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

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13_01_2025 DAILY CURRENT AFFAIRS

TOPICS COVERED

1. **Jaishankar to attend Trump's January 20 swearing-in ceremony in Washington D.C.** / जयशंकर वाशिंगटन डी.सी. में 20 जनवरी को ट्रम्प के शपथ ग्रहण समारोह में भाग लेंगे। (GS Paper-II: IR)

2. **Docking trial: ISRO succeeds in nudging two satellites closer** / डॉकिंग परीक्षण: इसरो दो उपग्रहों को करीब लाने में सफल रहा (GS Paper-III: S&T)

3. **Declining fertility levels push up Kerala's maternal mortality ratio** / प्रजनन स्तर में गिरावट से केरल में मातृ मृत्यु दर में वृद्धि (GS Paper-I: Society)

4. **India's Data Protection Rules Need Some Fine-Tuning** / भारत के डेटा संरक्षण नियमों को और सुधार की आवश्यकता (GS Paper-III: S&T)

5. **Draft digital data protection rules and authoritarianism** / डिजिटल डेटा संरक्षण नियमों का मसौदा और अधिनायकवाद (GS Paper-II: Right to Privacy and Digitisation of Data)

6. **Centralising control** / नियंत्रण का केंद्रीकरण (GS Paper-II: Education Sector)

7. **Law by reflex** / पुनः परीक्षण द्वारा कानून (GS Paper-I: Crime Against Women)

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8. **The reforms needed in the MEA / विदेश मंत्रालय में आवश्यक सुधार (GS Paper-II: India's Place in Global World Order)**

9. **Should voter IDs be linked with Aadhaar? / क्या मतदाता पहचान पत्र को आधार से जोड़ा जाना चाहिए? (GS Paper-II: Right to Privacy)**

10. **What is different about small language models? / छोटे भाषा मॉडल में क्या अंतर है? (GS Paper-III: S&T)**

11. **How the draft rules for implementing data protection falls short / डेटा सुरक्षा को लागू करने के लिए मसौदा नियम कैसे अपर्याप्त हैं (GS Paper-III: Data Protection)**

12. **Centre's wildlife panel clears oil and gas exploratory drilling in Assam sanctuary / केंद्र के वन्यजीव पैनल ने असम अभयारण्य में तेल और गैस अन्वेषण ड्रिलिंग को मंजूरी दी (GS Paper-III: Environment)**

13. **Companies look to localise data storage, telecom tech / कंपनियाँ डेटा स्टोरेज, टेलीकॉम तकनीक को स्थानीय बनाना चाहती हैं (GS Paper-III: S&T)**

14. **Bengal govt. announces new initiatives to attract pilgrims to Gangasagar Mela / बंगाल सरकार ने गंगासागर मेले में तीर्थयात्रियों को आकर्षित करने के लिए नई पहल की घोषणा की (GS Paper-I: A&C)**

15. **Malala slams Taliban for instituting 'gender apartheid' against women / मलाला ने महिलाओं के खिलाफ**

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'लैंगिक रंगभेद' स्थापित करने के लिए तालिबान की आलोचना की (PCS)

16. **Croatia's President Milanovic is the favourite to win run-off elections /** क्रोएशिया के राष्ट्रपति मिलनोविक आगामी चुनाव जीतने के लिए सबसे पसंदीदा उम्मीदवार हैं (PCS)

17. **Firefighters scramble to contain Los Angeles fires /** लॉस एंजिल्स के रिज़र्व में आग पर काबू पाने के लिए अग्निशमन दल ने हाथापाई की (PCS)

18. **Italy's Justice Minister asks court to release Iranian man held on U.S. warrant /** इटली के न्याय मंत्री ने अदालत से अमेरिकी वारंट पर पकड़े गए ईरानी व्यक्ति को रिहा करने का अनुरोध किया (GS Paper-II: IR)

19. **Myanmar junta air strike kills 15 civilians, says rebel group /** म्यांमार सेना के हवाई हमले में 15 नागरिकों की मौत, विद्रोही समूह का कहना है (GS Paper-II: IR)

20. **Saikia, Bhatia take over as secretary and treasurer of BCCI /** सैकिया, भाटिया ने बीसीसीआई के सचिव और कोषाध्यक्ष का पदभार संभाला (PCS)

21. **An unlikely mystery: studies shed new light on how genes are made /** एक अकल्पनीय रहस्य: अध्ययनों से पता चला है कि जीन कैसे बनते हैं (GS Paper-III: S&T)

22. **IMD: India's weather tracker /** आईएमडी: भारत का मौसम ट्रैकर (GS Paper-I: Geography)

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Jaishankar to attend Trump's January 20 swearing-in ceremony in Washington D.C.

GS Paper II: IR

Kallol Bhattacherjee
NEW DELHI

External Affairs Minister S. Jaishankar has been invited to represent the Government of India at the swearing-in ceremony of the U.S. President-elect Donald Trump on January 20. Mr. Trump has invited several heads of government and heads of state to be present at the event and the subsequent celebrations that are to be held in Washington D.C.

"On the invitation of the Trump-Vance Inaugural

S. Jaishankar

Committee, External Affairs Minister (EAM) Dr. S. Jaishankar will represent the Government of India at the Swearing-in Ceremony of President-elect Donald J. Trump as the 47th Presi-

dent of the United States of America," announced the Ministry of External Affairs on Sunday.

