं हो सकते।

The Better Approach

बेहतर तरीका

- The Supreme Court suggested that the Environment Ministry should formulate a comprehensive policy for the governance and management of orans.
सुप्रीम कोर्ट ने पर्यावरण मंत्रालय को ओरनों के प्रशासन और प्रबंधन के लिए एक समग्र नीति तैयार करने का सुझाव दिया।
- Different states manage orans in different ways through various formal and informal institutions.
विभिन्न राज्य ओरनों का प्रबंधन अलग-अलग तरीके से औपचारिक और अनौपचारिक संस्थाओं के माध्यम से करते हैं।
- Instead of formalizing informal governance, the policy should empower and replicate successful community-led models.
अनौपचारिक प्रशासन को औपचारिक रूप देने के बजाय, नीति को सफल सामुदायिक मॉडल को सशक्त और दोहराने पर ध्यान केंद्रित करना चाहिए।
- Community involvement and consultation with civil society actors are crucial for effective conservation.
सफल संरक्षण के लिए सामुदायिक भागीदारी और नागरिक समाज के संगठनों के साथ परामर्श आवश्यक है।
- The State should support local communities in governing their orans, rather than replacing them with centralized structures.
राज्य को ओरनों के प्रशासन में स्थानीय समुदायों का समर्थन करना चाहिए, न कि उन्हें केंद्रीकृत संरचनाओं से प्रतिस्थापित करना चाहिए।

Foreign Exchange Management Act (FEMA), 1999

विदेशी मुद्रा प्रबंधन अधिनियम (FEMA), 1999



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- The **Foreign Exchange Management Act (FEMA)** was enacted in **1999** to replace the earlier **Foreign Exchange Regulation Act (FERA), 1973**.
- This legislative shift marked a transition from a regulatory framework focused on control to one aimed at facilitating external trade and payments, thereby promoting the orderly development and maintenance of the foreign exchange market in India.

FEMA का उद्देश्य भारत में विदेशी मुद्रा बाजार के सुव्यवस्थित विकास और रखरखाव को बढ़ावा देना है। यह अधिनियम **1 जून 2000** से प्रभावी हुआ।

Key Objectives of FEMA

FEMA के प्रमुख उद्देश्य

- **Facilitate External Trade and Payments:** To simplify and promote external trade and payments.
- **Promote Orderly Development of Foreign Exchange Market:** To ensure the efficient functioning of the foreign exchange market in India.

Important Concepts under FEMA

FEMA के तहत महत्वपूर्ण अवधारणाएँ

- **Capital Account Transactions:** These involve the transfer of capital assets, such as investments in foreign entities or acquisition of foreign properties. FEMA regulates these transactions to maintain the country's foreign exchange reserves.
- **Current Account Transactions:** These pertain to transactions other than capital account transactions and include payments related to trade, services, and short-term banking facilities.
- FEMA places fewer restrictions on these to encourage trade and services.
- **Authorized Person:** Entities authorized by the Reserve Bank of India (RBI) to deal in foreign exchange, including banks and money changers.

Recent Amendments and Updates

हाल के संशोधन और अपडेट्स

- **FEMA 2024 Amendments:** In **2024**, several amendments were introduced to enhance compliance processes, increase transparency, and align India's financial regulations with global practices.
- Notably, the **Foreign Exchange (Compounding Proceedings) Rules, 2024** were notified to streamline the compounding process for contraventions under FEMA.
Promotion of INR in Cross-Border Transactions: On **16 January 2025**, the RBI amended regulations to promote the use of the Indian Rupee (INR) in cross-border



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



transactions. This move aims to reduce dependency on foreign currencies and increase the global acceptability of the INR for trade and investment purposes.

Recent Enforcement Actions

हाल की प्रवर्तन कार्रवाइयाँ

- **Paytm's Alleged FEMA Violations:** In **March 2025**, the Enforcement Directorate (ED) issued a show-cause notice to **One 97 Communications (Paytm)** for alleged violations of FEMA, amounting to approximately **₹611 crore**.
- The violations pertain to unreported foreign investments and non-compliance with RBI's pricing guidelines.
- **BBC's Alleged FEMA Violations:** In **February 2025**, the ED fined the **British Broadcasting Corporation (BBC)** **₹314,510** for alleged violations of foreign exchange regulations, specifically related to exceeding foreign ownership limits in its Indian operations.

PATRIOTIC IAS



Why is the Parandur airport project facing opposition?

When was the idea of a second airport for Chennai first floated? Why are local residents and environmentalists against the project? What is the road ahead?

GS Paper III: Investment Model

The story so far:

More than three years after its announcement, the second airport project for Chennai at Parandur is finally inching closer to its final approval. The Minister of Civil Aviation Kinjarapu Rammohan Naidu who visited Chennai on February 27, said that the in-principle approval is likely to be accorded within the next two weeks. However, villagers, farmers and environmentalists have been persistently opposing the project for last three years.

Does Chennai need a second airport?

A proposal to construct a new international airport for Chennai city was floated first in 1998. In the same year, then Chief Minister M. Karunanidhi wrote to the Prime Minister seeking to speed up the proposal for building a second airport

in the city. Subsequently, a site near the south of Meenambakkam was identified and the State government mulled on constructing it under the Build-Own-Operate and Transfer (BOOT) concept. In 1999, the city got close to getting the airport as the Centre approved the international airport proposal at ₹2,000 crore. In the next couple of years, the State government went on to earmark 1,457.5 acres of land just north of the present airport at Meenambakkam. Some changes occurred and by 2007, a massive airport over 4,820 acres of land with four runways was planned at Sriperumbudur. But the project failed to take off.

Now, the Tamil Nadu government has finally decided to catch up on lost time and in 2022, Parandur was chosen as the site for Chennai's second airport. The ₹29,144 crore Parandur airport will come up in four phases with three terminals and two parallel runways over 2,172.73

hectares of land and will have a capacity of handling 100 million passengers.

Why is there opposition?

As soon as the project was announced, a section of the population was disappointed at the government for choosing a site replete with several waterbodies, and the threat it could pose for the environment. Residents of 13 villages who will be displaced due to the project and farmers staring at giving up their lands and an uncertain future started protests almost immediately. Residents of one of the villages, Ekanapuram, which will be severely affected by the project, resolutely continue to hold protests every evening, till today, recording over 950 days of protest. Environmentalists have strongly advised against implementing the project as 26.54% of the site comprises wetlands. Experts pointed out how Chennai city,

Why is the Parandur Airport Project Facing Opposition?

परंदूर हवाई अड्डा परियोजना का विरोध क्यों हो रहा है?

More than three years after its announcement, Chennai's second airport project at Parandur is nearing final approval.

घोषणा के तीन साल बाद, चेन्नई का दूसरा हवाई अड्डा परियोजना परंदूर में अंतिम मंजूरी के करीब है।

- Civil Aviation Minister Kinjarapu Rammohan Naidu visited Chennai on February 27, 2024, and stated that in-principle approval is expected within two weeks. नागरिक उड्डयन मंत्री किंजरापु राममोहन नायडू ने 27 फरवरी 2024 को चेन्नई का दौरा किया, और कहा कि अगले दो हफ्तों में सैद्धांतिक मंजूरी मिलने की संभावना है।
- However, villagers, farmers, and environmentalists have been opposing the project for the last three years.



हालांकि, गांववासियों, किसानों और पर्यावरणविदों ने पिछले तीन वर्षों से इस परियोजना का विरोध किया है।

Does Chennai Need a Second Airport?

क्या चेन्नई को दूसरे हवाई अड्डे की आवश्यकता है?

- The proposal for a second international airport for Chennai was first floated in 1998.
चेन्नई के लिए दूसरे अंतरराष्ट्रीय हवाई अड्डे का प्रस्ताव पहली बार 1998 में रखा गया था।
- In the same year, then Chief Minister M. Karunanidhi wrote to the Prime Minister to expedite the proposal.
उसी वर्ष, तत्कालीन मुख्यमंत्री एम. करुणानिधि ने प्रधानमंत्री को इस प्रस्ताव को तेज करने के लिए पत्र लिखा।
- Initially, a site near the south of Meenambakkam was identified under the **Build-Own-Operate and Transfer (BOOT)** concept.
शुरुआत में, मीनंबक्कम के दक्षिण में एक स्थान की पहचान की गई थी जिसे बिल्ड-ओन-ऑपरेट और ट्रांसफर (BOOT) अवधारणा के तहत विकसित करने की योजना थी।
- In 1999, the Centre approved the airport proposal at ₹2,000 crore, and 1,457.5 acres of land was earmarked north of the present airport.
1999 में, केंद्र सरकार ने ₹2,000 करोड़ की लागत से हवाई अड्डे के प्रस्ताव को मंजूरी दी, और 1,457.5 एकड़ भूमि वर्तमान हवाई अड्डे के उत्तर में चिन्हित की गई।
- By 2007, a massive airport covering 4,820 acres was planned at Sriperumbudur, but the project failed to take off.
2007 तक, श्रीपेरंबुदूर में 4,820 एकड़ भूमि पर एक विशाल हवाई अड्डे की योजना बनाई गई थी, लेकिन यह परियोजना अमल में नहीं आ सकी।
- In 2022, Parandur was chosen as the site for Chennai's second airport.
2022 में, परंदूर को चेन्नई के दूसरे हवाई अड्डे के लिए चुना गया।
- The ₹29,144 crore Parandur airport will be developed in four phases, with three terminals and two parallel runways over 2,172.73 hectares of land.
₹29,144 करोड़ की लागत से परंदूर हवाई अड्डा चार चरणों में विकसित किया जाएगा, जिसमें तीन टर्मिनल और 2,172.73 हेक्टेयर भूमि पर दो समानांतर रनवे होंगे।
- The airport will have a capacity of handling 100 million passengers.
यह हवाई अड्डा 100 मिलियन यात्रियों को संभालने की क्षमता रखेगा।

Why Is There Opposition?

विरोध क्यों हो रहा है?

- As soon as the project was announced, a section of the population expressed disappointment due to the environmental impact.



परियोजना की घोषणा के तुरंत बाद, कुछ लोगों ने इसके पर्यावरणीय प्रभावों को लेकर नाराजगी व्यक्त की।

- Residents of 13 villages will be displaced, and farmers will lose their lands, leading to protests that started immediately.

13 गांवों के निवासी विस्थापित होंगे, और किसानों को अपनी जमीनें छोड़नी पड़ेंगी, जिसके कारण विरोध प्रदर्शन तुरंत शुरू हो गए।

- Ekanapuram village will be severely affected, and residents have been protesting every evening for over 950 days.

एकनापुरम गांव पर सबसे ज्यादा असर पड़ेगा, और वहां के निवासी पिछले 950 दिनों से हर शाम विरोध प्रदर्शन कर रहे हैं।

- Environmentalists warn against the project, as 26.54% of the site comprises wetlands.

पर्यावरणविदों ने इस परियोजना के खिलाफ चेतावनी दी है, क्योंकि 26.54% भूमि आर्द्रभूमि (वेटलैंड) है।

Concerns Raised by Experts

विशेषज्ञों द्वारा उठाई गई चिंताएं

- Experts pointed out that Chennai has been severely impacted by floods in the past, and destroying wetlands will increase flooding risks.

विशेषज्ञों ने बताया कि चेन्नई पहले ही कई बार बाढ़ से प्रभावित हो चुका है, और आर्द्रभूमि को नष्ट करने से बाढ़ का खतरा और बढ़ सकता है।

- Wetlands act as natural flood barriers and help in groundwater recharge.

आर्द्रभूमि प्राकृतिक बाढ़ अवरोधक के रूप में कार्य करती है और भूजल पुनर्भरण में मदद करती है।

- Wildlife habitats, including migratory bird zones, will be destroyed, leading to ecological imbalance.

इस क्षेत्र में वन्यजीवों के प्राकृतिक आवास नष्ट हो जाएंगे, जिससे पारिस्थितिक असंतुलन उत्पन्न होगा।

- Farmers worry that losing agricultural land will affect their livelihoods and food security.

किसानों को चिंता है कि खेती की जमीन खोने से उनकी आजीविका और खाद्य सुरक्षा प्रभावित होगी।

What is the Road Ahead?

आगे का रास्ता क्या है?

- The Tamil Nadu government is proceeding with land acquisition, but opposition remains strong.

तमिलनाडु सरकार भूमि अधिग्रहण की प्रक्रिया जारी रखे हुए है, लेकिन विरोध अभी भी प्रबल है।

- The State has assured compensation and rehabilitation, but residents demand a complete rollback of the project.



