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**CONTACT:** 9971932488



# **PATRIOTIC IAS**

## **DAILY CURRENT AFFAIRS**

### **THE HINDU NEWSPAPER**

#### **02 DECEMBER 2025**

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<b>PCS Special:</b>		<b>02 December 2025</b>
	<b>UPPSC</b>	
<b>1.</b>	<b>BJP leader Prem Kumar all set to become Bihar Speaker</b> <b>भाजपा नेता प्रेम कुमार बिहार स्पीकर बनने के लिए तैयार</b>	

**Address :** 3rd Floor, KV Tower, Padleyganj Road, Gorakhpur  
**Email Id :** [info@patrioticias.in](mailto:info@patrioticias.in)  
**Contact Number :** 9971932488  
**Website :** [patrioticias.in](http://patrioticias.in)



UPPSC

02/12/2025

### *In unison*



**Raising awareness:** Students performing a thematic dance as part of the **World AIDS Day** observance in Vijayawada on Monday. Officials and health staff at the event emphasised prevention, early diagnosis, and increased public awareness about HIV-related issues. G.N. RAO

Raising awareness: Students performing a thematic dance as part of the **World AIDS Day** observance in Vijayawada on Monday. Officials and health staff at the event emphasised prevention, early diagnosis, and increased public awareness about HIV-related issues.



PCS

**Grim sight:** People look on near the **Wang Fuk Court housing complex** following the deadly fire on Wednesday, in **Tai Po, Hong Kong**, on Monday. REUTERS

Grim sight: People look on near the **Wang Fuk Court housing complex** following the deadly fire on Wednesday, in **Tai Po, Hong Kong**, on Monday.

PCS

## BJP leader Prem Kumar all set to become Bihar Speaker

Senior BJP leader Prem Kumar is set to become the new Speaker of the Bihar Legislative Assembly as he filed his nomination papers on Monday, the opening day of the 18th Assembly. Mr. Kumar, a nine-term MLA from the Gaya Town constituency and a former Minister in several Nitish Kumar governments, is expected to get elected unopposed since no other candidate has filed nomination papers for the post. The name of the new Speaker will be announced on Tuesday. The newly elected MLAs, barring six, were administered the oath of office in the 243-member Bihar Assembly on Monday.

बिहार विधानसभा के नए स्पीकर बनने वाले हैं।

- Mr. Kumar, a **nine-term MLA from the Gaya Town constituency** and a former **Minister** in several **Nitish Kumar** government is expected to get elected unopposed since no other candidate has filed nomination papers for the post.  
श्री कुमार, गया टाउन निर्वाचन क्षेत्र से नौ बार के विधायक और कई नीतीश कुमार सरकारों में मंत्री रहे,

## **BJP leader Prem Kumar all set to become Bihar Speaker**

**भाजपा नेता प्रेम कुमार बिहार स्पीकर बनने के लिए तैयार**



- Senior **BJP** leader **Prem Kumar** is set to become the new **Speaker** of the **Bihar Legislative Assembly** as he filed his nomination papers on Monday, the opening

day of the **18th Assembly**.

वरिष्ठ भाजपा नेता प्रेम कुमार सोमवार को 18वीं विधानसभा के पहले दिन नामांकन पत्र दाखिल करने के बाद



निर्विरोध चुने जाने की उम्मीद है क्योंकि इस पद के लिए किसी अन्य उम्मीदवार ने नामांकन पत्र दाखिल नहीं किया है।

- The name of the new **Speaker** will be announced on Tuesday. नए **स्पीकर** का नाम मंगलवार को घोषित किया जाएगा।
- The newly elected **MLAs**, barring six, were administered the **oath of office** in the **243-member Bihar Assembly** on Monday. नव-निर्वाचित **विधायकों** को, छह को छोड़कर, सोमवार को **243-सदस्यीय बिहार विधानसभा** में **शपथ ग्रहण** कराई गई।

<b>GS Paper 1: History, Society and Geography</b>	
<b>TOPICS COVERED</b>	<b>02 December 2025</b>
<b>Society</b>	
1.	<b>Nothing in Assam ST report that can offend anyone, says Himanta</b> असम एसटी रिपोर्ट में ऐसा कुछ नहीं जो किसी को आहत कर सके, हिमंता का बयान
2.	<b>The need for 'heart-resilient' urban planning</b> 'हृदय-लचीली' शहरी योजना की आवश्यकता
3.	<b>Capturing urban dynamism in the 2027 Census</b> 2027 की जनगणना में शहरी गतिशीलता को दर्ज करना
4.	<b>Is it the end of progress against extreme poverty?</b> क्या अत्यधिक गरीबी के खिलाफ प्रगति का अंत हो गया है?
<b>Geography</b>	
5.	<b>Trump-backed candidate holds narrow lead in Honduras election</b> ट्रंप समर्थित उम्मीदवार होंडुरास चुनाव में मामूली बढ़त बनाए हुए
6.	<b>Anti-fascist protesters push back against the far-right's 'accelerated' rise in Croatia</b> क्रोएशिया में चरम दक्षिणपंथ के 'तेज़' उभार के खिलाफ एंटी-फासीवादी प्रदर्शनकारी पीछे धकेलते



# Nothing in Assam ST report that can offend anyone, says Himanta

**GS I: Society**

**Press Trust of India**  
GUWAHATI

Assam Chief Minister Himanta Biswa Sarma on Monday asserted that the Group of Ministers' (GoM) report on granting Scheduled Tribe (ST) status to six communities of the State does not contain anything that could "offend" any section. He claimed that those protesting against it have not properly read the report.

The report, with the recommendations of the GoM on the demand for ST status by Ahom, Chutia, Moran, Matak, Koch-Rajbongshi and Tea Tribes (adivasis) communities, was laid in the Assembly on Saturday, the last day of the Winter Session.

"There is nothing in the report that can offend anyone. It ensures that all



Himanta Biswa Sarma

communities and sub-communities move forward," Mr. Sarma told reporters on sidelines of a programme in Nagaon district.

Asked about students from the Bodoland University storming the Assembly hall of the BTC Secretariat in Kokrajhar on Saturday, and vandalising property during a protest against the State Cabinet's approval of the report, the CM said, "It was laid in the Assembly around 7 p.m., and the protest was held at 3 p.m. It means that the demonstra-

tion took place before the tabling of the report."

If there is any "difficulty in reading and understanding" the report, there may be some doubt in a few people's minds, he had said at a press briefing after a Cabinet meeting.

**'GoM to explain report'**

"But, if it is read carefully, there will not be any doubt. The Cabinet decided that the three Ministers of the GoM - Ranoj Pegu, Keshab Mahanta and Pijush Hazarika - will invite CCTOA representatives for a discussion and explain the report in front of them to alleviate any misunderstanding," Mr. Sarma said.

The Coordination Committee of Tribal Organisations of Assam (CCTOA) has been spearheading the agitation against the GoM report.

## Nothing in Assam ST report that can offend anyone, says Himanta

### असम एसटी रिपोर्ट में ऐसा कुछ नहीं जो किसी को आहत कर सके, हिमंता का बयान

- Assam Chief Minister **Himanta Biswa Sarma** on Monday asserted that the **Group of Ministers' (GoM)** report on granting **Scheduled Tribe (ST) status** to six communities of the State does not contain anything that could "offend" any section. He claimed that those protesting against it have not properly read the report.  
असम के मुख्यमंत्री **हिमंता बिस्वा सरमा** ने सोमवार को कहा कि **मंत्रियों के समूह (GoM)** की छह समुदायों को **अनुसूचित जनजाति (एसटी) का दर्जा** देने संबंधी रिपोर्ट में ऐसा कुछ नहीं है जो किसी वर्ग को "आहत" कर सके। उन्होंने दावा किया कि जो लोग विरोध कर रहे हैं उन्होंने रिपोर्ट को ठीक से पढ़ा ही नहीं है।
- The report, with the recommendations of the **GoM** on the demand for **ST status by Ahom, Chutia, Moran, Matak, Koch-Rajbongshi and Tea Tribes (adivasis)** communities, was laid



in the **Assembly** on Saturday, the last day of the **Winter Session**.

**अहोम, चुटिया, मोरान, मटक, कोच-राजबोंगशी और टी टाइम्स (आदिवासी)** समुदायों की **एसटी दर्जे** की मांग पर **GoM** की सिफारिशों वाली रिपोर्ट शनिवार को **सत्र** के अंतिम दिन **विधानसभा** में रखी गई।

- “There is nothing in the report that can offend anyone. It ensures that all communities and sub-communities move forward,” Mr. Sarma told reporters on sidelines of a programme in **Nagaon district**.  
“रिपोर्ट में ऐसा कुछ नहीं है जो किसी को आहत करे। यह सुनिश्चित करती है कि सभी समुदाय और उप-समुदाय आगे बढ़ें,” श्री सरमा ने **नगांव जिले** में एक कार्यक्रम के दौरान पत्रकारों से कहा।
- Asked about students from the **Bodoland University** storming the **Assembly hall** of the **BTC Secretariat** in **Kokrajhar** on Saturday, and vandalising property during a protest against the State Cabinet’s approval of the report, the CM said, “It was laid in the Assembly around **7 p.m.**, and the protest was held at **3 p.m.** It means that the demonstration took place before the tabling of the report.”  
शनिवार को **बोड़ोलैंड यूनिवर्सिटी** के छात्रों द्वारा **कोकराझार** स्थित **बीटीसी सचिवालय** के **विधानसभा हॉल** में घुसकर प्रदर्शन और तोड़फोड़ पर पूछे जाने पर सीएम ने कहा, “रिपोर्ट लगभग **शाम 7 बजे** विधानसभा में रखी गई थी और प्रदर्शन **दोपहर 3 बजे** हुआ। इसका मतलब है कि प्रदर्शन रिपोर्ट प्रस्तुत होने से पहले हुआ।”
- If there is any “difficulty in reading and understanding” the report, there may be some doubt in a few people’s minds, he had said at a press briefing after a **Cabinet meeting**.  
उन्होंने कहा था कि यदि रिपोर्ट को “पढ़ने और समझने में किसी तरह की कठिनाई” है तो कुछ लोगों के मन में संदेह हो सकता है। यह बात उन्होंने **कैबिनेट बैठक** के बाद प्रेस ब्रीफिंग में कही।

#### ‘GoM to explain report’

#### ‘GoM रिपोर्ट समझाएगा’

- “But, if it is read carefully, there will not be any doubt. The **Cabinet** decided that the three Ministers of the **GoM – Ranoj Pegu, Keshab Mahanta and Pijush Hazarika –** will invite **CCTOA** representatives for a discussion and explain the report in front of them to alleviate any misunderstanding,” Mr. Sarma said.  
“लेकिन यदि रिपोर्ट को ध्यान से पढ़ा जाए तो कोई संदेह नहीं रहेगा। **कैबिनेट** ने निर्णय लिया है कि **GoM** के तीन मंत्री — **रणोज पेगू, केशब महंता और पियूष हज़ारिका** — **CCTOA** प्रतिनिधियों को चर्चा के लिए बुलाएंगे और किसी भी गलतफहमी को दूर करने के लिए रिपोर्ट समझाएंगे,” श्री सरमा ने कहा।
- The **Coordination Committee of Tribal Organisations of Assam (CCTOA)** has been spearheading the agitation against the **GoM** report.  
**असम की जनजातीय संगठनों की समन्वय समिति (CCTOA)**  
**GoM** रिपोर्ट के खिलाफ आंदोलन का नेतृत्व कर रही है।



## The need for 'heart-resilient' urban planning

GS I: Urbanisation

MOB

**I**n October 8, 2025, the Union Ministry of Housing and Urban Affairs (MoHUA) observed World Habitat Day in New Delhi under the theme, 'Urban Solutions to Crisis'. The event spotlighted programmes such as Pradhan Mantri Awas Yojana-Urban (PMAY-U) and the Smart Cities Mission. Yet, beneath the visible challenges of pollution, heat and inequity lies a quieter emergency – a surge in heart disease and diabetes. Cardiovascular ailments are a main reason now for urban deaths, with prevalence rate nearly twice that of rural India, and witnessing more patients under the age of 50 years.

Daily life in urban India – long commutes, polluted air, shrinking green spaces, and rising stress – has resulted in rising health risks. Access to care remains limited, even as cities promise opportunity. Yet, few have addressed this crisis through deliberate, evidence-based planning. The distribution of health care still follows profit, not need. Hospitals cluster where land values and paying populations are high, while vast areas remain underserved. Market logic, not medical necessity, continues to decide who receives care and who does not.

### Looking at planning

As India urbanises, fragmented planning risks locking in sedentary lifestyles, pollution and inequity. Integrating heart health into urban planning through coordinated land use, transport, housing, and green space is now essential. For decades, development has operated in silos: transport divorced from housing, green initiatives sidelined, and health rarely considered. Expressways have encouraged car dependence, fast-food zones have caused unhealthy diets, and traffic congestion has given rise to rising pollution. Integrated planning offers a remedy. Compact, mixed-use neighbourhoods can cut commutes, reduce emissions and promote active living. The World Health Organization (WHO)'s Healthy Cities Network shows that embedding health in governance lowers chronic disease risks. Reviving such an approach in India, supported by digital tools such as Artificial Intelligence (AI)-enabled air-quality and heat mapping, can make cities healthier and

**Privanka Kochhar** is the CEO of The Habitat Emprise, and a researcher in sustainable built environments and holistic urban development

### Mansi Sachdev

is a public policy professional working extensively in the field of urban development and climate-resilient spatial planning

### Dr. Anil Dhali

is a Senior Interventional Cardiologist and a leading advocate for preventive and lifestyle cardiology

The rise in cardiovascular disease in urban India points to the need for 'heart-friendly' urban planning

more resilient. Heart-healthy planning rests on interconnected pillars that address multiple crises at once and complement national missions such as the National Urban Health Mission (NUHM), Smart Cities Mission, and the Atal Mission for Rejuvenation and Urban Transformation (AMRUT). There are some steps

First, walkability and Active mobility: safe, shaded footpaths, cycle lanes and pedestrian crossings promote movement and lower risks of hypertension and diabetes.

Second, green infrastructure: tree cover, parks and urban forests cool neighbourhoods and filter air, reducing heat stress and pollution-linked heart attacks.

Third mixed land use: combining residential, commercial and recreational areas reduces commute times and car dependence, encouraging more active living.

Fourth, public transport systems: affordable, clean-energy transit improves access, reduces emissions, and shortens sedentary travel time. Fifth, healthy food ecosystems: local markets, community gardens and restrictions on junk-food advertising help shift diets toward heart-friendly choices. Together, these measures amplify impact: green, walkable neighbourhoods with reliable transit cut pollution while improving activity, diet, and community connection – critical determinants of cardiovascular health.

### Tackling invisible urban threats

Many urban health risks remain invisible yet deadly. Fine particulate matter (PM<sub>2.5</sub>) from vehicles and industry triggers heart attacks and strokes, while concrete-heavy layouts trap heat, heightening cardiovascular stress. Poor water and waste systems worsen metabolic disorders. Without intervention, Asia could see a 91% rise in cardiovascular mortality by 2050.

Holistic planning offers practical remedies. Expanding tree cover enhances natural ventilation, renewable energy cuts emissions, and modern water and waste systems reduce toxic exposure. Digital innovations – AI-enabled sensors, citizen-reporting apps, and urban heat-mapping tools – can make these risks visible and actionable. Embedding such systems within urban

planning frameworks aligns with WHO's call to make health central to urban governance.

Equity must anchor every urban health strategy. Low-income communities endure the worst conditions – polluted air, poor connectivity, limited greenery and scarce health care. The India State-Level Disease Burden Study reports a 2.3-fold increase in cardiovascular disease among marginalised groups. Even well-intentioned projects risk "green gentrification", where parks and greenways displace those they were meant to benefit. Truly healthy cities must prioritise vulnerable areas, conduct equity audits, and involve communities in planning. Such participation prevents disparities, builds trust, and embeds prevention into daily life – strengthening campaigns such as Tobacco-Free Youth 3.0 by creating environments that make healthy choices easier.

### An urban turning point

India's cities stand at the crossroads. Unchecked expansion could lock in unhealthy lifestyles for decades, but health-centred planning can turn them into models of resilience. Imagine Delhi's shaded corridors reducing pollution for walkers, Chennai's cycling routes tackling childhood obesity, or Surat's compact, transit-linked neighbourhoods lowering stress and emissions.

Building on the NUHM's outreach and the Asian Development Bank's \$10-billion urban investment plan announced in 2025, India can embed heart health into its development agenda. Collaboration among the MoHUA, health agencies, academia and civil society can align land use, mobility, and environment with measurable well-being outcomes. Updating planning curricula, conducting digital equity audits and engaging youth through Urban October and beyond can help shape a new generation of health-conscious urban designers.

Ultimately, cardiovascular disease is not only a personal concern—it is a reflection of how cities are built. The air we breathe, the routes we travel, and the spaces we share shape health more than willpower alone. As India reflects on Urban Solutions to Crisis, the most enduring solution may be this: cities designed to nurture the human heart.

## The need for 'heart-resilient' urban planning 'हृदय-लचीली' शहरी योजना की आवश्यकता

- On October 8, 2025, the Union Ministry of Housing and Urban Affairs (MoHUA) observed **World Habitat Day in New Delhi under the theme, 'Urban Solutions to Crisis'**.  
08 अक्टूबर 2025 को आवासन और शहरी कार्य मंत्रालय (MoHUA) ने नई दिल्ली में **World Habitat Day** मनाया जिसका विषय था 'Urban Solutions to Crisis'।
- The event spotlighted programmes such as **Pradhan Mantri Awas Yojana-Urban (PMAY-U) and the Smart Cities Mission**.  
इस कार्यक्रम ने **PMAY-U** और **Smart Cities Mission** जैसे कार्यक्रमों पर विशेष ध्यान केंद्रित किया।
- Yet, beneath the visible **challenges of pollution, heat and inequity lies a quieter emergency — a surge in heart disease and diabetes**.  
फिर भी, प्रदूषण, गर्मी और असमानता की दिखाई देने वाली चुनौतियों के नीचे एक शांत आपातस्थिति छिपी है — **हृदय रोग और मधुमेह** में तेज वृद्धि।
- Cardiovascular ailments are a main reason now for urban deaths, with prevalence rate nearly twice that of rural India, and witnessing more patients under the age of 50 years**.  
हृदय संबंधी बीमारियाँ अब शहरी मृत्यु का मुख्य कारण बन चुकी हैं, जिनकी प्रचलन दर ग्रामीण भारत की तुलना में लगभग **दोगुनी** है और **50 वर्ष** से कम आयु के रोगियों की संख्या बढ़ रही है।
- Daily life in urban India — long commutes, polluted air, shrinking green spaces, and rising stress — has resulted in rising health risks**.  
शहरी भारत का दैनिक जीवन — लंबे सफ़र, प्रदूषित हवा, घटते हरित क्षेत्र, और बढ़ता तनाव — स्वास्थ्य जोखिमों में बढ़ोतरी का कारण बन गया है।
- Access to care remains limited, even as cities promise opportunity.  
अवसरों के बावजूद शहरों में स्वास्थ्य देखभाल की उपलब्धता सीमित बनी हुई है।
- Yet, few have addressed this crisis through **deliberate, evidence-based planning**.  
फिर भी, बहुत कम ने इस संकट को **evidence-based planning** के माध्यम से संबोधित किया है।



- The distribution of health care still follows profit, not need.  
स्वास्थ्य सेवाओं का वितरण अभी भी **profit** का अनुसरण करता है, न कि आवश्यकता का।
- Hospitals cluster where land values and paying populations are high, while vast areas remain underserved.  
अस्पताल वहाँ केंद्रित होते हैं जहाँ भूमि मूल्य और भुगतान करने वाली आबादी अधिक होती है, जबकि विशाल क्षेत्र सेवाविहीन रह जाते हैं।
- **Market logic, not medical necessity, continues to decide who receives care and who does not.**  
**Market logic** अब भी तय करता है कि किसे स्वास्थ्य देखभाल मिलेगी और किसे नहीं।

## Looking at planning योजना पर दृष्टि

- **As India urbanises, fragmented planning risks locking in sedentary lifestyles, pollution and inequity.**  
जैसे-जैसे भारत शहरीकरण कर रहा है, खंडित योजना स्थिर जीवनशैली, प्रदूषण और असमानता को स्थिर कर देने का जोखिम पैदा कर रही है।
- **Integrating heart health into urban planning through coordinated land use, transport, housing, and green space is now essential.**  
भूमि उपयोग, परिवहन, आवास और हरित क्षेत्र के समन्वय से शहरी योजना में **हृदय स्वास्थ्य** को शामिल करना आवश्यक हो गया है।
- **For decades, development has operated in silos: transport divorced from housing, green initiatives sidelined, and health rarely considered.**  
दशकों से विकास **silos** में चला — परिवहन आवास से अलग, हरित पहलें हाशिये पर, और स्वास्थ्य शायद ही कभी शामिल।
- Expressways have encouraged car dependence, fast-food zones have caused unhealthy diets, and traffic congestion has given rise to rising pollution.  
एक्सप्रेसवे ने कार-निर्भरता बढ़ाई, **fast-food zones** ने अस्वास्थ्यकर आहार बढ़ाए, और ट्रैफिक जाम ने प्रदूषण को बढ़ाया।
- Integrated planning offers a remedy.  
एकीकृत योजना इसका समाधान प्रदान करती है।
- Compact, mixed-use neighbourhoods can cut commutes, reduce emissions and promote active living.  
कॉम्पैक्ट, **mixed-use** पड़ोस यात्रा समय घटा सकते हैं, उत्सर्जन कम कर सकते हैं और सक्रिय जीवनशैली को बढ़ावा दे सकते हैं।
- The **World Health Organization (WHO)**'s Healthy Cities Network shows that embedding health in governance lowers chronic disease risks.  
**WHO** के Healthy Cities Network से पता चलता है कि शासन में स्वास्थ्य को शामिल करने से दीर्घकालिक बीमारियों का जोखिम कम होता है।
- Reviving such an approach in India, supported by digital tools such as **Artificial Intelligence (AI)-enabled air-quality and heat mapping**, can make cities healthier and more resilient.  
भारत में ऐसी पद्धति को **AI-enabled air-quality और heat mapping** जैसे डिजिटल उपकरणों के समर्थन से पुनर्जीवित करना शहरों को अधिक स्वस्थ और सक्षम बना सकता है।
- Heart-healthy planning rests on interconnected pillars that address multiple crises at once and complement national missions such as the **National Urban Health Mission (NUHM), Smart Cities Mission, and AMRUT.**  
हृदय-स्वास्थ्य आधारित योजना कई संकटों को संबोधित करने वाले स्तंभों पर आधारित है और **NUHM, Smart Cities Mission, और AMRUT** जैसी राष्ट्रीय मिशनों को पूरक करती है।
- There are some steps  
कुछ कदम हैं
- First, **walkability and Active mobility: safe, shaded footpaths, cycle lanes and pedestrian crossings promote movement and lower risks of hypertension and diabetes.**  
पहला, **walkability और active mobility**: सुरक्षित, छायादार फुटपाथ, साइकिल लेन और पैदल पार पथ आंदोलन को बढ़ावा देते हैं और उच्च रक्तचाप व मधुमेह का जोखिम घटाते हैं।
- Second, **green infrastructure: tree cover, parks and urban forests** cool neighbourhoods and filter air, reducing heat stress and pollution-linked heart attacks.



दूसरा, **green infrastructure**: पेड़, पार्क और शहरी वन क्षेत्र को ठंडा रखते हैं और हवा को फ़िल्टर करते हैं, जिससे गर्मी तनाव और प्रदूषण से जुड़े हृदयाघात कम होते हैं।

- Third mixed land use: combining residential, commercial and recreational areas reduces commute times and car dependence, encouraging more active living.  
तीसरा, **mixed land use**: आवासीय, वाणिज्यिक और मनोरंजन क्षेत्रों को मिलाकर यात्रा समय और कार निर्भरता घटती है, जिससे अधिक सक्रिय जीवन को प्रोत्साहन मिलता है।
- Fourth, public transport systems: affordable, clean-energy transit improves access, reduces emissions, and shortens sedentary travel time.  
चौथा, **public transport systems**: सस्ती, स्वच्छ-ऊर्जा ट्रांज़िट पहुंच बढ़ाती है, उत्सर्जन कम करती है और निष्क्रिय यात्रा समय घटाती है।
- Fifth, healthy food ecosystems: local markets, community gardens and restrictions on junk-food advertising help shift diets toward heart-friendly choices.  
पाँचवाँ, **healthy food ecosystems**: स्थानीय बाजार, सामुदायिक उद्यान और जंक-फूड विज्ञापन पर प्रतिबंध आहार को हृदय-हितैषी विकल्पों की ओर मोड़ते हैं।
- Together, these measures amplify impact: green, walkable neighbourhoods with reliable transit cut pollution while improving activity, diet, and community connection — critical determinants of cardiovascular health.  
सामूहिक रूप से ये उपाय प्रभाव बढ़ाते हैं: हरित, पैदल-अनुकूल पड़ोस और विश्वसनीय परिवहन प्रदूषण घटाते हैं और गतिविधि, आहार, तथा सामुदायिक जुड़ाव में सुधार लाते हैं — जो हृदय स्वास्थ्य के महत्वपूर्ण निर्धारक हैं।

## Tackling invisible urban threats अदृश्य शहरी खतरों से निपटना

- Many urban health risks remain invisible yet deadly.  
कई शहरी स्वास्थ्य जोखिम **अदृश्य** रहते हैं लेकिन घातक होते हैं।
- Fine particulate matter (**PM2.5**) from vehicles and industry triggers heart attacks and strokes, while concrete-heavy layouts trap heat, heightening cardiovascular stress.  
वाहनों और उद्योगों से निकलने वाला सूक्ष्म कण पदार्थ (**PM2.5**) हृदयाघात और स्ट्रोक को उत्प्रेरित करता है, जबकि कंक्रीट-प्रधान शहर गर्मी को रोक लेते हैं, जिससे हृदय संबंधी तनाव बढ़ता है।
- Poor water and waste systems worsen metabolic disorders.  
खराब पानी और कचरा प्रणाली **metabolic disorders** को और बिगाड़ देती है।
- Without intervention, Asia could see a **91% rise** in cardiovascular mortality by **2050**.  
बिना हस्तक्षेप के, एशिया में **2050** तक हृदय संबंधी मृत्यु दर में **91% वृद्धि** देखी जा सकती है।
- Holistic planning offers practical remedies.  
समग्र योजना व्यावहारिक समाधान प्रस्तुत करती है।
- Expanding tree cover enhances natural ventilation, renewable energy cuts emissions, and modern water and waste systems reduce toxic exposure.  
पेड़ों का विस्तार प्राकृतिक वेंटिलेशन बढ़ाता है, **renewable energy** उत्सर्जन घटाती है, और आधुनिक जल व कचरा प्रणाली विषैले संपर्क को कम करती है।
- Digital innovations — **AI-enabled sensors, citizen-reporting apps, and urban heat-mapping tools** — can make these risks visible and actionable.  
डिजिटल नवाचार — **AI-enabled sensors, citizen-reporting apps, urban heat-mapping tools** — इन खतरों को दृश्य और क्रियाशील बना सकते हैं।
- Embedding such systems within urban planning frameworks aligns with **WHO's** call to make health central to urban governance.  
ऐसी प्रणालियों को शहरी योजना ढांचे में शामिल करना **WHO** की उस अपील के अनुरूप है जिसमें स्वास्थ्य को शहरी शासन का केंद्र बनाने की बात कही गई है।
- Equity must anchor every urban health strategy.  
**Equity** हर शहरी स्वास्थ्य रणनीति का आधार होना चाहिए।
- **Low-income communities endure the worst conditions — polluted air, poor connectivity, limited greenery and scarce health care.**  
कम-आय वाले समुदाय सबसे खराब स्थितियों का सामना करते हैं — प्रदूषित हवा, खराब कनेक्टिविटी, सीमित हरियाली और न्यूनतम स्वास्थ्य सुविधाएँ।



- The **India State-Level Disease Burden Study** reports a **2.3-fold increase** in cardiovascular disease among marginalised groups.  
**India State-Level Disease Burden Study** बताती है कि वंचित समूहों में हृदय रोग **2.3 गुना** बढ़ा है।
- Even well-intentioned projects risk “**green gentrification**”, where parks and greenways displace those they were meant to benefit.  
यहाँ तक कि अच्छे इरादों वाले प्रोजेक्ट भी “**green gentrification**” का खतरा पैदा करते हैं, जिसमें पार्क और हरित क्षेत्र उन्हीं लोगों को विस्थापित कर देते हैं जिनके लिए वे बनाए गए थे।
- Truly healthy cities must prioritise vulnerable areas, conduct **equity audits**, and involve communities in planning.  
वास्तविक रूप से स्वस्थ शहरों को कमजोर क्षेत्रों को प्राथमिकता देनी चाहिए, **equity audits** करने चाहिए और समुदायों को योजना में शामिल करना चाहिए।
- Such participation prevents disparities, builds trust, and embeds prevention into daily life — strengthening campaigns such as **Tobacco-Free Youth 3.0** by creating environments that make healthy choices easier.  
ऐसी भागीदारी असमानताओं को रोकती है, भरोसा बनाती है और दैनिक जीवन में रोकथाम को शामिल करती है — जिससे **Tobacco-Free Youth 3.0** जैसी मुहिमों को मदद मिलती है।

## An urban turning point

### शहरी मोड़ का क्षण

- India’s cities stand at the crossroads.  
भारत के शहर एक निर्णायक मोड़ पर खड़े हैं।
- Unchecked expansion could lock in unhealthy lifestyles for decades, but health-centred planning can turn them into models of resilience.  
अनियंत्रित विस्तार आने वाले दशकों तक अस्वास्थ्यकर जीवनशैली को स्थायी बना सकता है, लेकिन **health-centred planning** उन्हें लचीलेपन के मॉडल में बदल सकती है।
- Imagine Delhi’s shaded corridors reducing pollution for walkers, Chennai’s cycling routes tackling childhood obesity, or Surat’s compact, transit-linked neighbourhoods lowering stress and emissions.  
कल्पना कीजिए — दिल्ली के छायादार कॉरिडोर पैदल यात्रियों के लिए प्रदूषण घटाएँ, चेन्नई की **cycling routes** बचपन के मोटापे से लड़ें, या सूरत के कॉम्पैक्ट, ट्रांज़िट-लिंक्ड पड़ोस तनाव और उत्सर्जन कम करें।
- Building on the **NUHM’s** outreach and the **Asian Development Bank’s \$10-billion urban investment plan announced in 2025**, India can embed heart health into its development agenda.  
**NUHM** की पहुँच और **Asian Development Bank** की **\$10-billion urban investment plan (2025)** पर आधारित होकर भारत अपने विकास एजेंडा में हृदय स्वास्थ्य को शामिल कर सकता है।
- Collaboration among the **MoHUA**, health agencies, academia and civil society can align land use, mobility, and environment with measurable well-being outcomes.  
**MoHUA**, स्वास्थ्य एजेंसियों, अकादमिक जगत और सिविल सोसाइटी के बीच सहयोग भूमि उपयोग, गतिशीलता और पर्यावरण को मापने योग्य स्वास्थ्य परिणामों से संरेखित कर सकता है।
- Updating planning curricula, conducting **digital equity audits** and engaging youth through **Urban October** and beyond can help shape a new generation of health-conscious urban designers.  
योजना पाठ्यक्रम अपडेट करना, **digital equity audits** करना और **Urban October** के माध्यम से युवाओं की भागीदारी — स्वास्थ्य-समझ वाले शहरी डिज़ाइनरों की नई पीढ़ी तैयार कर सकता है।
- Ultimately, cardiovascular disease is not only a personal concern—it is a reflection of how cities are built.  
अंततः, हृदय रोग केवल व्यक्तिगत चिंता नहीं है — यह इस बात का प्रतिबिंब है कि शहर कैसे बनाए जाते हैं।
- The air we breathe, the routes we travel, and the spaces we share shape health more than willpower alone.  
हम जो हवा लेते हैं, जिन रास्तों पर चलते हैं, और जो स्थान साझा करते हैं — ये हमारी सेहत को हमारी इच्छाशक्ति से भी अधिक प्रभावित करते हैं।
- As India reflects on **Urban Solutions to Crisis**, the most enduring solution may be this: cities designed to nurture the human heart.