Mr. Jaishankar visited the U.S. from December 24-29, when he met with officials from the Biden administration and also met with Congressman Michael Waltz, who has been chosen by Mr. Trump to be his next National Security Adviser.

The swearing-in ceremony of the second Trump administration has been of much global interest since it came to light that Chi-

nese President Xi Jinping was invited in the event. Since winning the presidential election, Mr. Trump has met several global leaders like President Macron of France and President Volodymyr Zelenskyy of Ukraine among others and there were speculations about a possible invite for Prime Minister Narendra Modi for his swearing-in ceremony.

However, sources have clarified to *The Hindu* that External Affairs Minister Mr. Jaishankar was invited by name.

Jaishankar to attend Trump's January 20 swearing-in ceremony in Washington D.C.

जयशंकर वाशिंगटन डी.सी. में 20 जनवरी को ट्रम्प के शपथ ग्रहण समारोह में भाग लेंगे।

External Affairs Minister S. Jaishankar's Invitation for U.S. President-elect Donald Trump's Swearing-in Ceremony

विदेश मंत्री एस. जयशंकर को अमेरिकी राष्ट्रपति-चुनाव डोनाल्ड ट्रंप के शपथ ग्रहण समारोह के लिए आमंत्रण

- **External Affairs Minister S. Jaishankar** has been invited to represent the Government of India at the **swearing-in ceremony** of the **U.S. President-elect Donald Trump** on **January 20**.

  विदेश मंत्री एस. जयशंकर को **20 जनवरी** को **अमेरिकी राष्ट्रपति-चुनाव डोनाल्ड ट्रंप** के **शपथ ग्रहण समारोह** में भारत सरकार का प्रतिनिधित्व करने के लिए आमंत्रित किया गया है।

- Mr. Trump has invited several **heads of government** and **heads of state** to be present at the event and the subsequent celebrations in **Washington D.C.**

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श्री ट्रंप ने इस आयोजन और उसके बाद के उत्सवों में **कई सरकारी प्रमुखों** और **राज्य प्रमुखों** को **वाशिंगटन डी.सी.** में उपस्थित होने के लिए आमंत्रित किया है।

- "On the invitation of the **Trump-Vance Inaugural Committee**, External Affairs Minister (EAM) **Dr. S. Jaishankar** will represent the Government of India at the **Swearing-in Ceremony** of President-elect **Donald J. Trump** as the **47th President** of the United States of America," announced the **Ministry of External Affairs** on **Sunday**.

  " **Trump-Vance उद्घाटन समिति** के निमंत्रण पर, विदेश मंत्री (EAM) **डॉ. एस. जयशंकर** भारत सरकार का प्रतिनिधित्व करेंगे **डोनाल्ड जे. ट्रंप** के शपथ ग्रहण समारोह में, जो **अमेरिका के 47वें राष्ट्रपति** के रूप में शपथ लेंगे," **विदेश मंत्रालय** ने **रविवार** को घोषणा की।

- Mr. Jaishankar visited the **U.S.** from **December 24-29**, when he met officials from the **Biden administration** and also met Congressman **Michael Waltz**, who has been chosen by Mr. Trump to be his next **National Security Adviser**.

  श्री जयशंकर ने **24-29 दिसंबर** 2024 के दौरान **अमेरिका** का दौरा किया, जब उन्होंने **बाइडन प्रशासन** के अधिकारियों से मुलाकात की और साथ ही **कांग्रेसी माइकल वाल्ट्ज** से भी मिले, जिन्हें श्री ट्रंप ने अपने अगले **राष्ट्रीय सुरक्षा सलाहकार** के रूप में चुना है।

- The **swearing-in ceremony** of the second **Trump administration** has drawn much **global interest** since it came to light that **Chinese President Xi Jinping** was invited to the event.

  दूसरी ट्रंप प्रशासन के शपथ ग्रहण समारोह में बहुत **वैश्विक रुचि** उत्पन्न हुई है, क्योंकि यह सामने आया कि **चीनी राष्ट्रपति शी जिनपिंग** को इस आयोजन में आमंत्रित किया गया था।

- Since winning the **presidential election**, Mr. Trump has met several global leaders like **President Macron** of **France** and **President Volodymyr Zelenskyy** of **Ukraine** among others, and there were speculations about a possible invite for **Prime Minister Narendra Modi**.

  राष्ट्रपति चुनाव जीतने के बाद, श्री ट्रंप ने कई वैश्विक नेताओं से मुलाकात की, जैसे **फ्रांस के राष्ट्रपति मैक्रॉन** और **यूक्रेन के राष्ट्रपति वोलोदिमीर ज़ेलेन्स्की**, और **प्रधानमंत्री नरेंद्र मोदी** के लिए संभावित निमंत्रण को लेकर अटकलें थीं।

- However, sources have clarified to **The Hindu** that External Affairs Minister **Mr. Jaishankar** was invited **by name**.