राज्य सरकार ने मुआवजे और पुनर्वास का आश्वासन दिया है, लेकिन निवासी परियोजना को पूरी तरह से रद्द करने की मांग कर रहे हैं।

- **Environmental Impact Assessments (EIA) need to be thoroughly conducted** before moving forward.

आगे बढ़ने से पहले पर्यावरण प्रभाव मूल्यांकन (EIA) को पूरी तरह से जांचना आवश्यक है।

- **Alternate sites for the airport may be reconsidered** to avoid environmental and social conflicts.

हवाई अड्डे के लिए वैकल्पिक स्थानों पर पुनर्विचार किया जा सकता है, ताकि पर्यावरणीय और सामाजिक संघर्षों से बचा जा सके।

- **The final approval is expected soon, but protests and legal challenges may delay the project.**

अंतिम स्वीकृति जल्द ही मिलने की उम्मीद है, लेकिन विरोध और कानूनी चुनौतियों के कारण परियोजना में देरी हो सकती है।





TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



The implications of treating Virtual Digital Assets as taxable properties

For the first time in India, the Income Tax Bill, 2025 explicitly treats VDAs as property and capital assets. By defining them as such, India gains the ability to tax, regulate, and seize crypto assets when necessary, preventing their misuse for illicit financial activities

GS Paper III: Taxation

Sanhita Chauriha

As digital economies expand and blockchain technology reshapes global finance, governments worldwide are grappling with the classification, regulation and taxation of Virtual Digital Assets (VDAs). India's Income Tax Bill, 2025 introduces a comprehensive legal framework for VDAs defined in Section 2(iii), aligning the country's tax structure with global precedents. This move is crucial, considering how major economies like the U.K., the U.S., Singapore, Australia, New Zealand, and the UAE have approached VDAs – primarily as property or securities.

VDAs as property and capital assets

For the first time in India, the Income Tax Bill, 2025 explicitly treats VDAs as property (Section 92(5)(f)) and capital assets. This classification has far-reaching consequences in terms of taxation, compliance, and legal recognition. The bill categorically states that VDAs, which include crypto assets, Non-Fungible Tokens (NFTs), and similar digital assets, should be considered property. This move aligns India with global practices, where digital assets are either classified as securities (like in the U.S.) or property (like in the U.K., Australia, and New Zealand).

VDAs are classified as capital assets under Section 76(i). This means that any gains arising from their sale, transfer, or exchange will be taxed under capital

gains provisions, similar to real estate, stocks, and bonds. For example, if an individual purchases Bitcoin at ₹10 lakh and sells it for ₹20 lakh, the ₹10 lakh profit will be subject to capital gains tax – either short-term or long-term, depending on the holding period. By treating VDAs as capital assets, the government ensures that transactions are subject to standard asset taxation principles, preventing their misuse as unregulated financial instruments. This classification is similar to the U.K. policy, where HM Revenue & Customs (HMRC) recognises crypto assets as property for tax purposes, subjecting them to the Capital Gains Tax (CGT).

Likewise, New Zealand's Inland Revenue Department also treats crypto assets as property, making them subject to income tax on trades.

Continuing the precedent set in 2022, the bill imposes a 30% tax on income from VDA transfers.

Unlike traditional capital assets, no deductions (other than the cost of acquisition) are allowed. This means that expenses related to mining, transaction fees, platform commissions, and gas fees cannot be deducted when calculating taxable income. For instance, if an investor buys Ethereum for ₹5 lakh and sells it for ₹7 lakh, the ₹2 lakh profit is taxed at a flat 30% – with no relief for transaction costs. This tax treatment is harsher than that in the UAE, where the Virtual Assets Regulatory Authority (VARA) allows businesses and individuals to hold and trade VDAs under regulated conditions, with 0% personal income tax

on gains in certain cases. Similar to previous amendments, Section 393 states a 1% TDS (Tax Deducted at Source) on transfers of VDAs. This applies even in peer-to-peer (P2P) transactions and ensures that the government tracks large crypto transactions. The threshold for TDS exemption is ₹50,000 for small traders and ₹10,000 for others.

On the need to report

Another crucial provision is the inclusion of VDAs in undisclosed income taxation and asset seizure regulations. Section 301 states that if an individual fails to report VDA holdings in their tax filings, they can be classified as undisclosed income and taxed accordingly. Furthermore, Section 524(i) allows tax authorities to seize VDAs during investigations or tax raids, similar to how cash, gold, or real estate is confiscated in cases of tax evasion. This aligns with global enforcement trends. The U.K. High Court has ruled that crypto assets can be considered property, allowing courts to freeze or seize them in legal disputes. By treating VDAs as property for seizure purposes, India ensures that crypto-assets do not remain a shadow asset class, immune from regulatory oversight.

Under Section 509, any entity dealing in crypto assets – including exchanges, wallet providers, and even individual traders – is required to report transactions in a prescribed format. This provision mandates compliance from platforms facilitating crypto trades, making it harder to launder money

through digital assets. The bill also mandates that VDAs be included in Annual Information Statements (AIS), ensuring that all crypto transactions are automatically recorded in taxpayers' financial profiles.

A global standard

India's decision to treat VDAs as property and capital assets is a step towards aligning with international legal standards. The United States SEC classifies many crypto assets as securities, bringing them under financial market regulations. This shift is critical for ensuring that VDAs do not exist in a legal grey area. By defining them as property, India gains the ability to tax, regulate, and seize crypto assets when necessary, preventing their misuse for illicit financial activities. However, it is crucial to recognise that despite the developments in the taxonomy and taxation of VDAs, there remains a lack of a clear and comprehensive regulatory framework.

The current legal approach operates in silos, addressing taxonomy and taxation but leaving significant gaps in areas such as investor protection, market regulation, enforcement mechanisms, and a lack of standard guidelines. The treatment of VDAs extends far beyond – it requires a cohesive policy framework that integrates financial regulations, consumer rights, and technological advancements to ensure a balanced and secure digital asset ecosystem.

Sanhita Chauriha is a Technology Lawyer. Views are personal

The Implications of Treating Virtual Digital Assets as Taxable Properties

वर्चुअल डिजिटल संपत्तियों को कर योग्य संपत्ति के रूप में मानने के प्रभाव

For the first time in India, the Income Tax Bill, 2025 explicitly classifies Virtual Digital Assets (VDAs) as property and capital assets.

भारत में पहली बार, आयकर विधेयक, 2025 वर्चुअल डिजिटल संपत्तियों (VDAs) को संपत्ति और पूंजीगत संपत्ति के रूप में स्पष्ट रूप से वर्गीकृत करता है।

- This move allows the government to tax, regulate, and seize crypto assets when necessary, preventing their misuse for illicit financial activities.

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



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



यह निर्णय सरकार को क्रिप्टो संपत्तियों पर कर लगाने, उन्हें विनियमित करने और आवश्यक होने पर जब्त करने की अनुमति देता है, जिससे उनके अवैध वित्तीय गतिविधियों में दुरुपयोग को रोका जा सके।

Global Perspective on VDAs

VDAs पर वैश्विक दृष्टिकोण

- As digital economies grow and blockchain technology reshapes global finance, countries worldwide are trying to classify, regulate, and tax VDAs. जैसे-जैसे डिजिटल अर्थव्यवस्था बढ़ रही है और ब्लॉकचेन तकनीक वैश्विक वित्त को नया रूप दे रही है, वैसे-वैसे देश VDAs को वर्गीकृत, विनियमित और कराधान में शामिल कर रहे हैं।
- The Income Tax Bill, 2025 aligns India's tax system with global standards, similar to the U.K., the U.S., Singapore, Australia, New Zealand, and the UAE. आयकर विधेयक, 2025 भारत की कर प्रणाली को यू.के., यू.एस., सिंगापुर, ऑस्ट्रेलिया, न्यूज़ीलैंड और यूई जैसे देशों के मानकों के अनुरूप लाता है।

VDAs as Property and Capital Assets

VDAs को संपत्ति और पूंजीगत संपत्ति के रूप में मान्यता

- Under Section 92(5)(f) of the Income Tax Bill, 2025, VDAs (including cryptocurrencies, NFTs, and digital assets) are classified as property. आयकर विधेयक, 2025 की धारा 92(5)(f) के तहत, VDAs (जैसे क्रिप्टोकॉइन्स, NFTs और डिजिटल संपत्तियां) को संपत्ति के रूप में वर्गीकृत किया गया है।
- Section 76(1) classifies VDAs as capital assets, meaning gains from their sale, transfer, or exchange will be taxed under capital gains provisions. धारा 76(1) VDAs को पूंजीगत संपत्ति के रूप में वर्गीकृत करता है, जिसका अर्थ है कि इनकी बिक्री, हस्तांतरण या विनिमय से होने वाले लाभ पर पूंजीगत लाभ कर लगाया जाएगा।
- For example, if an individual buys Bitcoin at ₹10 lakh and sells it for ₹20 lakh, the ₹10 lakh profit will be subject to capital gains tax. उदाहरण के लिए, यदि कोई व्यक्ति ₹10 लाख में बिटकॉइन खरीदता है और ₹20 लाख में बेचता है, तो ₹10 लाख का लाभ पूंजीगत लाभ कर के अंतर्गत आएगा।
- This classification ensures that VDAs are subject to the same taxation principles as real estate, stocks, and bonds, preventing their misuse as unregulated financial instruments. यह वर्गीकरण सुनिश्चित करता है कि VDAs पर रियल एस्टेट, स्टॉक्स और बॉन्ड्स की तरह कर लगाया जाए, जिससे इन्हें अनियंत्रित वित्तीय साधनों के रूप में उपयोग करने से रोका जा सके।

Comparison with Global Tax Policies

वैश्विक कर नीतियों की तुलना

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



- In the U.K., HM Revenue & Customs (HMRC) recognizes crypto assets as property and subjects them to Capital Gains Tax (CGT).
यू.के. में, HM Revenue & Customs (HMRC) क्रिप्टो संपत्तियों को संपत्ति के रूप में मान्यता देता है और उन पर पूंजीगत लाभ कर (CGT) लागू करता है।
- In New Zealand, the Inland Revenue Department taxes crypto trades as property transactions.
न्यूजीलैंड में, आंतरिक राजस्व विभाग क्रिप्टो लेनदेन पर संपत्ति कर के रूप में कर लगाता है।
- In contrast, the UAE's Virtual Assets Regulatory Authority (VARA) allows businesses and individuals to trade VDAs with 0% personal income tax on gains in certain cases.
यूएई की वर्चुअल एसेट्स रेगुलेटरी अथॉरिटी (VARA) कुछ मामलों में VDAs के लेनदेन पर 0% व्यक्तिगत आयकर की अनुमति देती है।

30% Tax on VDA Transfers

VDAs के लेन-देन पर 30% कर

- Continuing the precedent set in 2022, the bill imposes a flat 30% tax on income from VDA transfers.
2022 में स्थापित नियम को जारी रखते हुए, इस विधेयक में VDAs के लेन-देन से होने वाली आय पर 30% कर लगाया गया है।
- Unlike traditional capital assets, no deductions (except cost of acquisition) are allowed.
पारंपरिक पूंजीगत संपत्तियों के विपरीत, लागत मूल्य को छोड़कर कोई कटौती अनुमत नहीं है।
- For example, if an investor buys Ethereum for ₹5 lakh and sells it for ₹7 lakh, the ₹2 lakh profit will be taxed at 30%, without any deduction for transaction fees.
उदाहरण के लिए, यदि कोई निवेशक ₹5 लाख में एथेरियम खरीदता है और ₹7 लाख में बेचता है, तो ₹2 लाख का लाभ 30% कर दर पर कर योग्य होगा, और ट्रांजैक्शन फीस पर कोई कटौती नहीं मिलेगी।

1% TDS on VDA Transfers

VDAs के लेन-देन पर 1% टीडीएस

- Section 393 introduces a 1% Tax Deducted at Source (TDS) on transfers of VDAs, including peer-to-peer (P2P) transactions.
धारा 393 के तहत VDAs के हस्तांतरण पर 1% स्रोत पर कर कटौती (TDS) लागू किया गया है, जिसमें पीयर-टू-पीयर (P2P) लेनदेन भी शामिल हैं।
- This ensures that large crypto transactions are monitored by the government.
इससे सुनिश्चित होता है कि बड़े क्रिप्टो लेनदेन सरकारी निगरानी में रहें।
- TDS exemption is ₹50,000 for small traders and ₹10,000 for others.
छोटे व्यापारियों के लिए TDS की छूट ₹50,000 तक और अन्य के लिए ₹10,000 तक सीमित है।