जब भारत **Urban Solutions to Crisis** पर विचार करता है, तो सबसे स्थायी समाधान यह हो सकता है —  
ऐसे शहर जो मानव हृदय की रक्षा और पोषण के लिए डिज़ाइन किए जाएँ।

## Capturing urban dynamism in the 2027 Census

**GS I: Urbanization**

**MOB**

**T**he 2027 Census will be the world's largest administrative exercise of its kind. The bedrock of India's policy, scheme design, and fiscal allocations, the Census provides a snapshot of the lived reality of citizens. The 2027 Census will have dedicated mobile apps for digital data collection, geo-tagging of buildings, and a real-time digital monitoring platform to improve the accuracy and efficiency of the exercise.

**Recognising transitional areas**  
Capturing a comprehensive snapshot of the Indian populace requires another critical step: **recognising transitional urban areas**. According to official communications, Census 2027 proposes to **retain the same definition of an urban area that was used in Census 2011 to ensure uniformity of comparison**.

However, India already has a comparatively conservative definition of what constitutes 'urban' with a **threefold criterion: population size, population density, and economic parameters**. It also follows a binary classification of urban and rural, which does not capture peri-urban areas that are often located on the peripheries of cities and in villages that are transitioning to urban in situ. For instance, studies by the World Bank show that even in 2010, the share of India's population living in areas with urban-like features was 55.3%. However, Census 2011 recorded only a 31% urban population share, suggesting the existence of significant unseen and unrecorded urbanisation.

The UN Statistical Commission has introduced a global method, the 'Degree of Urbanisation', for a clearer delineation of urban, peri-urban, and rural areas. The Census 2027 could adopt a similar intervention to recognise peri-urban areas that typically fall under rural governance, and could benefit from targeted attention for planned growth and provision of basic services.



**Rejeet Mathews**

Program Director in the Sustainable Cities and Transport Program at WRI India. Views are personal



**Raj Bhagat Palanichamy**

Senior Program Manager in the Sustainable Cities and Transport Program at WRI India. Views are personal

Getting a comprehensive snapshot of the Indian populace requires recognition of transitional urban areas

Delhi is set to be among the world's five largest agglomerations (by population), based on UN estimates. The 'true extent' of Delhi's agglomeration includes the contiguous cities of Gurugram, Faridabad, Noida, and Ghaziabad that span three different States/Union Territories. The UN considers such agglomerations by their true extent rather than by administrative boundaries, but the Census records them separately by their constituent urban local bodies, districts, and State boundaries, thereby obscuring the scale of their massive, interconnected urban footprint. Such agglomerations should be recognised endogenously as well in the Census, as they have interconnected economies and shared labour markets.

### A spatial approach

How can this be done? The Census 2027 could adopt a spatial approach through an open-access geo-statistical portal with due regard for data anonymity, security, and interoperability with other national datasets. Such visual dashboards can dynamically reveal the true spatial extent of agglomerations highlighting where peri-urban growth is occurring. In addition to standard tabular data downloads, thematic visualisations like maps can spotlight areas that are under-provisioned in basic services or have high population density, thus providing deeper insights for effective implementation of municipal schemes. Municipal bodies could also be encouraged to update their information in real-time (instead of waiting for the next decennial Census) based on agreed protocols and processes with the Census. This will also foster a spirit of healthy competition among urban local bodies to showcase their progress in improving access to basic services. The dynamic modifications to ward and municipal boundaries to which statistical data are tagged often make it difficult to study the

changing patterns over time. One of the ways to mitigate this issue is to use static spatial grids (such as a 1x1 km grid) as an additional overlay, amenable to administrative boundaries. Data interpolation from irregular administrative boundaries to regular grids could lead to distortions, and if the grids are too minute, they can also pose privacy and social concerns. This can be overcome with blended indicator-based themes that only show underserved areas and mask sensitive information such as caste or income groups. Similarly, blended data of age, ability, housing conditions, and service provision levels, when overlaid with climate hazard data, provides insights on vulnerable areas that require climate-proof investments. The overlays could also enable trend analysis once time series data get spatialised into the grid.

Globally, such geo-statistical formats have been adopted successfully by Mexico's INEGI and Britain's Ordnance Survey and Environmental Information Data Centre. India could also explore adopting a similar context-relevant and anonymised adaptation to enable targeted actions for a rapidly urbanising India.

Even as India's fertility rates decline, the country continues to grow on the back of its past population momentum. In this context, adopting a geostatistical approach with a modular framework along with the current statistical portal can greatly support policymakers, academia, the private sector, civil society groups, and home-grown startups to build innovative solutions. The approach can also be integrated with other government platforms such as Gati Shakti or Digital Postal Index Number, which divides India into a 4m X 4m grid-addressing system and is aligned with the 2022 National Geospatial Policy. A geo-statistical approach holds the potential to maximise impact while steering India towards a more inclusive and resilient urban future.



## Capturing urban dynamism in the 2027 Census 2027 की जनगणना में शहरी गतिशीलता को दर्ज करना

### The 2027 Census and the need to recognise transitional areas 2027 की जनगणना और संक्रमणशील क्षेत्रों को पहचानने की आवश्यकता

- The **2027 Census** will be the world's largest administrative exercise of its kind.  
T **2027 की जनगणना** अपनी तरह का दुनिया का सबसे बड़ा प्रशासनिक अभ्यास होगी।
- The bedrock of India's policy, scheme design, and fiscal allocations, the Census provides a snapshot of the lived reality of citizens.  
भारत की नीति, योजना निर्माण और **fiscal allocations** की आधारशिला, जनगणना नागरिकों की जीवन-स्थितियों की झलक प्रस्तुत करती है।
- The **2027 Census** will have dedicated mobile apps for digital data collection, geo-tagging of buildings, and a real-time digital monitoring platform to improve the accuracy and efficiency of the exercise.  
**2027 की जनगणना** में डिजिटल डेटा संग्रह, भवनों के **geo-tagging**, और रियल-टाइम डिजिटल मॉनिटरिंग प्लेटफॉर्म के लिए समर्पित मोबाइल ऐप होंगे जिससे अभ्यास की सटीकता और दक्षता बढ़ेगी।

### Recognising transitional areas संक्रमणशील क्षेत्रों को पहचानना

- Capturing a comprehensive snapshot of the Indian populace requires another critical step: recognising transitional urban areas.  
भारतीय जनसंख्या की समग्र झलक प्राप्त करने के लिए एक और महत्वपूर्ण कदम आवश्यक है: संक्रमणशील शहरी क्षेत्रों को पहचानना।
- According to official communications, **Census 2027** proposes to retain the same definition of an urban area that was used in **Census 2011** to ensure uniformity of comparison.  
आधिकारिक संचार के अनुसार, **2027 की जनगणना** तुलना में समानता सुनिश्चित करने के लिए **2011 की जनगणना** में उपयोग की गई शहरी क्षेत्र की ही परिभाषा को बनाए रखने का प्रस्ताव करती है।
- However, India already has a comparatively conservative definition of what constitutes 'urban' with a threefold criterion: population size, population density, and economic parameters.  
हालाँकि, भारत में 'शहरी' की परिभाषा पहले से ही अपेक्षाकृत **conservative** है — तीन मानदंडों के साथ: जनसंख्या आकार, जनसंख्या घनत्व, और आर्थिक पैरामीटर।
- It also follows a binary classification of urban and rural, which does not capture peri-urban areas that are often located on the peripheries of cities and in villages that are transitioning to urban in situ.  
यह शहरी और ग्रामीण की **binary classification** का पालन करती है, जो **peri-urban areas** को नहीं दर्शाती — जो शहरों की सीमाओं पर स्थित होते हैं और गाँव जो धीरे-धीरे शहरी स्वरूप ले रहे हैं।
- For instance, studies by the **World Bank** show that even in **2010**, the share of India's population living in areas with urban-like features was **55.3%**.  
उदाहरण के लिए, **World Bank** के अध्ययनों से पता चलता है कि **2010** में भी भारत की **55.3%** आबादी ऐसे क्षेत्रों में रहती थी जिनकी विशेषताएँ शहरी जैसी थीं।
- However, **Census 2011** recorded only a **31%** urban population share, suggesting the existence of significant unseen and unrecorded urbanisation.  
लेकिन **2011 की जनगणना** ने केवल **31%** शहरी आबादी दर्ज की, जो बड़े पैमाने पर अदृश्य और अपंजीकृत शहरीकरण को दर्शाती है।
- The **UN Statistical Commission** has introduced a global method, the '**Degree of Urbanisation**', for a clearer delineation of urban, peri-urban, and rural areas.  
**UN Statistical Commission** ने शहरी, peri-urban, और ग्रामीण क्षेत्रों की बेहतर पहचान के लिए '**Degree of Urbanisation**' नामक वैश्विक पद्धति प्रस्तुत की है।
- The **Census 2027** could adopt a similar intervention to recognise peri-urban areas that typically fall under rural governance, and could benefit from targeted attention for planned growth and provision of basic services.  
**2027 की जनगणना** इसी प्रकार का हस्तक्षेप अपना सकती है ताकि **peri-urban areas** को पहचाना जा



सके, जो ग्रामीण शासन के अंतर्गत आते हैं और जिन्हें योजनाबद्ध विकास और मूलभूत सेवाओं की आपूर्ति से लाभ हो सकता है।

- Delhi is set to be among the world's five largest agglomerations (by population), based on **UN estimates**.

**UN estimates** के अनुसार दिल्ली विश्व की पाँच सबसे बड़ी **agglomerations** में शामिल होने जा रही है।

- The 'true extent' of Delhi's agglomeration includes the contiguous cities of **Gurugram, Faridabad, Noida, and Ghaziabad** that span three different States/Union Territories. दिल्ली की 'वास्तविक व्यापकता' में **गुरुग्राम, फरीदाबाद, नोएडा और गाज़ियाबाद** शामिल हैं, जो तीन अलग-अलग राज्यों/केंद्रशासित प्रदेशों में फैले हुए हैं।

- The **UN** considers such agglomerations by their true extent rather than by administrative boundaries, but the Census records them separately by their constituent urban local bodies, districts, and State boundaries, thereby obscuring the scale of their massive, interconnected urban footprint.

**UN** ऐसे agglomerations को उनकी वास्तविक व्यापकता के आधार पर मानता है, न कि प्रशासनिक सीमाओं के आधार पर; लेकिन जनगणना इन्हें उनके शहरी स्थानीय निकायों, जिलों और राज्य सीमाओं के आधार पर अलग-अलग दर्ज करती है, जिससे उनकी विशाल और परस्पर जुड़े शहरी स्वरूप की सच्ची तस्वीर धुंधली हो जाती है।

- Such agglomerations should be recognised endogenously as well in the Census, as they have interconnected economies and shared labour markets.

ऐसे agglomerations को जनगणना में भी **endogenously** पहचाना जाना चाहिए, क्योंकि उनकी अर्थव्यवस्थाएँ परस्पर जुड़ी होती हैं और उनके श्रम बाजार साझा होते हैं।

## A spatial approach एक स्थानिक दृष्टिकोण

- How can this be done? The **Census 2027** could adopt a spatial approach through an open-access geo-statistical portal with due regard for data anonymity, security, and interoperability with other national datasets.

यह कैसे किया जा सकता है? **2027 की जनगणना** एक खुली पहुंच वाले **geo-statistical portal** के माध्यम से एक स्थानिक दृष्टिकोण अपना सकती है, जिसमें डेटा की **anonymity**, सुरक्षा और अन्य राष्ट्रीय डेटा सेट के साथ **interoperability** का ध्यान रखा जाए।

- Such visual dashboards can dynamically reveal the true spatial extent of agglomerations highlighting where peri-urban growth is occurring.

ऐसे **visual dashboards** गतिशील रूप से agglomerations की वास्तविक स्थानिक सीमा दिखा सकते हैं और यह भी कि **peri-urban growth** कहाँ हो रही है।

- In addition to standard tabular data downloads, thematic visualisations like maps can spotlight areas that are under-provisioned in basic services or have high population density, thus providing deeper insights for effective implementation of municipal schemes.

मानक तालिका-आधारित डेटा डाउनलोड के अलावा, मानचित्र जैसे **thematic visualisations** उन क्षेत्रों को उजागर कर सकते हैं जहाँ मूलभूत सेवाएँ कम हैं या जनसंख्या घनत्व अधिक है, जिससे **municipal schemes** के प्रभावी क्रियान्वयन के लिए गहरी अंतर्दृष्टि मिलती है।

- Municipal bodies could also be encouraged to update their information in real-time (instead of waiting for the next decennial Census) based on agreed protocols and processes with the Census.

**Municipal bodies** को भी प्रोत्साहित किया जा सकता है कि वे सहमत प्रोटोकॉल और प्रक्रियाओं के आधार पर वास्तविक समय में अपनी जानकारी अपडेट करें, बजाय इसके कि अगली **decennial Census** का इंतज़ार करें।

- This will also foster a spirit of healthy competition among urban local bodies to showcase their progress in improving access to basic services.

यह **urban local bodies** के बीच स्वस्थ प्रतिस्पर्धा की भावना भी बढ़ाएगा ताकि वे मूलभूत सेवाओं तक पहुँच में सुधार की अपनी प्रगति प्रदर्शित कर सकें।

- The dynamic modifications to ward and municipal boundaries to which statistical data are tagged often make it difficult to study the changing patterns over time.

वार्ड और नगरपालिका सीमाओं में **dynamic modifications**, जिनसे सांख्यिकीय डेटा टैग होता है, समय के साथ बदलते पैटर्न का अध्ययन करना कठिन बना देता है।



- One of the ways to mitigate this issue is to use static spatial grids (such as a **1x1 km grid**) as an additional overlay, amenable to administrative boundaries.  
इस समस्या को कम करने का एक तरीका यह है कि **1x1 km grid** जैसे **static spatial grids** को प्रशासनिक सीमाओं के अनुकूल एक अतिरिक्त ओवरले के रूप में उपयोग किया जाए।
- Data interpolation from irregular administrative boundaries to regular grids could lead to distortions, and if the grids are too minute, they can also pose privacy and social concerns.  
अनियमित प्रशासनिक सीमाओं से नियमित ग्रिड में डेटा इंटरपोलेशन विकृतियाँ उत्पन्न कर सकता है, और यदि ग्रिड बहुत छोटे हों तो यह **privacy** और **social concerns** भी पैदा कर सकता है।
- This can be overcome with blended indicator-based themes that only show underserved areas and mask sensitive information such as caste or income groups.  
इसे **blended indicator-based themes** के उपयोग से दूर किया जा सकता है, जो केवल वंचित क्षेत्रों को दिखाते हैं और **caste** या **income groups** जैसी संवेदनशील जानकारी को छिपाते हैं।
- Similarly, blended data of age, ability, housing conditions, and service provision levels, when overlaid with climate hazard data, provides insights on vulnerable areas that require climate-proof investments.  
इसी तरह, **age**, **ability**, **housing conditions**, और **service provision levels** जैसे blended डेटा को **climate hazard data** के साथ ओवरले करने से उन संवेदनशील क्षेत्रों पर अंतर्दृष्टि मिलती है जिन्हें **climate-proof investments** की आवश्यकता है।
- The overlays could also enable trend analysis once time series data get spatialised into the grid.  
जब **time series data** को ग्रिड में spatialised कर दिया जाए, तो ये ओवरले **trend analysis** को भी सक्षम बना सकते हैं।
- Globally, such geo-statistical formats have been adopted successfully by **Mexico's INEGI** and **Britain's Ordnance Survey** and **Environmental Information Data Centre**.  
वैश्विक स्तर पर, ऐसे **geo-statistical formats** को **Mexico's INEGI**, **Britain's Ordnance Survey**, और **Environmental Information Data Centre** द्वारा सफलतापूर्वक अपनाया गया है।
- India could also explore adopting a similar context-relevant and anonymised adaptation to enable targeted actions for a rapidly urbanising India.  
भारत भी एक समान, संदर्भ-संगत और **anonymised adaptation** अपनाने का प्रयास कर सकता है ताकि तेजी से शहरीकृत होते भारत के लिए **targeted actions** संभव हो सकें।
- Even as India's fertility rates decline, the country continues to grow on the back of its past population momentum.  
हालाँकि भारत की **fertility rates** घट रही हैं, देश अभी भी अपनी पूर्व जनसंख्या गति के आधार पर बढ़ रहा है।
- In this context, adopting a geo-statistical approach with a modular framework along with the current statistical portal can greatly support policymakers, academia, the private sector, civil society groups, and home-grown startups to build innovative solutions.  
इस संदर्भ में, मौजूदा सांख्यिकीय पोर्टल के साथ **geo-statistical approach** और **modular framework** अपनाना नीति-निर्माताओं, शिक्षाविदों, निजी क्षेत्र, नागरिक समाज समूहों और **startups** को नवोन्मेषी समाधान बनाने में बड़ी सहायता दे सकता है।
- **The approach can also be integrated with other government platforms such as Gati Shakti or Digital Postal Index Number, which divides India into a 4m x 4m grid-addressing system and is aligned with the 2022 National Geospatial Policy.**  
यह दृष्टिकोण अन्य सरकारी प्लेटफॉर्म जैसे **Gati Shakti** या **Digital Postal Index Number** के साथ भी जोड़ा जा सकता है, जो भारत को **4m x 4m grid-addressing system** में विभाजित करता है और **2022 National Geospatial Policy** के अनुरूप है।
- A geo-statistical approach holds the potential to maximise impact while steering India towards a more inclusive and resilient urban future.  
एक **geo-statistical approach** में प्रभाव को अधिकतम करने और भारत को अधिक **inclusive** और **resilient urban future** की दिशा में ले जाने की क्षमता है।

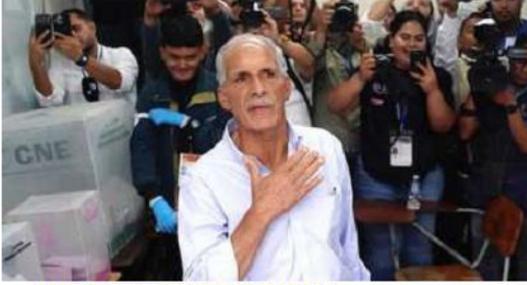


## Geography

02/12/2025

### TEGUCIGALPA

#### Trump-backed candidate holds narrow lead in Honduras election



AFP

GS I: Geography: Mapping

Nasry Asfura, a conservative candidate backed by U.S. President Donald Trump narrowly leads a right-wing rival in Honduras's Presidential election, according to partial results released on Monday. Mr. Asfura had 40% of the votes and led Salvador Nasralla by just 0.2 percentage points, with 56% of votes counted. AFP

#### **Trump-backed candidate holds narrow lead in Honduras election**

**ट्रंप समर्थित उम्मीदवार होंडुरास चुनाव में मामूली बढ़त बनाए हुए**

• **Nasry Asfura**, a conservative candidate backed by U.S. President Donald Trump narrowly leads a right-wing rival in Honduras's Presidential election, according to partial results released on Monday.

नास्री असफुरा, एक रूढ़िवादी उम्मीदवार, जिन्हें अमेरिका के राष्ट्रपति डोनाल्ड ट्रंप का समर्थन प्राप्त है, होंडुरास के राष्ट्रपति चुनाव में एक दक्षिणपंथी प्रतिद्वंद्वी से मामूली बढ़त बनाए हुए है, आंशिक परिणामों के अनुसार जो सोमवार को जारी किए गए।

• Mr. Asfura had **40% of the votes** and led **Salvador Nasralla** by just **0.2 percentage points**, with **56% of votes counted**.

### Kite runners



GS I: Geography: Mapping

**Floating along:** Amid ongoing conflict in their country, Sudanese refugee children fly a handmade kite past newly built wooden tents for recent arrivals from al-Fashir at Touloum refugee camp, on the outskirts of Iriba in eastern Chad. REUTERS

Floating along: Amid ongoing conflict in their country, Sudanese refugee children fly a handmade kite past newly built wooden tents for recent arrivals from al-Fashir at Touloum refugee camp, on the outskirts of Iriba in eastern Chad



## Anti-fascist protesters push back against the far-right's 'accelerated' rise in Croatia

**GIS: Geography, AS/PS/Small Pathshala, www.patrioticias.in, 9971932488**

Ultranationalist views are rapidly becoming mainstream in Croatia, observers are warning, as an emboldened far-right seeks to rewrite the country's dark World War II-era history.

From an ultra-nationalist singer's massive concert in Zagreb earlier this year to the disruption of a Serb cultural event by masked hooligans in November, the increasing tensions mark a worrying trajectory for the Balkan nation, expert Florian Bieber from the University of Graz in Austria said.

"There is both a rise of historical revisionism and a rise of threats to those

who have different views of that past," Mr. Bieber said, referring to attempts to rehabilitate the Ustasha, Croatia's pro-Nazi World War II regime. "None of this is entirely new. But it's accelerated and become more pronounced in the last year than it has been for many years."

In July, singer Marko 'Thompson' Perkovic drew hundreds of thousands to a performance of his nationalistic folk-rock songs — one begins with the three-word salute of the Ustasha. The Nazi-collaborationist government persecuted and killed hundreds of thousands during WWII — primarily Serbs, Jews, Roma and anti-fascist Croats. Although the Ustasha's In-

dependent State of Croatia (NDH) was a Nazi puppet state, their modern sympathisers see them as the nation's founding fathers.

Mr. Bieber said the size of Mr. Thompson's concert and its public acceptance by leaders including Prime Minister Andrej Plenkovic encouraged many subsequent far-right actions. "The roots are deeper, but certainly the concert encouraged the far-right, because it saw the number of supporters or at least the fans of Thompson visibly," Mr. Bieber said.

Mr. Plenkovic, considered a moderate, attended Mr. Thompson's rehearsal and posted a selfie with the singer.

Since May 2024, his



People carry a banner reading, 'united against fascism', at a rally against the rise of far-right rhetoric in Croatia on Sunday. REUTERS

right-wing party, the HDZ, has governed in coalition with the Homeland Movement, which has a nationalist, anti-immigration and anti-LGBT agenda.

Mr. Thompson, who takes his stage name from his wartime submachine gun, rose to fame during

the bloody conflicts that tore Yugoslavia apart in the 1990s. Branding his concerts as expressions of "faith, family and homeland", the folk-rock icon has dismissed claims of pro-Nazi sympathies as "entirely inappropriate and unacceptable".

He has repeatedly insisted the screamed refrain "For homeland!" and a crowd response of "ready!" has nothing to do with the same words of the Ustasha slogan.

Although local courts have not found Mr. Thompson guilty of any crime, the phrase was ruled unconstitutional by the top court in 2006.

Following his concert, two lawmakers repeated the exact phrase in the Parliament. In October, right-wing MPs hosted a discussion that played down the number of Croatia's WWII death camp victims.

The moves drew outrage, with an umbrella organisation of the Jewish community groups labelling

it "scandalous" and a "moral and civilisational disgrace for Croatia".

'Masked ultras' This ultranationalist rhetoric is also reigniting tensions with the country's Serbs. While respect for the rights of Croatia's Serb minority was one of the conditions for accession to the European Union in 2013, anti-Serb rhetoric has never disappeared.

Long-time Croatian Serb leader Milorad Pupovac said the recent push to rehabilitate the image of Croatia's fascist regime and target the Serbs was markedly worse than he had seen before. After masked men stormed a Serb culture event chanting fascist slo-

gans, several similar events were threatened or cancelled.

"We've never before seen masked groups of young ultras trying to impose their politics on culture, free speech, and minority rights, and potentially soon on state institutions themselves," Mr. Pupovac said.

On Sunday, thousands of anti-fascist demonstrators gathered in the capital and three other cities to push back against the resurgence of far-right nationalism. In a statement, organisers decried the "violence, historical revisionism, and intimidation" of the past months, as the crowds marched with banners and signs.

## Anti-fascist protesters push back against the far-right's 'accelerated' rise in Croatia

क्रोएशिया में चरम दक्षिणपंथ के 'तेज़' उभार के खिलाफ एंटी-फासीवादी प्रदर्शनकारी पीछे धकेलते हैं

- Ultranationalist views are rapidly becoming **mainstream** in **Croatia**, observers are warning, as an emboldened **far-right** seeks to rewrite the country's dark **World War II-era history**. क्रोएशिया में **अल्ट्रा-राष्ट्रीयवादी विचार** तेजी से **मुख्यधारा** बन रहे हैं, पर्यवेक्षकों ने चेतावनी दी है, क्योंकि साहसी **चरम-दक्षिणपंथी** देश के अंधकारमय **द्वितीय विश्व युद्ध-युग इतिहास** को फिर से लिखने की कोशिश कर रहे हैं।
- From an ultra-nationalist singer's massive **concert** in **Zagreb** earlier this year to the **disruption** of a **Serb cultural event** by **masked hooligans** in **November**, the increasing tensions mark a worrying trajectory for the **Balkan nation**, expert **Florian Bieber** from the **University of Graz in Austria** said.

इस साल की शुरुआत में **जाग्रेब** में एक **अल्ट्रा-राष्ट्रीयवादी** गायक के विशाल **संगीत कार्यक्रम** से लेकर **नवंबर** में **मास्क पहने हुडिगन्स** द्वारा एक **सर्ब सांस्कृतिक कार्यक्रम** में हुई **विचलन** तक, बढ़ती तनाव **बाल्कन राष्ट्र** के लिए चिंताजनक प्रवृत्ति को दर्शाता है, विशेषज्ञ **फ्लोरियन बीबर**, **University of Graz**, **ऑस्ट्रिया** ने कहा।

- "There is both a rise of **historical revisionism** and a rise of **threats** to those who have different views of that past," Mr. Bieber said, referring to attempts to rehabilitate the **Ustasha**, Croatia's **pro-Nazi World War II regime**. "इतिहास में **पुनरीक्षणवाद** और उन लोगों के लिए **धमकियों** में वृद्धि दोनों हो रही है जिनकी उस अतीत के बारे में अलग राय है," श्री बीबर ने कहा, **Ustasha**, क्रोएशिया के **प्रो-नाज़ी द्वितीय विश्व युद्ध शासन** को पुनः स्थापित करने के प्रयासों का उल्लेख करते हुए।
- "None of this is entirely new. But it's **accelerated** and become more **pronounced** in the last year than it has been for many years." "इसमें से कोई भी पूरी तरह नया नहीं है। लेकिन यह पिछले वर्ष में कई वर्षों की तुलना में अधिक **तेज़** और अधिक **स्पष्ट** हो गया है।"
- In **July**, singer **Marko 'Thompson' Perkovic** drew **hundreds of thousands** to a performance of his **nationalistic folk-rock songs** — one begins with the **three-word salute of the Ustasha**. **जुलाई** में, गायक **मार्को 'थॉम्पसन' पेरकोविक** ने अपने **राष्ट्रीयवादी फोक-रॉक गीतों** के प्रदर्शन में **सैकड़ों हज़ारों** लोगों को आकर्षित किया — एक गीत की शुरुआत **Ustasha** के **तीन-शब्द वाले सलामी** से होती है।
- The **Nazi-collaborationist government** persecuted and killed **hundreds of thousands** during **WWII** — primarily **Serbs, Jews, Roma and anti-fascist Croats**. **नाज़ी-सहयोगी सरकार** ने **WWII** के दौरान **सैकड़ों हज़ारों** लोगों को सताया और मारा — मुख्य रूप से **सर्ब, यहूदी, रोमा और एंटी-फासीवादी क्रोएशियाई**।
- Although the **Ustasha's Independent State of Croatia (NDH)** was a **Nazi puppet state**, their modern sympathisers see them as the **nation's founding fathers**.