  हालांकि, सूत्रों ने **द हिंदू** को स्पष्ट किया कि विदेश मंत्री **श्री जयशंकर** को **नाम से** आमंत्रित किया गया था।

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Docking trial: ISRO succeeds in nudging two satellites closer

By bringing Chaser and Target within three metres of each other, the agency has overcome last week's setback caused by an unexpected drift

GS Paper III: S&T

The Hindu Bureau
BENGALURU

Trying to dock two satellites in space for the first time, the Indian Space Research Organisation announced early on Sunday that they were brought within three metres of each other in a trial attempt. It then moved them back to a safe distance.

"SpaDeX Docking Update: A trial attempt to reach up to 15m and further to 3m is done. Moving back spacecraft to safe distance. The docking process will be done after analysing data further," the space agency posted on X.

An important project of the ISRO, the SPaDeX mission was designed to develop and demonstrate the technology needed for spacecraft rendezvous, docking and undocking using two small satellites. A PSLV C60 rocket carried them – SDX01 (Chaser) and SDX02 (Target) – to space from the Satish Dhawan Space Centre in Sriharikota on December 30. Earlier on Sunday, the ISRO said the

A PSLV C60 rocket had carried the satellites to space from the Satish Dhawan Space Centre in Sriharikota on December 30. PTI

two satellites were within 15 metres of each other.

"SpaDeX Docking Update: At 15m we see each other clearer and clearer, we are just 50 feet away for an exciting handshake," the agency posted. It released photos and videos of the two satellites.

With this, the ISRO has overcome the setback last week due to an unexpected drift between the satellites, resulting in the postponement of the docking experiment.

On January 8, hours before the experiment was to be carried out, the agency

announced its postponement as the drift was more than expected. It later arrested the drift. The docking was initially scheduled for January 7.

The demonstration of this technology is essential for futuristic missions such as sending an Indian astronaut to the moon, sample return from the moon, and the building and operation of an Indian space station.

If the ISRO successfully executes the docking experiment, India will become the fourth country after the U.S., Russia and China to accomplish the feat.

Docking trial: ISRO succeeds in nudging two satellites closer

डॉकिंग परीक्षण: इसरो दो उपग्रहों को करीब लाने में सफल रहा

By bringing Chaser and Target within three metres of each other, the agency has overcome last week's setback caused by an unexpected drift

चेसर और टारगेट को एक दूसरे से तीन मीटर के भीतर लाकर, एजेंसी ने पिछले सप्ताह अप्रत्याशित बहाव के कारण हुई बाधा को दूर कर दिया है

ISRO's Successful Trial Docking of Satellites in Space अंतरिक्ष में उपग्रहों का सफल परीक्षण डॉकिंग इसरो द्वारा

• The **Indian Space Research Organisation (ISRO)** announced on **Sunday** that two satellites were brought within **three metres** of each other in a **trial attempt** for docking.

भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) ने **रविवार** को घोषणा की कि दो उपग्रहों को डॉकिंग के **परीक्षण प्रयास** में एक-दूसरे के **तीन मीटर** के भीतर लाया गया।

- The space agency posted on **X** that a trial attempt was made to reach **15m** and further to **3m**, then moved them back to a safe distance.
  अंतरिक्ष एजेंसी ने **X** पर पोस्ट किया कि **15 मीटर** तक पहुंचने का एक परीक्षण प्रयास किया गया और फिर **3 मीटर** तक पहुंचने के बाद उन्हें सुरक्षित दूरी पर वापस ले लिया गया।

- The **SPaDeX mission** is an important project of ISRO, designed to develop and demonstrate technology for spacecraft rendezvous, docking, and undocking using two small satellites.
  SPaDeX मिशन इसरो का एक महत्वपूर्ण परियोजना है, जो दो छोटे उपग्रहों का उपयोग करके अंतरिक्ष यान की मुलाकात, डॉकिंग और अंडॉकिंग के लिए तकनीक विकसित करने और प्रदर्शित करने के लिए डिज़ाइन किया गया है।

- A **PSLV C60 rocket** carried the two satellites — **SDX01 (Chaser)** and **SDX02 (Target)** — to space from the **Satish Dhawan Space Centre** in **Sriharikota** on **December 30**.
  PSLV C60 रॉकेट ने दो उपग्रहों – **SDX01 (चेसर)** और **SDX02 (टारगेट)** — को **सतिश धवन अंतरिक्ष केंद्र** से **श्रीहरिकोटा** में **30 दिसंबर** को अंतरिक्ष में भेजा।

- Earlier on **Sunday**, ISRO mentioned that the two satellites were within **15 metres** of each other.
  रविवार को पहले, इसरो ने बताया कि दो उपग्रह एक-दूसरे के **15 मीटर** के भीतर थे।

- ISRO released photos and videos of the two satellites as they were within **50 feet** of each other, referring to it as an "exciting handshake."
  इसरो ने दो उपग्रहों की **50 फीट** की दूरी पर तस्वीरें और वीडियो जारी किए, इसे "रोमांचक हाथ मिलाना" बताया।

- The **setback** last week due to an unexpected **drift** between the satellites led to the **postponement** of the docking experiment.
  पिछले सप्ताह उपग्रहों के बीच अप्रत्याशित **ड्रिफ्ट** के कारण **डॉकिंग प्रयोग** को स्थगित कर दिया गया था।