Implications of the New Tax Rules

नए कर नियमों के प्रभाव

- **Legal Clarity:** The classification of VDAs as property provides **legal certainty** and a framework for taxation.
कानूनी स्पष्टता: VDAs को संपत्ति के रूप में वर्गीकृत करने से कानूनी निश्चितता मिलती है और कराधान के लिए एक स्पष्ट ढांचा बनता है।
- **Stricter Compliance:** Investors and traders must now **adhere to tax compliance** and maintain **detailed transaction records**.
सख्त अनुपालन: निवेशकों और व्यापारियों को अब कर अनुपालन का पालन करना होगा और विस्तृत लेन-देन रिकॉर्ड रखना होगा।
- **Reduced Crypto Anonymity:** The **1% TDS rule** ensures that the government tracks **large transactions**, reducing anonymity in crypto trading.
क्रिप्टो की गुमनामी में कमी: 1% TDS नियम बड़े लेन-देन को ट्रैक करता है, जिससे क्रिप्टो ट्रेडिंग की गुमनामी कम हो जाती है।
- **Higher Tax Burden:** The **flat 30% tax on gains** makes crypto investments less attractive compared to other asset classes.
अधिक कर भार: 30% कर दर क्रिप्टो निवेश को अन्य परिसंपत्तियों की तुलना में कम आकर्षक बनाती है।
- **Encourages Regulation:** The new classification enables **better regulation and monitoring of crypto activities**.
विनियमन को बढ़ावा: नई वर्गीकरण प्रणाली क्रिप्टो गतिविधियों के बेहतर विनियमन और निगरानी को सक्षम बनाती है।

On the Need to Report

रिपोर्ट करने की आवश्यकता पर

- **Section 301** states that **failure to report Virtual Digital Asset (VDA) holdings in tax filings** can lead to them being **classified as undisclosed income and taxed accordingly**.
धारा 301 के अनुसार, यदि कोई व्यक्ति अपनी कर फाइलिंग में वर्चुअल डिजिटल एसेट (VDA) की होल्डिंग्स की रिपोर्ट करने में विफल रहता है, तो उन्हें अघोषित आय के रूप में वर्गीकृत किया जा सकता है और उन पर कर लगाया जाएगा।
- **Section 524(1)** allows tax authorities to **seize VDAs during investigations or tax raids**, similar to the seizure of **cash, gold, or real estate** in tax evasion cases.
धारा 524(1) कर अधिकारियों को जांच या कर छापों के दौरान VDAs जब्त करने की अनुमति देती है, जैसे कि कर चोरी के मामलों में नकदी, सोना या अचल संपत्ति जब्त की जाती है।
- This aligns with **global enforcement trends**.
यह वैश्विक प्रवर्तन प्रवृत्तियों के अनुरूप है।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- In the U.K., the High Court has ruled that crypto assets can be considered property, allowing courts to freeze or seize them in legal disputes.
यू.के. में, उच्च न्यायालय ने फैसला सुनाया कि क्रिप्टो संपत्तियों को संपत्ति माना जा सकता है, जिससे अदालतों को कानूनी विवादों में उन्हें जब्त या फ्रीज करने की अनुमति मिलती है।
- By treating VDAs as property for seizure purposes, India ensures that crypto assets do not remain a shadow asset class, immune from regulatory oversight.
VDAs को जब्ती उद्देश्यों के लिए संपत्ति मानकर, भारत यह सुनिश्चित करता है कि क्रिप्टो संपत्तियां एक छाया संपत्ति वर्ग के रूप में न रहें और वे नियामक नियंत्रण से बाहर न हों।

Mandatory Reporting Requirements

अनिवार्य रिपोर्टिंग आवश्यकताएं

- Section 509 mandates that any entity dealing in crypto assets (exchanges, wallet providers, and individual traders) must report transactions in a prescribed format.
धारा 509 के तहत, जो भी इकाई क्रिप्टो संपत्तियों से संबंधित लेन-देन करती है (एक्सचेंज, वॉलेट प्रदाता, और व्यक्तिगत व्यापारी), उन्हें निर्दिष्ट प्रारूप में लेन-देन की रिपोर्ट देनी होगी।
- This provision ensures compliance from platforms facilitating crypto trades, making it harder to launder money through digital assets.
यह प्रावधान क्रिप्टो व्यापार को सुविधाजनक बनाने वाले प्लेटफार्मों के अनुपालन को सुनिश्चित करता है, जिससे डिजिटल संपत्तियों के माध्यम से मनी लॉन्ड्रिंग करना कठिन हो जाता है।
- The bill also mandates that VDAs be included in Annual Information Statements (AIS), ensuring that all crypto transactions are automatically recorded in taxpayers' financial profiles.
विधेयक यह भी अनिवार्य करता है कि VDAs को वार्षिक सूचना विवरण (AIS) में शामिल किया जाए, जिससे सभी क्रिप्टो लेन-देन करदाताओं की वित्तीय प्रोफाइल में स्वचालित रूप से दर्ज हो जाएं।

A Global Standard

एक वैश्विक मानक

- India's decision to treat VDAs as property and capital assets aligns with international legal standards.
VDAs को संपत्ति और पूंजीगत संपत्ति के रूप में मान्यता देने का भारत का निर्णय अंतरराष्ट्रीय कानूनी मानकों के अनुरूप है।
- The U.S. Securities and Exchange Commission (SEC) classifies many crypto assets as securities, bringing them under financial market regulations.
अमेरिकी प्रतिभूति और विनियम आयोग (SEC) कई क्रिप्टो संपत्तियों को प्रतिभूतियों के रूप में वर्गीकृत करता है, जिससे वे वित्तीय बाजार विनियमन के तहत आती हैं।
- Defining VDAs as property allows India to tax, regulate, and seize crypto assets when necessary, preventing their misuse for illicit financial activities.



VDAs को संपत्ति के रूप में परिभाषित करने से भारत को कर लगाने, विनियमित करने और आवश्यकतानुसार क्रिप्टो संपत्तियों को जब्त करने की अनुमति मिलती है, जिससे उनके अवैध वित्तीय गतिविधियों में उपयोग को रोका जा सके।

Challenges in the Current Legal Framework

वर्तमान कानूनी ढांचे में चुनौतियां

- Despite these developments in the taxation and classification of VDAs, there remains a lack of a clear and comprehensive regulatory framework.
हालांकि VDAs के कराधान और वर्गीकरण में सुधार हुए हैं, लेकिन एक स्पष्ट और व्यापक नियामक ढांचे की कमी बनी हुई है।
- The current approach focuses on taxation and classification, but leaves significant gaps in investor protection, market regulation, and enforcement mechanisms.
वर्तमान दृष्टिकोण कराधान और वर्गीकरण पर केंद्रित है, लेकिन निवेशक संरक्षण, बाजार विनियमन और प्रवर्तन तंत्र में महत्वपूर्ण कमियां छोड़ता है।
- A cohesive policy framework is needed that integrates financial regulations, consumer rights, and technological advancements to ensure a balanced and secure digital asset ecosystem.

एक संगठित नीतिगत ढांचे की आवश्यकता है, जो वित्तीय नियमों, उपभोक्ता अधिकारों और तकनीकी प्रगति को एकीकृत करे, ताकि एक संतुलित और सुरक्षित डिजिटल संपत्ति पारिस्थितिकी तंत्र सुनिश्चित किया जा सके।



India launches multi-nation alliance for collaboration on sustainable development

GS Paper III:

Sustainable Development

India on Monday launched the Cities Coalition for Circularity (C-3), a multi-nation alliance for city-to-city collaboration, knowledge-sharing, and private sector partnerships for sustainable urban development.

This forum would provide a critical platform for policymakers, industry leaders, researchers, and development partners to discuss and implement sustainable solutions for waste management and resource efficiency as economies in the Asia-Pacific region.

Reuse and recycle

Prime Minister Narendra Modi, in a special written message to delegates at the launch, said India follows and strongly advocates the P (Pro-Planet People) approach and highlighted the role of 3R (reduce, reuse and recycle) and circular economy principles in ensuring sustainable urban



Narendra Modi

development and resource efficiency.

He also mentioned that India has always been more than willing to share its experiences and learning in its journey towards creating a circular economy. "We propose that a working group of member nations be formed after this forum to finalise the coalition's structure and operational framework," he said.

A key Memorandum of Understanding (MoU) for CITIIS 2.0 was also signed at the launch event in Jaipur.

Union Minister of Hous-

ing and Urban Affairs Manohar Lal announced that agreements worth ₹1,800 crore will be signed under this initiative, benefiting 18 cities across 14 States, and serving as lighthouse projects for other urban areas.

Environmental issues

The Regional 3R and Circular Economy Forum in Asia and the Pacific was launched in 2009 to promote sustainable waste management, resource efficiency, and circular economy principles across the region. Recognising the environmental challenges posed by rapid economic growth, resource depletion, and rising waste generation, the forum has served as a key platform for policy dialogue and capacity building.

A major milestone was the adoption of the Hanoi 3R Declaration (2013-2023), which outlined 33 voluntary goals for shifting towards a more resource-efficient and circular economy.

India Launches Multi-Nation Alliance for Collaboration on Sustainable Development

भारत ने सतत विकास पर सहयोग के लिए बहुराष्ट्रीय गठबंधन शुरू किया

On Monday, India launched the **Cities Coalition for Circularity (C-3)**, a multi-nation alliance for city-to-city collaboration, knowledge-sharing, and private sector partnerships for sustainable urban development.

सोमवार को, भारत ने सिटीज़ कोएलिशन फॉर सर्कुलैरिटी (C-3) शुरू किया, जो सतत शहरी

विकास के लिए शहर-से-शहर सहयोग, ज्ञान-साझाकरण और निजी क्षेत्र की साझेदारी के लिए एक बहुराष्ट्रीय गठबंधन है।

- This forum will serve as a critical platform for policymakers, industry leaders, researchers, and development partners to discuss and implement sustainable



solutions for waste management and resource efficiency in the **Asia-Pacific region**.

यह मंच नीतिनिर्माताओं, उद्योग जगत के नेताओं, शोधकर्ताओं और विकास भागीदारों के लिए एशिया-प्रशांत क्षेत्र में अपशिष्ट प्रबंधन और संसाधन दक्षता के सतत समाधान पर चर्चा और कार्यान्वयन करने का एक महत्वपूर्ण मंच होगा।

Reuse and Recycle

पुनः उपयोग और पुनर्चक्रण

- Prime Minister Narendra Modi, in a special written message to delegates, emphasized India's **Pro-Planet People (P3) approach**.
प्रधानमंत्री नरेंद्र मोदी ने प्रतिनिधियों के लिए एक विशेष लिखित संदेश में भारत के प्रो-प्लैनेट पीपल (P3) दृष्टिकोण को रेखांकित किया।
- He highlighted the role of **3R principles – Reduce, Reuse, and Recycle** in ensuring sustainable urban development and resource efficiency.
उन्होंने 3R सिद्धांत – घटाओ, पुनः उपयोग करो, और पुनर्चक्रण करो की भूमिका को सतत शहरी विकास और संसाधन दक्षता सुनिश्चित करने में महत्वपूर्ण बताया।
- India is willing to share its experiences and learning in its journey towards a circular economy.
भारत अपनी परिपत्र अर्थव्यवस्था (सर्कुलर इकोनॉमी) की यात्रा में अपने अनुभवों और सीखों को साझा करने के लिए तैयार है।
- The Prime Minister proposed forming a working group of member nations to finalize the coalition's structure and operational framework.
प्रधानमंत्री ने सदस्य राष्ट्रों का एक कार्य समूह बनाने का प्रस्ताव दिया, जो गठबंधन की संरचना और संचालन रूपरेखा को अंतिम रूप देगा।

Key Agreement Signed – CITIIS 2.0

मुख्य समझौता – CITIIS 2.0 पर हस्ताक्षर

- A key **Memorandum of Understanding (MoU) for CITIIS 2.0** was signed at the launch event in Jaipur.
CITIIS 2.0 के लिए एक महत्वपूर्ण समझौता ज्ञापन (MoU) जयपुर में लॉन्च कार्यक्रम के दौरान हस्ताक्षरित किया गया।
- **Union Minister of Housing and Urban Affairs, Manohar Lal**, announced that **₹1,800 crore worth of agreements** will be signed under this initiative.
केंद्रीय आवास और शहरी मामलों के मंत्री मनोहर लाल ने घोषणा की कि इस पहल के तहत ₹1,800 करोड़ के समझौतों पर हस्ताक्षर किए जाएंगे।
- This initiative will **benefit 18 cities across 14 States**, serving as **lighthouse projects for other urban areas**.