हालांकि **Ustasha** का स्वतंत्र क्रोएशिया राज्य (NDH) एक नाज़ी कठपुतली राज्य था, उनके आधुनिक समर्थक उन्हें राष्ट्र के संस्थापक पिता के रूप में देखते हैं।

- Mr. Bieber said the size of Mr. Thompson's **concert** and its **public acceptance** by leaders including **Prime Minister Andrej Plenkovic** encouraged many subsequent **far-right actions**. श्री बीबर ने कहा कि श्री थॉम्पसन के संगीत कार्यक्रम का आकार और इसे प्रधानमंत्री आंद्रेज प्लेकोविक सहित नेताओं द्वारा मिली सार्वजनिक स्वीकृति ने कई बाद की चरम-दक्षिणपंथी गतिविधियों को बढ़ावा दिया।
- "The roots are deeper, but certainly the **concert encouraged the far-right**, because it saw the number of supporters or at least the fans of Thompson visibly," Mr. Bieber said. "जड़ें अधिक गहरी हैं, लेकिन निश्चित रूप से संगीत कार्यक्रम ने चरम-दक्षिणपंथियों को उत्साहित किया, क्योंकि इसमें थॉम्पसन के समर्थकों या कम से कम प्रशंसकों की संख्या स्पष्ट रूप से दिखाई दी," श्री बीबर ने कहा।
- Mr. Plenkovic, considered a **moderate**, attended Mr. Thompson's **rehearsal** and posted a **selfie** with the singer. श्री प्लेकोविक, जिन्हें एक मध्यमार्गी माना जाता है, ने श्री थॉम्पसन का रिहर्सल देखा और गायक के साथ सेल्फी पोस्ट की।
- Since **May 2024**, his **right-wing party, the HDZ**, has governed in **coalition** with the **Homeland Movement**, which has a **nationalist, anti-immigration and anti-LGBT agenda**. मई 2024 से, उनकी दक्षिणपंथी पार्टी, HDZ, Homeland Movement के साथ संधि में शासन कर रही है, जिसमें एक राष्ट्रीयवादी, विरोधी-प्रवासन और विरोधी-LGBT एजेंडा है।
- Mr. Thompson, who takes his **stage name** from his **wartime submachine gun**, rose to fame during the **bloody conflicts** that tore **Yugoslavia** apart in the 1990s. श्री थॉम्पसन, जो अपना स्टेज नाम अपने युद्धकालीन सबमशीन गन से लेते हैं, 1990 के दशक में युगोस्लाविया को तोड़ने वाले रक्तरंजित संघर्षों के दौरान प्रसिद्ध हुए।
- Branding his concerts as expressions of "**faith, family and homeland**", the folk-rock icon has dismissed claims of **pro-Nazi sympathies** as "entirely inappropriate and unacceptable". अपने संगीत कार्यक्रमों को "विश्वास, परिवार और मातृभूमि" के रूप में प्रस्तुत करते हुए, फोक-रॉक आइकन ने प्रो-नाज़ी सहानुभूतियों के दावों को "पूरी तरह अनुपयुक्त और अस्वीकार्य" बताया।
- He has repeatedly insisted the screamed refrain "**For homeland!**" and a **crowd response of "ready!"** has nothing to do with the same words of the **Ustasha slogan**. उन्होंने बार-बार जोर देकर कहा कि चिल्लाया गया बार-बार दोहराया गया "मातृभूमि के लिए!" और भीड़ की प्रतिक्रिया "तैयार!" का Ustasha नारा के समान शब्दों से कोई संबंध नहीं है।
- Although local courts have not found Mr. Thompson guilty of any crime, the phrase was ruled **unconstitutional** by the **top court in 2006**. हालांकि स्थानीय अदालतों ने श्री थॉम्पसन को किसी भी अपराध में दोषी नहीं पाया, इस वाक्यांश को 2006 में शीर्ष अदालत द्वारा असंवैधानिक माना गया।
- Following his **concert**, two **lawmakers** repeated the exact phrase in the **Parliament**. अपने संगीत कार्यक्रम के बाद, दो संसद सदस्य ने संसद में ठीक वही वाक्यांश दोहराया।
- In **October**, **right-wing MPs** hosted a discussion that **played down** the number of **Croatia's WWII death camp victims**. अक्टूबर में, दक्षिणपंथी सांसदों ने एक चर्चा आयोजित की जिसने क्रोएशिया के WWII मौत शिविर पीड़ितों की संख्या को कम करके दिखाया।
- The moves drew **outrage**, with an **umbrella organisation of the Jewish community groups** labelling it "**scandalous**" and a "**moral and civilisational disgrace for Croatia**". इन कदमों ने आक्रोश को जन्म दिया, जिसमें यहूदी समुदाय समूहों के एक छत्र संगठन ने इसे "घृणास्पद" और "क्रोएशिया के लिए नैतिक और सभ्यतात्मक कलंक" बताया।

### 'Masked ultras'

#### 'मास्क पहने अल्ट्राज'

- This **ultranationalist rhetoric** is also reigniting tensions with the country's **Serbs**. यह अल्ट्रा-राष्ट्रीयवादी रट देश के सर्ब समुदाय के साथ तनाव को फिर से भड़का रही है।
- While respect for the rights of **Croatia's Serb minority** was one of the conditions for accession to the **European Union in 2013**, anti-Serb rhetoric has never disappeared. जहां क्रोएशिया की सर्ब अल्पसंख्यक के अधिकारों का सम्मान 2013 में यूरोपीय संघ में प्रवेश की शर्तों में से एक था, वहीं विरोधी-सर्ब रट कभी नहीं गायब हुई।



- Long-time **Croatian Serb leader Milorad Pupovac** said the recent push to rehabilitate the image of **Croatia's fascist regime** and target the **Serbs** was markedly worse than he had seen before.  
लंबे समय से क्रोएशियाई सर्ब नेता मिलोराद पुपोवाक ने कहा कि क्रोएशिया के फासीवादी शासन की छवि को पुनः स्थापित करने और सर्बों को निशाना बनाने का हालिया प्रयास पहले देखे गए हालात से काफी बदतर था।
- After **masked men** stormed a **Serb culture event** chanting **fascist slogans**, several similar events were **threatened or cancelled**.  
जब मास्क पहने पुरुषों ने सर्ब सांस्कृतिक कार्यक्रम पर हमला किया और फासीवादी नारे लगाए, तो कई समान कार्यक्रम धमकी भरे या रद्द किए गए।
- "We've never before seen **masked groups of young ultras** trying to impose their politics on **culture, free speech, and minority rights**, and potentially soon on **state institutions** themselves," Mr. Pupovac said.  
"हमने पहले कभी नहीं देखा कि मास्क पहने युवा अल्ट्राज समूह अपनी राजनीति को संस्कृति, अभिव्यक्ति की स्वतंत्रता और अल्पसंख्यक अधिकारों पर थोपने की कोशिश कर रहे हैं, और संभवतः जल्द ही राज्य संस्थानों पर भी," श्री पुपोवाक ने कहा।
- On **Sunday**, thousands of **anti-fascist demonstrators** gathered in the **capital** and three other cities to push back against the resurgence of **far-right nationalism**.  
रविवार को, हजारों एंटी-फासीवादी प्रदर्शनकारी राजधानी और तीन अन्य शहरों में इकट्ठा हुए ताकि चरम-दक्षिणपंथी राष्ट्रवाद के पुनरुत्थान के खिलाफ विरोध किया जा सके।
- In a **statement**, organisers decried the "**violence, historical revisionism, and intimidation**" of the past months, as the **crowds marched with banners and signs**.  
एक बयान में, आयोजकों ने पिछले महीनों की "हिंसा, इतिहास पुनरीक्षणवाद, और धमकियाँ" की निंदा की, जब भीड़ ने बैनर और संकेतों के साथ मार्च किया।

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# SC tasks CBI to tackle 'digital arrests'

Court says every type of cyberscam that defrauds the public needs to be probed

**GS II: Governance**

**Krishnadas Rajagopal**  
NEW DELHI

The Supreme Court on Monday tasked the Central Bureau of Investigation with cracking down on 'digital arrest' scammers and their associates, giving the agency a "free hand" to launch an anti-corruption probe into bankers involved in the opening of mule accounts linked to cybercrimes.

A Bench of the Chief Justice of India Surya Kant and Justice Joymalya Bagchi found "enough was enough", and held that 'digital arrest' scams required the immediate attention of the CBI.

A note provided by the Centre in the court showed that ₹3,000 crore had already been scammed by fraudsters from victims, mostly drawn from the elderly population, through 'digital arrests'.

"There is no second opinion that every type of cyber scam defrauding victims, especially senior

citizens, is required to be investigated. The CBI shall investigate first the digital arrest scams. Other types of cyber scams [fraudulent investments, promise of part-time jobs] can come in the second and third stages," the court observed in the order.

The court directly ordering the CBI, overriding state consent, to conduct a pan-India probe and hunt down scammers is an extraordinary step. It cannot order the CBI, except when compelled by exceptional circumstances.

## Directive to States

Bihar, Tamil Nadu, Karnataka, Kerala, West Bengal, Madhya Pradesh, Uttarakhand, Rajasthan, Punjab, Maharashtra, Meghalaya, Jharkhand, and Tripura have been directed to accord consent to the CBI under Section 6 of the Delhi Special Police Establishment Act to investigate 'digital arrest' cases under the Information Technology Act, 2000 in their

Court directly ordering CBI, overriding state consent, is an extraordinary step

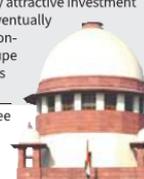
States directed to accord their consent for investigations in their jurisdictions

## Tough action

The Supreme Court has asked the Central Bureau of Investigation (CBI) to crack down on 'digital arrest' scammers

### THREE CATEGORIES OF CYBER SCAMS IDENTIFIED BY SC

- **Digital arrests:** Victims are made to believe government authorities are entitled to their hard-earned money, and they are subjected to coercive acts of extortion
- **Investment scams:** Victims are lured by attractive investment schemes to deposit large amounts, but eventually are duped of the money. The fraudsters continue to coin different terminologies to dupe victims. In some of the cases, the money is sought in the name of 'advance tax'
- **Part-time jobs:** Victims are paid for 'free tasks' like positive reviews or watching YouTube. They are later made to pay huge amounts for 'premium tasks'



jurisdictions.

The court directed the CBI to identify police officers from different States, and domain experts, to aid the investigation. "We want the CBI to undertake a comprehensive investigation on identified cybercrimes on a pan-India basis," Chief Justice Kant observed.

Considering the magnitude of the 'digital arrest'

scams and widespread tentacles of the fraudsters, the Supreme Court directed the CBI to coordinate with the Interpol to identify cybercrime havens abroad. The court impleaded and issued notice to the Reserve Bank of India to respond on the use of Artificial Intelligence and Machine Learning to trace 'layering' or the moving of the proceeds of crime

through multiple bank accounts to escape detection.

Invoking the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules of 2021, the apex court directed online intermediaries to cooperate with the CBI, and provide the agency assistance with regard to data in connection with investigation into 'digital arrest' cases.

States and Union Territories have to ensure the establishment and operationalisation of regional cybercrime coordination centres to compile data on cybercrimes, and for initiating preventive measures against the offence, the court directed. They should be linked to the Indian Cybercrime Coordination Centre (I4C), which is designed to provide an ecosystem for law enforcement agencies to deal with cybercrime in a coordinated and comprehensive manner.

The court said telecom

operators had been careless in issuing SIM cards.

"The records before this court show an alarming, negligent and irresponsible approach of the telecom service operators in issuing SIM cards, particularly multiple SIMs, in the same name," Chief Justice Kant noted.

The Telecom Department was ordered to submit a proposal for the consideration of the top court, which would be eventually complied with by telecom service operators to prevent the misuse of SIMs.

The court's *amicus curiae* in the case, advocate N.S. Nappinai, classified cyber frauds into three main categories – digital arrest, fraudulent investments, and the promise of part-time jobs.

All these frauds are meant to defraud innocent victims, particularly senior citizens, of their hard-earned money. Whatever the category, they need to be stopped, the CJI stressed.

## SC tasks CBI to tackle 'digital arrests'

### एससी ने 'डिजिटल अरेस्ट्स' से निपटने के लिए सीबीआई को जिम्मेदारी सौंपी

- SC tasks CBI to tackle 'digital arrests' एससी ने 'डिजिटल अरेस्ट्स' से निपटने के लिए सीबीआई को जिम्मेदारी सौंपी
- Court says every type of **cyberscam** that defrauds the public needs to be probed अदालत ने कहा कि हर प्रकार के साइबरस्कैम जो जनता को ठगते हैं, उनकी जांच की जानी चाहिए
- Court directly ordering **CBI**, overriding **state consent**, is an **extraordinary step** अदालत द्वारा सीधे सीबीआई को आदेश देना, राज्य की सहमति को दरकिनार करते हुए, एक असाधारण कदम है
- States directed to accord their **consent** for investigations in their jurisdictions राज्यों को निर्देश दिया गया कि वे अपने क्षेत्राधिकार में होने वाली जांचों के लिए अपनी सहमति प्रदान करें
- The Supreme Court on Monday tasked the Central Bureau of Investigation with cracking down on 'digital arrest' scammers and their associates, giving the agency a "free hand" to launch an anti-corruption probe into bankers involved in the opening of mule accounts linked to cybercrimes. सोमवार को सुप्रीम कोर्ट ने सेंट्रल ब्यूरो ऑफ इन्वेस्टिगेशन को 'डिजिटल अरेस्ट' स्कैमर्स और उनके सहयोगियों पर कार्रवाई करने का कार्य सौंपा, और एजेंसी को साइबर अपराधों से जुड़े मूल अकाउंट्स खोलने में शामिल बैंक कर्मचारियों पर एंटी-करप्शन जांच शुरू करने के लिए "फ्री हैंड" दिया।
- A Bench of the Chief Justice of India Surya Kant and Justice Joymalya Bagchi found "enough was enough", and held that 'digital arrest' scams required the immediate attention of the CBI. मुख्य न्यायाधीश सूर्या कांत और न्यायमूर्ति जोयमल्या बागची की पीठ ने कहा कि "अब बहुत हो चुका है" और माना कि 'डिजिटल अरेस्ट' स्कैम पर सीबीआई का तुरंत ध्यान आवश्यक है।



- A note provided by the Centre in the court showed that **₹3,000 crore** had already been scammed by fraudsters from victims, mostly drawn from the elderly population, through 'digital arrests'.  
केंद्र द्वारा अदालत में दी गई एक नोट में दिखाया गया कि **₹3,000 करोड़** की ठगी 'डिजिटल अरेस्ट्स' के माध्यम से धोखेबाजों द्वारा की जा चुकी है, जिनमें अधिकतर बुजुर्ग लोग शामिल थे।
- "There is no second opinion that every type of cyber scam defrauding victims, especially senior citizens, is required to be investigated. The CBI shall investigate first the digital arrest scams. Other types of cyber scams [fraudulent investments, promise of part-time jobs] can come in the second and third stages," the court observed in the order.  
अदालत ने आदेश में कहा, "इसमें कोई दूसरी राय नहीं कि हर प्रकार का **साइबर स्कैम**, विशेषकर बुजुर्गों को ठगने वाले, की जांच आवश्यक है। सीबीआई सबसे पहले डिजिटल अरेस्ट स्कैम्स की जांच करेगी। अन्य साइबर स्कैम्स [फर्जी निवेश, पार्ट-टाइम नौकरी का झांसा] दूसरी और तीसरी स्टेज में आ सकते हैं।"
- The court directly ordering the CBI, overriding state consent, to conduct a pan-India probe and hunt down scammers is an **extraordinary step**. It cannot order the CBI, except when compelled by **exceptional circumstances**.  
अदालत द्वारा राज्य की सहमति को दरकिनार करते हुए **सीबीआई** को पूरे देश में जांच का आदेश देना एक **असाधारण कदम** है। अदालत केवल **असाधारण परिस्थितियों** में ही सीबीआई को ऐसे आदेश दे सकती है।

### Directive to States राज्यों को निर्देश

- Bihar, Tamil Nadu, Karnataka, Kerala, West Bengal, Madhya Pradesh, Uttarakhand, Rajasthan, Punjab, Maharashtra, Meghalaya, Jharkhand, and Tripura have been directed to accord **consent to the CBI under Section 6 of the Delhi Special Police Establishment Act to investigate 'digital arrest' cases under the Information Technology Act, 2000 in their jurisdictions**.  
बिहार, तमिलनाडु, कर्नाटक, केरल, पश्चिम बंगाल, मध्य प्रदेश, उत्तराखंड, राजस्थान, पंजाब, महाराष्ट्र, मेघालय, झारखंड और त्रिपुरा को निर्देश दिया गया है कि वे **दिल्ली स्पेशल पुलिस एस्टैब्लिशमेंट एक्ट** की धारा 6 के तहत सीबीआई को अपने क्षेत्राधिकार में **आईटी एक्ट, 2000** के अंतर्गत 'डिजिटल अरेस्ट' मामलों की जांच की सहमति दें।
- The court directed the CBI to identify police officers from different States, and domain experts, to aid the investigation. "We want the CBI to undertake a comprehensive investigation on identified cybercrimes on a pan-India basis," Chief Justice Kant observed.  
अदालत ने सीबीआई को निर्देश दिया कि वह विभिन्न राज्यों के पुलिस अधिकारियों और **डोमेन एक्सपर्ट्स** की पहचान करे ताकि जांच में सहायता मिल सके। मुख्य न्यायाधीश कांत ने कहा, "हम चाहते हैं कि सीबीआई पूरे भारत में पहचाने गए साइबर अपराधों की व्यापक जांच करे।"
- Considering the magnitude of the 'digital arrest' scams and widespread tentacles of the fraudsters, the Supreme Court directed the CBI to coordinate with the **Interpol** to identify cybercrime havens abroad.  
'डिजिटल अरेस्ट' स्कैम की व्यापकता और धोखेबाजों के फैले जाल को देखते हुए सुप्रीम कोर्ट ने सीबीआई को **इंटरपोल** के साथ समन्वय स्थापित करने का निर्देश दिया ताकि विदेशों में साइबर अपराध के अड्डों की पहचान हो सके।
- The court impleaded and issued notice to the **Reserve Bank of India** to respond on the use of **Artificial Intelligence and Machine Learning** to trace 'layering' or the movement of crime proceeds through multiple bank accounts.  
अदालत ने **भारतीय रिज़र्व बैंक** को पक्षकार बनाते हुए नोटिस जारी किया कि वह **एआई** और **एमएल** के उपयोग के बारे में जवाब दे, जिनका उद्देश्य अपराध की कमाई को कई बैंक खातों में 'लेयरिंग' के माध्यम से ट्रेस करना है।
- Invoking the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021**, the apex court directed online intermediaries to cooperate with the CBI and assist with data related to 'digital arrest' investigations.  
**आईटी (इंटरमीडियरी गाइडलाइंस और डिजिटल मीडिया एथिक्स कोड) नियम, 2021** का हवाला देते हुए सर्वोच्च न्यायालय ने ऑनलाइन इंटरमीडियरीज़ को निर्देश दिया कि वे सीबीआई के साथ सहयोग करें और 'डिजिटल अरेस्ट' जांच से जुड़े डेटा उपलब्ध कराएं।
- States and Union Territories have to ensure the establishment and operationalisation of regional **cybercrime coordination centres to compile data and initiate preventive measures**.



They should be linked to the **Indian Cybercrime Coordination Centre (I4C)**.

राज्यों और केंद्रशासित प्रदेशों को क्षेत्रीय साइबर क्राइम कोऑर्डिनेशन सेंटर्स स्थापित करने और संचालित करने सुनिश्चित करना होगा, ताकि साइबर अपराध डेटा संकलित हो सके और रोकथाम के उपाय शुरू किए जा सकें। इन्हें I4C से जोड़ा जाना चाहिए।

- The court said telecom operators had been careless in issuing SIM cards. “The records before this court show an alarming, negligent and irresponsible approach of the telecom service operators in issuing SIM cards, particularly multiple SIMs, in the same name,” Chief Justice Kant noted.  
अदालत ने कहा कि टेलीकॉम ऑपरेटर सिम कार्ड जारी करने में लापरवाही बरत रहे हैं। मुख्य न्यायाधीश कांत ने कहा, “रिकॉर्ड दर्शाते हैं कि टेलीकॉम कंपनियों का रवैया चिंताजनक, लापरवाह और गैरजिम्मेदाराना है, विशेष रूप से एक ही नाम पर कई सिम कार्ड जारी करने में।”
- The Telecom Department was ordered to submit a proposal for the consideration of the top court, which would be eventually complied with by telecom service operators to prevent the misuse of SIMs.  
टेलीकॉम विभाग को आदेश दिया गया कि वह शीर्ष अदालत को एक प्रस्ताव प्रस्तुत करे, जिसे बाद में टेलीकॉम कंपनियों द्वारा सिम के दुरुपयोग को रोकने के लिए लागू किया जाएगा।
- The court’s amicus curiae in the case, advocate **N.S. Nappinai**, classified cyber frauds into three main categories — digital arrest, fraudulent investments, and the promise of part-time jobs.  
अदालत के एमिकस क्यूरी अधिवक्ता एन.एस. नप्पिनई ने साइबर फ्रॉड को तीन मुख्य श्रेणियों में विभाजित किया—डिजिटल अरेस्ट, फर्जी निवेश और पार्ट-टाइम नौकरियों का झांसा।
- All these frauds are meant to defraud innocent victims, particularly senior citizens, of their hard-earned money. Whatever the category, they need to be stopped, the CJI stressed.  
इन सभी फ्रॉड का उद्देश्य निर्दोष लोगों, विशेषकर बुजुर्गों, की कड़ी कमाई को ठगना है। श्रेणी कोई भी हो, इन्हें रोका जाना जरूरी है, यह सीजेआई ने कहा।



# The new action plan on AMR needs a shot in the arm

GS II: Governance: Health Sector

MOB

India's new **National Action Plan on Antimicrobial Resistance (NAP-AMR 2.0)** – (2025-29) – has been released at a time when **Antimicrobial Resistance (AMR)** is affecting human health, veterinary practices, aquaculture, agriculture, waste systems and the entire food chain. Antibiotic residues, resistant organisms and environmental discharge connect these sectors in powerful ways. AMR does not remain confined to hospitals. It moves through soil, water, livestock, markets and food systems, making it a true One Health challenge. Therefore, any national plan must be matched by real and coordinated action across all levels of governance.

## The evolution, from the first action plan

The first National Action Plan on AMR, launched in 2017, was a significant step forward. It brought AMR into national consciousness, encouraged multi-sectoral participation, improved laboratory networks, expanded national surveillance and supported stewardship. It also placed AMR firmly within a One Health framework, recognising the links between human health, animal health and the environment.

Despite this progress, implementation during the first plan period remained limited at the State level. Only a small group of States – Kerala, Madhya Pradesh, Delhi, Andhra Pradesh, Gujarat, Sikkim and Punjab – developed formal State Action Plans, and only a few moved meaningfully into execution. The majority continued to rely on fragmented activities within individual sectors; State-wide, multisectoral One Health structures did not take shape in most parts of the country.

This slow uptake was not due to a shortage of national effort, but because the major determinants of AMR fall under State jurisdiction. Health administration, hospital functioning, pharmacy regulation, veterinary oversight, agricultural antibiotic practices, food-chain monitoring and waste governance are controlled by State departments. National guidance alone cannot create uniform implementation when the operational levers sit elsewhere.

India's broader public health experience shows that real progress happens only when the Centre and States work within a structured, mutually accountable system. The National Tuberculosis Elimination Programme is a clear example: its achievements arise from regular joint reviews, shared monitoring missions and clearly defined roles across levels of government. The National Health Mission follows similar principles, where coordinated planning, dedicated funding signals and periodic performance assessments enable



**Dr. Abdul Ghafur**

is Senior Consultant in Infectious Diseases, Apollo Hospital, Chennai, and Coordinator, Chennai Declaration on Antimicrobial Resistance (AMR)

## The success of the National Action Plan on Antimicrobial Resistance (NAP-AMR 2.0) depends on how effectively national and State systems work together

The success of the National Action Plan on Antimicrobial Resistance (NAP-AMR 2.0) depends on how effectively national and State systems work together

States to turn national priorities into on-ground action. The NAP-AMR 2.0 represents a more mature and implementation-oriented framework when compared with the first plan. It moves beyond broad intent and outlines clearer timelines, responsibilities and resource planning. An important advancement is the recognition that India cannot address AMR without meaningful participation from the private sector, which delivers a major proportion of health care and veterinary services. The plan also strengthens its scientific base by placing greater emphasis on innovation – rapid diagnostics, point-of-care tools, alternatives to antibiotics and improved environmental monitoring.

It deepens its One Health perspective, giving more attention to food-system pathways, waste management and environmental contamination. Surveillance structures are more integrated across human, veterinary, agricultural and environmental sectors, creating a harmonised national approach.

In terms of governance, the NAP-AMR 2.0 introduces a higher level of national oversight by placing intersectoral supervision under NITI Aayog through a dedicated Coordination and Monitoring Committee. It repeatedly stresses that every State and Union Territory should establish State AMR Cells and prepare State Action Plans aligned with the national framework, supported by a national dashboard for progress reporting. These developments signal that AMR is evolving from a technical health issue to a national development priority requiring multi-departmental engagement.

## Where the new plan falls short

Despite these important developments and the stronger emphasis on State-level implementation, the fundamental weakness of the first plan remains unchanged. The plan stresses that States must develop AMR Action Plans and establish AMR Cells, but it does not create any mechanism to ensure that they do so. There is no formal Centre-State AMR platform, no joint review mechanism, no statutory requirement for States to notify or implement their plans and no financial pathway – such as NHM-linked incentives – that could anchor sustained State commitment. In a federal system where the key determinants of AMR – health services, veterinary oversight, agricultural antibiotic use, food-chain safety and waste regulation – lie almost entirely within State jurisdiction, this is the pivotal gap. Without a structured method for political engagement, administrative follow-through and shared accountability, even a

well-designed national plan risks remaining a technical document rather than a functional national programme.

The AMR policy cannot succeed through guidance alone. Unless India builds a mechanism that brings the Centre and the States into a common implementation framework, the NAP-AMR 2.0 will struggle to convert national intent into measurable national outcomes.

## The need for a coordinated mechanism

To make the NAP-AMR 2.0 effective, India needs a clear architecture that brings political leadership, senior administrators and sectoral departments from all States into a unified system. A national-State AMR council, chaired by the Union Health Minister and guided by NITI Aayog, could provide the platform for regular review, joint decision-making and coordinated problem-solving across human health, veterinary sectors, agriculture, aquaculture, food systems and environmental regulation.

State engagement would also strengthen if the Union Government formally requested each State to prepare and notify its AMR Action Plan, with timelines and annual reviews. Experience from the National Health Mission (NHM) and tuberculosis (TB) programmes shows that high-level communication, especially through Chief Secretaries, can significantly shift administrative attention.

Financial mechanisms should follow. Even modest conditional grants under the NHM can drive improvements in surveillance, stewardship, infection control and laboratory strengthening. When funding signals priority, States respond with administrative energy and policy focus.

The NAP-AMR 2.0 provides the scientific and strategic foundation India needs. But its success will depend entirely on how effectively national and State systems work together. AMR is driven by real-world practices along the entire One Health continuum – from hospitals and farms to markets, food chains and wastewater systems. Without strong State participation, national plans cannot have national impact.

India has an opportunity now to build a coordinated and accountable Centre-State model for AMR control. If such a system is established, the country can achieve measurable progress and set an international example. Without it, even the most well-crafted national plan may remain a document of intentions rather than a framework for action. With stronger coordination, political commitment and sustained support across States and sectors, the NAP-AMR 2.0 can become a turning point in India's AMR journey.

## The new action plan on AMR needs a shot in the arm

एएमआर पर नई कार्ययोजना को एक बड़े प्रोत्साहन की आवश्यकता है

## India's National Action Plan on Antimicrobial Resistance (NAP-AMR 2.0)

भारत की राष्ट्रीय कार्य योजना — एंटीमाइक्रोबियल रेज़िस्टेंस (NAP-AMR 2.0)

- India's new National Action Plan on Antimicrobial Resistance (NAP-AMR 2.0) — (2025-29) — has been released at a time when Antimicrobial Resistance (AMR) is affecting human health, veterinary practices, aquaculture, agriculture, waste systems and the entire food chain.

। भारत की नई राष्ट्रीय कार्य योजना एंटीमाइक्रोबियल रेज़िस्टेंस (NAP-AMR 2.0) — (2025-29) — ऐसे समय में जारी की गई है जब एंटीमाइक्रोबियल रेज़िस्टेंस (AMR) मानव स्वास्थ्य, पशु चिकित्सा, जलीय कृषि, कृषि, कचरा प्रणाली और संपूर्ण food chain को प्रभावित कर रहा है।

- Antibiotic residues, resistant organisms and environmental discharge connect these sectors in powerful ways.

**Antibiotic residues**, प्रतिरोधी सूक्ष्मजीव और पर्यावरणीय उत्सर्जन इन क्षेत्रों को गहरे रूप से जोड़ते हैं।

- AMR does not remain confined to hospitals.

AMR केवल अस्पतालों तक सीमित नहीं रहता।

- It moves through soil, water, livestock, markets and food systems, making it a true One Health challenge.



यह मिट्टी, पानी, पशुधन, बाजारों और खाद्य प्रणालियों के माध्यम से संचरित होता है, जिससे यह एक सच्ची **One Health** चुनौती बनता है।

- Therefore, any national plan must be matched by real and coordinated action across all levels of governance.

इसलिए किसी भी राष्ट्रीय योजना के साथ शासन के सभी स्तरों पर वास्तविक और समन्वित कार्रवाई आवश्यक है।

## The evolution, from the first action plan पहली कार्य योजना से विकास

- **The first National Action Plan on AMR, launched in 2017**, was a significant step forward. पहली राष्ट्रीय AMR कार्य योजना 2017 में शुरू की गई थी, जो एक महत्वपूर्ण कदम था।
- It brought AMR into national consciousness, encouraged multi-sectoral participation, improved laboratory networks, expanded national surveillance and supported stewardship. इसने AMR को राष्ट्रीय चर्चा में लाया, बहु-क्षेत्रीय भागीदारी को प्रोत्साहित किया, प्रयोगशाला नेटवर्क में सुधार किया, राष्ट्रीय निगरानी को बढ़ाया और **stewardship** को समर्थन दिया।
- It also placed AMR firmly within a **One Health** framework, recognising the links between human health, animal health and the environment. इसने AMR को **One Health** ढांचे में मजबूती से स्थापित किया और मानव स्वास्थ्य, पशु स्वास्थ्य और पर्यावरण के बीच संबंधों को पहचाना।
- Despite this progress, implementation during the first plan period remained limited at the **State level**. इस प्रगति के बावजूद, पहली योजना अवधि के दौरान **राज्य स्तर** पर कार्यान्वयन सीमित रहा।
- Only a small group of States — **Kerala, Madhya Pradesh, Delhi, Andhra Pradesh, Gujarat, Sikkim and Punjab** — developed formal State Action Plans, and only a few moved meaningfully into execution. केवल कुछ ही राज्यों — **केरल, मध्य प्रदेश, दिल्ली, आंध्र प्रदेश, गुजरात, सिक्किम और पंजाब** — ने औपचारिक राज्य कार्य योजनाएँ बनाई, और बहुत कम राज्यों ने उनका सही अर्थ में कार्यान्वयन किया।
- The majority continued to rely on fragmented activities within individual sectors; State-wide, multisectoral One Health structures did not take shape in most parts of the country. अधिकांश राज्यों ने अलग-अलग क्षेत्रों की बिखरी गतिविधियों पर निर्भरता बनाए रखी; राज्य-स्तरीय बहु-क्षेत्रीय **One Health** संरचनाएँ ज्यादातर जगह नहीं बन पाईं।
- This slow uptake was not due to a shortage of national effort, but because the major determinants of AMR fall under **State jurisdiction**. यह धीमी प्रगति राष्ट्रीय प्रयास की कमी के कारण नहीं, बल्कि इसलिए थी क्योंकि AMR के प्रमुख निर्धारक **राज्य अधिकार क्षेत्र** के अंतर्गत आते हैं।
- Health administration, hospital functioning, pharmacy regulation, veterinary oversight, agricultural antibiotic practices, food-chain monitoring and waste governance are controlled by State departments. स्वास्थ्य प्रशासन, अस्पताल संचालन, **pharmacy regulation**, पशु चिकित्सा निरीक्षण, कृषि एंटीबायोटिक प्रथाएँ, खाद्य-श्रृंखला निगरानी और कचरा प्रबंधन — ये सब राज्य विभागों द्वारा नियंत्रित होते हैं।
- National guidance alone cannot create uniform implementation when the operational levers sit elsewhere. केवल राष्ट्रीय मार्गदर्शन से एकसमान कार्यान्वयन संभव नहीं है जब संचालन के साधन राज्यों के पास हों।
- India's broader public health experience shows that real progress happens only when the Centre and States work within a structured, mutually accountable system. भारत के व्यापक सार्वजनिक स्वास्थ्य अनुभव से पता चलता है कि वास्तविक प्रगति तभी होती है जब केंद्र और राज्य एक संरचित और **mutually accountable** प्रणाली में काम करते हैं।
- The **National Tuberculosis Elimination Programme** is a clear example: its achievements arise from regular joint reviews, shared monitoring missions and clearly defined roles across levels of government. **राष्ट्रीय क्षय रोग उन्मूलन कार्यक्रम** इसका स्पष्ट उदाहरण है — इसकी उपलब्धियाँ नियमित संयुक्त समीक्षा, साझा मॉनिटरिंग मिशन और सभी सरकारी स्तरों पर स्पष्ट भूमिकाओं से उत्पन्न होती हैं।
- The **National Health Mission** follows similar principles, where coordinated planning, dedicated funding signals and periodic performance assessments enable States to turn



national priorities into on-ground action.