- On **January 8**, hours before the docking experiment was to take place, ISRO announced its **postponement** due to the drift being larger than expected. The drift was later arrested.
  8 जनवरी को, डॉकिंग प्रयोग होने से कुछ घंटे पहले, इसरो ने **स्थगन** की घोषणा की क्योंकि ड्रिफ्ट अपेक्षा से अधिक था। बाद में इसे रोक लिया गया।

- The docking was initially scheduled for **January 7**.
  डॉकिंग **7 जनवरी** को निर्धारित थी।

- The demonstration of this technology is crucial for future missions like sending an **Indian astronaut to the moon**, **sample return from the moon**, and the building of an **Indian space station**.
  इस तकनीक का प्रदर्शन भविष्य के मिशनों के लिए महत्वपूर्ण है जैसे **भारतीय अंतरिक्ष यात्री को चंद्रमा पर भेजना**, **चंद्रमा से नमूना वापसी**, और **भारतीय अंतरिक्ष स्टेशन** का निर्माण।

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- If successful, India will become the **fourth country** after the **U.S.**, **Russia**, and **China** to accomplish the feat of docking two satellites in space.

यदि यह सफल होता है, तो भारत **अंतरिक्ष में दो उपग्रहों को डॉक करने में अमेरिका**, **रूस**, और **चीन** के बाद **चौथा देश** बन जाएगा।

Declining fertility levels push up Kerala's maternal mortality ratio

GS Paper I: Society

C. Maya
THIRUVANANTHAPURAM

Kerala's maternal mortality ratio, the lowest in the country at 19 per one lakh live births, is now climbing steadily, much to the consternation of the State Health Department. The reasons for the increase may be beyond the control of officials.
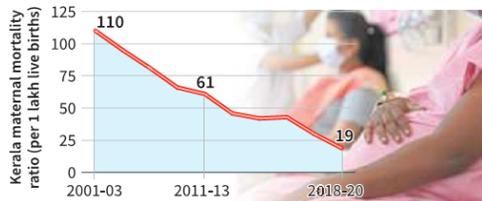
The latest Sample Registration System special bulletin on maternal mortality in India (2018-20), brought out by the Registrar-General of India, put Kerala's MMR at 19. However, it depended on a sample survey to arrive at the figure, the State Health Department's actual estimates of maternal deaths – Kerala has near 100% institutional deliveries – put the figure at 29.

Except during 2020-21, when Kerala lost many women to COVID-19 during pregnancy and childbirth, the State had consistently held a firm grip over maternal mortality. Ironically, the current spike is not because more women are dying but because there are fewer childbirths than ever in the State.

The State has now hit a low of 3,93,231 births from an average of 5-5.5 lakh annually earlier, show the latest data of the Economics and Statistics Department

A worrying trend

Kerala's MMR is beginning to climb now because of fewer child births than ever in the State

Source: Sample Registration System bulletin of Registrar General of India

The State has now hit a low of 3,93,231 births from an average of 5-5.5 lakh annually earlier

of the State. It is this dip in the denominator that is pushing the MMR up and not necessarily an actual spike in maternal deaths.

The Health Department puts live births in the State between 3.4 lakh and 3.9 lakh currently. The full Vital Statistics Report (VSR) for 2023 is expected by January-end.

The decline in fertility levels and changing demographics, many fear, are having an irrevocable impact on the State's social fabric, and have been at the heart of many policy-level discussions in Kerala, especially in the past three years.

From an average of 5.5 lakh annual births since the 1980s, the graph went below the five-lakh mark for the first time in 2016, when 4,96,262 live births were recorded. Since 2018, the figure has been plummeting steadily, never going above the five-lakh mark again. The last published VSR (2021) recorded the total number of live births as 4,19,767.

"As part of the Sustainable Development Goals, Kerala was targeting an MMR of 20 by 2030. However, that looks quite unlikely now, given that birth rates are falling steeply. We reckon the State's MMR in 2024-25 has already climbed to 32," says V.P. Paily, a senior consultant in Obstetrics and Gynaecology.

"It would now be a herculean task to hold the MMR at 20. Because, while

we have successfully addressed all major medical causes of maternal mortality, the issues that are impacting the State's MMR now are not something essentially within our control. We are seeing the impact of demographic changes like low fertility rates, immigration and changing societal attitudes towards marriage and childbirth in Kerala much earlier than we thought we would," Dr. Paily says.

"It has been three decades since the birth rate began falling in Kerala and the steep fall in the number of children born now is part of a larger trend. But the problem is that once the fertility rate comes down, the graph rarely goes up because demographic transition is hard to reverse," says S. Irudaya Rajan, Chairman of the International Institute of Migration and Development (IIMAD).

Kerala led the demographic transition in the South, attaining the replacement level fertility rate of 2.1 in 1987-88. Replacement level fertility is the average number of children a woman needs to have to replace herself and her generation, so that the population is stable.

Kerala's Rising Maternal Mortality Ratio
केरल में मातृ मृत्यु दर का बढ़ना

- Kerala's **maternal mortality ratio (MMR)**, the lowest in the country at **19 per one lakh live births**, is now steadily climbing, much to the concern of the **State Health Department**.

केरल की **मातृ मृत्यु दर (MMR)**, जो देश में सबसे कम है और **19 प्रति एक लाख जीवित जन्म** है, अब धीरे-धीरे बढ़ रही है, जिससे **राज्य स्वास्थ्य विभाग** को चिंता हो रही है।

- The reasons for the increase in MMR may be beyond the control of officials.