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



यह पहल 14 राज्यों के 18 शहरों को लाभान्वित करेगी और अन्य शहरी क्षेत्रों के लिए मार्गदर्शक परियोजनाओं के रूप में कार्य करेगी।

Environmental Issues and 3R Forum

पर्यावरणीय मुद्दे और 3R फोरम

- The **Regional 3R and Circular Economy Forum in Asia and the Pacific** was launched in 2009 to promote **sustainable waste management, resource efficiency, and circular economy principles**.
एशिया और प्रशांत क्षेत्र में क्षेत्रीय 3R और परिपत्र अर्थव्यवस्था फोरम को 2009 में लॉन्च किया गया, ताकि सतत अपशिष्ट प्रबंधन, संसाधन दक्षता और परिपत्र अर्थव्यवस्था सिद्धांतों को बढ़ावा दिया जा सके।
- Recognizing the **environmental challenges posed by rapid economic growth, resource depletion, and rising waste generation**, the forum serves as a **key platform for policy dialogue and capacity building**.
तेजी से हो रही आर्थिक वृद्धि, संसाधनों की कमी और बढ़ते अपशिष्ट उत्पादन से उत्पन्न पर्यावरणीय चुनौतियों को देखते हुए, यह फोरम नीति संवाद और क्षमता निर्माण के लिए एक प्रमुख मंच के रूप में कार्य करता है।
- A major milestone was the **adoption of the Hanoi 3R Declaration (2013-2023)**, which outlined **33 voluntary goals** for shifting towards a **more resource-efficient and circular economy**.
एक महत्वपूर्ण उपलब्धि हनोई 3R घोषणा (2013-2023) को अपनाना था, जिसमें अधिक संसाधन-कुशल और परिपत्र अर्थव्यवस्था की ओर बढ़ने के लिए 33 स्वैच्छिक लक्ष्य निर्धारित किए गए थे।



Study finds 6,327 Gangetic dolphins across four States

Prime Minister Narendra Modi releases the report; since different methods were used for the previous counts, latest number will not be useful in gauging the change in population

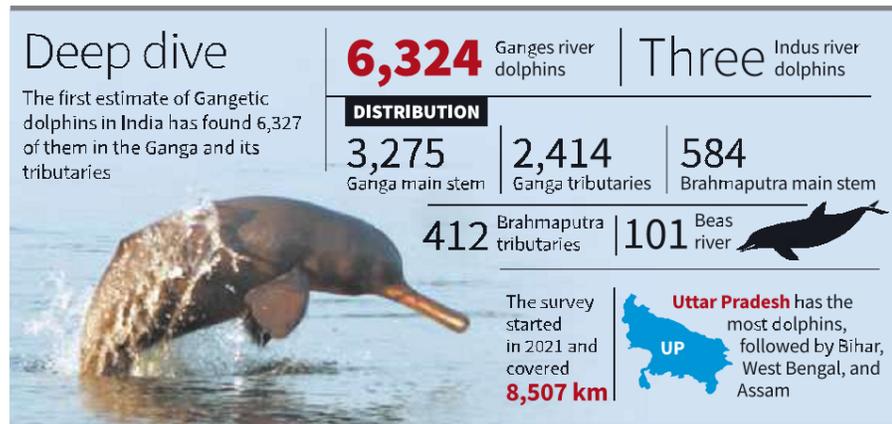
**GS Paper III:
Environment**

NEW DELHI

The first estimate of Gangetic dolphins, the only riverine dolphins in India, has found 6,327 of them in the Ganga and its tributaries. Previous attempts at mapping the population have relied on vastly different methods, and so the latest number is not useful for insight on whether their numbers have changed over time, experts associated with the study told *The Hindu*.

A press report by the Environment Ministry on Monday, World Wildlife Day, said there were 6,324 Ganges river dolphins, and three Indus river dolphins (a related species). There were an average 3,275 dolphins in the main stem of the Ganga; 2,414 in the Ganga tributaries; 584 in the Brahmaputra main stem; 412 in the Brahmaputra tributaries; and 101 in the Beas river. The effort began in 2021 and spanned a cumulative distance of 8,507 km.

Unlike the counting of tigers, elephants and other land animals in the forest,



counting dolphins is challenging. For one, the animals are under water and surface only sporadically to breathe. Second, unlike the tiger's stripes and the elephants' ears that can be caught on camera and used to distinguish one animal from the other, individual dolphins cannot be uniquely identified this way. For their survey, the researchers travelled by boat at a constant speed using acoustic hydrophones – essentially underwater microphones – that pick up sounds emitted by the dolphins. The animals are blind and rely on echolocation to communicate and move.

“Using hydrophones and two different sets of observers on the boat, we triangulate the presence of a dolphin, and we also have to ensure that the same dolphin isn't counted twice,” Qamar Qureshi, formerly of the Wildlife Institute of India and closely connected with the survey, said.

Next survey

The next survey will likely take place after four years. For the current study, many of the surveyors had to be trained in the new techniques that were required. “The major challenge to dolphins is getting entangled in fishermen's nets,

but we are now studying the effect of pollution on the dolphins' habitat,” Mr. Qureshi added.

The dolphin report was officially made public on Monday by Prime Minister Narendra Modi on a visit to Gujarat, where he chaired a meeting of the National Board for Wildlife. He said that the local populations (in the Gangetic States) were important for conservation measures, and added that schoolchildren ought to be encouraged to visit dolphin habitat.

The highest number of dolphins were reported in Uttar Pradesh, followed by Bihar, West Bengal, and Assam.

Study Finds 6,327 Gangetic Dolphins Across Four States

अध्ययन में चार राज्यों में 6,327 गंगा डॉल्फिन पाई गईं



Prime Minister Narendra Modi released the report, but experts caution that the number cannot be used to track population changes due to differing methods used in previous counts.

प्रधानमंत्री नरेंद्र मोदी ने रिपोर्ट जारी की, लेकिन विशेषज्ञों का कहना है कि यह संख्या पिछले सर्वेक्षणों से तुलना के लिए उपयुक्त नहीं है, क्योंकि उनकी गणना की विधियां अलग थीं।

First Estimate of Gangetic Dolphins

गंगा डॉल्फिन की पहली गणना

- This is the first estimate of Gangetic dolphins, which are India's only riverine dolphins.
यह गंगा डॉल्फिन की पहली आधिकारिक गणना है, जो भारत की एकमात्र मीठे पानी की डॉल्फिन प्रजाति है।
- The study found **6,327 dolphins in the Ganga and its tributaries**.
अध्ययन में गंगा और उसकी सहायक नदियों में 6,327 डॉल्फिन दर्ज की गईं।
- A press report by the Environment Ministry on March 4 (World Wildlife Day) stated that there were 6,324 Ganges river dolphins and 3 Indus river dolphins.
पर्यावरण मंत्रालय ने 4 मार्च (विश्व वन्यजीव दिवस) को जारी रिपोर्ट में बताया कि 6,324 गंगा डॉल्फिन और 3 सिंधु डॉल्फिन पाई गईं।

Distribution of Dolphins

डॉल्फिन का वितरण

- 3,275 dolphins were found in the main stem of the Ganga River.
3,275 डॉल्फिन गंगा नदी की मुख्य धारा में पाई गईं।
- 2,414 dolphins were found in the Ganga's tributaries.
2,414 डॉल्फिन गंगा की सहायक नदियों में दर्ज की गईं।
- 584 dolphins were recorded in the Brahmaputra main stem.
584 डॉल्फिन ब्रह्मपुत्र की मुख्य धारा में मिलीं।
- 412 dolphins were found in the Brahmaputra tributaries.
412 डॉल्फिन ब्रह्मपुत्र की सहायक नदियों में दर्ज की गईं।
- 101 dolphins were counted in the Beas River.
101 डॉल्फिन ब्यास नदी में पाई गईं।



Survey Methodology

सर्वेक्षण की पद्धति

- The survey began in 2021 and covered a total distance of 8,507 km.
सर्वेक्षण 2021 में शुरू हुआ और कुल 8,507 किमी की दूरी को कवर किया गया।
- Counting river dolphins is **challenging** because:
नदी में रहने वाली डॉल्फिन की गिनती कठिन होती है क्योंकि:
 - They **stay underwater and surface only briefly** to breathe.
वे पानी के नीचे रहती हैं और केवल कुछ सेकंड के लिए सांस लेने के लिए सतह पर आती हैं।
 - Unlike tigers' stripes or elephants' ears, individual dolphins cannot be uniquely identified.
बाघों की धारियाँ या हाथियों के कानों की तरह डॉल्फिन को व्यक्तिगत रूप से पहचानना संभव नहीं है।
- Acoustic hydrophones (underwater microphones) were used to detect dolphin sounds.
डॉल्फिन की आवाज़ सुनने के लिए ध्वनिक हाइड्रोफोन (पानी के अंदर के माइक्रोफोन) का उपयोग किया गया।
- **Dolphins are blind and rely on echolocation to navigate**, which helped researchers track them.
डॉल्फिन अंधी होती हैं और गूँज-स्थान (इकोलोकेशन) के जरिए रास्ता ढूँढती हैं, जिससे शोधकर्ताओं को उनकी पहचान करने में मदद मिली।
- Observers on boats used triangulation methods to ensure that dolphins were **not counted twice**.
नावों पर मौजूद पर्यवेक्षकों ने त्रिकोणीय गणना पद्धति का उपयोग किया, जिससे यह सुनिश्चित किया गया कि कोई डॉल्फिन दोबारा गिनी न जाए।

Next Survey and Conservation Challenges

अगला सर्वेक्षण और संरक्षण की चुनौतियाँ

- The next survey is expected to take place after four years.
अगला सर्वेक्षण चार साल बाद होने की संभावना है।
- Many surveyors had to be trained in new techniques before conducting this study.
इस अध्ययन से पहले कई शोधकर्ताओं को नई तकनीकों में प्रशिक्षित किया गया।
- The biggest threat to dolphins is getting trapped in fishing nets.
डॉल्फिन के लिए सबसे बड़ा खतरा मछली पकड़ने के जाल में फँसना है।
- Researchers are now studying the impact of pollution on dolphin habitats.
शोधकर्ता अब डॉल्फिन के आवास पर प्रदूषण के प्रभाव का अध्ययन कर रहे हैं।



PM Modi's Role in Dolphin Conservation

प्रधानमंत्री मोदी की डॉल्फिन संरक्षण में भूमिका

- The dolphin report was officially released by PM Modi on Monday during a visit to Gujarat.
डॉल्फिन रिपोर्ट को आधिकारिक रूप से प्रधानमंत्री नरेंद्र मोदी ने सोमवार को गुजरात में जारी किया।
- He chaired a meeting of the National Board for Wildlife and stressed the importance of local communities in conservation efforts.
उन्होंने राष्ट्रीय वन्यजीव बोर्ड की बैठक की अध्यक्षता की और संरक्षण प्रयासों में स्थानीय समुदायों की महत्वपूर्ण भूमिका पर जोर दिया।
- PM Modi suggested that schoolchildren should be encouraged to visit dolphin habitats to promote awareness.
प्रधानमंत्री मोदी ने सुझाव दिया कि स्कूल के बच्चों को डॉल्फिन के आवासों का दौरा करने के लिए प्रोत्साहित किया जाए, जिससे जागरूकता बढ़े।

State-Wise Dolphin Population

राज्यवार डॉल्फिन जनसंख्या

- Uttar Pradesh recorded the highest number of dolphins, followed by:
सबसे अधिक डॉल्फिन उत्तर प्रदेश में दर्ज की गईं, इसके बाद:
 - Bihar
बिहार
 - West Bengal
पश्चिम बंगाल
 - Assam
असम

ISRO Releases Second Set of Scientific Data from Aditya Mission

इसरो ने आदित्य मिशन से दूसरा वैज्ञानिक डेटा जारी किया

The Indian Space Research Organisation (ISRO) has released the second set of scientific data from the Aditya-L1 solar mission.



ISRO releases second set of scientific data from Aditya mission

GS Paper III: S&T

The Hindu Bureau
BENGALURU

The Indian Space Research Organisation (ISRO) has released the second set of scientific data from the Aditya-L1 solar mission.

“The datasets comprise valuable scientific information about the Sun’s photosphere, chromosphere and its outer atmosphere (corona) along with the in-situ particles and magnetic field measurements at first Earth-Sun Lagrange Point L1,” the ISRO said.

Widely accessible

The Aditya L1 datasets will be accessible from the Indian Space Science Data Centre (ISSDC) portal.