राष्ट्रीय स्वास्थ्य मिशन भी इसी तरह कार्य करता है — समन्वित योजना, समर्पित वित्त पोषण संकेत और नियमित प्रदर्शन मूल्यांकन राज्यों को राष्ट्रीय प्राथमिकताओं को जमीनी कार्रवाई में बदलने में सक्षम बनाते हैं।

- The NAP-AMR 2.0 represents a more mature and implementation-oriented framework when compared with the first plan.  
NAP-AMR 2.0 पहली योजना की तुलना में अधिक परिपक्व और **implementation-oriented** ढांचा प्रस्तुत करता है।
- It moves beyond broad intent and outlines clearer timelines, responsibilities and resource planning.  
यह व्यापक इरादों से आगे बढ़कर स्पष्ट **timelines**, जिम्मेदारियाँ और संसाधन योजना निर्धारित करता है।
- An important advancement is the recognition that India cannot address AMR without meaningful participation from the **private sector**, which delivers a major proportion of health care and veterinary services.  
एक महत्वपूर्ण प्रगति यह स्वीकार करना है कि AMR से निपटना **private sector** की सार्थक भागीदारी के बिना संभव नहीं है, जो स्वास्थ्य और पशु चिकित्सा सेवाओं का बड़ा हिस्सा प्रदान करता है।
- The plan also strengthens its scientific base by placing greater emphasis on **innovation — rapid diagnostics, point-of-care tools, alternatives to antibiotics and improved environmental monitoring**.  
योजना अपने वैज्ञानिक आधार को मजबूत करती है और **innovation — rapid diagnostics, point-of-care tools, antibiotics के विकल्प और बेहतर environmental monitoring** — पर अधिक जोर देती है।
- It deepens its **One Health** perspective, giving more attention to food-system pathways, waste management and environmental contamination.  
यह अपने **One Health** दृष्टिकोण को गहरा करता है और खाद्य-प्रणाली मार्गों, कचरा प्रबंधन और पर्यावरण प्रदूषण पर और अधिक ध्यान देता है।
- Surveillance structures are more integrated across human, veterinary, agricultural and environmental sectors, creating a harmonised national approach.  
निगरानी संरचनाएँ मानव, पशु, कृषि और पर्यावरण क्षेत्रों में अधिक एकीकृत हैं, जिससे एक **harmonised national approach** बनता है।
- In terms of governance, the NAP-AMR 2.0 introduces a higher level of national oversight by placing intersectoral supervision under **NITI Aayog** through a dedicated Coordination and Monitoring Committee.  
शासन के स्तर पर, NAP-AMR 2.0 एक उच्च स्तर की राष्ट्रीय निगरानी प्रस्तुत करता है, जिसमें अंतर-क्षेत्रीय पर्यवेक्षण को **NITI Aayog** के अंतर्गत एक समर्पित Coordination and Monitoring Committee के माध्यम से रखा गया है।
- It repeatedly stresses that every State and Union Territory should establish **State AMR Cells** and prepare **State Action Plans** aligned with the national framework, supported by a national dashboard for progress reporting.  
यह बार-बार जोर देता है कि प्रत्येक राज्य और केंद्रशासित प्रदेश को **State AMR Cells** स्थापित करनी चाहिए और राष्ट्रीय ढांचे के अनुरूप **State Action Plans** तैयार करने चाहिए, जिन्हें प्रगति रिपोर्टिंग के लिए एक राष्ट्रीय डैशबोर्ड का समर्थन प्राप्त हो।
- These developments signal that AMR is evolving from a technical health issue to a **national development priority** requiring multi-departmental engagement.  
ये विकास दर्शाते हैं कि AMR एक तकनीकी स्वास्थ्य समस्या से बढ़कर एक **national development priority** बन रहा है, जिसे बहु-विभागीय भागीदारी की आवश्यकता है।

### Where the new plan falls short

#### नई योजना कहाँ कमज़ोर पड़ती है

- Despite these important developments and the stronger emphasis on State-level implementation, the fundamental weakness of the first plan remains unchanged.  
इन महत्वपूर्ण प्रगतियों और राज्य-स्तर पर क्रियान्वयन पर अधिक जोर के बावजूद, पहली योजना की मौलिक कमजोरी अपरिवर्तित बनी हुई है।
- The plan stresses that States must develop **AMR Action Plans** and establish **AMR Cells**, but it does not create any mechanism to ensure that they do so.



योजना इस बात पर ज़ोर देती है कि राज्यों को **AMR Action Plans** तैयार करने और **AMR Cells** स्थापित करने चाहिए, लेकिन यह सुनिश्चित करने के लिए कोई तंत्र नहीं बनाती कि वे वास्तव में ऐसा करें।

- There is no formal **Centre-State AMR platform**, no joint review mechanism, no statutory requirement for States to notify or implement their plans and no financial pathway — such as **NHM-linked incentives** — that could anchor sustained State commitment.  
कोई औपचारिक **Centre-State AMR platform** नहीं है, न संयुक्त समीक्षा तंत्र, न ही राज्यों के लिए अपनी योजनाओं को अधिसूचित या लागू करने की कोई वैधानिक अनिवार्यता, और न ही कोई वित्तीय व्यवस्था — जैसे **NHM-linked incentives** — जो राज्यों की दीर्घकालिक प्रतिबद्धता को मज़बूती दे सके।
- In a federal system where the key determinants of **AMR** — health services, veterinary oversight, agricultural antibiotic use, food-chain safety and waste regulation — lie almost entirely within **State jurisdiction**, this is the pivotal gap.  
एक संघीय व्यवस्था में, जहाँ **AMR** के प्रमुख निर्धारक — स्वास्थ्य सेवाएँ, पशु चिकित्सा पर्यवेक्षण, कृषि एंटीबायोटिक उपयोग, **food-chain safety** और **waste regulation** — लगभग पूरी तरह **State jurisdiction** के अंतर्गत आते हैं, यह एक निर्णायक कमी है।
- Without a structured method for political engagement, administrative follow-through and shared accountability, even a well-designed national plan risks remaining a technical document rather than a functional national programme.  
राजनीतिक सहभागिता, प्रशासनिक follow-through और साझा जवाबदेही के लिए किसी संरचित पद्धति के बिना, एक अच्छी तरह से तैयार राष्ट्रीय योजना भी एक तकनीकी दस्तावेज़ बनकर रह जाने का जोखिम उठाती है, न कि एक क्रियाशील राष्ट्रीय कार्यक्रम बनने का।
- The **AMR policy** cannot succeed through guidance alone.  
**AMR policy** केवल मार्गदर्शन के बल पर सफल नहीं हो सकती।
- Unless India builds a mechanism that brings the Centre and the States into a common implementation framework, the **NAP-AMR 2.0** will struggle to convert national intent into measurable national outcomes.  
जब तक भारत केंद्र और राज्यों को एक साझा क्रियान्वयन ढांचे में लाने वाला तंत्र नहीं बनाता, तब तक **NAP-AMR 2.0** राष्ट्रीय इरादों को मापने योग्य राष्ट्रीय परिणामों में बदलने के लिए संघर्ष करेगी।
- **The need for a coordinated mechanism समन्वित तंत्र की आवश्यकता**
- To make the **NAP-AMR 2.0** effective, India needs a clear architecture that brings political leadership, senior administrators and sectoral departments from all States into a unified system.  
**NAP-AMR 2.0** को प्रभावी बनाने के लिए भारत को एक स्पष्ट ढांचे की ज़रूरत है, जो सभी राज्यों के राजनीतिक नेतृत्व, वरिष्ठ प्रशासकों और क्षेत्रीय विभागों को एक **unified system** में लाए।
- A **national-State AMR council**, chaired by the Union Health Minister and guided by **NITI Aayog**, could provide the platform for regular review, joint decision-making and coordinated problem-solving across human health, veterinary sectors, agriculture, aquaculture, food systems and environmental regulation.  
केंद्रीय स्वास्थ्य मंत्री की अध्यक्षता और **NITI Aayog** के मार्गदर्शन में एक **national-State AMR council** मानव स्वास्थ्य, पशु-चिकित्सा क्षेत्र, कृषि, जलीय कृषि, **food systems** और पर्यावरणीय विनियमन में नियमित समीक्षा, संयुक्त निर्णय-निर्माण और समन्वित समस्या-समाधान के लिए मंच प्रदान कर सकती है।
- State engagement would also strengthen if the Union Government formally requested each State to prepare and notify its **AMR Action Plan**, with timelines and annual reviews.  
यदि केंद्र सरकार प्रत्येक राज्य से औपचारिक रूप से यह आग्रह करे कि वे समय-सीमा और वार्षिक समीक्षा के साथ अपना **AMR Action Plan** तैयार और अधिसूचित करें, तो राज्यों की भागीदारी भी मज़बूत होगी।
- Experience from the **National Health Mission (NHM)** and tuberculosis (**TB**) programmes shows that high-level communication, especially through Chief Secretaries, can significantly shift administrative attention.  
**National Health Mission (NHM)** और क्षय रोग (**TB**) कार्यक्रमों के अनुभव से पता चलता है कि उच्च-स्तरीय संवाद, विशेषकर मुख्य सचिवों के माध्यम से, प्रशासनिक ध्यान को उल्लेखनीय रूप से बदल सकता है।
- Financial mechanisms should follow.  
इसके बाद वित्तीय तंत्रों का प्रावधान होना चाहिए।
- Even modest **conditional grants** under the **NHM** can drive improvements in surveillance, stewardship, infection control and laboratory strengthening.



**NHM** के तहत मामूली **conditional grants** भी निगरानी, **stewardship**, संक्रमण नियंत्रण और प्रयोगशाला सुदृढीकरण में सुधार ला सकते हैं।

- When funding signals priority, States respond with administrative energy and policy focus. जब वित्तीय प्रावधान किसी क्षेत्र को प्राथमिकता का संकेत देते हैं, तो राज्य प्रशासनिक सक्रियता और नीति-केन्द्रित प्रयासों के साथ प्रतिक्रिया देते हैं।
- The **NAP-AMR 2.0** provides the scientific and strategic foundation India needs. **NAP-AMR 2.0** भारत के लिए आवश्यक वैज्ञानिक और रणनीतिक आधार प्रदान करती है।
- But its success will depend entirely on how effectively national and State systems work together. लेकिन इसकी सफलता पूरी तरह इस बात पर निर्भर करेगी कि राष्ट्रीय और राज्य प्रणाली कितनी प्रभावी ढंग से साथ काम करती हैं।
- **AMR is driven by real-world practices along the entire One Health continuum — from hospitals and farms to markets, food chains and wastewater systems.** **AMR** पूरे **One Health continuum** — अस्पतालों और खेतों से लेकर बाज़ारों, **food chains** और **wastewater systems** तक — में ज़मीनी प्रथाओं द्वारा प्रभावित होता है।
- Without strong State participation, national plans cannot have national impact. मज़बूत राज्य भागीदारी के बिना, राष्ट्रीय योजनाएँ राष्ट्रीय स्तर पर प्रभाव नहीं डाल सकतीं।
- India has an opportunity now to build a coordinated and accountable **Centre-State model** for AMR control. भारत के पास अब AMR नियंत्रण के लिए एक समन्वित और जवाबदेह **Centre-State model** बनाने का अवसर है।
- If such a system is established, the country can achieve measurable progress and set an international example. यदि ऐसा तंत्र स्थापित हो जाता है, तो देश मापने योग्य प्रगति हासिल कर सकता है और अंतरराष्ट्रीय उदाहरण प्रस्तुत कर सकता है।
- Without it, even the most well-crafted national plan may remain a document of intentions rather than a framework for action. इसके बिना, सबसे अच्छी तरह तैयार राष्ट्रीय योजना भी क्रियान्वयन के ढाँचे के बजाय मात्र इरादों का दस्तावेज़ बनकर रह सकती है।
- With stronger coordination, political commitment and sustained support across States and sectors, the **NAP-AMR 2.0** can become a turning point in India's **AMR journey**. राज्यों और विभिन्न क्षेत्रों में मज़बूत समन्वय, राजनीतिक प्रतिबद्धता और निरंतर समर्थन के साथ, **NAP-AMR 2.0** भारत की **AMR journey** में एक निर्णायक मोड़ बन सकती है।

## ANNAYA

### Pope Leo brings message of peace and harmony to crisis-hit Lebanon



**GS II: IR** REUTERS  
Pope Leo XIV prayed on Monday at the tomb of St. Charbel Makhoul, a Lebanese saint revered among Christians and Muslims as he brought a message of peace, hope and religious coexistence to a region torn by conflict. His visit comes at a tenuous time for the country after years of economic crises and political deadlock. AP

### **Pope Leo brings message of peace and harmony to crisis-hit Lebanon** **पोपा लियो संकटग्रस्त लेबनान में शांति और सद्भाव का संदेश लाए**

- **Pope Leo XIV** prayed on **Monday** at the tomb of **St. Charbel Makhoul**, a **Lebanese saint** revered among **Christians and Muslims** as he brought a message of **peace, hope and religious coexistence** to a region torn by **conflict**.  
पोपा लियो XIV ने सोमवार को सेंट चारबेल मखलुफ के मौसोलियम पर प्रार्थना की, जो लेबनानी संत हैं और जिन्हें ईसाइयों और मुसलमानों में पूजनीय माना जाता है, क्योंकि वे एक ऐसे क्षेत्र में शांति, आशा और धार्मिक सह-अस्तित्व का संदेश लाए जो संघर्ष से बंटा हुआ है।
- His visit comes at a tenuous time for the country after years of **economic crises** and **political deadlock**.  
उनका दौरा देश के लिए एक नाजुक समय में आया है, वर्षों के आर्थिक संकट और राजनीतिक गतिरोध के बाद।



- Pope Leo XIV's birth name is **Robert Francis Prevost**.

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

#### TOPICS COVERED

02\_12\_2025

#### Economy

2. **Centre moves Bills to raise pan masala cess, increase excise duties on tobacco products**  
केंद्र पान मसाला सेस बढ़ाने और तंबाकू उत्पादों पर उत्पाद शुल्क बढ़ाने के लिए विधेयक लाया
3. **Centre moves Bills to raise pan masala cess, increase excise duties on tobacco products**  
केंद्र पान मसाला उत्पाद शुल्क बढ़ाने और तंबाकू उत्पादों पर उत्पाद शुल्क बढ़ाने के लिए विधेयक लाता है
4. **Masala bond controversy reignites in Kerala**  
केरल में मसाला बॉन्ड विवाद फिर भड़का
6. **Cautious optimism**  
सतर्क आशावाद
8. **Can India become self-reliant in REE production?**  
क्या भारत आरईई उत्पादन में आत्मनिर्भर बन सकता है?
9. **GST collections slip on rate reduction to ₹1.7 lakh crore in Nov.**  
GST संग्रह दर कटौती के कारण नवंबर में ₹1.7 लाख करोड़ तक गिरा
10. **Manufacturing slips to 9-month low in November, PMI shows**  
नवंबर में निर्माण 9-महीने के निचले स्तर पर, PMI रिपोर्ट में दिखा
11. **'Geopolitical shifts forcing public sector CIOs to rapidly adjust priorities for 2026'**  
'भू-राजनीतिक बदलाव 2026 के लिए सार्वजनिक क्षेत्र के CIOs को प्राथमिकताएं तेजी से समायोजित करने के लिए मजबूर कर रहे हैं'



12.	<b>'Rupee may stay at the current low of ₹89-90'</b> ‘रुपया वर्तमान निचले स्तर ₹89-90 पर बना रह सकता है’
	<b>S&amp;T</b>
13.	<b>Many airports complained of GPS spoofing, says Centre</b> कई हवाई अड्डों ने GPS स्पूफिंग की शिकायत की, केंद्र ने कहा
14.	<b>New HIV cases highest in Mizoram, says report</b> मिजोरम में नए HIV मामले सबसे अधिक, रिपोर्ट में कहा गया
15.	<b>The science, technology, and pitfalls of using nuclear power in space</b> अंतरिक्ष में परमाणु ऊर्जा के उपयोग के विज्ञान, प्रौद्योगिकी और कमियाँ
16.	<b>Our brains have five phases of life, research suggests</b> अनुसंधान से पता चलता है कि हमारे मस्तिष्क के जीवन के पाँच चरण होते हैं
17.	<b>QUIZ</b>
18.	<b>Why does India need bioremediation?</b> भारत को बायोरिमेडिएशन की आवश्यकता क्यों है?
	<b>Environment</b>
19.	<b>Dog squads to keep an eye on Karnataka's five tiger reserves</b> कर्नाटक के पाँच टाइगर रिज़र्व पर नज़र रखने के लिए डॉग स्क्वाड
20.	<b>Parts of India may get more 'cold wave' days this year: IMD</b> भारत के कुछ हिस्सों में इस वर्ष अधिक 'कोल्ड वेव' दिन हो सकते हैं: IMD
21.	<b>Farmers cannot be made scapegoats for air pollution in national capital:</b> SC राष्ट्रीय राजधानी में वायु प्रदूषण के लिए किसानों को शिकार बनाने की अनुमति नहीं: SC
	<b>IS</b>
22.	<b>Smartphone makers told to preinstall Sanchar Sathi</b> स्मार्टफोन निर्माता कंपनियों को संचार साथी प्री-इंस्टॉल करने का निर्देश
23.	<b>Bioterrorism a serious threat, world not ready: Jaishankar</b> बायोटेररिज़्म एक गंभीर खतरा, दुनिया तैयार नहीं: जयशंकर



24.	<b>Armed forces to procure additional Heron Mk II UAVs</b> सशस्त्र बल अतिरिक्त Heron Mk II UAVs खरीदेंगे
25.	<b>Army conducts combat launch of BrahMos cruise missile</b> सेना ने ब्रह्मोस क्रूज मिसाइल का मुकाबला लॉन्च किया
26.	<b>Sanchar Saathi app must be pre-installed on phones: DoT</b> संचार साथी ऐप को फोन में पूर्व-इंस्टॉल किया जाना अनिवार्य: DoT
27.	<b>Parts of India may get more 'cold wave' days this year: IMD</b> भारत के कुछ हिस्सों में इस वर्ष अधिक 'कोल्ड वेव' दिन हो सकते हैं: IMD

**Economy**

02/12/2025

PATRIOTIC IAS



# Centre moves Bills to raise pan masala cess, increase excise duties on tobacco products

GS III: Economy,  
Taxation  
NEW DELHI

The Centre on Monday introduced a Bill in Parliament seeking to raise the excise duty on tobacco products, and another legislation targeting the manufacture of pan masala.

Union Finance Minister Nirmala Sitharaman tabled the two Bills – The Health Security se National Security Cess Bill, 2025 and the Central Excise (Amendment) Bill, 2025 – amid Opposition sloganeering.

The Bills are aimed at replacing the revenue from the Goods and Services Tax (GST) compensation cess on tobacco products, which will be discontinued soon. The Health Security se National Security Cess

proposes to augment funding for health and national security through levy of cess on “machines installed, or other processes undertaken in the manufacture of pan masala”.

The GST compensation cess was introduced in 2017 during the launch of the GST system. The proceeds were to be used to compensate States for any losses they faced due to the implementation of GST for a period of five years. During the COVID-19 pandemic years of 2020-21 and 2021-22, the proceeds from this cess fell short of the compensation requirement, leading to the Centre borrowing money to compensate the States.

The compensation cess on tobacco products is to



Nirmala Sitharaman

be discontinued once the government pays back interest on these loans. According to sources in the Finance Ministry, this repayment will be completed in the next few months.

However, with the removal of this cess, the ef-

## Amid uproar, Lok Sabha passes Manipur GST Bill

NEW DELHI

The Lok Sabha, on the first day of the Winter Session on Monday, passed a Bill to replace an Ordinance which implemented reforms in the Goods and Services Tax (GST) in Manipur, amid disruptions and protests by the Opposition parties. » PAGE 5

fective tax rate on and revenues from tobacco products would fall significantly. To overcome this shortfall in revenue, the Central Excise (Amendment) Bill has been introduced “in order to give the government, the fiscal

space to increase the rate of Central excise duty on tobacco and tobacco products so as to protect tax incidence”.

The Health Security se National Security Cess Bill seeks to “augment the resources for meeting expenditure on national security and for public health” by levying a cess on the “machines installed, or other processes undertaken in the manufacture of pan masala”. The Bill also allows for the imposition of this cess on “other goods which may be notified”.

“It provides for taxable persons to self-declare all machines or processes for each factory or premises, and the cess would be calculated in the aggregate for each location,” it added.

## Centre moves Bills to raise pan masala cess, increase excise duties on tobacco products

केंद्र पान मसाला उत्पाद शुल्क बढ़ाने और तंबाकू उत्पादों पर उत्पाद शुल्क बढ़ाने के लिए विधेयक लाता है

- The Centre on Monday introduced a **Bill in Parliament** seeking to raise the **excise duty on tobacco products**, and another legislation targeting the manufacture of **pan masala**.  
केंद्र ने सोमवार को संसद में एक विधेयक प्रस्तुत किया, जो तंबाकू उत्पादों पर उत्पाद शुल्क बढ़ाने के लिए था, और एक अन्य कानून जो पान मसाला के निर्माण को लक्षित करता है।
- Union Finance Minister **Nirmala Sitharaman** tabled the two Bills — **The Health Security se National Security Cess Bill, 2025** and the **Central Excise (Amendment) Bill, 2025** — amid **Opposition sloganeering**.  
केंद्रीय वित्त मंत्री निर्मला सीतारमण ने ये दो विधेयक पेश किए — **हेल्थ सिक्योरिटी से नेशनल सिक्योरिटी सेस बिल, 2025** और **सेंट्रल एक्साइज (संशोधन) बिल, 2025** — विपक्ष के नारों के बीच।
- The Bills are aimed at replacing the revenue from the **Goods and Services Tax (GST) compensation cess on tobacco products**, which will be discontinued soon.  
यह विधेयक तंबाकू उत्पादों पर वस्तु एवं सेवा कर (GST) मुआवजा उत्पाद शुल्क से होने वाली आय को बदलने के उद्देश्य से हैं, जिसे जल्द ही बंद कर दिया जाएगा।
- The **Health Security se National Security Cess** proposes to augment funding for **health and national security** through levy of cess on “**machines installed, or other processes undertaken in the manufacture of pan masala**”.  
हेल्थ सिक्योरिटी से नेशनल सिक्योरिटी सेस स्वास्थ्य और राष्ट्रीय सुरक्षा के लिए धन बढ़ाने का प्रस्ताव करता है, जो “पान मसाला के निर्माण में स्थापित मशीनों या अन्य प्रक्रियाओं” पर सेस लगाने के माध्यम से होगा।
- The **GST compensation cess** was introduced in 2017 during the launch of the **GST system**.  
**GST मुआवजा उत्पाद शुल्क** 2017 में **GST प्रणाली** के लॉन्च के दौरान पेश किया गया था।
- The proceeds were to be used to **compensate States** for any losses they faced due to the implementation of GST for a period of **five years**.  
इसकी आय का उपयोग राज्यों को **मुआवजा देने** के लिए किया जाना था, जो GST लागू करने के कारण **पांच वर्षों तक** हुए नुकसान का सामना कर रहे थे।



- During the **COVID-19 pandemic years of 2020-21 and 2021-22**, the proceeds from this cess fell short of the compensation requirement, leading to the **Centre borrowing money to compensate the States**.  
**COVID-19 महामारी के वर्षों 2020-21 और 2021-22 के दौरान**, इस सेस की आय मुआवजे की आवश्यकता के लिए पर्याप्त नहीं थी, जिससे **केंद्र ने राज्यों को मुआवजा देने के लिए पैसा उधार लिया**।
- The **compensation cess on tobacco products** is to be discontinued once the government **pays back interest on these loans**.  
**तंबाकू उत्पादों पर मुआवजा सेस को बंद कर दिया जाएगा जब सरकार इन ऋणों पर ब्याज वापस कर देगी**।
- According to sources in the **Finance Ministry**, this repayment will be completed in the **next few months**.  
**वित्त मंत्रालय के सूत्रों के अनुसार**, यह भुगतान **अगले कुछ महीनों में पूरा हो जाएगा**।
- However, with the removal of this cess, the **effective tax rate** on and revenues from **tobacco products** would fall significantly.  
हालांकि, इस सेस को हटाने के साथ ही, **तंबाकू उत्पादों पर प्रभावी कर दर और आय में महत्वपूर्ण कमी आएगी**।
- To overcome this shortfall in revenue, the **Central Excise (Amendment) Bill** has been introduced “in order to give the government, the fiscal space to **increase the rate of Central excise duty on tobacco and tobacco products** so as to protect tax incidence”.  
इस राजस्व कमी को दूर करने के लिए, **सेंट्रल एक्साइज (संशोधन) बिल** पेश किया गया है “ताकि सरकार को **तंबाकू और तंबाकू उत्पादों पर केंद्रीय उत्पाद शुल्क की दर बढ़ाने** के लिए वित्तीय स्थान मिले और कर बोझ सुरक्षित रहे।”
- The **Health Security se National Security Cess Bill** seeks to “augment the resources for meeting expenditure on **national security** and for **public health**” by levying a **cess on the “machines installed, or other processes undertaken in the manufacture of pan masala”**.  
**हेल्थ सिक्योरिटी से नेशनल सिक्योरिटी सेस बिल** का उद्देश्य **राष्ट्रीय सुरक्षा और सार्वजनिक स्वास्थ्य** पर होने वाले खर्च के लिए संसाधनों को बढ़ाना है, इसके लिए “**पान मसाला के निर्माण में स्थापित मशीनों या अन्य प्रक्रियाओं**” पर सेस लगाया जाएगा।
- The Bill also allows for the imposition of this cess on “**other goods which may be notified**”.  
यह विधेयक इस सेस को “**अन्य वस्तुओं पर लागू करने**” की भी अनुमति देता है जिन्हें **सूचित किया जा सकता है**।
- “It provides for **taxable persons to self-declare** all machines or processes for each factory or premises, and the **cess would be calculated in the aggregate for each location**,” it added.  
“यह **करदाताओं को स्वयं घोषणा** करने की सुविधा देता है कि प्रत्येक फैक्ट्री या परिसर के सभी मशीनों या प्रक्रियाएँ क्या हैं, और सेस प्रत्येक स्थान के लिए **कुल योग में गणना** की जाएगी,” इसमें जोड़ा गया।



# Masala bond controversy reignites in Kerala

GS III: Economy

EXPLAINER

Tiki Rajwi

THIRUVANANTHAPURAM

Once again, the battle over the 'Masala Bond' issued by the Kerala Infrastructure Investment Fund Board (KIIFB) – the Kerala government's principal funding arm for large infrastructure projects – is hotting up on the southern State's political scene.

In the latest instance, the Enforcement Directorate (ED) issued show

cause notices to Chief Minister Pinarayi Vijayan, former Finance Minister T.M. Thomas Isaac and KIIFB chief executive officer K.M. Abraham citing violation of the Foreign Exchange Management Act (FEMA) and the directions of the Reserve Bank of India (RBI).

With the 2025 local body polls just days away, the issue is expected to gather political steam.

**What is masala bond?**

In a nutshell, a masala bond is an instrument for

raising rupee-denominated resources internationally.

For funding infrastructure projects, KIIFB had raised ₹2,150 crore through the bond issued in March 2019 when Mr. Isaac was Finance Minister in the 2016-2021 Left Democratic Front (LDF) government. The bonds were listed in the London Stock Exchange and the Singapore Stock Exchange. In July 2024, the current Finance Minister, K.N. Balagopal informed the Legislative Assembly that KI-

IFB had repaid the amount in full in March 2024.

**ED probe**

The ED probe has centred around the alleged contravention of FEMA regulations and RBI directions and the end-use of the funds raised through the bonds.

The Comptroller and Auditor General (CAG), in its State Finances Audit Report for the year ending March 2019, had observed that the RBI nod for the masala bond was questionable and "appear to be in

violation of the Constitution and encroachment on the powers of the Centre."

The row over masala bonds is part of a broader debate over 'off-budget' borrowings by KIIFB and its consequences for the State's overall borrowing limit. The KIIFB borrowings have been a matter of contention with the Centre treating them as direct liabilities of the State, much to the Kerala government's dismay. Repeated requests to treat them as contingent liabilities have yielded no result.

## Masala bond controversy reignites in Kerala

### केरल में मसाला बॉन्ड विवाद फिर भड़का

- Masala bond controversy reignites in Kerala  
केरल में मसाला बॉन्ड विवाद फिर भड़का
- Once again, the battle over the 'Masala Bond' issued by the **Kerala Infrastructure Investment Fund Board (KIIFB)** — the Kerala government's principal funding arm for large infrastructure projects — is hotting up on the southern State's political scene.  
एक बार फिर, केरल इंफ्रास्ट्रक्चर इन्वेस्टमेंट फंड बोर्ड (KIIFB) द्वारा जारी 'मसाला बॉन्ड' को लेकर लड़ाई दक्षिणी राज्य के राजनीतिक परिदृश्य में गर्म हो रही है।
- In the latest instance, the **Enforcement Directorate (ED)** issued show cause notices to Chief Minister **Pinarayi Vijayan**, former Finance Minister **T. M. Thomas Isaac** and KIIFB chief executive officer **K.M. Abraham** citing violation of the **Foreign Exchange Management Act (FEMA)** and the directions of the **Reserve Bank of India (RBI)**.  
ताज़ा मामले में, प्रवर्तन निदेशालय (ED) ने मुख्यमंत्री पिनाराई विजयन, पूर्व वित्त मंत्री टी. एम. थॉमस आइज़ैक और KIIFB के मुख्य कार्यकारी अधिकारी के.एम. अब्राहम को विदेश विनियम प्रबंधन अधिनियम (FEMA) और भारतीय रिज़र्व बैंक (RBI) के निर्देशों के उल्लंघन का हवाला देते हुए कारण बताओ नोटिस जारी किए।
- With the **2025 local body polls** just days away, the issue is expected to gather political steam.  
**2025 स्थानीय निकाय चुनाव** बस कुछ ही दिन दूर होने के कारण, यह मुद्दा राजनीतिक रूप से और गरमाने की उम्मीद है।

## What is masala bond?

### मसाला बॉन्ड क्या है?

- In a nutshell, a masala bond is an instrument for raising **rupee-denominated resources internationally**.  
संक्षेप में, मसाला बॉन्ड **रुपये-मूल्यवर्ग संसाधनों** को अंतरराष्ट्रीय स्तर पर जुटाने का एक साधन है।
- For funding infrastructure projects, KIIFB had raised **₹2,150 crore** through the bond issued in **March 2019** when Mr. Isaac was Finance Minister in the **2016-2021 Left Democratic Front (LDF)** government.  
इन्फ्रास्ट्रक्चर परियोजनाओं के लिए धन जुटाने हेतु, KIIFB ने **मार्च 2019** में जारी बॉन्ड के माध्यम से **₹2,150 करोड़** जुटाए थे, जब श्री आइज़ैक **2016-2021 वाम लोकतांत्रिक मोर्चा (LDF)** सरकार में वित्त मंत्री थे।



- The bonds were listed in the **London Stock Exchange** and the **Singapore Stock Exchange**.  
बॉन्ड को लंदन स्टॉक एक्सचेंज और सिंगापुर स्टॉक एक्सचेंज में सूचीबद्ध किया गया था।
- In **July 2024**, the current Finance Minister, **K.N. Balagopal** informed the Legislative Assembly that KIIIFB had repaid the amount in full in **March 2024**.  
जुलाई 2024 में वर्तमान वित्त मंत्री के.एन. बालगोपाल ने विधानसभा को सूचित किया कि KIIIFB ने मार्च 2024 में पूरी राशि चुका दी थी।

## ED probe ईडी जांच

- The ED probe has centred around the alleged contravention of **FEMA regulations** and **RBI directions** and the end-use of the funds raised through the bonds.  
ईडी की जांच **FEMA नियमों** और **RBI निर्देशों** के कथित उल्लंघन और बॉन्ड से जुटाई गई धनराशि के उपयोग पर केंद्रित है।
- The **Comptroller and Auditor General (CAG)**, in its State Finances Audit Report for the year ending **March 2019**, had observed that the RBI nod for the masala bond was questionable and “appear to be in violation of the Constitution and encroachment on the powers of the Centre.”  
महालेखा नियंत्रक और महालेखा परीक्षक (CAG) ने मार्च 2019 को समाप्त वर्ष के राज्य वित्त लेखा रिपोर्ट में कहा था कि मसाला बॉन्ड के लिए RBI की अनुमति संदिग्ध थी और “संविधान का उल्लंघन तथा केंद्र की शक्तियों का अतिक्रमण प्रतीत होती है।”
- The row over masala bonds is part of a broader debate over ‘**off-budget**’ borrowings by KIIIFB and its consequences for the State’s overall borrowing limit.  
मसाला बॉन्ड पर विवाद KIIIFB द्वारा की गई ‘ऑफ-बजट’ उधारी और इससे राज्य की कुल उधारी सीमा पर पड़ने वाले प्रभाव को लेकर व्यापक बहस का हिस्सा है।
- The KIIIFB borrowings have been a matter of contention with the **Centre treating them as direct liabilities of the State**, much to the Kerala government’s dismay.  
KIIIFB की उधारियों पर विवाद इसलिए भी है क्योंकि केंद्र इन्हें राज्य की प्रत्यक्ष देयता मानता है, जिससे केरल सरकार असंतुष्ट है।
- Repeated requests to treat them as **contingent liabilities** have yielded no result.  
उन्हें सांविधिक देयता (contingent liabilities) मानने के repeated अनुरोधों का कोई परिणाम नहीं निकला है।



# Lok Sabha passes Manipur GST Bill amid disruptions over SIR

The Bill replaces an Ordinance which implemented reforms in Goods and Services Tax in Manipur; statutory resolution moved by Revolutionary Socialist Party member N.K. Premachandran disapproving the Bill was rejected by a voice vote

GS III: Economy;  
Taxation

NEW DELHI

The Lok Sabha, on the first day of the Winter Session on Monday, passed a Bill to replace an Ordinance which implemented reforms in the Goods and Services Tax (GST) in Manipur.