MMR में वृद्धि के कारण अधिकारियों के नियंत्रण से बाहर हो सकते हैं।

- The latest **Sample Registration System** special bulletin (2018-20) on **maternal mortality** in India, brought out by the **Registrar-General of India**, put Kerala's MMR at **19**.

  भारत में **मातृ मृत्यु दर** पर नवीनतम **सैंपल रजिस्ट्रेशन सिस्टम** विशेष बुलेटिन (2018-20), जिसे **भारत के रजिस्ट्रार-जनरल** ने जारी किया, में केरल की MMR **19** बताई गई है।

- However, the **State Health Department's** actual estimates of maternal deaths, based on near **100% institutional deliveries**, put the figure at **29**.

  हालांकि, **राज्य स्वास्थ्य विभाग** द्वारा दी गई मातृ मृत्यु दर का वास्तविक अनुमान, जो लगभग **100% संस्थागत प्रसव** पर आधारित है, के अनुसार यह आंकड़ा **29** है।

- Except during **2020-21**, when Kerala lost many women to **COVID-19** during pregnancy and childbirth, the state had consistently maintained a firm grip on maternal mortality.

  2020-21 को छोड़कर, जब केरल ने प्रसव और गर्भावस्था के दौरान कई महिलाओं को **COVID-19** से खो दिया, राज्य ने लगातार मातृ मृत्यु दर पर काबू रखा था।

- The current spike is not due to more women dying but because there are fewer **childbirths** than ever in the state.

  वर्तमान में वृद्धि का कारण अधिक महिलाओं की मौत नहीं है, बल्कि राज्य में पहले से कहीं कम **प्रसव** हो रहे हैं।

- The state has now hit a low of **3,93,231** births from an average of **5-5.5 lakh** annually.

  राज्य में अब **3,93,231** जन्म हो चुके हैं, जो पहले हर साल **5-5.5 लाख** हुआ करते थे।

- This decline in the number of births is pushing up the **MMR**, not necessarily an actual spike in maternal deaths.

  जन्मों की संख्या में यह गिरावट **MMR** को बढ़ा रही है, यह जरूरी नहीं कि मातृ मृत्यु दर में वास्तविक वृद्धि हो।

- The Health Department puts live births in the state between **3.4 lakh** and **3.9 lakh** currently.

  स्वास्थ्य विभाग के अनुसार, वर्तमान में राज्य में जीवित जन्मों की संख्या **3.4 लाख** से **3.9 लाख** के बीच है।

- The full **Vital Statistics Report (VSR)** for **2023** is expected by **January-end**.

  2023 के लिए पूर्ण **वाइटल स्टैटिस्टिक्स रिपोर्ट (VSR) जनवरी के अंत** तक आने की उम्मीद है।

- The decline in **fertility levels** and changing demographics are feared to have a lasting impact on the state's social fabric.

  प्रजनन दर में गिरावट और बदलते जनसांख्यिकी के कारण राज्य के सामाजिक ढांचे पर स्थायी प्रभाव डालने का डर है।

- Kerala, which achieved **replacement level fertility rate** of **2.1** in **1987-88**, is now seeing the consequences of low fertility rates, immigration, and changing societal attitudes towards marriage and childbirth.

  केरल, जिसने **1987-88** में **2.1** का **प्रत्यावर्तक स्तर प्रजनन दर** हासिल किया था, अब कम प्रजनन दर, आप्रवासन, और शादी तथा प्रसव के प्रति बदलते सामाजिक दृष्टिकोण के परिणाम देख रहा है।

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- The **birth rate** began falling in Kerala **three decades ago**, and the steep fall in the number of children born is part of a larger trend.

  केरल में **तीन दशक पहले** जन्म दर गिरनी शुरू हो गई थी, और अब बच्चों की संख्या में तेज गिरावट एक बड़े रुझान का हिस्सा है।

- Experts argue that once the **fertility rate** drops, it rarely increases, as **demographic transition** is difficult to reverse.

  विशेषज्ञों का कहना है कि जब **प्रजनन दर** घटती है, तो यह शायद ही कभी बढ़ती है, क्योंकि **जनसांख्यिकीय संक्रमण** को पलटना मुश्किल होता है।

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India's data protection rules need some fine-tuning

GS Paper III: S&T

On January 3, 2025, the Ministry of Electronics and Information Technology (MeitY) released the much-anticipated Draft Digital Personal Data Protection (DPDP) Rules – a key moment in India's journey to regulate digital personal data. This step follows the passage of the DPDP Act, 2023, bringing India closer to operationalising its framework for safeguarding personal data.

The draft rules represent a departure from the earlier and controversial Personal Data Protection Bill, which many deemed was overly restrictive and even hostile to industry interests. The Bill underwent extensive framing, reframing and consultations over nearly a decade, only to be rescinded when committees and government stakeholders wisely decided it was untenable.

In contrast, the positive response to the DPDP Act and its accompanying rules, reflected in conversations with businesses and in media coverage, stems from the less prescriptive, principles-based approach of the draft rules.