To access the Aditya-L1 data via the ISSDC website, visit www.issdc.gov.in/aditya1.html, and navigate to the data download section. Data may be accessed directly on PRADAN portal links pradan.issdc.gov.in/al1 or pradan1.issdc.gov.in/all.

“ISRO encourages the community of researchers and students to utilise these datasets. The user manuals to analyse Aditya-L1 payload data are also available on the above web address after registration,” the ISRO said.

The maiden datasets



The Aditya-L1 mission was launched in 2023 by the ISRO aboard the PSLV C-57 rocket.

from Aditya-L1 were released by the ISRO on January 6, and a national meet was organised.

Third revolution

Aditya-L1, at present, is observing the sun during its third revolution in the halo orbit around the Lagrange Point (L1).

The Aditya-L1 mission was launched on September 2, 2023 by the ISRO aboard the PSLV C-57 rocket.

On January 6, 2024, the spacecraft was successfully placed in a large halo orbit around the first Earth-Sun Lagrange Point known as Lagrange Point (L1).

The L1 point is 1.5 million kilometres from earth towards the Sun.

भारतीय अंतरिक्ष अनुसंधान संगठन (ISRO) ने आदित्य-एल1 सौर मिशन से दूसरा वैज्ञानिक डेटा जारी किया है।

• The datasets include valuable scientific information about the Sun’s photosphere, chromosphere, corona, and in-situ particles and magnetic field measurements at the first Earth-Sun Lagrange Point (L1).

इस डेटा में सूर्य के प्रकाशमंडल (फोटोस्फीयर), वर्णमंडल (क्रोमोस्फीयर), कोरोना, तथा पहले पृथ्वी-सूर्य लैंग्रेज बिंदु (L1) पर इन-सीटू कणों और चुंबकीय क्षेत्र के मापन से जुड़ी महत्वपूर्ण वैज्ञानिक जानकारी शामिल है।

Data Accessibility

डेटा की उपलब्धता

• The Aditya-L1 datasets are available on the Indian Space Science Data Centre (ISSDC) portal. आदित्य-एल1 का डेटा भारतीय अंतरिक्ष विज्ञान डेटा केंद्र (ISSDC) पोर्टल पर उपलब्ध है।

• To access the data, users can visit www.issdc.gov.in/aditya1.html and navigate to the data download section.

डेटा एक्सेस करने के लिए, उपयोगकर्ता

www.issdc.gov.in/aditya1.html पर जाकर डेटा डाउनलोड सेक्शन में जा सकते हैं।

• The data is also available on the PRADAN portal via links pradan.issdc.gov.in/al1 or pradan1.issdc.gov.in/al1.

यह डेटा PRADAN पोर्टल पर भी उपलब्ध है:

pradan.issdc.gov.in/al1 या pradan1.issdc.gov.in/al1।

• ISRO encourages researchers and students to use these datasets.

इसरो ने शोधकर्ताओं और छात्रों को इन डेटा सेट्स का उपयोग करने के लिए प्रोत्साहित किया है।

- User manuals for analyzing Aditya-L1 payload data are also available on the website after registration.



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



आदित्य-एल1 पेलोड डेटा के विश्लेषण के लिए उपयोगकर्ता मैनुअल भी वेबसाइट पर पंजीकरण के बाद उपलब्ध हैं।

Previous Data Release

पहले जारी किया गया डेटा

- The first set of datasets from Aditya-L1 was released on January 6, 2024. आदित्य-एल1 का पहला डेटा सेट 6 जनवरी 2024 को जारी किया गया था।
- A national meet was organized to discuss the significance of the data. इस डेटा की महत्ता पर चर्चा करने के लिए एक राष्ट्रीय बैठक आयोजित की गई थी।

Aditya-L1 Mission Updates

आदित्य-एल1 मिशन की प्रगति

- Aditya-L1 is currently observing the Sun in its third revolution in the halo orbit around Lagrange Point (L1). आदित्य-एल1 वर्तमान में लैग्रेंज बिंदु (L1) के चारों ओर अपने तीसरे परिक्रमा चक्र में सूर्य का अवलोकन कर रहा है।
- The mission was launched on September 2, 2023, aboard the PSLV C-57 rocket. यह मिशन 2 सितंबर 2023 को PSLV C-57 रॉकेट के माध्यम से लॉन्च किया गया था।
- On January 6, 2024, the spacecraft was successfully placed in a large halo orbit around the first Earth-Sun Lagrange Point (L1). 6 जनवरी 2024 को, यह अंतरिक्ष यान पहले पृथ्वी-सूर्य लैग्रेंज बिंदु (L1) के चारों ओर एक बड़े हेलो ऑर्बिट में सफलतापूर्वक स्थापित किया गया।
- Lagrange Point L1 is located 1.5 million kilometers from Earth towards the Sun. लैग्रेंज बिंदु L1 पृथ्वी से 1.5 मिलियन किलोमीटर की दूरी पर सूर्य की ओर स्थित है।



Feb. manufacturing PMI slips on slowdown in sales growth

Although output growth slowed to the weakest level since December 2023, overall momentum in India's manufacturing sector remained broadly positive in February: HSBC Chief Economist

GS Paper III: PMI

The Hindu Bureau
BENGALURU

India's private sector manufacturing activity, as measured by the HSBC Manufacturing Purchasing Managers Index, slowed to 56.3 on sales growing the slowest in more than a year in February 2025, according to a statement from HSBC.

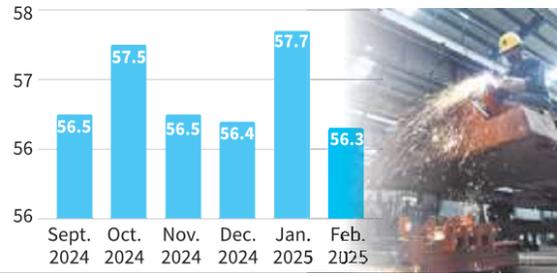
The metric was 57.7 in the previous month.

A value above 50 implies growth and the PMI has been in the growth territory for 44 months now.

The manufacturing sales and output PMI was

Gradual slide

Feb. manufacturing PMI growth slows on dip in sales and output



down to a 14-month low.

“Robust global demand continued to boost growth in the Indian manufacturing sector, which increased its purchasing activity and

employment. Business expectations also remained very strong, with nearly one-third of survey participants foreseeing greater output volumes in the year

ahead. Although output growth slowed to the weakest level since December 2023, overall momentum in India's manufacturing sector remained broadly positive in February,” said Pranjul Bhandari, India Chief Economist at HSBC.

Manufacturers observed increase in new orders. Export orders on strong global demand in February. Increased export orders also led to increased hiring, reflecting an overall robust business situation. Companies also carried higher labour costs to clients, HSBC said in the release.

Feb. Manufacturing PMI Slips on Slowdown in Sales Growth

फरवरी में बिक्री वृद्धि में मंदी के कारण विनिर्माण पीएमआई में गिरावट

- India's private sector manufacturing activity slowed in February 2025, as per the HSBC Manufacturing Purchasing Managers Index (PMI).

भारत के निजी क्षेत्र के विनिर्माण क्षेत्र की गतिविधि फरवरी 2025 में धीमी रही, जैसा कि एचएसबीसी मैनुफैक्चरिंग परचेजिंग मैनेजर्स इंडेक्स (PMI) द्वारा मापा गया।

- The PMI dropped to 56.3 in February 2025, down from 57.7 in the previous month. फरवरी 2025 में पीएमआई घटकर 56.3 पर आ गया, जो पिछले महीने 57.7 था।
- A PMI value above 50 indicates growth, and the index has been in the growth zone for 44 consecutive months.



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



PMI का 50 से ऊपर होना वृद्धि को दर्शाता है, और यह सूचकांक लगातार 44 महीनों से वृद्धि क्षेत्र में बना हुआ है।

Decline in Manufacturing Sales and Output

विनिर्माण बिक्री और उत्पादन में गिरावट

- The manufacturing sales and output PMI fell to a 14-month low.
विनिर्माण बिक्री और उत्पादन पीएमआई 14 महीनों के निचले स्तर पर पहुंच गया।
- HSBC India Chief Economist Pranjul Bhandari stated that:
एचएसबीसी इंडिया की मुख्य अर्थशास्त्री प्रांजल भंडारी ने कहा कि:
 - Global demand remained strong, supporting India's manufacturing growth.
वैश्विक मांग मजबूत बनी रही, जिससे भारत के विनिर्माण क्षेत्र को बढ़ावा मिला।
 - Purchasing activity and employment increased despite the slowdown in output growth.
आउटपुट वृद्धि में मंदी के बावजूद, खरीदारी गतिविधि और रोजगार में वृद्धि हुई।
 - Business expectations remained strong, with one-third of surveyed participants expecting higher output in the coming year.
व्यवसायिक अपेक्षाएं मजबूत बनी रहीं, और एक-तिहाई सर्वेक्षण प्रतिभागियों ने अगले वर्ष में उत्पादन वृद्धि की उम्मीद जताई।

Increase in New Orders and Export Growth

नए ऑर्डर और निर्यात वृद्धि में इजाफा

- Manufacturers observed an increase in new orders in February 2025.
निर्माताओं ने फरवरी 2025 में नए ऑर्डर में वृद्धि देखी।
- Export orders rose due to strong global demand, leading to higher hiring and an overall robust business environment.
वैश्विक मांग मजबूत होने के कारण निर्यात ऑर्डर बढ़े, जिससे रोजगार में वृद्धि हुई और समग्र व्यावसायिक स्थिति बेहतर बनी रही।
- Companies passed on higher labor costs to clients, reflecting inflationary pressures.
कंपनियों ने बढ़ती श्रम लागत ग्राहकों तक पहुंचाई, जिससे महंगाई का दबाव झलकता है**।



Research team takes big step towards making a Bose metal

Traditional theories for disordered metals say that at absolute zero temperature, the metals should either become an insulator or a superconductor. A Bose metal challenges this description because its conductivity stays between zero and infinity as the temperature tends to absolute zero

GS Paper III: S&T
Vasudevan Mukunth

A metal is a material defined by specific properties, including conducting electricity well. Every metal has a finite conductivity – a measure of how well it conducts – in particular conditions. It changes when the metal is heated or cooled.

For example, at a pleasant 20° C, the electrical conductivity of zinc is roughly 16.9 million siemens per metre. But cool it to a frigid -272.3° C and its conductivity becomes infinite. This is because at this temperature zinc becomes a **superconductor: able to conduct an electric current with zero resistance.**

Scientists know of many metals that have a finite conductivity at room temperature and infinite conductivity at very low temperatures. This drastic change in behaviour is because of something that happens to the metals' electrons. **At room temperature, the electrons in a grid of zinc atoms move freely throughout the material, transporting electricity if a voltage is applied.** Each electron itself repels other electrons and is also acted on by other forces imposed by the 3D grid of atoms around it, including vibrations in the grid, impurities in the material, and attractive forces exerted by protons in the nuclei.

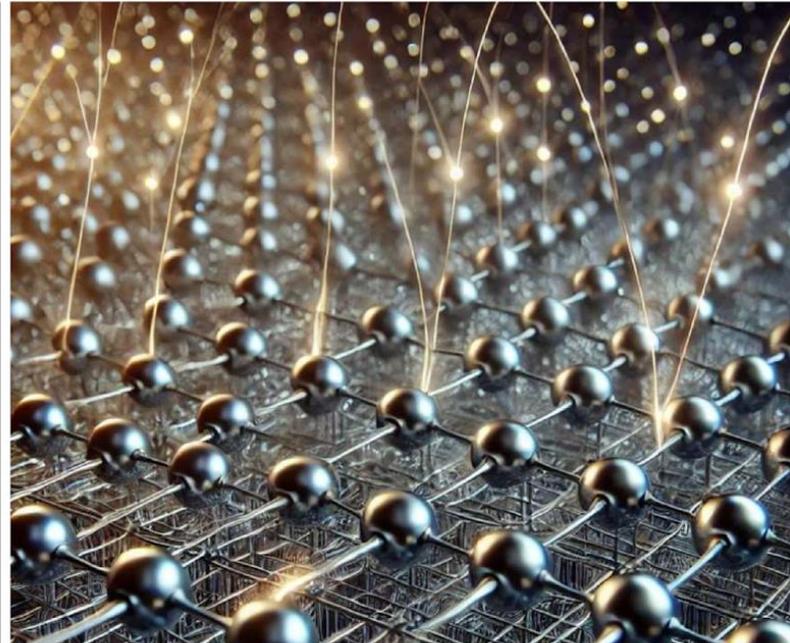
When this grid is cooled to a low temperature, many of the forces weaken. **At under a critical temperature, in zinc's case -272.3° C, the net force on electrons is weakly attractive.** That is, the electrons are mildly attracted to each other across large distances (i.e., beyond the short range across which they still repel each other). This net force causes the electrons to "pair up" without getting closer and together behave in a way that individual electrons can't. **These pairs are called Cooper pairs.** Thanks to the low temperature, at some point these pairs of electrons undergo a phase transition, forming an exotic state of matter within the zinc grid called a superconductor. It is this superconductor that has infinite conductivity.