There were frequent disruptions as the Opposition insisted on a debate on the special intensive revision (SIR) of electoral rolls under way in nine States and three Union Territories.

Union Finance Minister Nirmala Sitharaman introduced the Manipur Goods and Services Tax (Second Amendment) Bill, 2025 in the afternoon, after one round of disruption.

The Bill was passed



Leader of the Opposition Rahul Gandhi and other leaders on the first day of the Winter Session in the Lok Sabha on Monday. PTI

post-lunch after a brief discussion, and a statutory resolution moved by Revolutionary Socialist Party (RSP) member N.K. Premachandran disapproving the Bill was rejected by a voice vote as Opposition members were protesting in the

Well of the House. As soon as the House assembled on Monday, Speaker Om Birla began proceedings by paying respects to former members who passed away recently.

Mr. Birla then congratulated the women's teams

for winning the ICC World Cup 2025 and the T20 Cricket World Cup for the Blind; the women's kabaddi team that won the World Cup; and the athletes representing India at the Deaflympics.

But as soon as the Question Hour was taken up, Opposition members started shouting slogans pressing for a discussion on the SIR. Mr. Birla tried running the House for about 20 minutes before adjourning until noon.

When the House reassembled, Ms. Sitharaman introduced three Bills, including one to levy excise duty on tobacco and tobacco products and another to impose a new cess on the manufacture of pan masala, apart from tabling sup-

plementary demands for grants for 2025-2026. The House functioned for about 12 minutes before it was adjourned until 2 p.m.

When the House met at 2 p.m., Telugu Desam Party (TDP) member Krishna Prasad Tenneti, who was in the Chair, called Mr. Premachandran to speak on the resolution, but the RSP member told the presiding officer that the House was not in order.

The Chair then called BJP member Shashank Mani, who spoke in favour of the Bill.

The Bill was then passed by a voice vote amid vociferous protests by Opposition parties, who trooped into the Well of the House. Following this, the House was adjourned for the day.

## Lok Sabha passes Manipur GST Bill amid disruptions over SIR लोक सभा ने SIR के बीच मणिपुर GST बिल पारित किया

- Lok Sabha passes **Manipur GST Bill** amid disruptions over **SIR**  
लोक सभा ने **मणिपुर GST बिल SIR** के व्यवधानों के बीच पारित किया
- The Bill replaces an **Ordinance** which implemented reforms in **Goods and Services Tax in Manipur**; statutory resolution moved by **Revolutionary Socialist Party** member **N.K. Premachandran** disapproving the Bill was rejected by a **voice vote**  
यह बिल एक **ऑर्डिनेंस** को प्रतिस्थापित करता है जिसने **मणिपुर** में **गुड्स एंड सर्विसेज टैक्स** में सुधार लागू किए थे; बिल को अस्वीकार करने के लिए **रिवोल्यूशनरी सोशलिस्ट पार्टी** सदस्य **एन.के. प्रेमचंद्रन** द्वारा लाया गया सांविधिक प्रस्ताव **वॉयस वोट** से खारिज कर दिया गया
- The Lok Sabha, on the **first day** of the **Winter Session** on **Monday**, passed a Bill to replace an Ordinance which implemented reforms in the Goods and Services Tax (GST) in Manipur.  
लोक सभा ने **सोमवार** को **शीतकालीन सत्र** के **पहले दिन** मणिपुर में GST सुधार लागू करने वाले ऑर्डिनेंस को बदलने के लिए एक बिल पारित किया।
- There were frequent disruptions as the **Opposition** insisted on a debate on the **special intensive revision (SIR)** of electoral rolls under way in **nine States** and **three Union Territories**.  
बार-बार व्यवधान हुए क्योंकि **विपक्ष** ने **नौ राज्यों** और **तीन केंद्रशासित प्रदेशों** में चल रहे **विशेष गहन पुनरीक्षण (SIR)** पर बहस की मांग की।
- Union Finance Minister **Nirmala Sitharaman** introduced the **Manipur Goods and Services Tax (Second Amendment) Bill, 2025** in the afternoon, after one round of disruption.  
एक दौर के व्यवधान के बाद दोपहर में केंद्रीय वित्त मंत्री **निर्मला सीतारमण** ने **मणिपुर गुड्स एंड सर्विसेज टैक्स (द्वितीय संशोधन) बिल, 2025** पेश किया।
- The Bill was passed post-lunch after a brief discussion, and a statutory resolution moved by **RSP** member **N.K. Premachandran** disapproving the Bill was rejected by a **voice vote** as Opposition members were protesting in the **Well of the House**.



दोपहर के भोजन के बाद संक्षिप्त चर्चा के पश्चात बिल पारित किया गया, और **RSP** सदस्य **एन.के. प्रेमचंद्रन** द्वारा बिल को अस्वीकार करने हेतु लाया गया सांविधिक प्रस्ताव **वॉयस वोट** से खारिज कर दिया गया क्योंकि विपक्ष **हाउस के वेल** में विरोध कर रहा था।

- As soon as the House assembled on **Monday**, Speaker **Om Birla** began proceedings by paying respects to former members who passed away recently.  
जैसे ही सदन **सोमवार** को एकत्रित हुआ, स्पीकर **ओम बिड़ला** ने हाल ही में दिवंगत हुए पूर्व सदस्यों को श्रद्धांजलि देकर कार्यवाही शुरू की।
- Mr. Birla then congratulated the **women's teams** for winning the **ICC World Cup 2025** and the **T20 Cricket World Cup for the Blind**; the **women's kabaddi team** that won the **World Cup**; and the athletes representing India at the **Deaflympics**.  
इसके बाद श्री बिड़ला ने **ICC वर्ल्ड कप 2025** और **टी20 क्रिकेट वर्ल्ड कप फॉर द ब्लाइंड** जीतने वाली **महिला टीमों**, **वर्ल्ड कप** जीतने वाली **महिला कबड्डी टीम**, और **डेफ्लिंपिक्स** में भारत का प्रतिनिधित्व करने वाले खिलाड़ियों को बधाई दी।
- But as soon as the **Question Hour** was taken up, Opposition members started shouting slogans pressing for a discussion on the **SIR**.  
लेकिन जैसे ही **प्रश्नकाल** शुरू हुआ, विपक्ष के सदस्यों ने **SIR** पर चर्चा की मांग करते हुए नारे लगाने शुरू कर दिए।
- Mr. Birla tried running the House for about **20 minutes** before adjourning until **noon**.  
श्री बिड़ला ने सदन को लगभग **20 मिनट** तक चलाने की कोशिश की, उसके बाद इसे **दोपहर** तक स्थगित कर दिया।
- When the House reassembled, Ms. Sitharaman introduced **three Bills**, including one to levy **excise duty** on **tobacco and tobacco products** and another to impose a **new cess** on the manufacture of **pan masala**, apart from tabling **supplementary demands for grants for 2025-2026**.  
जब सदन पुनः बैठा, तो श्रीमती सीतारमण ने **तीन बिल** पेश किए, जिनमें **तंबाकू और तंबाकू उत्पादों पर उत्पाद शुल्क** लगाने हेतु एक बिल तथा **पान मसाला** निर्माण पर **नया सेस** लगाने हेतु दूसरा बिल शामिल था, साथ ही **2025-2026** के लिए **अनुदानों की पूरक मांगों** भी प्रस्तुत कीं।
- The House functioned for about **12 minutes** before it was adjourned until **2 p.m.**  
सदन लगभग **12 मिनट** चला, जिसके बाद इसे **2 बजे** तक स्थगित कर दिया गया।
- When the House met at **2 p.m.**, **TDP** member **Krishna Prasad Tenneti**, who was in the Chair, called Mr. Premachandran to speak on the resolution, but the RSP member told the presiding officer that the House was not in order.  
जब सदन **2 बजे** बैठा, तो **टीडीपी** सदस्य **कृष्ण प्रसाद तेननेटी**, जो उस समय अध्यक्षता कर रहे थे, ने श्री प्रेमचंद्रन को प्रस्ताव पर बोलने के लिए बुलाया, लेकिन **RSP** सदस्य ने कहा कि सदन सुव्यवस्थित नहीं है।
- The Chair then called **BJP** member **Shashank Mani**, who spoke in favour of the Bill.  
इसके बाद अध्यक्ष ने **भाजपा** सदस्य **शशांक मणि** को बुलाया, जिन्होंने बिल के पक्ष में बात की।
- The Bill was then passed by a **voice vote** amid vociferous protests by **Opposition parties**, who trooped into the **Well of the House**.  
इसके बाद बिल को **वॉयस वोट** से पारित किया गया, जबकि **विपक्षी दल** ज़ोरदार विरोध करते हुए **हाउस के वेल** में पहुंच गए।
- Following this, the House was **adjourned for the day**.  
इसके बाद सदन को **दिन भर के लिए** स्थगित कर दिया गया।



# Can India become self-reliant in REE production?

How is China using its dominance over rare earth elements as a geopolitical strategy?

CS III: Economy

MOB

V. Nivedita

The story so far:

The Union Cabinet has approved a ₹7,280-crore scheme to manufacture rare earth permanent magnets

domestically. The scheme would facilitate the creation of **integrated Rare Earth Permanent Magnet (REPM)**

manufacturing facilities, involving the conversion of rare earth oxides to metals, metals to alloys, and alloys to finished REPMs. This announcement comes at a time when China's export controls are squeezing global supply chains.

**What is extent of China's dominance?** Rare earth elements (REEs), a group of 17 minerals, are crucial for their high density, melting point and conductivity. They are moderately abundant, but hard to extract economically and sustainably. China built global supremacy in this

sector by controlling 90% of global REE processing and 70% of production, despite holding only 30% of global reserves. In April, China imposed export restrictions on seven rare earth elements and finished magnets, in a bid to counter the trade war. This hit many sectors, especially the automobile sector. "EV makers are the worst hit," said Pranay Kotasthane, deputy director of Takshashila Institution.

Though China's controls come amid a broader reshaping of global trade due to U.S. President Donald Trump's tariffs, they are not new. In 2009, Beijing imposed export quotas on REEs which was scrapped after it lost a World Trade Organisation case brought by the U.S. and others in 2015. "China realised that this is something which it can play in order to achieve its geopolitical, geostrategic and geoeconomic objectives. They played the same playbook in 2020 while restricting the export of graphite. In 2021, they

started an export licensing plan in which they started restricting the supplies to certain industries," Dr. Ram Singh, Professor (IB), Head (CDOE), Indian Institute of Foreign Trade, explained.

**Why is India focusing on REEs?**

India's focus on REEs is driven by its ambitions in electric mobility, renewable energy, electronics manufacturing and defence. These industries depend heavily on rare earth magnets and components.

The country imported over 53,000 metric tonnes of REE magnets in FY 2024-25, despite having 8% of the world's REE reserves – mainly in monazite sands across Andhra Pradesh, Odisha, Tamil Nadu and Kerala. Yet, India produces less than 1% of global output. To fix this, the government launched the ₹16,300 crore National Critical Mineral Mission in January, with a total outlay of ₹34,300 crore spread over seven years, to achieve self-reliance. The mission focuses on

exploration, processing, and recycling minerals like lithium, cobalt, and rare earths. To boost domestic production, the government has auctioned new mining blocks and is inviting private companies to participate in exploration and processing. "This sector was closed to the private sector until August 2023 and hence this is a new domain. China's restrictions will help generate interest among private players," Mr. Kotasthane said. However, he points out that only a handful of exploration licences were handed out. "The stumbling block is government regulations and control. Deregulating all segments of this supply chain, fast-tracking environmental regulations, and funding exploration projects to reduce information asymmetry is crucial," he said.

Dr. Singh cautioned that India still lacks refining infrastructure, skilled labour and innovation capacity. He also pointed out that domestic manufacturing would take years to take off given the long gestation period.

"The good thing is that India isn't in a particularly bad position," Mr. Kotasthane said, pointing out that India's monazite sands have several light rare earths, including Neodymium, which are used in magnets. "Several companies have plans to substantially increase capacity in the rare earth magnet recycling space from end-of-life electronic devices and appliances," he added.

## THE GIST

▼ Rare earth elements (REEs), a group of 17 minerals, are crucial for their high density, melting point and conductivity.

▼ India's focus on REEs is driven by its ambitions in electric mobility, renewable energy, electronics manufacturing and defence. These industries depend heavily on rare earth magnets and components.

▼ To boost domestic production, the government has auctioned new mining blocks and is inviting private companies to participate in exploration and processing.

## Can India become self-reliant in REE production? क्या भारत आरईई उत्पादन में आत्मनिर्भर बन सकता है?

### India's New Rare Earth Magnet Scheme भारत की नई रेयर अर्थ मैग्नेट योजना

- The Union Cabinet has approved a **₹7,280-crore scheme** to manufacture rare earth permanent magnets domestically. केंद्रीय मंत्रिमंडल ने देश में **₹7,280 करोड़** की लागत से रेयर अर्थ परमानेंट मैग्नेट बनाने की योजना को मंजूरी दी है।
- The scheme would facilitate the creation of **integrated Rare Earth Permanent Magnet (REPM) manufacturing facilities, involving the conversion of rare earth oxides to metals, metals to alloys, and alloys to finished REPMs.** यह योजना **REPM (Rare Earth Permanent Magnet)** विनिर्माण सुविधाओं के सृजन में सहायता करेगी, जिसमें रेयर अर्थ ऑक्साइड्स को धातुओं में, धातुओं को **alloys** में और alloys को तैयार **REPMs** में बदलना शामिल है।
- This announcement comes at a time when **China's export controls** are squeezing global supply chains. यह घोषणा ऐसे समय में आई है जब **चीन के निर्यात नियंत्रण** से वैश्विक आपूर्ति शृंखलाएँ प्रभावित हो रही हैं।

### What is the extent of China's dominance? चीन का वर्चस्व कितना बढ़ा है?

- **Rare earth elements (REEs), a group of 17 minerals, are crucial for their high density, melting point and conductivity.** रेयर अर्थ एलिमेंट्स (REEs), जो **17 खनिजों** का समूह है, उनकी **उच्च घनत्व, melting point और conductivity** के कारण अत्यंत महत्वपूर्ण हैं।
- They are moderately abundant, but hard to extract economically and sustainably. ये पर्याप्त मात्रा में उपलब्ध होते हैं, लेकिन आर्थिक और टिकाऊ तरीके से निकालना कठिन होता है।
- **China built global supremacy in this sector by controlling 90% of global REE processing and 70% of production, despite holding only 30% of global reserves.**



चीन ने वैश्विक आरईई प्रोसेसिंग का 90%, उत्पादन का 70% नियंत्रित करके यह वर्चस्व बनाया, जबकि इसके पास वैश्विक भंडार का केवल 30% है।

- In April, China imposed export restrictions on seven rare earth elements and finished magnets, in a bid to counter the trade war.  
अप्रैल में चीन ने 7 रेयर अर्थ तत्वों और तैयार मैग्नेट्स के निर्यात पर प्रतिबंध लगाया ताकि व्यापार युद्ध का मुकाबला किया जा सके।
- This hit many sectors, especially the automobile sector. “EV makers are the worst hit,” said Pranay Kotasthane, deputy director of Takshashila Institution.  
इससे कई क्षेत्रों पर प्रभाव पड़ा, विशेषकर ऑटोमोबाइल क्षेत्र पर। “ईवी निर्माता सबसे अधिक प्रभावित हुए,” प्रणय कोटस्थाने ने कहा।
- China’s controls are not new; in 2009 it imposed export quotas, scrapped in 2015 after a WTO case.  
चीन के नियंत्रण नए नहीं हैं; 2009 में इसने कोटा लगाया जिसे 2015 में WTO मामले के बाद हटाया गया।
- Dr. Ram Singh explained how China uses rare earths to pursue its geopolitical, geostrategic and geoeconomic objectives.  
डॉ. राम सिंह ने बताया कि चीन रेयर अर्थ्स का उपयोग अपने भू-राजनीतिक, भू-रणनीतिक और भू-आर्थिक उद्देश्यों को साधने में करता है।

### Why is India focusing on REEs?

#### भारत REEs पर ध्यान क्यों दे रहा है?

- India’s focus on REEs is driven by ambitions in electric mobility, renewable energy, electronics manufacturing and defence.  
भारत का REEs पर ध्यान इलेक्ट्रिक मोबिलिटी, नवीकरणीय ऊर्जा, इलेक्ट्रॉनिक्स विनिर्माण, और रक्षा क्षेत्र की जरूरतों से प्रेरित है।
- These industries depend heavily on rare earth magnets and components.  
ये उद्योग रेयर अर्थ मैग्नेट्स और कंपोनेंट्स पर अत्यधिक निर्भर हैं।
- The country imported over 53,000 metric tonnes of REE magnets in FY 2024-25, despite having 8% of global REE reserves.  
भारत ने FY 2024-25 में 53,000 मीट्रिक टन REE मैग्नेट आयात किए, जबकि इसके पास वैश्विक भंडार का 8% है।
- India produces less than 1% of global output.  
भारत वैश्विक उत्पादन का 1% से भी कम उत्पादन करता है।
- To fix this, the government launched the ₹16,300 crore National Critical Mineral Mission (total outlay ₹34,300 crore, 7 years).  
इसे सुधारने के लिए सरकार ने ₹16,300 करोड़ का National Critical Mineral Mission शुरू किया जिसकी कुल लागत ₹34,300 करोड़ है (7 वर्षों में)।
- The mission focuses on exploration, processing, and recycling minerals like lithium, cobalt, and rare earths.  
यह मिशन लिथियम, कोबाल्ट और रेयर अर्थ्स जैसे खनिजों की खोज, प्रोसेसिंग और रीसाइक्लिंग पर केंद्रित है।
- To boost domestic production, the government has auctioned new mining blocks and is inviting private companies.  
घरेलू उत्पादन बढ़ाने के लिए सरकार ने नए खनन ब्लॉक्स की नीलामी की है और निजी कंपनियों को आमंत्रित किया है।
- “This sector was closed to the private sector until August 2023.”  
“यह क्षेत्र अगस्त 2023 तक निजी क्षेत्र के लिए बंद था।”
- However, only a handful of exploration licences were issued; government regulation is a major hurdle.  
हालांकि बहुत कम खोज लाइसेंस जारी किए गए; सरकारी नियम मुख्य बाधा हैं।
- Dr. Singh cautioned that India lacks refining infrastructure, skilled labour, and innovation capacity.  
डॉ. सिंह ने चेतावनी दी कि भारत में रिफाइनिंग इंफ्रास्ट्रक्चर, कुशल श्रमिक, और नवाचार क्षमता की कमी है।



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**CONTACT: 9971932488**



- He added that domestic manufacturing will take years due to long gestation periods. उन्होंने कहा कि घरेलू विनिर्माण को लंबी gestation अवधि के कारण वर्षों लगेंगे।
- “The good thing is that India isn’t in a particularly bad position,” Mr. Kotasthane said. प्रणय कोटस्थाने ने कहा कि “अच्छी बात यह है कि भारत बहुत बुरी स्थिति में नहीं है।”
- India’s **monazite sands** have several **light rare earths**, including **Neodymium**, used in magnets. भारत की **monazite sands** में कई **light rare earths** हैं, जिनमें **Neodymium** शामिल है, जिसका उपयोग मैग्नेट्स में होता है।
- Several companies plan to increase capacity in the **rare earth magnet recycling** space using end-of-life electronic devices and appliances. कई कंपनियाँ **rare earth magnet recycling** क्षमता बढ़ाने की योजना बना रही हैं, जिसमें पुराने इलेक्ट्रॉनिक उपकरणों का उपयोग होगा।

PATRIOTIC IAS



# GST collections slip on rate reduction to ₹1.7 lakh crore in Nov.

The silver lining is the spurt in consumption across the economy as is evident from the increase in the turnover of most companies

## GS III: Economy

**Press Trust of India**  
NEW DELHI

**I**ndia's Goods and Services Tax (GST) collections slipped to a year-low of ₹1.70 lakh crore in November, growing at a meagre 0.7% year-on-year on a base lowered by the exclusion of proceeds from cess on sin and luxury goods, as per official data.

While tepid collections were attributed to a major reduction in tax rates on most goods and services, the silver lining was the spurt in consumption across the economy, as evident from the rise in turnover of most companies, giving hope of a multiplier effect of the rate cut in the medium term.

In a reform aimed at boosting local consump-



**Cut in time:** The government rationalised GST to just two rates of 5% and 18% from September 22. K. V. S. GIRI

tion and fireproofing the economy from global trade winds, the government rationalised GST to just two rates of 5% and 18% from September 22, from 5, 12, 18 and 28% earlier.

Icra chief economist Aditi Nayar said, "based on the CGA data, the asking rate for CGST collections

during the rest of the year is quite high, and a miss on this account seems inevitable. While we believe taxes will fall short of FY26 BE, higher-than-budgeted non-tax revenue would absorb a part of this shortfall. Overall, we do not expect a material fiscal slippage at the current juncture."

## GST collections slip on rate reduction to ₹1.7 lakh crore in Nov.

### GST संग्रह दर कटौती के कारण नवंबर में ₹1.7 लाख करोड़ तक गिरा

- The **silver lining** is the spurt in **consumption** across the **economy** as is evident from the increase in the **turnover** of most **companies**.  
सकारात्मक पहलू यह है कि अधिकांश कंपनियों के टर्नओवर में वृद्धि से स्पष्ट है कि अर्थव्यवस्था में खपत में तेजी आई है।
- India's **Goods and Services Tax (GST) collections** slipped to a **year-low of ₹1.70 lakh crore** in **November**, growing at a meagre **0.7% year-on-year** on a base lowered by the exclusion of proceeds from **cess on sin and luxury goods**, as per **official data**.



सरकारी आंकड़ों के अनुसार, भारत का वस्तु एवं सेवा कर (GST) संग्रह नवंबर में ₹1.70 लाख करोड़ के सालाना न्यूनतम स्तर पर गिर गया, जो कि पाप और विलासिता वस्तुओं पर सेस की आय को हटाने के कारण आधार कम होने पर साल-दर-साल केवल 0.7% बढ़ा।

- While tepid collections were attributed to a major reduction in tax rates on most goods and services, the silver lining was the spurt in consumption across the economy, as evident from the rise in turnover of most companies, giving hope of a multiplier effect of the rate cut in the medium term.

जबकि अधिकांश सामान और सेवाओं पर कर दरों में बड़ी कटौती के कारण सकल संग्रह धीमा रहा, सकारात्मक पहलू यह है कि अधिकांश कंपनियों के टर्नओवर में वृद्धि से स्पष्ट है कि अर्थव्यवस्था में खपत में तेजी आई है, जो मध्यम अवधि में दर कटौती का गुणन प्रभाव देने की आशा देती है।

- In a reform aimed at boosting local consumption and fireproofing the economy from global trade winds, the government rationalised GST to just two rates of 5% and 18% from September 22, from 5, 12, 18 and 28% earlier.  
एक सुधार में, जिसका उद्देश्य स्थानीय खपत को बढ़ाना और वैश्विक व्यापार के प्रभाव से अर्थव्यवस्था को सुरक्षित करना था, सरकार ने GST को 22 सितंबर से केवल 5% और 18% की दो दरों पर सीमित कर दिया, जबकि पहले यह 5, 12, 18 और 28% थी।
- Ica chief economist Aditi Nayar said, “based on the CGA data, the asking rate for CGST collections during the rest of the year is quite high, and a miss on this account seems inevitable.  
Ica मुख्य अर्थशास्त्री अदिति नायर ने कहा, “CGA डेटा के आधार पर, शेष वर्ष के दौरान CGST संग्रह की अपेक्षित दर काफी अधिक है, और इस खाते में लक्ष्य से चूक अपरिहार्य प्रतीत होती है।
- While we believe taxes will fall short of FY26 BE, higher-than-budgeted non-tax revenue would absorb a part of this shortfall.  
जबकि हमें लगता है कि कर FY26 BE से कम होंगे, लेकिन बजट से अधिक गैर-कर राजस्व इस कमी का एक हिस्सा पूरा करेगा।
- Overall, we do not expect a material fiscal slippage at the current juncture.”  
कुल मिलाकर, हमें वर्तमान स्थिति में किसी भी महत्वपूर्ण राजकोषीय चूक की उम्मीद नहीं है।”



# Manufacturing slips to 9-month low in November, PMI shows

**GS III: Economy**  
**Press Trust of India**  
NEW DELHI

India's manufacturing sector activity eased to a nine-month low in November, mainly owing to a softer rise in sales and production amid reports of challenging market conditions, a monthly report said.

The seasonally-adjusted HSBC India Manufacturing Purchasing Managers' Index (PMI) falling to 56.6 in November from 59.2 in October, highlighted slowest improvement in operating conditions since February.

In the Purchasing Managers' Index (PMI), a print above 50 means expansion, while a score below 50 denotes contraction.

"India's final November PMI confirmed that U.S. tariffs caused manufacturing expansion to slow," said



The report showed mild loss of overall growth momentum.

Pranjul Bhandari, chief India economist, HSBC.

"Although firms suggested the trend for international sales remained favourable – reflecting greater sales to clients in Africa, Asia, Europe and the Middle East, there was a mild loss of overall growth momentum," HSBC India said.

**HSBC.**

"भारत का अंतिम नवंबर PMI पुष्टि करता है कि अमेरिका के शुल्क के कारण निर्माण विस्तार धीमा हुआ," कहा प्रांजल भंडारी, मुख्य भारत अर्थशास्त्री, HSBC ने।

- "Although firms suggested the trend for international sales remained favourable — reflecting greater sales to clients in Africa, Asia, Europe and the Middle East, there was a mild loss of overall growth momentum," HSBC India said.

"हालांकि कंपनियों ने सुझाव दिया कि अंतरराष्ट्रीय बिक्री की प्रवृत्ति अनुकूल बनी रही — जो अफ्रीका, एशिया, यूरोप और मध्य पूर्व में ग्राहकों को अधिक बिक्री को दर्शाता है, फिर भी कुल विकास गति में हल्का नुकसान हुआ," कहा HSBC India ने।

**Manufacturing slips to 9-month low in November, PMI shows**  
**नवंबर में निर्माण 9-महीने के निचले स्तर पर, PMI रिपोर्ट में दिखा**

- India's manufacturing sector activity eased to a nine-month low in November, mainly owing to a softer rise in sales and production amid reports of challenging market conditions, a monthly report said.

भारत की निर्माण गतिविधि नवंबर में नौ महीने के निचले स्तर पर आ गई, मुख्य रूप से कठिन बाजार स्थितियों की रिपोर्टों के बीच बिक्री और उत्पादन में धीमी वृद्धि के कारण, एक मासिक रिपोर्ट में कहा गया।

- The seasonally-adjusted HSBC India Manufacturing Purchasing Managers' Index (PMI) falling to 56.6 in November from 59.2 in October, highlighted the slowest improvement in operating conditions since February.

मौसमी रूप से समायोजित HSBC India Manufacturing Purchasing Managers' Index (PMI) अक्टूबर के 59.2 से नवंबर में 56.6 पर गिर गया, जिसने फरवरी के बाद संचालन स्थितियों में सबसे धीमी सुधार को उजागर किया।

- In the Purchasing Managers' Index (PMI), a print above 50 means expansion, while a score below 50 denotes contraction.

Purchasing Managers' Index (PMI) में, 50 से ऊपर का अंक विस्तार को दर्शाता है, जबकि 50 से नीचे का अंक संकुचन को दर्शाता है।

- "India's final November PMI confirmed that U.S. tariffs caused manufacturing expansion to slow," said Pranjul Bhandari, chief India economist,



# ‘Geopolitical shifts forcing public sector CIOs to rapidly adjust priorities for 2026’

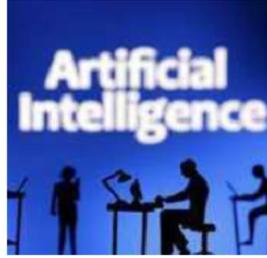
**GS III: Economy, S&T**

**The Hindu Bureau**

BENGALURU

Geopolitical shifts and economic volatility are forcing chief information officers (CIOs) in the public sector to rapidly adjust their priorities for next year, 2026, said Arthur Mickoleit, Director Analyst at Gartner.

Referring to CIOs, he further said, “They are being asked to demonstrate the mission impact of technology investments - including, but not limited to, cost savings and user experience.” A survey by Gartner also revealed 52% of go-



52% of the CIOs outside of the U.S. expect IT budgets to increase for AI in 2026.

vernment CIOs outside of the U.S., expect IT budgets to increase for AI and other key technologies in 2026. IT investments are to rise despite overall budget pressures, driven by de-

mand for tangible mission outcomes.

This, despite overall budget pressures, with governments globally (excluding the U.S.) recognising their transformational potential for modernising public services and achieving critical mission objectives, the firm observed.

The top four technologies government CIOs (not including the U.S.) plan to increase investments in next year are cybersecurity (85%), AI (80%), generative AI (80%) and cloud platforms (76%), as per Gartner. Gartner further said, 74% of government

CIOs (U.S not included) have already deployed or plan to deploy AI within the next 12 months, with GenAI higher at 78%.

Interest in AI agents is also rising, with 49% reporting current or planned deployment in the next 12 months. Meanwhile, global CIOs are also reassessing vendor relationships amid global uncertainty. For instance, Gartner found that 55% of public sector CIOs (U.S. excluded) expect changes in how they engage with technology providers due to rising geopolitical tensions and digital sovereignty concerns.

## ‘Geopolitical shifts forcing public sector CIOs to rapidly adjust priorities for 2026’

‘भू-राजनीतिक बदलाव 2026 के लिए सार्वजनिक क्षेत्र के CIOs को प्राथमिकताएं तेजी से समायोजित करने के लिए मजबूर कर रहे हैं’

- Geopolitical shifts and **economic volatility** are forcing **chief information officers (CIOs)** in the **public sector** to rapidly adjust their priorities for next year, **2026**, said **Arthur Mickoleit, Director Analyst at Gartner**.  
भू-राजनीतिक बदलाव और आर्थिक अस्थिरता सार्वजनिक क्षेत्र के मुख्य सूचना अधिकारी (CIOs) को अगले वर्ष 2026 के लिए अपनी प्राथमिकताओं को तेजी से समायोजित करने के लिए मजबूर कर रहे हैं, कहा आर्थर मिकोलिट, निदेशक विश्लेषक, Gartner ने।
- Referring to **CIOs**, he further said, “They are being asked to demonstrate the **mission impact of technology investments** – including, but not limited to, **cost savings** and **user experience**.”  
CIOs का उल्लेख करते हुए, उन्होंने आगे कहा, “उन्हें प्रौद्योगिकी निवेश के मिशन प्रभाव को प्रदर्शित करने के लिए कहा जा रहा है – जिसमें लागत बचत और उपयोगकर्ता अनुभव शामिल हैं, लेकिन इन्हीं तक सीमित नहीं है।”
- A survey by **Gartner** also revealed **52% of government CIOs outside of the U.S.** expect **IT budgets** to increase for **AI** and other key technologies in **2026**.  
Gartner के सर्वेक्षण से यह भी पता चला कि **अमेरिका के बाहर 52% सरकारी CIOs** को उम्मीद है कि **AI** और अन्य प्रमुख प्रौद्योगिकियों के लिए **IT बजट 2026** में बढ़ेंगे।
- **IT investments** are to rise despite overall **budget pressures**, driven by demand for **tangible mission outcomes**.  
कुल **बजट दबावों** के बावजूद, **IT निवेश** बढ़ेंगे, जो ठोस **मिशन परिणामों** की मांग से प्रेरित हैं।
- This, despite overall **budget pressures**, with **governments globally (excluding the U.S.)** recognising their **transformational potential** for modernising **public services** and achieving critical **mission objectives**, the firm observed.  
कुल **बजट दबावों** के बावजूद, **विश्वभर की सरकारें (अमेरिका को छोड़कर)** सार्वजनिक सेवाओं को



आधुनिक बनाने और महत्वपूर्ण मिशन उद्देश्यों को प्राप्त करने की उनकी परिवर्तनकारी क्षमता को पहचान रही हैं, फर्म ने देखा।

- The top four technologies government CIOs (not including the U.S.) plan to increase investments in next year are **cybersecurity (85%), AI (80%), generative AI (80%) and cloud platforms (76%)**, as per Gartner.