Unlike the earlier rush to regulate under the so-called "Brussels Effect", where global digital rulemaking mirrored the European Union (EU)'s interventionist regulatory ethos, India has taken a more pragmatic stance. The EU's General Data Protection Regulation (GDPR), once hailed as a gold standard by privacy experts, now faces criticism for unintended consequences – favouring well-resourced corporations, stifling smaller enterprises, and failing to significantly enhance public trust in the Internet. India's measured approach thus far offers a refreshing alternative to Europe's interventionist policies.

The hits as pragmatism and flexibility
One of the draft rules' standout features is their principles-based framework for notice and consent. While the GDPR has cumbersome requirements, such as notifying users of indirect data acquisition, cross-border data transfers, and automated decision-making processes, India's rules emphasise simplicity and clarity. This helps reduce "consent fatigue", a significant issue in Europe, where users are inundated with unnecessary details, such as the location of data processing – information of little practical use.

In 2023, the European Commission introduced the Cookie Pledge Initiative to address growing frustration over incessant consent pop-ups. However, such course correction would have been unnecessary had the EU taken a less invasive approach to regulating user interfaces and consent mechanisms. The very existence of this pledge highlights the burdens created by prescriptive regulation.

India's DPDP Rules sidestep these pitfalls by focusing on outcomes rather than processes, empowering users without drowning businesses and consumers in unnecessary complexities. The

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The largely positive response to the Draft Digital Personal Data Protection (DPDP) Rules flows from its less prescriptive, principles-based approach

rules avoid dictating how entities should enable users to exercise their rights to correction, erasure, nomination, withdrawal of consent and to seek information from entities. They require only the publication of relevant information on apps and websites. In contrast, the GDPR is prescriptive about how similar information should be presented, including instances where entities may need to provide this information orally to users. Why should the state dictate every aspect of an app or website's design or user interface? India's approach, thankfully, respects business autonomy and innovation.

The processing of children's personal data requires stricter protection compared to other types of data processing – which the rules provide for. However, as more children engage with digital technologies online, they increasingly benefit from certain activities, such as monitoring and tracking, which are of value in specific contexts. Take the case of educational institutions, including supplementary education and vocational training services. They rely on activities such as behavioural monitoring and tracking to deliver targeted interventions tailored to students' academic performance. These practices leverage the benefits of learning management systems, which personalise instruction and improve educational outcomes. Recognising this, the rules thoughtfully allow exemptions for specific industries. Educational institutions, clinical and mental health establishments, allied health-care providers, and child-care centres are not required to verify parental consent for tracking and behavioural monitoring, as long as they adhere to guardrails. The exemption for such industries demonstrates a nuanced understanding of industry-specific needs, reflecting the principles of thoughtful policymaking.

The misses as data localisation, overreach
However, the draft rules are not without flaws. Their provisions for restricting cross-border data flows introduce unnecessary complexity and ambiguity. Significant Data Fiduciaries (SDFs) – large enterprises handling substantial data volumes – face potential localisation mandates that extend beyond the legislation's original scope. While the DPDP Act allows the government to restrict personal data transfers, it limits such action to specific notified countries. Differentiating between SDFs and smaller entities, where the second enjoy relaxed transfer rules for the same data, creates the risk of regulatory arbitrage. Smaller entities could exploit the lighter regime to gain an unfair advantage. These inconsistencies may deter investment and drive businesses out of India. The localisation provision likely stems from the challenges faced by law

enforcement agencies in accessing cross-border data for investigations. While these agencies undeniably need access to such data, a narrower sectoral approach to localisation could prove more effective than a centralised one. The Reserve Bank of India's 2018 mandate for localising payment data is a prime example of proportionate regulation. Tailored specifically to the financial sector, it effectively addressed legitimate industry concerns without causing too many business disruptions. Applying this approach to personal data could balance security and compliance with economic competitiveness.

Some areas still require greater clarity. Businesses need safeguards to verify whether users requesting information about data processing are legitimate. This necessity is acknowledged even in the GDPR. However, India's draft rules do not address scenarios where businesses face incessant information requests or provide scope for businesses to charge a reasonable fee for requests which are excessive or even unfounded. A related ambiguity is whether the government can demand access to sensitive business data. If so, how will it ensure the protection of such information from falling into the hands of competitors? What if this information is a trade secret? These gaps highlight the need for thinking about procedural integrity.

What lies ahead
According to IBM, data breaches cost Indian businesses an average of ₹19.5 crore ($2.35 million) in 2024. Compliance with data protection laws should not be seen as a regulatory obligation, but as critical to protecting business reputation and ensuring continuity.

India must also move beyond reliance on notice-and-consent mechanisms to safeguard citizens' privacy in future laws. Notice and consent originate from the medical profession, where they can still be deemed to work effectively in controlled settings. However, in environments such as malls, airports, or even beaches, individuals have little opportunity to provide consent. With the convergence of the Internet of Things, 5G, and artificial intelligence enabling unprecedented data collection, India must envision privacy frameworks that do not exclusively rely on the fallible principle of consent. As public consultations refine the draft rules, prioritising preservation of the framework's flexibility and industry-specific accommodations is key. This approach will help maintain a balance between innovation, economic growth, and individual rights – something not many jurisdictions have managed to get right.