Almost a superconductor, yet not

Metals that don't become superconducting at very low temperatures still become better conductors because the **forces that resist the flow of an electric current also weaken at lower temperatures.** (Current here refers only to a direct current. The flow of an alternating current in a superconductor elicits a variety of effects, including those that resist its flow.)

Some metals, or metallic substances, do something weird. Below the critical temperature, their electrons experience the net attractive force and pair up – but then they don't yet condense to form a superconductor. That is, the material doesn't become a superconductor but just a better conductor, and it **conducts electricity with Cooper pairs, not electrons. In this state, the material is said to have become a Bose metal.**

A Bose metal is a kind of anomalous metallic state (AMS). The "anomaly" is that the Cooper pairs are formed but don't condense into a superconductor. In technical terms, they fail to establish long-range superconducting coherence. Studying AMS, in a wider field called condensed matter physics, is important to



This is a rough illustration of a grid of nuclei (metal nodes) in a metal through which electrons are flowing (golden streaks). IMAGE CREATED WITH CHAIPT

understand disordered metals, where the grid of atoms has an irregular structure or impurities or the material is alloyed in a way that prevents it from behaving like a "regular" metal. Disordered metals thus have deviant properties but we don't fully understand the different ways in which they can deviate. Studying them helps scientists probe a variety of quantum processes.

For example, traditional theories that describe disordered metals say that at absolute zero temperature, the metals should have either zero conductivity (become an insulator) or infinite conductivity (become a superconductor). A Bose metal challenges this description because its conductivity is between zero and infinity as the temperature tends to absolute zero – or at least it may be if we saw one in action.

So far, Bose metals have only been predicted to exist in specific materials; scientists haven't synthesised or found them. It's possible in fact that Bose metals may not exist at all, but that would be useful to know, too, for the implications for physicists' theories of AMS.

But on February 13, a team of researchers from China and Japan reported in the journal *Physical Review Letters* that they had found strong signs that niobium diselenide (NbSe₂) can become a Bose metal.

Magnetic field as villain

Like zinc, NbSe₂ also becomes a superconductor at low temperature but with additional 'abilities.' This is due to a key detail: magnetic fields and a material's superconducting state never get along. If

A Bose metal is a kind of anomalous metallic state. The 'anomaly' is that the Cooper pairs are formed but don't condense into a superconductor. In technical terms, they fail to establish long-range superconducting coherence

a zinc sample is placed in an external magnetic field and cooled slowly to under its critical temperature, the moment it becomes a superconductor the sample will expel the magnetic field from within its body.

NbSe₂ goes through the same transition at a particular temperature and magnetic field strength. But when the field strength is slowly increased, NbSe₂ enters a "mixed state": it remains superconducting but also allows the magnetic field to enter its body in small, isolated pockets without spreading through its bulk. If the field continues to strengthen beyond an upper threshold the superconducting state will collapse and NbSe₂ will revert to its pre-superconducting state.

Materials with this more dynamic road through superconductivity are called type-II superconductors. The forces that act on electrons in such a material as it is cooled and magnetised become more pronounced if the material is physically thinner. And one theory of Bose metals predicts that if a 2D version of this material – i.e. a single layer of NbSe₂ molecules – is subjected to a magnetic field oriented a certain way, a Bose metal will be created.

The researchers set out to check this and found all the hallmarks of such an AMS, but the study's lead investigator and Nanjing University professor Xiaoxiang Xi stopped short of calling it a Bose metal, telling *Physics* magazine the definition of the AMS is "somewhat ambiguous."

In particular, the team used Raman spectroscopy to find the thin NbSe₂ had Cooper pairs without entering a superconducting state and the material's Hall resistance vanished as the team increased its thickness. When a piece of regular metal is placed in a magnetic field and a current is passed through it, the piece develops a voltage in the perpendicular direction. The resistance associated with this voltage is called the Hall resistance. The Hall resistance vanishing in NbSe₂ is a sign that its charge-carriers are Cooper pairs rather than electrons.

"Our results suggest that the AMS is characterised by fluctuating local pairing, which fails to condense," the team wrote in its paper. "Theories focusing on the role of phase fluctuation in disrupting global superconductivity could provide valuable understanding of the phenomena observed."

They added that the findings impose "limitations on theories centred around" pockets of superconductivity in a non-superconducting material and the coexistence of superconducting and non-superconducting phases in the same material. Bose metals don't have concrete applications today but they are a rich playground for physics research that could inform future innovation.

(mukunth.v@thehindu.co.in)



Research team takes big step towards making a Bose metal शोध दल ने बोस मेटल बनाने की दिशा में बड़ा कदम उठाया

Traditional theories for disordered metals say that at absolute zero temperature, the metals should either become an insulator or a superconductor.

अव्यवस्थित धातुओं के पारंपरिक सिद्धांत कहते हैं कि शून्य तापमान पर, धातुएँ या तो इन्सुलेटर बन जाती हैं या सुपरकंडक्टर।

- A **Bose metal** challenges this description because its **conductivity** stays between **zero and infinity** as the temperature tends to absolute zero.
बोस मेटल इस विवरण को चुनौती देता है क्योंकि इसकी चालकता शून्य और अनंत के बीच रहती है जब तापमान शून्य की ओर बढ़ता है।

What is a Metal?

मेटल क्या है?

- A **metal** is defined by specific properties, including **conducting electricity well**.
एक मेटल को इसकी विशिष्ट विशेषताओं से परिभाषित किया जाता है, जिसमें अच्छी विद्युत चालकता शामिल है।
- Every metal has a **finite conductivity**, which changes with **temperature variations**.
प्रत्येक मेटल की सीमित चालकता होती है, जो तापमान परिवर्तन के साथ बदलती है।
- Example: At **20°C**, the electrical conductivity of **zinc** is roughly **16.9 million siemens per metre**.
उदाहरण: **20°C** पर, जिंक की विद्युत चालकता लगभग **16.9 मिलियन सायमेंस प्रति मीटर** होती है।
- When cooled to **-272.3°C**, zinc's conductivity becomes **infinite** because it turns into a **superconductor** (zero resistance).
जब **-272.3°C** तक ठंडा किया जाता है, तो जिंक की चालकता अनंत हो जाती है क्योंकि यह एक सुपरकंडक्टर बन जाता है (शून्य प्रतिरोध)।

Why does this happen?

ऐसा क्यों होता है?

- At **room temperature**, **electrons** move freely in a **metal grid**, transporting electricity when a voltage is applied.



कमरे के तापमान पर, इलेक्ट्रॉन एक मेटल ग्रिड में स्वतंत्र रूप से चलते हैं और वोल्टेज लागू करने पर बिजली प्रवाहित करते हैं।

- These electrons experience various **forces**, including **repulsion from other electrons**, **vibrations in the grid**, and **impurities** in the material.

ये इलेक्ट्रॉन विभिन्न बलों का अनुभव करते हैं, जैसे कि अन्य इलेक्ट्रॉनों से प्रतिकर्षण, ग्रिड में कंपन, और सामग्री में अशुद्धियाँ।

- At **low temperatures**, many of these forces **weaken**. Below a **critical temperature** (**-272.3°C for zinc**), the **net force** on electrons becomes **weakly attractive**.

कम तापमान पर, इनमें से कई बल कमजोर हो जाते हैं। क्रिटिकल तापमान (**-272.3°C जिंक के लिए**) के नीचे, इलेक्ट्रॉनों पर कुल बल हल्का आकर्षक हो जाता है।

- **Electrons pair up** to form **Cooper pairs**, which behave differently than individual electrons.

इलेक्ट्रॉन जोड़े बनाते हैं जिन्हें कूपर जोड़े कहा जाता है, जो व्यक्तिगत इलेक्ट्रॉनों से अलग व्यवहार करते हैं।

- At a certain point, these pairs **undergo a phase transition**, forming a **superconductor** with **infinite conductivity**.

एक निश्चित बिंदु पर, ये जोड़े चरण संक्रमण से गुजरते हैं, जिससे सुपरकंडक्टर बनता है जिसकी अनंत चालकता होती है।

Almost a superconductor, yet not लगभग सुपरकंडक्टर, लेकिन नहीं

- Metals that don't become **superconductors** at very low temperatures still show **improved conductivity** because **resistive forces weaken**.

जो धातुएँ बहुत कम तापमान पर सुपरकंडक्टर नहीं बनतीं, वे फिर भी बेहतर चालकता दिखाती हैं क्योंकि प्रतिरोधी बल कमजोर हो जाते हैं।

- Some metallic substances behave strangely: **electrons pair up below the critical temperature** but **don't condense into a superconductor**.

कुछ धात्विक पदार्थ अजीब व्यवहार करते हैं: क्रिटिकल तापमान के नीचे इलेक्ट्रॉन जोड़े बनाते हैं, लेकिन सुपरकंडक्टर में नहीं बदलते।

- These materials conduct electricity with **Cooper pairs instead of electrons** and are called **Bose metals**.

ये पदार्थ इलेक्ट्रॉनों की बजाय कूपर जोड़ों से विद्युत का संचार करते हैं और इन्हें बोस मेटल कहा जाता है।

What makes a Bose Metal unique?

बोस मेटल को अद्वितीय क्या बनाता है?



- A **Bose metal** is a type of **Anomalous Metallic State (AMS)**.
एक **बोस मेटल** एक प्रकार की असामान्य धात्विक अवस्था (AMS) है।
- The anomaly: **Cooper pairs form but fail to establish long-range superconducting coherence**.
असामान्यता: **कूपर जोड़े बनते हैं**, लेकिन लंबी दूरी की सुपरकंडक्टिंग कोहेरेंस स्थापित करने में विफल रहते हैं।
- **AMS study** is essential in **condensed matter physics** to understand **disordered metals** with irregular atomic structures or impurities.
संघनित पदार्थ भौतिकी में **AMS का अध्ययन महत्वपूर्ण है**, जिससे अव्यवस्थित धातुओं को समझने में मदद मिलती है।
- Traditional theories say that at **absolute zero**, metals should be either **insulators** or **superconductors**.
पारंपरिक सिद्धांत कहते हैं कि **शून्य तापमान पर**, धातुएँ या तो **इन्सुलेटर** बन जाती हैं या **सुपरकंडक्टर**।
- A **Bose metal** defies this by having **conductivity between zero and infinity** as the temperature approaches absolute zero.
बोस मेटल इसे चुनौती देता है क्योंकि इसकी चालकता **शून्य और अनंत के बीच होती है** जब तापमान शून्य की ओर बढ़ता है।

Breakthrough in Bose Metal Research

बोस मेटल अनुसंधान में बड़ी सफलता

- Until now, **Bose metals** had only been **theoretically predicted** but never **synthesized or found**.
अब तक, **बोस मेटल्स** केवल **सैद्धांतिक रूप से अनुमानित** किए गए थे, लेकिन कभी **संश्लेषित या खोजे** नहीं गए।
- On **February 13**, a research team from **China and Japan** reported in **Physical Review Letters** that **niobium diselenide (NbSe₂)** can become a **Bose metal**.
13 फरवरी को, **चीन और जापान के शोधकर्ताओं** ने **Physical Review Letters** में रिपोर्ट किया कि **नियोबियम डाइसेलेनाइड (NbSe₂)** एक **बोस मेटल** बन सकता है।
- **Traditional theories for disordered metals** say that at **absolute zero temperature**, the metals should either become an **insulator** or a **superconductor**.
अव्यवस्थित धातुओं के पारंपरिक सिद्धांत कहते हैं कि **शून्य तापमान पर**, धातुएँ या तो **इन्सुलेटर** बन जाती हैं या **सुपरकंडक्टर**।
- A **Bose metal** challenges this description because its **conductivity** stays between **zero and infinity** as the temperature tends to absolute zero.
बोस मेटल इस विवरण को चुनौती देता है क्योंकि इसकी चालकता **शून्य और अनंत के बीच रहती है** जब तापमान शून्य की ओर बढ़ता है।