अगले वर्ष में निवेश बढ़ाने की योजना बनाने वाली शीर्ष चार प्रौद्योगिकियां सरकारी CIOs (अमेरिका को छोड़कर) हैं: साइबर सुरक्षा (85%), AI (80%), जनरेटिव AI (80%) और क्लाउड प्लेटफॉर्म (76%), Gartner के अनुसार।

- Gartner further said, **74% of government CIOs (U.S. not included)** have already deployed or plan to deploy AI within the next **12 months**, with GenAI higher at **78%**.

Gartner ने आगे कहा कि **74% सरकारी CIOs (अमेरिका शामिल नहीं)** ने अगले **12 महीनों** के भीतर AI को लागू किया है या लागू करने की योजना बनाई है, जबकि GenAI में यह **78%** है।

- Interest in **AI agents** is also rising, with **49%** reporting **current or planned deployment** in the next **12 months**.

AI एजेंट्स में रुचि भी बढ़ रही है, जिसमें **49%** ने अगले **12 महीनों** में वर्तमान या योजनाबद्ध तैनाती की रिपोर्ट दी है।

- Meanwhile, global CIOs are also reassessing **vendor relationships** amid **global uncertainty**.

इस बीच, वैश्विक CIOs भी वैश्विक अनिश्चितता के बीच वेंडर संबंधों का पुनर्मूल्यांकन कर रहे हैं।

- For instance, Gartner found that **55% of public sector CIOs (U.S. excluded)** expect changes in how they engage with **technology providers** due to rising **geopolitical tensions** and **digital sovereignty concerns**.

उदाहरण के लिए, Gartner ने पाया कि **55% सार्वजनिक क्षेत्र के CIOs (अमेरिका को छोड़कर)** को उम्मीद है कि वे प्रौद्योगिकी प्रदाताओं के साथ कैसे जुड़ते हैं इसमें परिवर्तन आएगा, बढ़ती भू-राजनीतिक तनाव और डिजिटल संप्रभुता चिंताओं के कारण।



# 'Rupee may stay at the current low of ₹89-90'

## GS III: Economy

Ashokamithran T.

MUMBAI

The rupee opened the month with a fresh low of ₹89.7 against the U.S. dollar and is expected to maintain this level in December 2025, according to experts.

The rupee is depreciating for the fourth straight session against the dollar. A delayed U.S.-India trade deal, non-intervention from the RBI, and a widening trade deficit are the reasons behind the depreciation, according to Dilip Parmar, Senior Research Analyst at HDFC Securities.

In November 2025, the rupee was down 0.8%, while the dollar was also depreciating, marking a "puzzling" trend, Aditi Gupta, economist at BoB research, said. Annualised daily volatility was just 1.4% in the first half but increased to 4.9% in the second half, Ms. Gupta said.

### Trader sentiment

While widening trade deficit is cited as a factor, she said that the depreciation this time was more on account of sentiments of traders in the backdrop of uncertainty around the U.S.-India trade deal.

down 0.8%, while the dollar was also depreciating, marking a "puzzling" trend, Aditi Gupta, economist at BoB research, said.

नवंबर 2025 में, रुपया 0.8% गिर गया, जबकि डॉलर भी कमजोर हो रहा था, यह एक "अद्भुत" प्रवृत्ति को दर्शाता है, कहा अदिति गुप्ता, अर्थशास्त्री, BoB रिसर्च ने।

- Annualised daily volatility was just 1.4% in the first half but increased to 4.9% in the second half, Ms. Gupta said.  
वार्षिकीकृत दैनिक अस्थिरता पहले छमाही में केवल 1.4% थी, लेकिन दूसरी छमाही में यह बढ़कर 4.9% हो गई, कहा सुश्री गुप्ता ने।

### Trader sentiment

#### व्यापारी मनोवृत्ति

- While widening trade deficit is cited as a factor, she said that the depreciation this time was more on account of sentiments of traders in the backdrop of uncertainty around the U.S.-India trade deal.

जहां बढ़ते हुए व्यापार घाटे को एक कारण के रूप में उद्धृत किया गया है, उसने कहा कि इस बार की कमजोरी अधिक व्यापारियों की मनोवृत्ति के कारण थी, जो यू.एस.-इंडिया व्यापार समझौते के आसपास अनिश्चितता के परिप्रेक्ष्य में थी।

'Rupee may stay at the current low of ₹89-90'

'रुपया वर्तमान निचले स्तर ₹89-90 पर बना रह सकता है'

- The rupee opened the month with a fresh low of ₹89.7 against the U.S. dollar and is expected to maintain this level in December 2025, according to experts.

रुपया ने महीने की शुरुआत यू.एस. डॉलर के मुकाबले ₹89.7 के नए निचले स्तर से की और विशेषज्ञों के अनुसार, यह स्तर दिसंबर 2025 में बना रहने की उम्मीद है।

- The rupee is depreciating for the fourth straight session against the dollar. रुपया डॉलर के मुकाबले लगातार चौथे सत्र में कमजोर हो रहा है।

- A delayed U.S.-India trade deal, non-intervention from the RBI, and a widening trade deficit are the reasons behind the depreciation, according to Dilip Parmar, Senior Research Analyst at HDFC Securities.

एक विलंबित यू.एस.-इंडिया व्यापार समझौता, RBI की गैर-हस्तक्षेप और बढ़ता हुआ व्यापार घाटा कमजोर होने के पीछे कारण हैं, कहा दिलिप परमार, वरिष्ठ अनुसंधान विश्लेषक, HDFC Securities ने।

- In November 2025, the rupee was



S&T

02/12/2025

## Many airports complained of GPS spoofing, says Centre

GS III: S&T

Jagriti Chandra  
NEW DELHI

Complaints regarding GPS spoofing or counterfeit satellite signals experienced by aircraft were received from airports in Kolkata, Amritsar, Mumbai, Hyderabad, Bengaluru and Chennai, the Centre informed Parliament on Monday.

In response to a question from YSRCP MP S. Niranjan Reddy, Minister for Civil Aviation Ram Mohan Naidu admitted that "some flights" encountered GPS spoofing in the vicinity of Delhi airport as reported by *The Hindu* on November 7 about such events in the first week of the month.

The Minister said following the events, "the Airports Authority of India (AAI) has requested Wireless Monitoring Organisation (WMO) to identify the source of interference/spoofing." The WMO has also been directed to mobilise more resources to trace the sources based on approximate spoofing location details shared by the DGCA and the AAI.

## Many airports complained of GPS spoofing, says Centre कई हवाई अड्डों ने GPS स्पूफिंग की शिकायत की, केंद्र ने कहा

- Many airports complained of **GPS spoofing**, says Centre कई हवाई अड्डों ने **GPS स्पूफिंग** की शिकायत की, केंद्र ने कहा
- Complaints regarding **GPS spoofing or counterfeit satellite signals experienced by aircraft were received from airports** in Kolkata, Amritsar, Mumbai, Hyderabad, Bengaluru and Chennai, the Centre informed Parliament on **Monday**.

**GPS स्पूफिंग** या नकली सैटेलाइट सिग्नल की शिकायतें, जिनका सामना विमान ने किया, कोलकाता, अमृतसर, मुंबई, हैदराबाद, बंगलुरु और चेन्नई के हवाई अड्डों से प्राप्त हुई, केंद्र ने सोमवार को संसद को सूचित किया।

- In response to a question from **YSRCP MP S. Niranjan Reddy**, Minister for Civil Aviation **Ram Mohan Naidu** admitted that "some flights" encountered **GPS spoofing** in the vicinity of **Delhi airport** as reported by *The Hindu* on **November 7** about such events in the first week of the month.

**वाईएसआरसीपी सांसद एस. निरंजन रेड्डी** के प्रश्न के उत्तर में, नागरिक उड्डयन मंत्री **राम मोहन नायडू** ने स्वीकार किया कि "कुछ उड़ानों" ने **दिल्ली हवाई अड्डे** के पास **GPS स्पूफिंग** का सामना किया, जैसा कि *द हिंदू* ने **7 नवंबर** को महीने के पहले सप्ताह में ऐसी घटनाओं पर रिपोर्ट किया था।

- The Minister said following the events, "the **Airports Authority of India (AAI)** has requested **Wireless Monitoring Organisation (WMO)** to identify the source of interference/spoofing." मंत्री ने कहा कि इन घटनाओं के बाद, "**भारतीय हवाई अड्डा प्राधिकरण (AAI)** ने **वायरलेस मॉनिटरिंग संगठन (WMO)** से हस्तक्षेप/स्पूफिंग के स्रोत की पहचान करने का अनुरोध किया है।"

- The **WMO** has also been directed to mobilise more resources to trace the sources based on approximate spoofing location details shared by the **DGCA** and the **AAI**.

**WMO** को यह भी निर्देश दिया गया है कि वह **DGCA** और **AAI** द्वारा साझा किए गए अनुमानित स्पूफिंग स्थान विवरणों के आधार पर स्रोतों का पता लगाने के लिए अधिक संसाधन जुटाए।



# The science, technology, and pitfalls of using nuclear power in space

As the human presence in space expands, energy will become critical: while nuclear devices are forbidden, treaties are silent on nuclear propulsion for peaceful purposes; the Liability Convention addresses damage by space objects, but is not clear about accidents involving nuclear reactors

**GS III, S&T**  
**Shrawani Shagun**

**T**he US recently announced plans under its Lunar Fission Surface Power Project to deploy a small nuclear reactor on the moon by the early 2030s. It could be the first attempt to establish a permanent nuclear power source beyond earth orbit, signalling the start of a new era in space.

While solar energy can power some simple moon-based activities, it's constrained by the two-week-long lunar nights and the scarcity of sunlight at the poles. For a sustained moon and Mars presence, humans' energy independence thus becomes a critical enabler. This is also why the U.S.'s lunar nuclear programme is notable.

**Promise of nuclear power**  
In conversations on this topic on the earth, nuclear power often features as an alternative that is compact, dense, and reliable.

Devices called radioisotope thermoelectric generators (RTGs) have powered the Voyager spacecrafts' odyssey through the solar system. They convert heat released by the slow decay of plutonium-238 nuclei into electricity, and are immune to dust and darkness. But RTGs only produce a few hundred watts of electric power, enough for instruments but insufficient for human habitats or industrial operations.

Compact fission reactors are the next leap. About the size of a shipping container, these reactors can generate tens of hundreds of kilowatts, and can power life support, laboratories, and manufacturing units.

The next leap on the demand side will be industrial operations like in-situ resource utilisation, which can convert Martian water ice into rocket fuel and oxygen, which need over 1 MW of continuous power. Sunlight alone can't reliably supply this magnitude beyond the earth's orbit. This is where nuclear power reactors are attractive.

On Mars, reactors buried beneath the regolith could take advantage of the natural shielding to protect equipment and inhabitants from cosmic radiation while producing large amounts of energy. The idea of deploying such reactors on the moon itself is lucrative, where they can help maintain warm habitats for explorers, process ice for water and rocket fuel, and recharge batteries for surface mobility vehicles.

Incremental advances in nuclear power have enabled new technologies that were once confined to science fiction. Beyond RTGs, there is now nuclear thermal propulsion, where a propellant is heated by nuclear decay and expelled from nozzles. The DRACO programme in the U.S. will test this technology in lunar orbit by 2026.

If it works, the trips to Mars could become several months shorter, slashing crew exposure to galactic cosmic rays. In nuclear electric propulsion, reactor-generated electricity ionises a propellant, offering years of efficient thrust for deep-space probes and cargo missions.

#### Legal vacuum

The international framework for nuclear power in space is based on the 1992



An artist's illustration of a future Artemis Base Camp operated by NASA. NASA

United Nations Principles Relevant to the Use of Nuclear Power Sources in Outer Space (UNGA Resolution 47/68). These Principles impose several procedural and safety obligations on launching states for systems used to generate electricity.

Three Principles in particular are relevant. No. 3 mandates nuclear power sources to be designed and built to prevent the release of radioactive materials in both normal and emergency conditions. No. 4 requires rigorous pre-launch safety analyses to make sure the probability of accidental release is acceptably low. No. 7 further aligns with existing space treaties by requiring prompt and clear emergency notification to any potentially affected state in the event of a malfunction or reentry involving radioactive materials.

However, this framework is limited. The Principles address only RTGs and fission reactors intended for electricity generation, and not nuclear thermal/electric propulsion systems. And while they call for safety assessments, they don't establish binding technical standards for reactor design, operational limits, and end-of-life disposal.

Crucially, as a General Assembly resolution, the Principles are non-binding, meaning they offer guidance but no enforcement mechanism. This leaves significant governance gaps. Among other possibilities, states can begin testing compact fission and propulsion reactors capable of operating far beyond the earth orbit without being compelled to address safety.

Beyond those Principles, the Outer Space Treaty, the Liability Convention, and the Nuclear Non-Proliferation Treaty together only offer partial coverage. For instance, even if they are all considered together, there are no binding protocols to prevent radioactive contamination of celestial bodies or to govern reactors jettisoned at the end of a mission.

**On Mars, reactors buried beneath the regolith could take advantage of the natural shielding to protect inhabitants from cosmic radiation. The idea of deploying such reactors on the moon is lucrative, where they can keep habitats warm, process ice for water and rocket fuel, and recharge batteries for surface mobility vehicles**

Without such protocols, nuclear contamination could irreversibly alter pristine extraterrestrial environments long before humankind fully understands them. The tension between safety and international access is also paramount. As the European Space Agency's special advisor for political affairs Kai-Uwe Schroll has noted: "Establishing 'safety zones' around nuclear power plants on celestial bodies must not lead to national appropriation or the restriction of freedom of use for other actors."

#### Responsible race

As the human presence in the solar system expands, energy will become critical and energy sources will become strategic.

For now, while the Outer Space Treaty forbids countries from placing weapons of mass destruction in earth orbit, it's silent on nuclear propulsion for peaceful purposes.

The Liability Convention addresses damage caused by space objects but isn't clear about accidents involving nuclear reactors in cis-lunar space or beyond.

For these reasons, we need to update the legal framework posthaste to match countries' technological capabilities or risk accidents that could have long-lasting consequences across state boundaries.

In fact, if such an accident does occur, the promising nuclear dawn will quickly devolve into a nuclear twilight, if not a second Cold War.

#### India's moment

India itself stands at a strategic inflection point. An alliance of the Indian Space Research Organisation (ISRO) and the Department of Atomic Energy could be powerful. A domestically developed space reactor could power lunar operations in permanently shadowed craters, enable continuous in-situ resource utilisation on Mars, and overall demonstrate India's leadership in deep-space innovation.

But both in India and around the world, a responsible nuclear future needs to begin with reform. The UN's 1992 Principles should be updated to explicitly include propulsion reactors, establish safety benchmarks, and define end-of-life disposal standards. The UN Committee on the Peaceful Uses of Outer Space needs to adopt binding environmental protocols to govern safe launches, preventing contamination, and disposing of nuclear systems.

To this end a multilateral oversight mechanism modelled on the International Atomic Energy Agency could certify designs, verify compliance, and enhance transparency.

This said, technology alone can't secure our future. Without a coherent legal and ethical framework, efforts to expand nuclear technologies in space could give way to conflict.

India in particular can help by championing safe nuclear practices, and do for space energy what it once did for non-aligned diplomacy: shape norms for a multipolar era by balancing ambition with restraint.

*(Shrawani Shagun is a researcher focusing on environmental sustainability and space governance. shrawani.shagun@gmail.com)*



## The science, technology, and pitfalls of using nuclear power in space अंतरिक्ष में परमाणु ऊर्जा के उपयोग के विज्ञान, प्रौद्योगिकी और कमियाँ

- As the human presence in space expands, energy will become critical; while **nuclear devices are forbidden**, **treaties are silent on nuclear propulsion for peaceful purposes**; the **Liability Convention addresses damage by space objects**, but is not clear about accidents involving nuclear reactors

जैसे-जैसे अंतरिक्ष में मानव उपस्थिति बढ़ती है, ऊर्जा महत्वपूर्ण हो जाएगी; जबकि **परमाणु उपकरणों पर प्रतिबंध है**, **संधियाँ शांतिपूर्ण उद्देश्यों के लिए परमाणु प्रणोदन पर मौन हैं**; **दायित्व सम्मेलन** अंतरिक्ष वस्तुओं से होने वाली क्षति को संबोधित करता है, लेकिन **परमाणु रिएक्टरों से जुड़े दुर्घटनाओं के बारे में स्पष्ट नहीं है**

## Lunar Fission Surface Power Project and Nuclear Power in Space चंद्र फिशन सरफेस पावर प्रोजेक्ट और अंतरिक्ष में परमाणु ऊर्जा

- The US recently announced plans under its **Lunar Fission Surface Power Project to deploy a small nuclear reactor on the moon by the early 2030s**.  
अमेरिका ने हाल ही में अपने **Lunar Fission Surface Power Project** के तहत **2030 के प्रारंभिक दशक** तक चंद्रमा पर एक छोटा परमाणु रिएक्टर तैनात करने की योजना की घोषणा की है।
- It could be the **first attempt to establish a permanent nuclear power source beyond Earth orbit, signalling the start of a new era in space**.  
यह पृथ्वी की कक्षा से परे एक स्थायी परमाणु ऊर्जा स्रोत स्थापित करने का पहला प्रयास हो सकता है, जो अंतरिक्ष में **एक नए युग** की शुरुआत का संकेत देता है।
- While solar energy can power some simple moon-based activities, it's constrained by the two-week-long lunar nights and the scarcity of sunlight at the poles**.  
जबकि सौर ऊर्जा कुछ सरल चंद्र-आधारित गतिविधियों को संचालित कर सकती है, यह **दो सप्ताह लंबी चंद्र रातों** और ध्रुवों पर सूर्यप्रकाश की कमी से सीमित है।
- For a sustained moon and Mars presence, humans' **energy independence** thus becomes a critical enabler. This is also why the U.S.'s lunar nuclear programme is notable.  
चंद्रमा और मंगल पर दीर्घकालिक उपस्थिति के लिए मानव की **ऊर्जा स्वतंत्रता** एक महत्वपूर्ण कारक बन जाती है। यही कारण है कि अमेरिका का चंद्र परमाणु कार्यक्रम उल्लेखनीय है।

## Promise of nuclear power परमाणु ऊर्जा की संभावना

- In conversations on this topic on the Earth, nuclear power often features as an alternative that is **compact, dense, and reliable**.  
पृथ्वी पर इस विषय पर चर्चा में, परमाणु ऊर्जा अक्सर एक ऐसे विकल्प के रूप में उभरती है जो **सघन, घना और विश्वसनीय** है।
- Devices called **radioisotope thermoelectric generators (RTGs)** have powered the **Voyager spacecrafts' odyssey through the solar system**.  
**Radioisotope thermoelectric generators (RTGs)** नामक उपकरणों ने वॉयेजर अंतरिक्ष यान की सौर मंडल के माध्यम से यात्रा को शक्ति दी है।
- They convert heat released by the slow decay of plutonium-238 nuclei into electricity and are immune to dust and darkness**.  
वे **plutonium-238** नाभिक के धीमे अपक्षय से निकलने वाली ऊष्मा को बिजली में बदलते हैं और **धूल और अंधकार** से अप्रभावित रहते हैं।
- But RTGs only produce a few hundred watts of electric power, enough for instruments but **insufficient** for human habitats or industrial operations.  
लेकिन RTGs केवल कुछ सौ वाट बिजली उत्पन्न करते हैं, जो उपकरणों के लिए तो पर्याप्त है परंतु मानव आवासों या औद्योगिक गतिविधियों के लिए **अपर्याप्त** है।
- Compact **fission reactors** are the next leap.  
संकुचित **fission reactors** अगली प्रगति का कदम हैं।
- About the size of a **shipping container**, these reactors can generate **tens to hundreds of kilowatts**, and can power life support, laboratories, and manufacturing units.



**Shipping container** के आकार के ये रिएक्टर **दसियों से सैकड़ों किलोवाट** तक बिजली उत्पन्न कर सकते हैं, और जीवन समर्थन, प्रयोगशालाओं तथा विनिर्माण इकाइयों को शक्ति दे सकते हैं।

- The next leap on the demand side will be industrial operations like **in-situ resource utilisation**, which can convert **Martian water ice** into rocket fuel and oxygen, which need **over 1 MW** of continuous power.  
मांग के अगले चरण में **in-situ resource utilisation** जैसी औद्योगिक गतिविधियाँ होंगी, जो **मार्टियन जल-बर्फ** को रॉकेट ईंधन और ऑक्सीजन में बदल सकती हैं, जिनके लिए **1 MW से अधिक** निरंतर ऊर्जा की आवश्यकता होती है।
- Sunlight alone can't reliably supply this magnitude beyond the Earth's orbit. This is where nuclear power reactors are attractive.  
सूर्य का प्रकाश अकेले पृथ्वी की कक्षा से परे इस स्तर की ऊर्जा विश्वसनीय रूप से प्रदान नहीं कर सकता। यही वह क्षेत्र है जहाँ परमाणु रिएक्टर आकर्षक बनते हैं।
- On Mars, reactors buried beneath the **regolith** could take advantage of the natural shielding to protect equipment and inhabitants from **cosmic radiation** while producing large amounts of energy.  
मंगल पर, **regolith** के नीचे दफन रिएक्टर प्राकृतिक ढाल का उपयोग करके उपकरणों और निवासियों को **cosmic radiation** से बचा सकते हैं, जबकि बड़ी मात्रा में ऊर्जा उत्पन्न करते हैं।
- The idea of deploying such reactors on the moon itself is lucrative, where they can help maintain warm habitats for explorers, **process ice for water and rocket fuel**, and recharge batteries for surface mobility vehicles.  
चंद्रमा पर ऐसे रिएक्टरों की तैनाती का विचार लाभदायक है, जहाँ वे अन्वेषकों के लिए गर्म आवास बनाए रखने, **बर्फ से पानी और रॉकेट ईंधन** निकालने, और सतह वाहनों की बैटरियों को रिचार्ज करने में मदद कर सकते हैं।
- Incremental advances in nuclear power have enabled new technologies that were once confined to **science fiction**.  
परमाणु ऊर्जा में क्रमिक प्रगति ने उन नई तकनीकों को संभव बनाया है जो कभी **science fiction** तक सीमित थीं।
- Beyond RTGs, there is now nuclear thermal propulsion**, where a propellant is heated by nuclear decay and expelled from nozzles.  
RTGs से आगे अब **nuclear thermal propulsion** उपलब्ध है, जिसमें एक प्रोपेलेंट को परमाणु अपक्षय द्वारा गर्म किया जाता है और नोज़ल से बाहर निकाला जाता है।
- The **DRACO programme in the U.S. will test this technology in lunar orbit by 2026**.  
अमेरिका में **DRACO programme 2026** तक चंद्र कक्षा में इस तकनीक का परीक्षण करेगा।
- If it works, the trips to Mars could become **several months shorter**, slashing crew exposure to **galactic cosmic rays**.  
यदि यह सफल होता है, तो मंगल की यात्राएँ **कई महीनों** तक छोटी हो सकती हैं, जिससे चालक दल का **galactic cosmic rays** के प्रति जोखिम कम हो जाएगा।
- In **nuclear electric propulsion**, reactor-generated electricity ionises a propellant, offering **years of efficient thrust** for deep-space probes and cargo missions.  
**Nuclear electric propulsion** में रिएक्टर-जनित बिजली एक प्रोपेलेंट को आयनित करती है, जिससे गहरे अंतरिक्ष जांचों और कार्गो मिशनों के लिए **कई वर्षों** तक कुशल थ्रस्ट मिलता है।

## Legal vacuum कानूनी शून्यता

- The international framework for nuclear power in space is based on the **1992 United Nations Principles Relevant to the Use of Nuclear Power Sources in Outer Space (UNGA Resolution 47/68)**.  
अंतरिक्ष में परमाणु ऊर्जा के लिए अंतर्राष्ट्रीय ढांचा **1992 के संयुक्त राष्ट्र सिद्धांतों (UNGA Resolution 47/68)** पर आधारित है, जो बाहरी अंतरिक्ष में परमाणु ऊर्जा स्रोतों के उपयोग से संबंधित हैं।
- These **Principles impose several procedural and safety obligations on launching states for systems used to generate electricity**.  
ये सिद्धांत बिजली उत्पन्न करने वाली प्रणालियों के लिए प्रक्षेपण राज्यों पर कई प्रक्रियात्मक और सुरक्षा दायित्व लगाते हैं।



- Three Principles in particular are relevant.  
तीन सिद्धांत विशेष रूप से प्रासंगिक हैं।
- **No. 3 mandates nuclear power sources to be designed and built to prevent the release of radioactive materials in both normal and emergency conditions.**  
सिद्धांत संख्या 3 सामान्य और आपातकालीन दोनों परिस्थितियों में **radioactive materials** के उत्सर्जन को रोकने के लिए परमाणु ऊर्जा स्रोतों को डिज़ाइन और निर्मित करने का आदेश देता है।
- **No. 4 requires rigorous pre-launch safety analyses to make sure the probability of accidental release is acceptably low.**  
सिद्धांत संख्या 4 आकस्मिक उत्सर्जन की संभावना को स्वीकार्य रूप से कम सुनिश्चित करने के लिए कठोर **pre-launch safety analyses** की आवश्यकता करता है।
- **No. 7 further aligns with existing space treaties by requiring prompt and clear emergency notification to any potentially affected state in the event of a malfunction or reentry involving radioactive materials.**  
सिद्धांत संख्या 7 मौजूदा अंतरिक्ष संधियों के अनुरूप है और **prompt and clear emergency notification** की मांग करता है यदि किसी खराबी या radioactive materials से जुड़ी पुनःप्रवेश की स्थिति में कोई राज्य प्रभावित हो सकता है।
- However, this framework is limited.  
हालाँकि, यह ढांचा सीमित है।
- The Principles address only **RTGs and fission reactors** intended for electricity generation, and not **nuclear thermal/electric propulsion systems**.  
ये सिद्धांत केवल **RTGs और fission reactors** को संबोधित करते हैं जो बिजली उत्पादन के लिए होते हैं, न कि **nuclear thermal/electric propulsion systems** को।
- And while they call for safety assessments, they don't establish **binding technical standards** for reactor design, operational limits, and end-of-life disposal.  
और यद्यपि वे सुरक्षा आकलन की मांग करते हैं, वे रिएक्टर डिज़ाइन, परिचालन सीमाएँ, और end-of-life disposal के लिए **binding technical standards** निर्धारित नहीं करते।
- Crucially, as a **General Assembly resolution**, the Principles are **non-binding**, meaning they offer guidance but no enforcement mechanism.  
महत्वपूर्ण रूप से, **General Assembly resolution** होने के कारण ये सिद्धांत **non-binding** हैं, अर्थात वे मार्गदर्शन देते हैं परंतु प्रवर्तन तंत्र प्रदान नहीं करते।
- This leaves significant **governance gaps**.  
यह महत्वपूर्ण **governance gaps** छोड़ देता है।
- Among other possibilities, states can begin testing compact fission and propulsion reactors capable of operating far beyond the earth orbit without being compelled to address safety.  
अन्य संभावनाओं में, राज्य सुरक्षा का समाधान करने के लिए बाध्य हुए बिना पृथ्वी की कक्षा से बहुत आगे संचालित होने में सक्षम कॉम्पैक्ट फिशन और प्रोपल्शन रिएक्टरों का परीक्षण शुरू कर सकते हैं।
- Beyond those Principles, the **Outer Space Treaty, the Liability Convention, and the Nuclear Non-Proliferation Treaty** together only offer partial coverage.  
इन सिद्धांतों से परे, **Outer Space Treaty, Liability Convention, और Nuclear Non-Proliferation Treaty** मिलकर केवल आंशिक कवरेज प्रदान करते हैं।
- For instance, even if they are all considered together, **there are no binding protocols to prevent radioactive contamination of celestial bodies or to govern reactors jettisoned at the end of a mission.**  
उदाहरण के लिए, यदि इन्हें एक साथ भी माना जाए, तो खगोलीय पिंडों को **radioactive contamination** से बचाने या मिशन के अंत में छोड़े गए रिएक्टरों को विनियमित करने के लिए कोई **binding protocols** मौजूद नहीं हैं।
- Without such protocols, **nuclear contamination** could irreversibly alter pristine extraterrestrial environments long before humankind fully understands them.  
ऐसे प्रोटोकॉल के बिना, **nuclear contamination** मानवता के पूर्णतः समझने से पहले ही निर्मल बाह्य-ग्रहीय पर्यावरणों को अपरिवर्तनीय रूप से बदल सकता है।
- The tension between safety and **international access** is also paramount.  
सुरक्षा और **international access** के बीच तनाव भी अत्यंत महत्वपूर्ण है।
- As the European Space Agency's special advisor for political affairs **Kai-Uwe Schrogl** has noted: "**Establishing 'safety zones' around nuclear power plants on celestial bodies must not lead to national appropriation or the restriction of freedom of use for other actors.**"



जैसा कि यूरोपीय अंतरिक्ष एजेंसी के राजनीतिक मामलों के विशेष सलाहकार **Kai-Uwe Schrogl** ने कहा है: "खगोलीय पिंडों पर परमाणु ऊर्जा संयंत्रों के चारों ओर 'safety zones' स्थापित करना **national appropriation** या अन्य पक्षों के उपयोग की स्वतंत्रता पर प्रतिबंध की ओर नहीं ले जाना चाहिए।"

## Responsible race जिम्मेदार दौड़

- As the human presence in the solar system expands, energy will become critical and energy sources will become strategic.  
जैसे-जैसे सौर मंडल में मानव उपस्थिति बढ़ती है, ऊर्जा महत्वपूर्ण होती जाएगी और ऊर्जा स्रोत **strategic** बनेंगे।
- For now, while the **Outer Space Treaty** forbids countries from placing **weapons of mass destruction** in earth orbit, it's silent on **nuclear propulsion** for peaceful purposes.  
वर्तमान में, **Outer Space Treaty** देशों को पृथ्वी की कक्षा में **weapons of mass destruction** रखने से रोकता है, लेकिन शांतिपूर्ण उद्देश्यों के लिए **nuclear propulsion** पर मौन है।
- The **Liability Convention** addresses damage caused by space objects but isn't clear about accidents involving **nuclear reactors** in cis-lunar space or beyond.  
**Liability Convention** अंतरिक्ष वस्तुओं से होने वाले नुकसान को संबोधित करता है, लेकिन **cis-lunar space** या उससे आगे **nuclear reactors** से जुड़े दुर्घटनाओं के बारे में स्पष्ट नहीं है।
- For these reasons, we need to update the legal framework posthaste to match countries' technological capabilities or risk accidents that could have long-lasting consequences across state boundaries.  
इन कारणों से, देशों की तकनीकी क्षमताओं के अनुरूप कानूनी ढांचे को तुरंत अपडेट करने की आवश्यकता है, अन्यथा ऐसी दुर्घटनाओं का जोखिम है जिनके **long-lasting consequences** राज्य सीमाओं से परे हो सकते हैं।
- In fact, if such an accident does occur, the promising **nuclear dawn** will quickly devolve into a **nuclear twilight**, if not a **second Cold War**.  
वास्तव में, यदि ऐसी दुर्घटना होती है, तो आशाजनक **nuclear dawn** शीघ्र ही **nuclear twilight** या संभवतः **second Cold War** में बदल सकता है।

## India's moment भारत का क्षण

- India itself stands at a **strategic inflection point**.  
भारत स्वयं एक **strategic inflection point** पर खड़ा है।
- An alliance of the **Indian Space Research Organisation (ISRO)** and the **Department of Atomic Energy** could be powerful.  
**ISRO** और **Department of Atomic Energy** का गठबंधन अत्यंत शक्तिशाली हो सकता है।
- A domestically developed **space reactor** could power lunar operations in **permanently shadowed craters**, enable continuous **in-situ resource utilisation** on Mars, and overall demonstrate India's leadership in **deep-space innovation**.  
घरेलू रूप से विकसित **space reactor** चंद्रमा के **permanently shadowed craters** में संचालन को ऊर्जा दे सकता है, मंगल पर निरंतर **in-situ resource utilisation** सक्षम कर सकता है, और समग्र रूप से **deep-space innovation** में भारत के नेतृत्व को प्रदर्शित कर सकता है।
- But both in India and around the world, a responsible nuclear future needs to begin with **reform**.  
लेकिन भारत और विश्व दोनों में, एक जिम्मेदार परमाणु भविष्य की शुरुआत **reform** से होनी चाहिए।
- The UN's **1992 Principles** should be updated to explicitly include **propulsion reactors**, establish **safety benchmarks**, and define **end-of-life disposal standards**.  
यूएन के **1992 Principles** को अपडेट किया जाना चाहिए ताकि **propulsion reactors** को स्पष्ट रूप से शामिल किया जा सके, **safety benchmarks** स्थापित किए जाएँ, और **end-of-life disposal standards** परिभाषित हों।
- The **UN Committee on the Peaceful Uses of Outer Space** needs to adopt **binding environmental protocols** to govern safe launches, preventing contamination, and disposing of nuclear systems.