The views expressed are personal

India's Data Protection Rules Need Some Fine-Tuning
भारत के डेटा संरक्षण नियमों को और सुधार की आवश्यकता

On January 3, 2025, the Ministry of Electronics and Information Technology (MeitY) released the much-anticipated Draft Digital Personal Data Protection (DPDP) Rules, marking a key moment in India's journey to regulate digital personal data.

3 जनवरी 2025 को, इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी मंत्रालय (MeitY) ने बहुप्रतीक्षित ड्राफ्ट डिजिटल पर्सनल डेटा प्रोटेक्शन (DPDP) नियम जारी किए, जो डिजिटल व्यक्तिगत डेटा को विनियमित करने की भारत की यात्रा में एक महत्वपूर्ण क्षण है।

- This step follows the passage of the **DPDP Act, 2023**, bringing India closer to operationalizing its framework for safeguarding personal data.
  यह कदम **DPDP अधिनियम, 2023** के पारित होने के बाद उठाया गया, जिससे भारत व्यक्तिगत डेटा की सुरक्षा के अपने ढांचे को लागू करने के करीब पहुंच गया।

Departure from the Earlier Personal Data Protection Bill

पहले के व्यक्तिगत डेटा संरक्षण विधेयक से अलग दृष्टिकोण

- The draft rules represent a significant departure from the earlier **Personal Data Protection Bill**, which was considered overly restrictive and hostile to industry interests.
  ड्राफ्ट नियम पहले के **व्यक्तिगत डेटा संरक्षण विधेयक** से एक महत्वपूर्ण प्रस्थान का संकेत देते हैं, जिसे अत्यधिक प्रतिबंधात्मक और उद्योग हितों के खिलाफ माना गया था।
- The earlier Bill underwent extensive framing, reframing, and consultations for almost **a decade**, only to be withdrawn due to its impracticality.
  पहले के विधेयक को लगभग **दस वर्षों** तक विस्तृत रूप से तैयार और पुनः तैयार किया गया था, लेकिन इसकी अप्रायोगिकता के कारण इसे वापस ले लिया गया।

India's Pragmatic Approach vs. EU's Interventionist Policies

भारत का व्यावहारिक दृष्टिकोण बनाम यूरोपीय संघ की हस्तक्षेपकारी नीतियां

- Unlike the **European Union's General Data Protection Regulation (GDPR)**, which has faced criticism for unintended consequences like favoring large corporations and burdening smaller enterprises, India has taken a more balanced and pragmatic approach.

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यूरोपीय संघ के सामान्य डेटा संरक्षण विनियम (GDPR) की तरह, जो बड़े निगमों का पक्ष लेने और छोटे उद्यमों पर बोझ डालने जैसे अनपेक्षित परिणामों के लिए आलोचना का सामना कर रहा है, भारत ने एक अधिक संतुलित और व्यावहारिक दृष्टिकोण अपनाया है।

- The GDPR has not significantly enhanced public trust in the Internet, whereas **India's DPDP Rules** emphasize simplicity and flexibility.
  GDPR ने इंटरनेट पर सार्वजनिक विश्वास को महत्वपूर्ण रूप से नहीं बढ़ाया है, जबकि **भारत के DPDP नियम** सादगी और लचीलापन पर जोर देते हैं।

Positive Aspects: Pragmatism and Flexibility

सकारात्मक पहलू: व्यावहारिकता और लचीलापन

- One standout feature of the draft rules is their **principles-based framework** for notice and consent, avoiding overly prescriptive measures seen in the GDPR.
  ड्राफ्ट नियमों का एक प्रमुख पहलू **सिद्धांत-आधारित ढांचा** है, जो नोटिस और सहमति के लिए GDPR में देखे गए अत्यधिक निर्देशात्मक उपायों से बचता है।
- The rules address **"consent fatigue"**, a significant issue in Europe, where users are overwhelmed with unnecessary details like the location of data processing.
  नियम **"सहमति थकान"** की समस्या को संबोधित करते हैं, जो यूरोप में एक प्रमुख मुद्दा है, जहां उपयोगकर्ताओं को डेटा प्रोसेसिंग की स्थान जैसी अनावश्यक जानकारियों से अभिभूत किया जाता है।

Course Correction in the EU: Cookie Pledge Initiative

यूरोपीय संघ में सुधार: कुकी प्लेज इनिशिएटिव

- In **2023**, the **European Commission** launched the **Cookie Pledge Initiative** to reduce the frustration caused by excessive consent pop-ups.
  2023 में, **यूरोपीय आयोग** ने अत्यधिक सहमति पॉप-अप्स के कारण होने वाली निराशा को कम करने के लिए **कुकी प्लेज इनिशिएटिव** शुरू किया।
- India's approach avoids such complexities by focusing on **outcomes** rather than **processes**, reducing unnecessary regulatory burdens on businesses.
  भारत का दृष्टिकोण **प्रक्रियाओं** के बजाय **परिणामों** पर ध्यान केंद्रित करके ऐसी जटिलताओं से बचता है और व्यवसायों पर अनावश्यक नियामक बोझ को कम करता है।