Magnetic field as villain चुंबकीय क्षेत्र विलेन के रूप में

- Like zinc, **NbSe₂** also becomes a **superconductor** at **low temperature**, but with additional **abilities**.
जिंक की तरह, **NbSe₂** भी कम तापमान पर सुपरकंडक्टर बन जाता है, लेकिन इसमें अतिरिक्त क्षमताएँ होती हैं।
- **Magnetic fields and superconducting states** don't get along. If a **zinc sample** is placed in an **external magnetic field** and **cooled below its critical temperature**, it will **expel the magnetic field** from its body.
चुंबकीय क्षेत्र और सुपरकंडक्टिंग अवस्था एक साथ नहीं रह सकते। यदि जिंक नमूने को बाहरी चुंबकीय क्षेत्र में रखा जाए और इसे क्रिटिकल तापमान से नीचे ठंडा किया जाए, तो यह अपने अंदर से चुंबकीय क्षेत्र को बाहर निकाल देगा।
- **NbSe₂** undergoes the same transition, but if the **field strength** increases gradually, it enters a **mixed state**: it stays **superconducting** but allows the **magnetic field to penetrate in small pockets**.
NbSe₂ भी यही संक्रमण से गुजरता है, लेकिन अगर चुंबकीय क्षेत्र की ताकत धीरे-धीरे बढ़ती है, तो यह मिश्रित अवस्था में चला जाता है: यह सुपरकंडक्टिंग बना रहता है लेकिन छोटे क्षेत्रों में चुंबकीय क्षेत्र को प्रवेश करने देता है।
- If the **field strength exceeds a threshold**, the **superconducting state collapses**, and **NbSe₂** reverts to its **normal state**.
यदि चुंबकीय क्षेत्र की ताकत एक सीमा से अधिक हो जाती है, तो सुपरकंडक्टिंग अवस्था नष्ट हो जाती है, और **NbSe₂** अपनी सामान्य अवस्था में लौट आता है।

More Dynamic Road through Superconductivity

सुपरकंडक्टिविटी के माध्यम से अधिक गतिशील मार्ग

- **Materials** with this more dynamic road through superconductivity are called **type-II superconductors**.
सुपरकंडक्टिविटी के इस अधिक गतिशील मार्ग वाले सामग्री को टाइप-II सुपरकंडक्टर कहा जाता है।
- The **forces** that act on electrons in such a material as it is **cooled and magnetized** become more pronounced if the material is **physically thinner**.
जब इस तरह की सामग्री को ठंडा और चुंबकीयकृत किया जाता है, तो इसमें इलेक्ट्रॉनों पर काम करने वाली बल अधिक स्पष्ट हो जाती हैं, विशेष रूप से जब यह सामग्री भौतिक रूप से पतली हो।
- One theory of **Bose metals** predicts that if a **2D version** of this material—i.e., a **single layer of NbSe₂ molecules**—is subjected to a **magnetic field** oriented a certain way, a **Bose metal** will be created.



बोस मेटल्स का एक सिद्धांत यह भविष्यवाणी करता है कि यदि इस सामग्री का 2D संस्करण—अर्थात $NbSe_2$ अणुओं की एकल परत—को एक निर्दिष्ट दिशा में चुंबकीय क्षेत्र के अधीन किया जाता है, तो एक बोस मेटल बनेगा।

- The researchers set out to check this and found all the hallmarks of such an AMS, but the study's lead investigator, Nanjing University professor Xiaoxiang Xi, stopped short of calling it a Bose metal.

शोधकर्ताओं ने इसे जांचने के लिए प्रयोग किया और इस AMS के सभी मुख्य लक्षण पाए, लेकिन अध्ययन के मुख्य अन्वेषक, नानजिंग विश्वविद्यालय के प्रोफेसर Xiaoxiang Xi, ने इसे बोस मेटल कहने से परहेज किया।

- He told Physics magazine that the definition of AMS is "somewhat ambiguous." उन्होंने फिजिक्स मैगज़ीन को बताया कि AMS की परिभाषा "काफी अस्पष्ट" है।

Experimental Observations

प्रयोगात्मक अवलोकन

- The team used Raman spectroscopy to find that the thin $NbSe_2$ had Cooper pairs without entering a superconducting state.

टीम ने रमन स्पेक्ट्रोस्कोपी का उपयोग करके पाया कि पतले $NbSe_2$ में कूपर पेयर मौजूद थे, लेकिन यह सुपरकंडक्टिंग अवस्था में प्रवेश नहीं कर पाया।

- The material's Hall resistance vanished as the team increased its thickness.

जब टीम ने इसकी मोटाई बढ़ाई, तो सामग्री का हॉल प्रतिरोध गायब हो गया।

- When a piece of regular metal is placed in a magnetic field and a current is passed through it, the piece develops a voltage in the perpendicular direction.

जब एक सामान्य धातु को चुंबकीय क्षेत्र में रखा जाता है और उसमें विद्युत प्रवाह प्रवाहित किया जाता है, तो यह लंबवत दिशा में वोल्टेज उत्पन्न करता है।

- The resistance associated with this voltage is called Hall resistance.

इस वोल्टेज से जुड़े प्रतिरोध को हॉल प्रतिरोध कहा जाता है।

- The Hall resistance vanishing in $NbSe_2$ is a sign that its charge-carriers are Cooper pairs rather than electrons.

$NbSe_2$ में हॉल प्रतिरोध का गायब होना यह संकेत देता है कि इसके आवेश वाहक इलेक्ट्रॉन्स के बजाय कूपर पेयर हैं।

Theoretical Implications

सैद्धांतिक प्रभाव

- "Our results suggest that the AMS is characterized by fluctuating local pairing, which fails to condense," the team wrote in its paper.



"हमारे परिणाम बताते हैं कि **AMS** में **स्थानीय युग्मन** में उतार-चढ़ाव होता है, जो संघनित होने में असफल रहता है," टीम ने अपने शोध पत्र में लिखा।

- **Theories** focusing on the **role of phase fluctuations** in disrupting **global superconductivity** could provide **valuable understanding** of the phenomena observed.

वैश्विक सुपरकंडक्टिविटी को बाधित करने में चरण उतार-चढ़ाव की भूमिका पर केंद्रित सिद्धांत, देखी गई घटनाओं की महत्वपूर्ण समझ प्रदान कर सकते हैं।

- They added that the **findings** impose "limitations on theories centered around" pockets of **superconductivity** in a **non-superconducting material**.
उन्होंने यह भी जोड़ा कि यह खोज "उन सिद्धांतों पर सीमाएँ लगाती हैं," जो अ-सुपरकंडक्टिंग सामग्री में सुपरकंडक्टिविटी के छोटे समूहों पर आधारित हैं।
- The study also challenges the **coexistence of superconducting and non-superconducting phases** in the same material.

यह अध्ययन एक ही सामग्री में सुपरकंडक्टिंग और अ-सुपरकंडक्टिंग अवस्थाओं के सह-अस्तित्व को भी चुनौती देता है।

Future Prospects

भविष्य की संभावनाएँ

- **Bose metals** don't have **concrete applications** today but are a **rich playground** for physics research.

बोस मेटल्स का आज कोई ठोस व्यावहारिक उपयोग नहीं है, लेकिन यह भौतिकी अनुसंधान के लिए एक उत्तम क्षेत्र है।

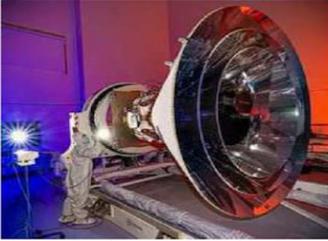
- This research could **inform future innovations** in **superconductivity** and **quantum materials**.

यह शोध सुपरकंडक्टिविटी और क्वांटम सामग्री में भविष्य के नवाचारों के लिए उपयोगी हो सकता है।

NASA to Launch SPHEREx to Explore What Happened Right After Big Bang

बिग बैंग के तुरंत बाद क्या हुआ, इसे जानने के लिए नासा SPHEREx लॉन्च करेगा

NASA is preparing to launch a megaphone-shaped observatory on a mission to better understand what happened immediately after the Big Bang and to search the Milky Way for reservoirs of water, a crucial ingredient for life.



The SPHEREx telescope at a facility in Boulder, Colorado, in the US. AP

NASA to launch SPHEREx to explore what happened right after Big Bang

[GS Paper III: S&T]

Reuters

NASA is preparing to launch a megaphone-shaped observatory on a mission to better understand what happened immediately after the Big Bang that initiated the universe and to search the Milky Way for reservoirs of water, a crucial ingredient for life.

The US space agency's SPHEREx space telescope is tentatively scheduled to be launched on March 4 aboard a SpaceX Falcon 9 rocket from Vandenberg Space Force Base in California.

SPHEREx, short for Spectro-Photometer for the History of the Universe, Epoch of Reionization, and Ices Explorer, is looking to answer questions about the origin of the universe while mapping the distribution of galaxies.

It will also look within our galaxy for reservoirs of water frozen on the surface of interstellar dust grains in large clouds of gas and dust that give rise to stars and planets. The observatory, during its planned two-year mission, will collect data on more than 450 million galaxies, as well as more than 100 million stars in the Milky Way, as it explores the origins of the universe. It will create a three-dimensional map of the cosmos in 102 colors.

The mission is intended to gain insight into a phenomenon called cosmic inflation, the rapid and exponential expansion of the universe from a single point in a fraction of a second after the Big Bang that occurred roughly 13.8 billion years ago.

"We have pretty good evidence that inflation occurred, but the physics driving that event is really uncertain," said cosmologist Olivier Dore of Caltech and NASA's Jet Propulsion Laboratory, a SPHEREx project scientist.

"By mapping the distribution of galaxies over the whole sky, we can directly constrain unique properties of inflation. This is why we want to map the whole sky and why we need spectroscopy (studying objects based on color) to make the map 3D. The fact that we can connect these two things – the distribution of galaxies on large scales all the way to the physics of inflation – is very powerful and very mind-boggling and almost magical," Dore added.

Jim Fanson, SPHEREx project manager at the Jet Propulsion Laboratory, called cosmic inflation "the consensus framework for explaining aspects of the universe that we observe on large scales."

"It postulates that the universe expanded by a trillion-trillion-fold in a small fraction of a second after the Big Bang," Fanson said.

SPHEREx is set to take pictures in every direction around the earth, splitting the light from billions of cosmic sources such as stars and galaxies into their component wavelengths to determine their composition and distance.

Researchers will also measure the collective glow of light from the space between galaxies. Being launched along with SPHEREx is a constellation of satellites for NASA's PUNCH mission to observe the sun's corona, the outermost layer of its atmosphere. The aim is to better understand the solar wind, the continuous flow of charged particles from the sun.

नासा एक मेगाफोन के आकार की वेधशाला लॉन्च करने की तैयारी कर रहा है, जिसका मिशन बिग बैंग के तुरंत बाद क्या हुआ इसे समझना और आकाशगंगा (मिल्की वे) में पानी के भंडार की खोज करना है, जो जीवन के लिए आवश्यक घटक है।

The SPHEREx space telescope is tentatively scheduled to be launched on March 4 aboard a SpaceX Falcon 9 rocket from Vandenberg Space Force Base, California.

SPHEREx स्पेस टेलीस्कोप को 4 मार्च को स्पेसएक्स फाल्कन 9 रॉकेट के जरिए वैंडेनबर्ग स्पेस फोर्स बेस, कैलिफोर्निया से लॉन्च करने की संभावित योजना है।

What is SPHEREx?

SPHEREx क्या है?

• SPHEREx stands for Spectro-Photometer for the History of the Universe, Epoch of Reionization, and Ices Explorer.

SPHEREx का पूरा नाम स्पेक्ट्रो-फोटोमीटर फॉर द हिस्ट्री ऑफ द यूनिवर्स, एपोक ऑफ रीऑनाइज़ेशन, एंड आइस एक्सप्लोरर है।

• It aims to answer questions about the origin of the universe while mapping the distribution of galaxies.

इसका उद्देश्य ब्रह्मांड की उत्पत्ति से जुड़े प्रश्नों का उत्तर देना और गैलेक्सियों के वितरण

का मानचित्रण करना है।

- It will also look within our galaxy for reservoirs of water frozen on the surface of interstellar dust grains in large clouds of gas and dust that give rise to stars and planets.

यह हमारी आकाशगंगा में बर्फ के रूप में जमे हुए पानी की खोज करेगा, जो अंतरतारकीय धूल कणों की सतह पर गैस और धूल के विशाल बादलों में पाया जाता है, जहां से तारे और ग्रह बनते हैं।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- The **two-year mission** will collect data on more than **450 million galaxies** and more than **100 million stars** in the **Milky Way**.

यह दो साल का मिशन 450 मिलियन से अधिक गैलेक्सियों और मिल्की वे की 100 मिलियन से अधिक तारों का डेटा एकत्र करेगा।

- It will create a **three-dimensional map of the cosmos** in **102 colors**.