UN Committee on the Peaceful Uses of Outer Space को सुरक्षित प्रक्षेपण, प्रदूषण रोकने और परमाणु प्रणालियों के निस्तारण को विनियमित करने के लिए **binding environmental protocols** अपनाने की आवश्यकता है।

- To this end a **multilateral oversight mechanism** modelled on the **International Atomic Energy Agency** could certify designs, verify compliance, and enhance transparency. इस उद्देश्य के लिए **International Atomic Energy Agency** पर आधारित एक **multilateral oversight mechanism** डिज़ाइन प्रमाणित कर सकता है, अनुपालन सत्यापित कर सकता है और पारदर्शिता बढ़ा सकता है।
- This said, technology alone can't secure our future. यह कहा जाए तो, केवल तकनीक हमारा भविष्य सुरक्षित नहीं कर सकती।
- Without a coherent **legal and ethical framework**, efforts to expand nuclear technologies in space could give way to conflict. एक समन्वित **legal and ethical framework** के बिना, अंतरिक्ष में परमाणु तकनीकों का विस्तार संघर्ष को जन्म दे सकता है।
- India in particular can help by championing **safe nuclear practices**, and do for **space energy** what it once did for **non-aligned diplomacy**: shape norms for a **multipolar era** by balancing ambition with restraint. विशेष रूप से भारत **safe nuclear practices** को बढ़ावा देकर, और **space energy** के लिए वही कर सकता है जो उसने कभी **non-aligned diplomacy** के लिए किया था: **multipolar era** में महत्वाकांक्षा और

they move. This is due to an effect called X: it's the same principle as in the answer to Q1, except most of the reflected light is white. Name X.

**Answers to November 20 quiz:**

1. Einstein's equations linking spacetime, matter, energy - **Ans: Field equations**
2. Spacetime property that tells mass how to bend - **Ans: Curvature**
3. Mathematician who formalised maths of space - **Ans: Gregorio Ricci-Curbastro**
4. Originator of theory in which gravity acted instantly - **Ans: Isaac Newton**
5. Maths tool that generalises scalars and vectors to more dimensions - **Ans: Tensors**

Visual: **Karl Schwarzschild**

First contact: K.N. Viswanathan |

Tamal Biswas | Anmol Agrawal | Prem

Raj P. | Chitransh Soni

## QUIZ

### Einstein's Field Equations (EFE): Linking Spacetime, Matter, and Energy

- The equations that link **spacetime, matter, and energy** in Einstein's theory of General Relativity are called **Einstein's Field Equations (EFEs)**.
- They describe how **matter and energy curve spacetime**, and how this curvature determines the motion of objects—what we perceive as **gravity**.
- Einstein replaced Newton's idea of gravity as a *force* with the idea that gravity is **geometry**.
- Massive objects such as the Earth, Sun, or black holes **bend spacetime** around them.
- Other objects move along the straightest paths available in this curved geometry (called **geodesics**).
- The field equations mathematically express this relationship between **curvature** and **energy-matter content**.

### Applications of Einstein's Field Equations

#### • Black Holes:

Solutions like the Schwarzschild and Kerr metrics describe non-rotating and rotating black holes.

#### • Gravitational Waves:

Predicted in 1916 and observed a century later, confirming that spacetime can ripple when massive bodies accelerate.

#### • Cosmology:

When combined with assumptions about the universe's symmetry, EFEs produce the **Friedmann equations**, which describe the expanding universe.



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

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

**CONTACT: 9971932488**



#### • **Modern Technology (e.g., GPS):**

GPS satellites adjust their clocks because **General Relativity predicts time runs differently in weaker gravity**, ensuring accuracy.

### **Spacetime Property That Tells Mass How to Bend: Curvature**

- The spacetime property that determines how mass moves or “bends” is called **curvature**.
- Curvature is the central idea of **Einstein’s General Theory of Relativity (1915)**, which replaced Newton’s idea of gravity as a force and instead described gravity as the bending of spacetime itself.

#### **Meaning of Curvature in Spacetime**

- Curvature means that spacetime is **not flat**, but is warped or bent depending on the amount of **mass and energy** present.
- Massive bodies such as the Earth, Sun, or black holes create a “dent” or deformation in the fabric of spacetime.
- Objects naturally follow the “straightest possible paths” in curved spacetime, called **geodesics**.
- What we experience as **gravity** is simply the effect of moving along these curved paths.

#### **1. Bending of Light (Gravitational Lensing)**

- Light curves around massive bodies because spacetime itself is curved.
- This was confirmed during the **1919 solar eclipse**, one of the greatest scientific validations of Einstein’s theory.

#### **2. Orbit of Mercury**

- Mercury’s orbit shows a shift (perihelion advance) that could not be fully explained by Newtonian physics.
- General Relativity explains it completely through the Sun’s strong spacetime curvature.

#### **3. Satellites and GPS Accuracy**

- GPS systems must correct for spacetime curvature; otherwise, their clocks would drift and produce major positional errors.
- This real-world application demonstrates that curvature is not theoretical—it affects daily technology.

### **Originator of the Theory in Which Gravity Acted Instantly — Isaac Newton**

#### **Limitations of Newton’s Instantaneous Gravity**

- Newton’s theory could not explain:
  - how gravity propagates,
  - behaviour of light near massive bodies,
  - motion in extremely strong gravitational fields,
  - anomalies like Mercury’s orbital precession.
- It also conflicted with the later-discovered principle that **no influence can travel faster than the speed of light**.

#### **Einstein’s Correction: Gravity Does NOT Act Instantly**

- In **1915**, Albert Einstein introduced the **General Theory of Relativity**, which replaced Newtonian gravity.



- Einstein showed:
- Gravity is **not a force**, but the **curvature of spacetime**.
- Changes in gravitational fields travel as **gravitational waves** at the **speed of light**, not instantaneously.
- In 2015, gravitational waves were directly detected, confirming Einstein's prediction.

### Why Newton's Theory Still Matters

- Newton's gravity remains extremely useful today because:
- It is simpler and accurate for most everyday situations.
- It works for spacecraft navigation, engineering, and classical mechanics.
- Only when dealing with high speeds, massive objects, or precision astronomy is Einstein's theory required.

# Why does India need bioremediation?

What are the two different types of bioremediation? How is traditional microbiology combined with cutting-edge biotechnology? Has the government initiated schemes to further bioremediation programmes? What are some of the challenges the country faces with respect to adoption of such technologies?

GS III: S&T

MOB

#### EXPLAINER

**Shambhavi Naik**

#### The story so far:

**H**uman waste is leading to a world where access to clean air, water and soil is becoming increasingly difficult. The solution is two-pronged – reduce waste and clean up the waste already made.

#### What is bioremediation?

Bioremediation literally means "restoring life through biology." It harnesses microorganisms such as bacteria, fungi, algae and plants to sequester or transform toxic substances such as oil, pesticides, plastics, or heavy metals. These organisms metabolise these pollutants as food, breaking them down into harmless by-products such as water, carbon dioxide, or organic acids. In some cases, they can convert toxic metals into less dangerous forms that no longer leach into the soil or groundwater.

There are two broad types of bioremediation – in situ bioremediation, where treatment happens directly at the contaminated site such as when oil-eating bacteria is sprayed on an ocean spill; or ex situ bioremediation, where contaminated soil or water is removed, treated in a controlled facility, and returned once cleaned.

Modern bioremediation combines traditional microbiology with cutting-edge biotechnology. New biotechnologies are enabling humans to gain unprecedented insight into biology, allowing them to identify biomolecules with useful characteristics. These technologies also allow humans to replicate biomolecules under desired conditions of use, such as in sewage plants or agricultural lands. For example, genetically modified (GM) microbes are designed to degrade tough chemicals like plastics or oil residues that natural species struggle with.

#### Why does India need it?

India's rapid industrialisation has come at



**New methods:** Garbage being dumped in the Mittanagahalalli landfill in Bengaluru in 2024. FILE PHOTO

a heavy environmental cost. Although pollution has been reducing, rivers such as the Ganga and Yamuna receive untreated sewage and industrial effluents daily. Oil leaks, pesticide residues, and heavy-metal contamination threaten both ecosystems and public health.

Traditional clean-up technologies are expensive, energy-intensive, and often create secondary pollution. Bioremediation offers a cheaper, scalable, and sustainable alternative, especially in a country where vast stretches of land and water are affected but resources for remediation are limited. Moreover, India's diverse biodiversity is a huge advantage. Indigenous microbes adapted to local conditions, such as high temperatures or salinity, can outperform imported strains.

#### Where does India stand today?

Bioremediation is gaining traction in India, though still largely in pilot phases. The Department of Biotechnology (DBT)

has supported several projects through its Clean Technology Programme, encouraging partnerships between universities, public research institutions, and industries.

The CSIR-National Environmental Engineering Research Institute has a mandate to propose and implement programmes related to bioremediation. Researchers at the Indian Institute of Technology have experimented with a nanocomposite material synthesised from cotton that can be used to mop up oil spills and others have identified bacteria that can consume toxic pollutants in soils.

Startups are also entering the space. Firms like Biotech Consortium India Limited (BCIL) and Econimral Biotech offer microbial formulations for soil and wastewater treatment.

However, widespread adoption faces challenges such as a lack of site-specific knowledge and the complex nature of pollutants, and a lack of unified

bioremediation standards.

#### What are other countries doing?

Japan integrates microbial and plant-based cleanup systems into its urban waste strategy. The European Union funds cross-country projects that use microbes to tackle oil spills and restore mining sites. China has made bioremediation a priority under its soil pollution control framework, using genetically improved bacteria to restore industrial wastelands.

The opportunities for India are immense. Bioremediation can help restore rivers, reclaim land, and clean industrial sites, while creating jobs in biotechnology, environmental consulting, and waste management. It can also integrate with the government's Swachh Bharat Mission, Namami Gange, and other green technology initiatives.

#### What are the risks?

The introduction of genetically modified organisms into open environments need to be strictly monitored to prevent unintended ecological effects. Inadequate testing or poor containment can create fresh problems while solving old ones. Public engagement will be necessary to allow the smooth adoption of new technologies. India will need new biosafety guidelines, certification systems, and trained personnel to scale this technology responsibly.

#### What next?

First, there is a need to develop national standards for bioremediation protocols and microbial applications. Second, building regional bioremediation hubs linking universities, industries, and local governments would enable better understanding of local issues and identifying appropriate technologies for their resolution. Finally, public engagement would raise awareness that microbes can be allies, not threats, in environmental restoration.

Shambhavi Naik is chairperson, Takshashila Institution's Health & Life Sciences Policy.

#### THE GIST

India's rapid industrialisation has come at a heavy environmental cost. Although pollution has been reducing, rivers such as the Ganga and Yamuna receive untreated sewage and industrial effluents daily.

Bioremediation can help restore rivers, reclaim land, and clean industrial sites, while creating jobs in biotechnology, environmental consulting, and waste management.

The introduction of genetically modified organisms into open environments need to be strictly monitored to prevent unintended ecological effects.

## Why does India need bioremediation?

### भारत को बायोरिमेडिएशन की आवश्यकता क्यों है?

- Human waste is leading to a world where access to clean air, water and soil is becoming increasingly difficult.



मानव अपशिष्ट एक ऐसी दुनिया बना रहा है जहाँ स्वच्छ हवा, पानी और मिट्टी तक पहुँच तेजी से कठिन होती जा रही है।

- The solution is two-pronged — reduce waste and clean up the waste already made. समाधान दो-तरफ़ा है — अपशिष्ट को कम करना और पहले से मौजूद अपशिष्ट की सफाई करना।

## What is bioremediation?

### बायोरिमेडिएशन क्या है?

- Bioremediation literally means “restoring life through biology.”** बायोरिमेडिएशन का अर्थ है “जीवविज्ञान के माध्यम से जीवन को पुनर्स्थापित करना।”
- It harnesses microorganisms such as bacteria, fungi, algae and plants to sequester or transform toxic substances such as oil, pesticides, plastics, or heavy metals.** यह बैक्टीरिया, फंगी, शैवाल और पौधों जैसे सूक्ष्मजीवों को उपयोग करता है जो तेल, कीटनाशक, प्लास्टिक, या भारी धातुओं जैसे विषैले पदार्थों को बदलते या अवशोषित करते हैं।
- These organisms metabolise these pollutants as food, breaking them down into harmless by-products such as water, carbon dioxide, or organic acids.** ये जीव इन प्रदूषकों को भोजन की तरह उपयोग कर पानी, कार्बन डाइऑक्साइड, या ऑर्गेनिक एसिड जैसे हानिरहित उप-उत्पादों में बदल देते हैं।
- In some cases, they can convert toxic metals into less dangerous forms that no longer leach into the soil or groundwater. कुछ मामलों में, ये विषैले धातुओं को कम हानिकारक रूपों में बदल देते हैं जो मिट्टी या भूजल में रिसते नहीं।
- There are two broad types of bioremediation — in situ bioremediation, where treatment happens directly at the contaminated site such as when oil-eating bacteria is sprayed on an ocean spill; or ex situ bioremediation, where contaminated soil or water is removed, treated in a controlled facility, and returned once cleaned.** बायोरिमेडिएशन के दो प्रकार हैं — इन-सीटू बायोरिमेडिएशन, जहाँ उपचार स्थल पर ही होता है, जैसे तेल खाने वाले बैक्टीरिया को समुद्री रिसाव पर छिड़का जाता है; और एक्स-सीटू बायोरिमेडिएशन, जहाँ दूषित मिट्टी या पानी को हटाकर अलग से साफ किया जाता है।
- Modern bioremediation combines traditional microbiology with **cutting-edge biotechnology.** आधुनिक बायोरिमेडिएशन पारंपरिक माइक्रोबायोलॉजी को आधुनिक बायोटेक्नोलॉजी के साथ जोड़ता है।
- New biotechnologies are enabling humans to gain unprecedented insight into biology, allowing them to identify biomolecules with useful characteristics. नई तकनीकें मनुष्य को जीवविज्ञान में अभूतपूर्व समझ देती हैं और उपयोगी गुणों वाले बायोमोलेक्यूल की पहचान कराती हैं।
- These technologies also allow humans to replicate biomolecules under desired conditions of use, such as in **sewage plants or agricultural lands.** ये तकनीकें मनुष्य को बायोमोलेक्यूल को सीवेज प्लांट या कृषि भूमि जैसी परिस्थितियों में पुनरुत्पादित करने देती हैं।
- For example, **genetically modified (GM) microbes** are designed to degrade tough chemicals like **plastics or oil residues** that natural species struggle with. उदाहरण के लिए, **जेनेटिकली मॉडिफाइड (GM) माइक्रोब्स** को प्लास्टिक या तेल अवशेष जैसे कठिन रसायनों को तोड़ने के लिए बनाया जाता है।

## Why does India need it?

### भारत को इसकी आवश्यकता क्यों है?

- India's rapid industrialisation has come at a **heavy environmental cost.** भारत के तेजी से औद्योगीकरण की एक भारी पर्यावरणीय कीमत चुकानी पड़ी है।
- Although pollution has been reducing, rivers such as the **Ganga and Yamuna** receive untreated sewage and industrial effluents daily. हालाँकि प्रदूषण कम हुआ है, फिर भी गंगा और यमुना जैसे नदियाँ रोज़ाना बिना शोधन किए सीवेज और औद्योगिक अपशिष्ट प्राप्त करती हैं।
- Oil leaks, pesticide residues, and heavy-metal contamination threaten both **ecosystems and public health.**



तेल रिसाव, कीटनाशक अवशेष, और भारी धातु प्रदूषण परिस्थितिकी तंत्र और सार्वजनिक स्वास्थ्य दोनों को खतरे में डालते हैं।

- Traditional clean-up technologies are **expensive, energy-intensive**, and often create **secondary pollution**.  
परंपरागत सफाई तकनीकें महंगी, ऊर्जा-गहन, और कई बार द्वितीयक प्रदूषण उत्पन्न करती हैं।
- Bioremediation offers a **cheaper, scalable, and sustainable** alternative, especially in a country where vast stretches of land and water are affected but resources for remediation are limited.  
बायोरिमेडिएशन एक **सस्ता, विस्तारणीय और टिकाऊ** विकल्प प्रदान करता है, विशेषकर तब जब सफाई संसाधन सीमित हों और भूमि-पानी का बड़ा हिस्सा प्रदूषित हो।
- Moreover, India's **diverse biodiversity** is a huge advantage.  
इसके अलावा, भारत की **विविध जैव विविधता** एक बड़ा लाभ है।
- Indigenous microbes adapted to **local conditions**, such as high temperatures or salinity, can outperform imported strains.  
स्थानीय परिस्थितियों जैसे **उच्च तापमान** या **लवणता** के अनुकूल स्वदेशी माइक्रोब्स, विदेशी स्ट्रेन्स से बेहतर काम कर सकते हैं।

## Where does India stand today?

### भारत आज कहाँ खड़ा है?

- Bioremediation is gaining traction in India, though still largely in pilot phases.  
भारत में **बायोरिमेडिएशन** तेजी से महत्व पा रहा है, हालांकि अभी भी मुख्यतः **पायलट चरणों** में है।
- The Department of Biotechnology (DBT) has supported several projects through its Clean Technology Programme, encouraging partnerships between universities, public research institutions, and industries.  
**DBT (Department of Biotechnology)** ने अपने **Clean Technology Programme** के माध्यम से कई परियोजनाओं को समर्थन दिया है, जो विश्वविद्यालयों, सार्वजनिक शोध संस्थानों और उद्योगों के बीच साझेदारी को प्रोत्साहित करता है।
- The CSIR-National Environmental Engineering Research Institute has a mandate to propose and implement programmes related to bioremediation.  
**CSIR-NEERI** का दायित्व बायोरिमेडिएशन से जुड़ी योजनाओं का प्रस्ताव और क्रियान्वयन करना है।
- Researchers at the Indian Institute of Technology have experimented with a nanocomposite material synthesised from cotton that can be used to mop up oil spills and others have identified bacteria that can consume toxic pollutants in soils.  
**IIT** के शोधकर्ताओं ने **कॉटन-आधारित नैनोकॉम्पोज़िट** तैयार किया है जो **oil spills** सोख सकता है और अन्य शोधकर्ताओं ने ऐसे बैक्टीरिया की पहचान की है जो मिट्टी में मौजूद **toxic pollutants** को खा सकते हैं।
- Startups are also entering the space.  
स्टार्टअप भी इस क्षेत्र में प्रवेश कर रहे हैं।
- Firms like **Biotech Consortium India Limited (BCIL)** and **Econirmal Biotech** offer microbial formulations for soil and wastewater treatment.  
**BCIL** और **Econirmal Biotech** जैसी कंपनियाँ मिट्टी और **wastewater treatment** के लिए माइक्रोबियल फॉर्मूलेशन प्रदान करती हैं।
- However, widespread adoption faces challenges such as a lack of site-specific knowledge and the complex nature of pollutants, and a lack of unified bioremediation standards.  
हालांकि बड़े स्तर पर अपनाने में चुनौतियाँ हैं — जैसे **site-specific knowledge** की कमी, प्रदूषकों का जटिल स्वरूप, और **unified bioremediation standards** का अभाव।

## What are other countries doing?

### अन्य देश क्या कर रहे हैं?

- Japan integrates microbial and plant-based cleanup systems into its urban waste strategy.  
**जापान** अपने शहरी कचरा प्रबंधन में माइक्रोबियल और **plant-based cleanup systems** को शामिल करता है।



- The European Union funds cross-country projects that use microbes to tackle oil spills and restore mining sites.  
EU माइक्रोब्स का उपयोग करके **oil spills** और **mining sites** की बहाली हेतु अंतर-देशीय परियोजनाओं को वित्त देता है।
- China has made bioremediation a priority under its soil pollution control framework, using genetically improved bacteria to restore industrial wastelands.  
चीन ने मिट्टी प्रदूषण नियंत्रण ढांचे में बायोरिमेडिएशन को प्राथमिकता दी है और **genetically improved bacteria** का उपयोग कर औद्योगिक परती भूमि को पुनर्स्थापित कर रहा है।
- The opportunities for India are immense.  
भारत के लिए अवसर **बहुत बड़े** हैं।
- Bioremediation can help restore rivers, reclaim land, and clean industrial sites, while creating jobs in biotechnology, environmental consulting, and waste management.  
बायोरिमेडिएशन नदियों को पुनर्जीवित कर सकता है, भूमि पुनः प्राप्त कर सकता है, और औद्योगिक स्थलों की सफाई कर सकता है, साथ ही **biotechnology, environmental consulting, और waste management** में रोजगार भी पैदा करता है।
- It can also integrate with the government's **Swachh Bharat Mission, Namami Gange,** and other green technology initiatives.  
यह **स्वच्छ भारत मिशन, नमामि गंगे,** और अन्य **green technology initiatives** के साथ भी जुड़ सकता है।

#### What are the risks? जोखिम क्या हैं?

- The **introduction of genetically modified organisms (GMOs) into open environments need to be strictly monitored to prevent unintended ecological effects.**  
GMOs को खुले पर्यावरण में लाना **कड़े निगरानी** की मांग करता है ताकि अनचाहे पारिस्थितिक प्रभाव न हों।
- Inadequate testing or poor containment can create fresh problems while solving old ones.  
अपर्याप्त परीक्षण या खराब नियंत्रण पुराने समस्याओं को हल करते हुए **नई समस्याएँ** पैदा कर सकता है।
- Public engagement will be necessary to allow the smooth adoption of new technologies.  
नई तकनीकों को सुचारु रूप से अपनाने के लिए **जनसहभागिता आवश्यक** होगी।
- India will need new **biosafety guidelines, certification systems, and trained personnel** to scale this technology responsibly.  
भारत को इस तकनीक को जिम्मेदारी से बढ़ाने के लिए नई **biosafety guidelines, certification systems, और trained personnel** की आवश्यकता होगी।

#### What next? आगे क्या?

- First, there is a need to develop **national standards** for bioremediation protocols and microbial applications.  
पहला, बायोरिमेडिएशन प्रोटोकॉल और माइक्रोबियल उपयोग हेतु **राष्ट्रीय मानक** विकसित करने की आवश्यकता है।
- Second, building **regional bioremediation hubs** linking universities, industries, and local governments would enable better understanding of local issues and identifying appropriate technologies for their resolution.  
दूसरा, विश्वविद्यालयों, उद्योगों और स्थानीय सरकारों को जोड़ने वाले **क्षेत्रीय बायोरिमेडिएशन हब** स्थानीय समस्याओं को समझने और समाधानकारी तकनीक पहचानने में मदद करेंगे।
- Finally, public engagement would raise awareness that microbes can be allies, not threats, in environmental restoration.  
अंततः, जनसहभागिता यह जागरूकता बढ़ाएगी कि पर्यावरण पुनर्स्थापना में माइक्रोब्स **खतरा नहीं बल्कि साथी** होते हैं।



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

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

**CONTACT:** 9971932488



**Questions and Answers to the previous day's daily quiz:** 1. The theme for World Aids Day. **Ans: 'Overcoming disruption, transforming the AIDS response'**

2. India is the third largest country with the highest number of people living with HIV. These are the top two. **Ans: South Africa and Nigeria**

3. A lentivirus that is similar to HIV was found in these two types of primates in Africa. **Ans: Chimpanzees and gorillas in western equatorial Africa**

4. Name the scientists who were awarded the Nobel Prize for their discovery of HIV. **Ans: Luc Montagnier and Françoise Barré-Sinoussi**

5. This mode of transmission accounts for the majority of HIV infections. **Ans: Sexual transmission**

6. The two-word term used for the long phase of HIV infection. **Ans: Clinical latency**

7. Name the first antiretroviral medication used to prevent AIDS. **Ans: ZDV also known as azidothymidine (AZT)**

Visual: Name this Hollywood star. **Ans: Rock Hudson**

**Early Birds:** Nobody got all the correct answers

## QUIZ

### World AIDS Day Theme: "Overcoming Disruption, Transforming the AIDS Response"

- The global theme "Overcoming Disruption, Transforming the AIDS Response" focuses on rebuilding HIV programmes affected by recent global disruptions, especially the **COVID-19 pandemic** and widening social inequalities.

- The theme urges countries to modernise HIV responses, integrate new technologies, address inequities, and strengthen health systems.

- **World AIDS Day** is observed every year on **1 December**.

- It was established in **1988** by international public health bodies to spread awareness about HIV/AIDS and show solidarity with people living with HIV.

## India is the Third Largest Country With the Highest Number of People Living With HIV

**Top Two Countries: South Africa and Nigeria**

## A Lentivirus Similar to HIV Found in Chimpanzees and Gorillas in Western Equatorial Africa

- Scientists have identified a **lentivirus similar to HIV** in two primate species in Africa: **chimpanzees** and **gorillas**.

- These viruses are known as **Simian Immunodeficiency Viruses (SIVs)** and they naturally infect primates in the wild.

- The discovery is mainly associated with **Western Equatorial Africa**, which includes regions such as Cameroon, Gabon, Equatorial Guinea, and parts of the Congo Basin.

- **HIV-1** is believed to have originated in humans around the early **20th century** (circa 1910–1930).

- Genetic analyses show that HIV-1 Groups M and N originated from **SIVcpz** in chimpanzees.

- HIV-1 Groups O and P are linked to **SIVgor** from gorillas.

- The virus spread through African trade routes, urbanisation, and later global travel, eventually leading to the global AIDS epidemic identified in **1981**.

- The **Nobel Prize in Physiology or Medicine (2008)** was awarded to **Luc Montagnier** and **Françoise Barré-Sinoussi** for the **discovery of the Human Immunodeficiency Virus (HIV)**.

- Their landmark discovery in **1983** at the **Pasteur Institute, France**, provided the first scientific proof that a new retrovirus was responsible for **AIDS (Acquired Immunodeficiency Syndrome)**.

## Sexual Transmission: The Mode Responsible for the Majority of HIV Infections

- **Sexual transmission** is the **primary and most common route** through which HIV spreads globally.

- According to global and Indian health authorities, **more than 80% of HIV infections worldwide**

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



occur through sexual contact, making it the dominant mode of transmission in both high-prevalence and low-prevalence regions.

### Why Sexual Transmission Dominates HIV Spread

- HIV is present in various body fluids, including **semen, vaginal fluids, and rectal secretions**.
- During unprotected sexual intercourse, these fluids can enter the bloodstream through:
- Microtears in the genital or rectal lining
- Mucous membranes
- Inflammation or sexually transmitted infections (STIs)
- Because sexual contact is common and involves direct exposure to infected fluids, it is the most efficient and frequent route for HIV transmission.

Environment

02/12/2025

DECEMBER 1, SPECIAL ARRANGEMENT  
GS III: Environment

## Dog squads to keep an eye on Karnataka's five tiger reserves

The Hindu Bureau  
MYSURU

Tiger reserves in Karnataka have acquired new "teeth".

Ten dogs were inducted into the canine squad to add teeth in the fight against wildlife crime. They were subjected to intensive training at the Bandipur Tiger Reserve for a year. Now, after the arduous training which ended on Monday, the canines are ready for deployment across five tiger reserves in the State.

Two will be deployed in each reserve and complement the field staff of the Forest Department in combing, sniffing out potential threats, and leading them to suspects.

S. Prabhakaran, director, Bandipur Tiger Reserve, said that the year-long journey of training and transformation has prepared this new group of canine squads, who will join wildlife protection efforts in Karnataka's tiger reserves.

He said that at the Ban-

dipur Tiger Reserve training centre, 10 dogs and their handlers completed an intensive regimen designed to turn the young canines into reliable partners for forest staff. From tracking scents to responding to challenging field conditions, the dogs have been trained to assist in detecting crimes such as poaching and illegal trade.

Each team, comprising one dog and one handler, went through a structured programme led by canine behaviour expert Amrut S. Hiranya, with support from the forest department, he said.

**Strengthening vigilance**  
Their role will be crucial in strengthening vigilance and supporting conservation activities in sensitive forest landscapes. "The squads have now returned to their respective reserves, ready to contribute to the protection of Karnataka's rich wildlife," Mr. Prabhakaran added.

Certificates were distributed on December 1 for completion of the training.

efforts in Karnataka's tiger reserves.

### Dog squads to keep an eye on Karnataka's five tiger reserves कर्नाटक के पाँच टाइगर रिज़र्व पर नज़र रखने के लिए डॉग स्काड

• Dog squads to keep an eye on Karnataka's five tiger reserves  
कर्नाटक के पाँच टाइगर रिज़र्व पर नज़र रखने के लिए डॉग स्काड

• Tiger reserves in Karnataka have acquired new "teeth".  
कर्नाटक के टाइगर रिज़र्व ने नए "तेज़ दाँत" हासिल किए हैं।

• Ten dogs were inducted into the canine squad to add teeth in the fight against **wildlife crime**.

दस कुत्तों को **वन्यजीव अपराध** के खिलाफ लड़ाई में ताकत बढ़ाने के लिए केनाइन स्काड में शामिल किया गया।

• They were subjected to intensive training at the **Bandipur Tiger Reserve** for a year.  
उन्हें एक वर्ष तक **बंदीपुर टाइगर रिज़र्व** में गहन प्रशिक्षण दिया गया।

• Now, after the arduous training which ended on **Monday**, the canines are ready for deployment across five tiger reserves in the State.

अब **सोमवार** को समाप्त हुए कठोर प्रशिक्षण के बाद, ये कुत्ते राज्य के पाँच टाइगर रिज़र्व में तैनाती के लिए तैयार हैं।

• Two will be deployed in each reserve and complement the field staff of the Forest Department in combing, sniffing out potential threats, and leading them to suspects.

प्रत्येक रिज़र्व में दो कुत्तों को तैनात किया जाएगा और वे वन विभाग के फील्ड स्टाफ को combing, संभावित खतरों को सूँघने, और संदिग्धों तक पहुँचने में सहायता करेंगे।

• S. Prabhakaran, director, Bandipur Tiger Reserve, said that the yearlong journey of training and transformation has prepared this new group of canine squads, who will join wildlife protection



**एस. प्रभाकरण**, निदेशक, बंदीपुर टाइगर रिज़र्व ने कहा कि एक वर्ष का प्रशिक्षण और परिवर्तन की यह यात्रा नए कैनाइन स्काड समूह को तैयार कर चुकी है, जो कर्नाटक के टाइगर रिज़र्व में वन्यजीव संरक्षण प्रयासों में शामिल होंगे।

- He said that at the Bandipur Tiger Reserve training centre, 10 dogs and their handlers completed an intensive regimen designed to turn the young canines into reliable partners for forest staff.