यह 102 रंगों में ब्रह्मांड का त्रि-आयामी (3D) मानचित्र बनाएगा।

Understanding Cosmic Inflation

कॉस्मिक इन्फ्लेशन को समझना

- The mission is intended to gain insight into **cosmic inflation**, the **rapid and exponential expansion** of the universe from a **single point** in a **fraction of a second** after the **Big Bang**, which occurred roughly **13.8 billion years ago**.

इस मिशन का उद्देश्य कॉस्मिक इन्फ्लेशन को समझना है, जो ब्रह्मांड का अत्यंत तेज़ और तीव्र विस्तार था, जो बिग बैंग के कुछ अंश में हुआ और लगभग 13.8 अरब साल पहले घटित हुआ था।

- "We have pretty good evidence that **inflation occurred**, but the **physics** driving that event is really **uncertain**," said **cosmologist Olivier Dore** of **Caltech** and **NASA's Jet Propulsion Laboratory**, a **SPHEREx** project scientist.

"**हमारे पास इस बात के ठोस प्रमाण हैं कि कॉस्मिक इन्फ्लेशन हुआ था, लेकिन इसे संचालित करने वाली भौतिकी अभी भी अनिश्चित है," यह कहना है कैलटेक और नासा के जेट प्रोपल्शन लैबोरेटरी के कॉस्मोलॉजिस्ट ओलिवियर डोरे, जो SPHEREx प्रोजेक्ट वैज्ञानिक हैं।

- "By **mapping the distribution of galaxies** over the **whole sky**, we can directly **constrain unique properties** of **inflation**," Dore added.

"पूरे आकाश में गैलेक्सियों के वितरण का मानचित्रण करके, हम कॉस्मिक इन्फ्लेशन की विशिष्ट विशेषताओं को सीधे सीमित कर सकते हैं," डोरे ने कहा।

- **Jim Fanson**, **SPHEREx project manager** at **NASA's Jet Propulsion Laboratory**, called **cosmic inflation** the **consensus framework** for explaining aspects of the universe that we observe on **large scales**.

नासा के जेट प्रोपल्शन लैबोरेटरी के SPHEREx प्रोजेक्ट मैनेजर जिम फैनसन ने कॉस्मिक इन्फ्लेशन को ब्रह्मांड के बड़े पैमाने पर देखे जाने वाले पहलुओं को समझाने का स्वीकृत ढांचा बताया।

- "It postulates that the universe expanded by a **trillion-trillion-fold** in a **small fraction of a second** after the **Big Bang**," Fanson said.

"यह सिद्धांत कहता है कि बिग बैंग के तुरंत बाद, ब्रह्मांड एक सेकंड के छोटे से अंश में एक ट्रिलियन-ट्रिलियन गुना बढ़ा," फैनसन ने कहा।

SPHEREx Observations and PUNCH Mission

SPHEREx अवलोकन और PUNCH मिशन

- **SPHEREx** will take **pictures in every direction around the Earth**, splitting the light from **billions of cosmic sources** such as **stars and galaxies** into their **component**

Address : 3rd Floor, KV Tower, Padleyganj Road, Gorakhpur

Email Id : info@patrioticias.in

Contact Number : 9971932488

Website : patrioticias.in



wavelengths to determine their composition and distance.

SPHEREx पृथ्वी के चारों ओर हर दिशा में चित्र लेगा और अरबों ब्रह्मांडीय स्रोतों (जैसे तारे और गैलेक्सियाँ) से आने वाले प्रकाश को उनके घटक तरंग दैर्ध्य में विभाजित करके उनकी संरचना और दूरी का निर्धारण करेगा।

- Researchers will also measure the collective glow of light from space between galaxies.

शोधकर्ता गैलेक्सियों के बीच के अंतरिक्ष से आने वाले सामूहिक प्रकाश की चमक को भी मापेंगे।

- Along with SPHEREx, NASA is also launching a constellation of satellites for the PUNCH mission, which aims to observe the sun's corona, the outermost layer of its atmosphere.

SPHEREx के साथ, नासा PUNCH मिशन के लिए उपग्रहों के समूह को भी लॉन्च कर रहा है, जिसका उद्देश्य सूर्य के कोरोना (उसके वातावरण की सबसे बाहरी परत) का अवलोकन करना है।

- The goal is to better understand the solar wind, the continuous flow of charged particles from the Sun.

इसका उद्देश्य सौर पवन (सूर्य से आने वाले आवेशित कणों के निरंतर प्रवाह) को बेहतर तरीके से समझना है।

TOPICS COVERED (PCS Special)

1.U.P. Woman on Death Row in UAE Already Executed, Centre Tells Delhi High Court

यूएई में मौत की सजा पाने वाली यूपी की महिला को पहले ही फांसी दी गई, केंद्र ने दिल्ली हाई कोर्ट को बताया



PCS

Anora's night at the Oscars

Here are the winners in key categories at the **97th Academy Awards**, held in Hollywood on Sunday



Best picture: *Anora*

Original screenplay
Anora (Sean Baker)

Editing
Anora (Sean Baker)

Original score
The Brutalist (Daniel Blumberg)

Best Director:
Sean Baker, *Anora*



Cinematography
The Brutalist (Lol Crawley)

Visual effects
Dune: Part Two (Lambert, James, Salcombe, Nefzer)

Sound
Dune: Part Two (John, King, Bartlett, Hemphill)

Production design
Wicked (Nathan Crowley)
Set Decoration: Lee Sandales)

Animated feature
Flow

Adapted screenplay
Conclave (Peter Straughan)

Original song
El Mal (Emilia Pérez)
Ducol, Camille, Audiard

Documentary feature
No Other Land



Costume design
Wicked (Paul Tazewell)

International film
I'm Still Here (Brazil)

Documentary short
The Only Girl
In The Orchestra

Best actor
Adrien Brody
The Brutalist



Best Actress
Mikey Madison
Anora



Supporting actress
Zoe Saldana
Emilia Pérez



Supporting actor
Kieran Culkin
A Real Pain



U.P. woman on death row in UAE already executed, Centre tells Delhi High Court

PCS

Ishita Mishra
NEW DELHI

Uttar Pradesh resident Shahzadi Khan, 33, who was on death row in Abu Dhabi for allegedly murdering the four-month-old son of her employer, had already been executed, the Ministry of External Affairs told the Delhi High Court on Monday.

"She was executed on February 15. Her last rites will be held on March 5," Additional Solicitor-General Chetan Sharma told the Bench of Justice Sachin Datta, who termed the execution "very unfortunate".

The submission came during the hearing of a petition filed by Shabbir Khan, the deceased wo-



man's father, who approached the court to know about the well-being of his daughter.

"We did our best. We hired a law firm there to represent her in court and sent mercy petitions and pardon requests to the Government of the United Arab Emirates. But the laws there deal with the

murder of an infant very severely," the Ministry told the court.

The Ministry submitted that the highest court of the UAE, the Court of Cassation, upheld the sentence.

Arrangements were being made to ensure that the family could attend their daughter's last rites in Abu Dhabi, the Ministry said. The UAE authorities informed the embassy on February 28 that Shahzadi's sentence was carried out in accordance with local laws, it said.

However, the Ministry's submission in court turned the world upside down for Mr. Khan, a septuagenarian, as he got to know that his two-year-long toil to save his daught-

er from being executed on a foreign land had been in vain.

"She called me on February 14 midnight and said that she was relocated from her jail cell and will be hanged the next day. She was allowed to call us as part of her last wish. I couldn't believe what she said and kept consoling her that she will be out of jail soon," Mr. Khan told *The Hindu*.

He didn't hear from his daughter again. Anxious and "profoundly uncertain", he moved the court after repeated applications to the Ministry for clarification were fruitless, he told the court.

CONTINUED ON
» PAGE 10



U.P. Woman on Death Row in UAE Already Executed, Centre Tells Delhi High Court

यूई में मौत की सजा पाने वाली यूपी की महिला को पहले ही फांसी दी गई, केंद्र ने दिल्ली हाई कोर्ट को बताया

- **Shahzadi Khan**, a 33-year-old woman from Uttar Pradesh, who was on death row in Abu Dhabi for allegedly murdering her employer's four-month-old son, has already been executed.
उत्तर प्रदेश की 33 वर्षीय शाहजादी खान, जिन्हें अबू धाबी में अपने नियोक्ता के चार महीने के बच्चे की हत्या के आरोप में मौत की सजा मिली थी, को पहले ही फांसी दी जा चुकी है।
- The Ministry of External Affairs (MEA) informed the Delhi High Court on Monday about her execution.
विदेश मंत्रालय (MEA) ने सोमवार को दिल्ली हाई कोर्ट को उनकी फांसी की जानकारी दी।
- "She was executed on February 15. Her last rites will be held on March 5," Additional Solicitor-General Chetan Sharma informed the court.
"उन्हें 15 फरवरी को फांसी दी गई। उनका अंतिम संस्कार 5 मार्च को होगा," अतिरिक्त सॉलिसिटर जनरल चेतन शर्मा ने अदालत को बताया।
- Justice Sachin Datta called the execution "very unfortunate."
न्यायमूर्ति सचिन दत्ता ने इसे "बहुत दुर्भाग्यपूर्ण" बताया।

Family's Struggle and Legal Efforts

परिवार की कोशिशें और कानूनी प्रयास

- The submission came during the hearing of a petition filed by Shabbir Khan, the deceased woman's father, who had approached the court to inquire about his daughter's well-being.
यह जानकारी उस समय दी गई जब मृतक महिला के पिता शब्बीर खान ने अपनी बेटी की कुशलता की जानकारी लेने के लिए अदालत का रुख किया था।
- The MEA stated that it had done everything possible, including hiring a law firm in the UAE to represent Shahzadi Khan in court and sending mercy petitions and pardon requests.
MEA ने कहा कि उन्होंने शाहजादी खान का बचाव करने के लिए यूई में एक कानूनी फर्म नियुक्त की थी और दया याचिकाएं व माफीनामे भेजे थे।
- However, the laws in the UAE are very strict when it comes to the murder of an infant.
हालांकि, यूई में शिशु हत्या के मामलों में कड़े कानून लागू होते हैं।
- The highest court in the UAE, the Court of Cassation, upheld the death sentence.
यूई की सर्वोच्च अदालत, कोर्ट ऑफ कैसेशन, ने मौत की सजा को बरकरार रखा।



Arrangements for Last Rites

अंतिम संस्कार की व्यवस्था

- The Indian government is making arrangements for Shahzadi Khan's family to attend her last rites in Abu Dhabi.
भारतीय सरकार शाहजादी खान के परिवार को अबू धाबी में उनके अंतिम संस्कार में शामिल होने की व्यवस्था कर रही है।
- The UAE authorities informed the Indian embassy on February 28 that the execution was carried out in accordance with local laws.
यूएई अधिकारियों ने 28 फरवरी को भारतीय दूतावास को सूचित किया कि फांसी स्थानीय कानूनों के अनुसार दी गई थी।

Father's Heartbreaking Reaction

पिता की भावनात्मक प्रतिक्रिया

- Shabbir Khan, the father of Shahzadi Khan, was devastated to learn about her execution after years of trying to save her.
शाहजादी खान के पिता शब्बीर खान अपनी बेटी को बचाने की दो साल की कोशिशों के बाद यह खबर सुनकर पूरी तरह टूट गए।
- He recalled that on February 14 midnight, his daughter called him to say that she was being relocated from her jail cell and would be hanged the next day.
उन्होंने याद किया कि 14 फरवरी की आधी रात को उनकी बेटी ने फोन कर बताया कि उसे जेल की कोठरी से दूसरी जगह ले जाया जा रहा है और अगले दिन फांसी दी जाएगी।
- "She was allowed to call us as part of her last wish. I couldn't believe it and kept telling her that she would be free soon," he said.
"उसे आखिरी इच्छा के तहत हमें कॉल करने की अनुमति दी गई थी। मैं इसे मान नहीं सका और उसे दिलासा देता रहा कि वह जल्द ही आजाद होगी," उन्होंने कहा।
- After that call, he never heard from her again, leading him to approach the Delhi High Court for clarification after his repeated inquiries to the Ministry went unanswered.
उस फोन कॉल के बाद, उन्होंने फिर कभी अपनी बेटी की आवाज नहीं सुनी, जिसके चलते उन्होंने कई बार मंत्रालय से संपर्क किया लेकिन कोई जवाब नहीं मिलने पर दिल्ली हाई कोर्ट का दरवाजा खटखटाया।