उन्होंने कहा कि बंदीपुर टाइगर रिज़र्व प्रशिक्षण केंद्र में 10 कुत्तों और उनके हैंडलरों ने एक गहन प्रशिक्षण कार्यक्रम पूरा किया, जिसका उद्देश्य युवा कुत्तों को वन कर्मचारियों के लिए विश्वसनीय सहयोगी बनाना था।

- From tracking scents to responding to challenging field conditions, the dogs have been trained to assist in detecting crimes such as **poaching and illegal trade**.  
सुगंध का पीछा करने से लेकर चुनौतीपूर्ण परिस्थितियों में प्रतिक्रिया देने तक, कुत्तों को **शिकार और अवैध व्यापार** जैसे अपराधों का पता लगाने में सहायता करने के लिए प्रशिक्षित किया गया है।
- Each team, comprising one dog and one handler, went through a structured programme led by canine behaviour expert **Amrut S. Hiranya**, with support from the forest department, he said.  
प्रत्येक टीम, जिसमें एक कुत्ता और एक हैंडलर शामिल था, ने कैनाइन व्यवहार विशेषज्ञ **अरमुत एस. हिरण्य** के नेतृत्व में और वन विभाग के सहयोग से एक संरचित प्रशिक्षण कार्यक्रम पूरा किया।
- **Strengthening vigilance**  
**सतर्कता को मजबूत करना**
- Their role will be crucial in strengthening vigilance and supporting conservation activities in sensitive forest landscapes.  
उनकी भूमिका संवेदनशील वन क्षेत्रों में सतर्कता बढ़ाने और संरक्षण गतिविधियों को समर्थन देने में महत्वपूर्ण होगी।
- “The squads have now returned to their respective reserves, ready to contribute to the protection of Karnataka’s rich wildlife,” Mr. Prabhakaran added.  
“स्काड अब अपने-अपने रिज़र्व में लौट चुके हैं और कर्नाटक के समृद्ध वन्यजीव की रक्षा में योगदान देने के लिए तैयार हैं,” श्री प्रभाकरण ने कहा।
- Certificates were distributed on **December 1** for completion of the training.  
प्रशिक्षण पूरा होने पर **1 दिसंबर** को प्रमाणपत्र वितरित किए गए।

<b>IS</b>	<b>02/12/2025</b>
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## Smartphone makers told to preinstall Sanchar Sathi

GS III: IS: Cyber Security  
Aroon Deep  
NEW DELHI

The Department of Telecommunications (DoT) on Monday ordered smartphone manufacturers to pre-install the Sanchar Saathi app on new devices sold from March 2026, and to make sure "that [the app's] functionalities are not disabled or restricted". *The Hindu* has viewed a copy of the directions.

The Sanchar Saathi app will be used to "verify authenticity of IMEIs used in mobile devices", the order said.

It is unclear if the app will have access to the IMEI number of devices it is pre-installed on, or if users will have to input the hardware identifier on their own.

The app, can be used to report scam calls, identify SIM cards registered under a person's name, and remotely disable phones if they are stolen.

## Smartphone makers told to preinstall Sanchar Sathi स्मार्टफोन निर्माता कंपनियों को संचार साथी प्री-इंस्टॉल करने का निर्देश

- Smartphone makers told to preinstall **Sanchar Sathi** स्मार्टफोन निर्माता कंपनियों को **संचार साथी** प्री-इंस्टॉल करने का निर्देश
- The Department of Telecommunications (**DoT**) on Monday ordered smartphone manufacturers to pre-install the Sanchar Saathi app on new devices sold from **March 2026**, and to make sure "that [the app's] functionalities are not disabled or restricted".  
दूरसंचार विभाग (**डॉट**) ने सोमवार को स्मार्टफोन निर्माताओं को आदेश दिया कि **मार्च 2026** से बेचे जाने वाले नए उपकरणों पर संचार साथी ऐप प्री-इंस्टॉल किया जाए, और यह सुनिश्चित किया जाए कि "ऐप की कार्यक्षमताएं निष्क्रिय या प्रतिबंधित न की जाएं"।
- The *Hindu* has viewed a copy of the directions.  
द हिंदू ने इन निर्देशों की एक प्रति देखी है।
- The **Sanchar Saathi app will be used to "verify authenticity of IMEIs used in mobile devices"**, the order said.  
आदेश में कहा गया कि संचार साथी ऐप का उपयोग मोबाइल उपकरणों में उपयोग किए गए **IMEI** की "प्रमाणिकता सत्यापित करने" के लिए किया जाएगा।
- It is unclear if the app will have access to the **IMEI number** of devices it is pre-installed on, or if users will have to input the hardware identifier on their own.  
यह स्पष्ट नहीं है कि ऐप के पास उन उपकरणों के **IMEI नंबर** तक पहुंच होगी जिन पर यह प्री-इंस्टॉल है, या उपयोगकर्ताओं को हार्डवेयर पहचानकर्ता स्वयं दर्ज करना होगा।
- The app can be used to report **scam calls**, identify **SIM cards** registered under a person's name, and remotely disable phones if they are **stolen**.  
यह ऐप **स्कैम कॉल्स** की रिपोर्ट करने, किसी व्यक्ति के नाम पर पंजीकृत **सिम कार्ड्स** की पहचान करने और **चोरी** होने पर फोन को दूरस्थ रूप से निष्क्रिय करने के लिए उपयोग किया जा सकता है।



# Bioterrorism a serious threat, world not ready: Jaishankar

Union Minister warns that 'non-state actors' can use biological agents; he says such threats cannot be handled in isolation, pitches for keeping Global South at the centre of strategies to tackle them

**GS III: IS: Defence**

**Kallol Bhattacharjee**

NEW DELHI

The world is not yet "adequately prepared" to deal with the threat of bioterrorism, External Affairs Minister S. Jaishankar said here on Monday.

Speaking at a conference on 50 years of the Biological Weapons Convention (BWC), Mr. Jaishankar said "non-state actors" can resort to use of biological agents and that the Global South should be at the centre of preparations to deal with bioweapons.

"Bioterrorism is a serious concern that the international community has to be adequately prepared for. Yet the BWC still lacks basic institutional structures," said Mr. Jaishankar.

**'No compliance system'**

"It has no compliance system, it has no permanent technical body and no mechanism to track new



External Affairs Minister S. Jaishankar addressing a conference on the Biological Weapons Convention in New Delhi on Monday. PTI

**India 'committed to non-proliferation of sensitive and dual-use goods and technologies'**

scientific developments. These gaps must be bridged in order to strengthen confidence," said the

Minister, calling for BWC's modernisation.

He said India has proposed a National Implementation Framework that will cover "high-risk agents, oversight of dual-use research, domestic reporting and incident management".

Mr. Jaishankar said India is "committed to ensuring

the non-proliferation of sensitive and dual-use goods and technologies", and this has been supported by India's strong legal and regulatory system.

**Role of Global South**

The Minister said biological threats cannot be handled by countries in isolation from international stakeholders and called for making the Global South central to BWC.

He described "unequal access to vaccines and medicines" as not just development issues but as "global risks".

"The Global South is the most vulnerable and has the most to gain from stronger biosecurity. It also has the most to contribute. Its voice must therefore shape the next 50 years of the BWC," said Mr. Jaishankar, who highlighted India's "vaccine diplomacy" that took shape against the backdrop of the COVID-19 pandemic.

## Bioterrorism a serious threat, world not ready: Jaishankar बायोटेररिज़्म एक गंभीर खतरा, दुनिया तैयार नहीं: जयशंकर

- Bioterrorism a serious threat, world not ready: Jaishankar  
बायोटेररिज़्म एक गंभीर खतरा, दुनिया तैयार नहीं: जयशंकर
- Union Minister warns that '**non-state actors**' can use biological agents; he says such threats cannot be handled in isolation, pitches for keeping **Global South** at the centre of strategies to tackle them  
केंद्रीय मंत्री ने चेतावनी दी कि '**गैर-राज्यकारी तत्व**' जैविक एजेंटों का उपयोग कर सकते हैं; उन्होंने कहा कि ऐसे खतरों को अलग-थलग रहकर नहीं संभाला जा सकता और उन्हें निपटने की रणनीतियों के केंद्र में **ग्लोबल साउथ** को रखने की आवश्यकता है।
- The world is not yet "adequately prepared" to deal with the threat of **bioterrorism**, External Affairs Minister **S. Jaishankar** said here on **Monday**.  
दुनिया अभी **बायोटेररिज़्म** के खतरे से निपटने के लिए "पर्याप्त रूप से तैयार" नहीं है, ऐसा विदेश मंत्री **एस. जयशंकर** ने यहाँ **सोमवार** को कहा।
- Speaking at a conference on **50 years of the Biological Weapons Convention (BWC)**, Mr. Jaishankar said "non-state actors" can resort to use of biological agents and that the **Global South** should be at the centre of preparations to deal with bioweapons.  
**जैविक हथियार सम्मेलन (BWC)** के **50 वर्ष** पूर्ण होने पर आयोजित एक सम्मेलन में बोलते हुए, श्री जयशंकर



ने कहा कि “गैर-राज्यकारी तत्व” जैविक एजेंटों का उपयोग कर सकते हैं और **ग्लोबल साउथ** को जैविक हथियारों के खतरे से निपटने की तैयारियों के केंद्र में होना चाहिए।

- “Bioterrorism is a serious concern that the international community has to be adequately prepared for. Yet the **BWC** still lacks basic institutional structures,” said Mr. Jaishankar. “बायोटेररिज्म एक गंभीर चिंता है जिसके लिए अंतरराष्ट्रीय समुदाय को पर्याप्त रूप से तैयार होना चाहिए। फिर भी **BWC** में बुनियादी संस्थागत संरचना का अभाव है,” श्री जयशंकर ने कहा।

### ‘No compliance system’

#### ‘अनुपालन प्रणाली नहीं’

- “It has no **compliance system**, it has no permanent technical body and no mechanism to track new scientific developments. These gaps must be bridged in order to strengthen confidence,” said the Minister, calling for **BWC’s modernisation**. “इसके पास कोई **अनुपालन प्रणाली** नहीं है, कोई स्थायी तकनीकी निकाय नहीं है और नए वैज्ञानिक विकासों को ट्रैक करने का कोई तंत्र नहीं है। विश्वास बढ़ाने के लिए इन अंतरालों को पाटा जाना चाहिए,” मंत्री ने कहा, तथा **BWC के आधुनिकीकरण** की मांग की।
- He said India has proposed a **National Implementation Framework** that will cover “high-risk agents, oversight of **dual-use research**, domestic reporting and incident management”. उन्होंने कहा कि भारत ने एक **राष्ट्रीय क्रियान्वयन रूपरेखा** प्रस्तावित की है जो “**उच्च-जोखिम एजेंट, द्वि-उपयोग अनुसंधान** की निगरानी, घरेलू रिपोर्टिंग और घटना प्रबंधन” को कवर करेगी।
- Mr. Jaishankar said India is “committed to ensuring the **non-proliferation** of sensitive and dual-use goods and technologies”, and this has been supported by India’s strong legal and regulatory system. श्री जयशंकर ने कहा कि भारत संवेदनशील और द्वि-उपयोग वस्तुओं एवं प्रौद्योगिकियों के **गैर-प्रसार (non-proliferation)** को सुनिश्चित करने के लिए “प्रतिबद्ध” है, और इसका समर्थन भारत की मजबूत कानूनी और विनियामक प्रणाली करती है।

### Role of Global South

#### ग्लोबल साउथ की भूमिका

- The Minister said biological threats cannot be handled by countries in isolation from international stakeholders and called for making the **Global South** central to BWC. मंत्री ने कहा कि जैविक खतरों को अंतरराष्ट्रीय हितधारकों से अलग-थलग होकर नहीं संभाला जा सकता और **ग्लोबल साउथ** को BWC के केंद्र में लाने की आवश्यकता है।
- He described “unequal access to vaccines and medicines” as not just development issues but as “global risks”. उन्होंने “टीकों और दवाओं तक असमान पहुंच” को केवल विकास संबंधी मुद्दा नहीं बल्कि “वैश्विक जोखिम” बताया।
- “The **Global South** is the most vulnerable and has the most to gain from stronger biosecurity. It also has the most to contribute. Its voice must therefore shape the next **50 years** of the **BWC**,” said Mr. Jaishankar, who highlighted India’s ‘**vaccine diplomacy**’ that took shape against the backdrop of the **COVID-19 pandemic**. “**ग्लोबल साउथ** सबसे अधिक संवेदनशील है और मजबूत जैव सुरक्षा से सबसे अधिक लाभान्वित हो सकता है। इसका योगदान भी सबसे अधिक है। इसलिए इसकी आवाज़ **BWC** के अगले **50 वर्षों** को आकार देनी चाहिए,” श्री जयशंकर ने कहा, जिन्होंने **COVID-19 महामारी** की पृष्ठभूमि में विकसित भारत की ‘**वैक्सीन डिप्लोमेसी**’ को भी उजागर किया।



# Armed forces to procure additional Heron Mk II UAVs

**GS III: IS: Defence**

**Saurabh Trivedi**

TEL AVIV

To enhance their unmanned capabilities in the wake of Operation Sindoor, the Indian armed forces have signed up for more satellite-linked Heron Mk II Unmanned Aerial Vehicles under emergency procurement, sources in the Israeli defence industry said.

According to the sources, the Army and Air Force, which already operate Heron Mk II drones, have placed additional orders while the Indian Navy is acquiring them for the first time. The Navy, which has long relied on Israeli-made Searcher UAVs for surveillance, will soon transition to the more advanced Heron Mk II platform.

As per existing guidelines, under emergency procurement, armed forces can procure weapons systems, including entire systems, up to ₹300 crore.

The Heron family, especially the Heron Mk II, has



The Indian Army has already deployed Heron drones in forward bases.

emerged as a key component of evolving combat environments due to its versatility and proven reliability. Indian Army has deployed these drones at forward bases in northern sector.

In line with India's push for defence indigenisation, several Israel defence industries, including state-owned defence manufacturers, are working with defence PSUs and private partners to enhance local production. The companies are also creating training, maintenance and integration capabilities within India, the official said.

## Armed forces to procure additional Heron Mk II UAVs

### सशस्त्र बल अतिरिक्त Heron Mk II UAVs खरीदेंगे

Armed forces to procure additional **Heron Mk II UAVs**

सशस्त्र बल अतिरिक्त **Heron Mk II UAVs** खरीदेंगे

To enhance their unmanned capabilities in the wake of **Operation Sindoor**, the Indian armed forces have signed up for more satellite-linked **Heron Mk II Unmanned Aerial Vehicles** under **emergency procurement**, sources in the **Israeli defence industry** said.

**ऑपरेशन सिंदूर** के बाद अपनी मानवरहित क्षमताओं को बढ़ाने के लिए, भारतीय सशस्त्र बलों ने **आपातकालीन खरीद** के तहत अधिक उपग्रह-संलग्न **Heron Mk II मानवरहित हवाई वाहन** के लिए अनुबंध किया है, ऐसा **इज़राइली रक्षा उद्योग** के स्रोतों ने कहा।

According to the sources, the **Army and Air Force**, which already operate **Heron Mk II drones**, have placed additional orders while the **Indian Navy** is acquiring them for the first time.

स्रोतों के अनुसार, **थल सेना और वायु सेना**, जो पहले से **Heron Mk II ड्रोन** संचालित करती हैं, ने अतिरिक्त ऑर्डर दिए हैं, जबकि **भारतीय नौसेना** इन्हें पहली बार अधिग्रहित कर रही है।

The Navy, which has long relied on Israeli-made **Searcher UAVs** for surveillance, will soon transition to the more advanced **Heron Mk II** platform. नौसेना, जो लंबे समय से निगरानी के लिए इज़राइल निर्मित **Searcher UAVs** पर निर्भर रही है, अब जल्द ही अधिक उन्नत **Heron Mk II प्लेटफॉर्म** पर स्थानांतरित होगी।

As per existing guidelines, under **emergency procurement**, armed forces can procure weapons systems, including entire systems, up to **₹300 crore**.

मौजूदा दिशा-निर्देशों के अनुसार, **आपातकालीन खरीद** के तहत, सशस्त्र बल **₹300 करोड़** तक के हथियार प्रणालियों, जिसमें संपूर्ण सिस्टम भी शामिल हैं, की खरीद कर सकते हैं।

- The **Heron family**, especially the **Heron Mk II**, has emerged as a key component of evolving combat environments due to its versatility and proven reliability.  
**हेरॉन परिवार**, विशेषकर **Heron Mk II**, अपनी बहुमुखी क्षमताओं और सिद्ध विश्वसनीयता के कारण विकसित होते युद्ध वातावरण का एक प्रमुख घटक बनकर उभरा है।
- The Indian Army has deployed these drones at forward bases in the northern **sector**.  
भारतीय सेना ने इन ड्रोन को **उत्तरी सेक्टर** में अग्रिम ठिकानों पर तैनात किया है।
- In line with India's push for **defence indigenisation**, several Israel defence industries, including state-owned defence manufacturers, are working with defence PSUs and private partners to enhance local production.  
भारत के **रक्षा स्वदेशीकरण** के प्रयासों के अनुरूप, कई इज़राइल रक्षा कंपनियाँ, जिनमें सरकार-स्वामित्व वाली रक्षा निर्माता भी शामिल हैं, स्थानीय उत्पादन बढ़ाने के लिए रक्षा PSU और निजी भागीदारों के साथ काम कर रही हैं।
- The companies are also creating training, maintenance and integration capabilities within India, the official said.



कंपनियाँ भारत के भीतर प्रशिक्षण, रखरखाव और एकीकरण क्षमताएँ भी विकसित कर रही हैं, अधिकारी ने कहा।

GS III: IS: Defence

## Army conducts combat launch of BrahMos cruise missile

The Indian Army carried out a combat launch of the BrahMos supersonic cruise missile on Monday from a test range in the Bay of Bengal. The Ministry of Defence confirmed that the mission was executed through a precisely coordinated effort involving a BrahMos unit of the Southern Command and elements of the Tri-Services Andaman & Nicobar Command. Lt. Gen. Dhiraj Seth, General Officer Commanding-in-Chief, Southern Command, lauded the successful combat launch. The launch boosts the Army's long-range strike capability and deterrence.

के माध्यम से संपन्न किया गया, जिसमें साउदर्न कमांड की एक ब्रह्मोस यूनिट और त्रि-सेवा अंडमान एवं निकोबार कमांड के तत्व शामिल थे।

- Lt. Gen. Dhiraj Seth, General Officer Commanding-in-Chief, Southern Command, lauded the successful combat launch.  
लेफ्टिनेंट जनरल धीरज सेठ, जनरल ऑफिसर कमांडिंग-इन-चीफ, साउदर्न कमांड, ने सफल कांबेट लॉन्च की सराहना की।
- The launch boosts the Army's long-range strike capability and deterrence.  
इस लॉन्च से सेना की लॉन्ग-रेंज स्ट्राइक क्षमता और निरोधक शक्ति बढ़ती है।

## Army conducts combat launch of BrahMos cruise missile

सेना ने ब्रह्मोस क्रूज मिसाइल का मुकाबला लॉन्च किया

• The Indian Army carried out a combat launch of the BrahMos supersonic cruise missile on Monday from a test range in the Bay of Bengal.

भारतीय सेना ने सोमवार को बे ऑफ बेंगल में एक टेस्ट रेंज से ब्रह्मोस सुपरसोनिक क्रूज मिसाइल का कांबेट लॉन्च किया।

• The Ministry of Defence confirmed that the mission was executed through a precisely coordinated effort involving a BrahMos unit of the Southern Command and elements of the Tri-Services Andaman & Nicobar Command.

रक्षा मंत्रालय ने पुष्टि की कि यह मिशन सटीक समन्वित प्रयास

PATRIOTIC



# Sanchar Saathi app must be pre-installed on phones: DoT

It must be installed on devices sold from March, govt. tells phone makers; move will help safeguard people from buying non-genuine handsets and enable easy reporting of telecom resource misuse

**GS III: IS: Cyber Security**

**Aroon Deep**

NEW DELHI

**T**he Department of Telecommunications (DoT) on Monday ordered smartphone manufacturers to pre-install the Sanchar Saathi app on new devices sold from March 2026, and to make sure "that [the app's] functionalities are not disabled or restricted".

The Hindu has viewed a copy of the directions. The Sanchar Saathi app will be used to "verify authenticity of IMEIs used in mobile devices," the order said. It is unclear if the app will have access to the IMEI number of devices it is pre-installed on, or if users will have to input the hardware identifier on their own.

In a statement, the DoT said the move was meant to "safeguard the citizens from buying the non-genuine handsets, enabling easy reporting of suspected misuse of telecom resources and to increase effectiveness of the Sanchar Saathi initiative". The Sanchar Saathi app, first introduced as a portal in 2023, has been used to report scam calls, enable users to

## Secure system

The Government has issued a directive to mobile phone manufacturers as part of a crackdown on telecom scams

■ The DoT order requires pre-installation of Sanchar Saathi app on all new phones

■ For devices that are in the market, the app must be installed as part of an OS software update

■ The app is used for blocking stolen phones, ensuring IMEI on device is genuine, reporting scam calls

■ Govt. says 50,000 lost phones are recovered per month due to the app



■ The move may face resistance from premium smartphone maker Apple, which has resisted similar moves by TRAI in the past

■ The order comes after the DoT directed messaging platforms to perform 'SIM binding'

identify SIM cards registered in their name, and remotely disable phones if they are stolen. It is much like the Telecom Regulatory Authority of India's (TRAI) DND app, the commercial spam equivalent.

## 2.48 lakh complaints

The government has promoted the app, with 2.48 lakh complaints received so far on the platform, according to a dashboard on the site. Almost 2.9 crore requests to see mobile connections associated with a certain user have been made, the site says.

"Spoofed/Tampered IMEIs in telecom network

leads to situation where same IMEI is working in different devices at different places simultaneously and pose challenges in action against such IMEIs," the DoT said.

"India has a big second-hand mobile device market. "Cases have also been observed where stolen or blacklisted devices are being re-sold. It makes the purchaser abettor in crime and causes financial loss to them. The blocked/blacklisted IMEIs can be checked using Sanchar Saathi App." In a Google Play listing for the app, the DoT declared that the app does not collect any user

data. In a separate statement, the DoT also defended its order to messaging platforms.

The "DoT's SIM-binding directions are essential to plug a concrete security gap that cybercriminals are exploiting to run large-scale, often cross-border, digital frauds," the DoT said.

"Accounts on instant messaging and calling apps continue to work even after the associated SIM is removed, deactivated or moved abroad, enabling anonymous scams, remote "digital arrest" frauds and government-impersonation calls using Indian numbers."

Some smartphone makers have resisted government mandates to pre-install apps around the world. Apple, for instance, resisted the TRAI's draft regulations to install a spam-reporting app, after the firm balked at the TRAI app's permissions requirements, which included access to SMS messages and call logs.

Sanchar Saathi helped recover 50,000 lost or stolen devices in October, the DoT said.

## Sanchar Saathi app must be pre-installed on phones: DoT संचार साथी ऐप को फोन में पूर्व-इंस्टॉल किया जाना अनिवार्य: DoT

- It must be installed on devices sold from **March**, govt. tells phone makers; move will help safeguard people from buying **non-genuine handsets** and enable easy reporting of **telecom resource misuse**  
यह **मार्च** से बेचे जाने वाले डिवाइसों में इंस्टॉल किया जाना चाहिए, सरकार ने फोन निर्माताओं को बताया; यह कदम लोगों को **असली नहीं होने वाले हैंडसेट** खरीदने से बचाने और **टेलीकॉम संसाधनों के दुरुपयोग** की आसान रिपोर्टिंग सक्षम करेगा
- The **Department of Telecommunications (DoT)** on **Monday** ordered **smartphone manufacturers** to pre-install the **Sanchar Saathi app** on new devices sold from **March 2026**, and to make sure "that [the app's] functionalities are not disabled or restricted".  
**टेलीकॉम विभाग (DoT)** ने **सोमवार** को **स्मार्टफोन निर्माताओं** को आदेश दिया कि वे **मार्च 2026** से बेचे



जाने वाले नए डिवाइसों में **संचार साथी ऐप** पूर्व-इंस्टॉल करें, और सुनिश्चित करें कि "[ऐप की] कार्यक्षमताएँ अक्षम या सीमित न हों।"

- The Hindu has viewed a copy of the directions.  
**द हिन्दू** ने आदेशों की एक प्रति देखी है।
- The **Sanchar Saathi app** will be used to "verify authenticity of **IMEIs** used in mobile devices," the order said.  
आदेश में कहा गया कि **संचार साथी ऐप** का उपयोग मोबाइल डिवाइसों में उपयोग किए जाने वाले **IMEI** की प्रामाणिकता **सत्यापित** करने के लिए किया जाएगा।
- It is unclear if the app will have access to the **IMEI number** of devices it is pre-installed on, or if users will have to input the **hardware identifier** on their own.  
यह स्पष्ट नहीं है कि ऐप को उन डिवाइसों के **IMEI नंबर** तक पहुंच होगी जिनमें यह पूर्व-इंस्टॉल है, या उपयोगकर्ताओं को स्वयं **हार्डवेयर आइडेंटिफायर** दर्ज करना होगा।
- In a statement, the DoT said the move was meant to "safeguard the citizens from buying the **non-genuine handsets**, enabling easy reporting of suspected **misuse of telecom resources** and to increase effectiveness of the **Sanchar Saathi initiative**".  
एक बयान में, DoT ने कहा कि यह कदम नागरिकों को **असली नहीं होने वाले हैंडसेट** खरीदने से बचाने, संदेहास्पद **टेलीकॉम संसाधनों के दुरुपयोग** की आसान रिपोर्टिंग सक्षम करने और **संचार साथी पहल** की प्रभावशीलता बढ़ाने के लिए है।
- The **Sanchar Saathi app**, first introduced as a **portal** in **2023**, has been used to report **scam calls**, enable users to identify **SIM cards registered in their name**, and remotely disable phones if they are stolen.  
**संचार साथी ऐप**, जिसे पहले **2023** में एक **पोर्टल** के रूप में पेश किया गया था, का उपयोग **धोखाधड़ी कॉल** की रिपोर्ट करने, उपयोगकर्ताओं को उनके नाम पर पंजीकृत **SIM कार्ड** पहचानने और चोरी होने पर फोन को रिमोट से निष्क्रिय करने के लिए किया गया है।
- It is much like the **Telecom Regulatory Authority of India's (TRAI) DND app**, the commercial spam equivalent.  
यह बहुत हद तक **भारतीय दूरसंचार विनियामक प्राधिकरण (TRAI) की DND ऐप** जैसा है, जो वाणिज्यिक स्पैम का समकक्ष है।

## 2.48 lakh complaints

### 2.48 लाख शिकायतें

- The government has promoted the app, with **2.48 lakh complaints** received so far on the platform, according to a **dashboard** on the site.  
सरकार ने ऐप को बढ़ावा दिया है, साइट के **डैशबोर्ड** के अनुसार अब तक प्लेटफॉर्म पर **2.48 लाख शिकायतें** प्राप्त हुई हैं।
- Almost **2.9 crore requests** to see **mobile connections associated with a certain user** have been made, the site says.  
साइट के अनुसार लगभग **2.9 करोड़ अनुरोध** किए गए हैं ताकि किसी **विशिष्ट उपयोगकर्ता से जुड़े मोबाइल कनेक्शन** देखे जा सकें।
- "**Spoofed/Tampered IMEIs** in telecom networks leads to a situation where the same IMEI is working in different devices at different places simultaneously and pose challenges in action against such IMEIs," the DoT said.  
DoT ने कहा कि "टेलीकॉम नेटवर्क में **स्पूफ़/छेड़े गए IMEI** ऐसी स्थिति पैदा करते हैं जहां वही IMEI विभिन्न डिवाइसों में विभिन्न स्थानों पर एक ही समय में काम कर रहा होता है और ऐसे IMEI के खिलाफ कार्रवाई में चुनौतियाँ उत्पन्न होती हैं।"
- "**India** has a big **secondhand mobile device market**. Cases have also been observed where **stolen or blacklisted devices** are being re-sold. It makes the purchaser **abettor in crime** and causes **financial loss** to them. The **blocked/blacklisted IMEIs** can be checked using **Sanchar Saathi App**."  
"भारत में एक बड़ा **सेकेंडहैंड मोबाइल डिवाइस बाजार** है। ऐसे मामले भी देखे गए हैं जहां **चोरी या ब्लैकलिस्टेड डिवाइस** फिर से बेचे जा रहे हैं। यह खरीदार को **अपराध में सहायक** बनाता है और उन्हें **आर्थिक नुकसान** पहुंचाता है। **ब्लॉक/ब्लैकलिस्टेड IMEI** को **संचार साथी ऐप** से जांचा जा सकता है।"
- In a **Google Play listing** for the app, the DoT declared that the app does not collect any **user data**.



ऐप के लिए गूगल प्ले लिस्टिंग में, DoT ने घोषणा की कि ऐप किसी भी उपयोगकर्ता डेटा को इकट्ठा नहीं करता।

- In a separate statement, the DoT also defended its order to **messaging platforms**. एक अलग बयान में, DoT ने अपने **मैसेजिंग प्लेटफॉर्म** के आदेश का भी बचाव किया।
- The DoT's **SIM-binding directions** are essential to plug a concrete **security gap** that cybercriminals are exploiting to run large-scale, often cross-border, **digital frauds**," the DoT said.  
DoT ने कहा कि "DoT के **SIM-बाइंडिंग निर्देश** एक ठोस **सुरक्षा अंतराल** को पाटने के लिए आवश्यक हैं जिसका उपयोग साइबर अपराधी बड़े पैमाने पर, अक्सर सीमा-पार, **डिजिटल धोखाधड़ी** करने के लिए कर रहे हैं।"
- "Accounts on **instant messaging and calling apps** continue to work even after the associated **SIM** is removed, deactivated or moved abroad, enabling **anonymous scams**, remote **digital arrest frauds** and **government-impersonation calls** using Indian numbers."  
"इंस्टैंट मैसेजिंग और कॉलिंग ऐप्स पर खाते तब भी काम करना जारी रखते हैं जब संबंधित **SIM** हटा दी जाती है, निष्क्रिय कर दी जाती है या विदेश में ले जाया जाता है, जिससे **गुमनाम धोखाधड़ी**, रिमोट **डिजिटल अरेस्ट धोखाधड़ी** और **सरकारी व्यक्ति बनने वाली कॉल** भारतीय नंबरों का उपयोग करके संभव होती हैं।"
- Some **smartphone makers** have resisted government mandates to pre-install apps around the world.  
कुछ **स्मार्टफोन निर्माता** दुनिया भर में ऐप्स को पूर्व-इंस्टॉल करने के लिए सरकार के आदेशों का विरोध कर चुके हैं।
- **Apple**, for instance, resisted the TRAI's draft regulations to install a **spam-reporting app**, after the firm balked at the TRAI app's permissions requirements, which included access to **SMS messages and call logs**.  
उदाहरण के लिए, **एप्पल** ने **स्पैम-रिपोर्टिंग ऐप** इंस्टॉल करने के लिए TRAI के ड्राफ्ट नियमों का विरोध किया, जब फर्म ने TRAI ऐप की अनुमति आवश्यकताओं, जिसमें **SMS संदेश और कॉल लॉग** तक पहुंच शामिल थी, पर आपत्ति जताई।
- **Sanchar Saathi** helped recover **50,000 lost or stolen devices** in **October**, the DoT said.  
DoT ने कहा कि **संचार साथी** ने **अक्टूबर** में **50,000 खोए या चोरी हुए डिवाइस** को वापस पाने में मदद की।