Protection of Children's Data: A Nuanced Approach

बच्चों के डेटा की सुरक्षा: एक सूक्ष्म दृष्टिकोण

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- The rules recognize the need for stricter protection for **children's personal data**, while also allowing **exemptions** for specific industries like educational institutions and health care.
  नियम **बच्चों के व्यक्तिगत डेटा** के लिए सख्त सुरक्षा की आवश्यकता को मान्यता देते हैं, साथ ही **शैक्षिक संस्थानों** और **स्वास्थ्य देखभाल** जैसी विशिष्ट उद्योगों के लिए **छूट** की अनुमति भी देते हैं।

- These industries are exempt from verifying **parental consent** for activities like **behavioral monitoring**, provided they adhere to guardrails.
  ये उद्योग **व्यवहारिक निगरानी** जैसी गतिविधियों के लिए **अभिभावकीय सहमति** की पुष्टि से छूट प्राप्त करते हैं, बशर्ते वे सुरक्षा उपायों का पालन करें।

Conclusion: Thoughtful Policymaking

निष्कर्ष: विचारशील नीति निर्माण

- The draft DPDP rules show **thoughtful policymaking**, balancing user protection with business autonomy, which contrasts with overly restrictive international regulations like the GDPR.
  ड्राफ्ट DPDP नियम **विचारशील नीति निर्माण** को दर्शाते हैं, जो उपयोगकर्ता सुरक्षा और व्यवसाय की स्वायत्तता के बीच संतुलन बनाते हैं, और GDPR जैसे अत्यधिक प्रतिबंधात्मक अंतर्राष्ट्रीय नियमों के विपरीत हैं।

The Misses as Data Localisation, Overreach

डेटा स्थानीयकरण और अति-प्रवेश के रूप में कमियां

- The **draft rules** are not without flaws.
  ड्राफ्ट नियमों में कमियां हैं।

- Provisions for **restricting cross-border data flows** introduce unnecessary **complexity and ambiguity**.
  सीमा-पार डेटा प्रवाह को प्रतिबंधित करने वाले प्रावधान अनावश्यक **जटिलता और अस्पष्टता** को जन्म देते हैं।

- **Significant Data Fiduciaries (SDFs)** — large enterprises handling substantial data volumes — face potential **localisation mandates** that extend beyond the legislation's original scope.
  सिग्निफिकेंट डेटा फिड्यूशियरीज़ (SDFs) — जो बड़ी मात्रा में डेटा संभालती हैं – उनके लिए स्थानीयकरण का प्रावधान कानून के मूल दायरे से आगे बढ़ सकता है।

- The **DPDP Act** allows the government to restrict **personal data transfers** but limits such actions to **specific notified countries**.
  DPDP अधिनियम सरकार को **व्यक्तिगत डेटा स्थानांतरण** पर रोक लगाने की अनुमति देता है, लेकिन यह केवल **विशिष्ट अधिसूचित देशों** तक सीमित है।

- Differentiating between **SDFs** and **smaller entities**, where smaller entities enjoy **relaxed transfer rules**, creates a risk of **regulatory arbitrage**.

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SDFs और **छोटे संस्थानों** के बीच अंतर, जहां छोटे संस्थानों को **डाटा ट्रांसफर में छूट** मिलती है, यह **नियामक अवसरवाद** का खतरा पैदा कर सकता है।

- These inconsistencies may **deter investment** and drive **businesses out of India**.
  ये असंगतताएं **निवेश हतोत्साहित** कर सकती हैं और **व्यवसायों को भारत से बाहर** ले जा सकती हैं।

The Localisation Provision and Law Enforcement

स्थानीयकरण प्रावधान और कानून प्रवर्तन

- The localisation provision likely stems from the **challenges faced by law enforcement agencies** in accessing **cross-border data for investigations**.
  स्थानीयकरण प्रावधान की वजह शायद कानून प्रवर्तन एजेंसियों को **सीमा-पार डेटा तक पहुंचने में आई चुनौतियां** हैं।

- A **narrower sectoral approach** to localisation could prove more effective than a **centralised one**.
  संकीर्ण क्षेत्रीय दृष्टिकोण केंद्रीकृत दृष्टिकोण की तुलना में अधिक प्रभावी हो सकता है।

- **RBI's 2018 mandate** for localising **payment data** is a **prime example** of proportionate regulation.
  RBI का 2018 का **भुगतान डेटा स्थानीयकरण निर्देश** अनुपातिक नियमन का एक **प्रमुख उदाहरण** है।

- Tailored specifically to the **financial sector**, it effectively addressed **legitimate industry concerns** without causing many business disruptions.
  यह विशेष रूप से **वित्तीय क्षेत्र** के लिए तैयार किया गया था और इसने **उद्योग के वैध मुद्दों** को प्रभावी रूप से हल किया।

Clarity Still Required

अभी भी स्पष्टता की आवश्यकता है

- Businesses need **safeguards** to verify whether **users requesting information about data processing** are legitimate.
  व्यवसायों को यह सत्यापित करने के लिए **सुरक्षा उपायों** की आवश्यकता है कि **डेटा प्रोसेसिंग की जानकारी मांगने वाले उपयोगकर्ता** वैध हैं या नहीं।

- This necessity is acknowledged even in **GDPR**, but **India's draft rules** do not address this issue.
  यह आवश्यकता GDPR में भी मानी गई है, लेकिन **भारत के ड्राफ्ट नियमों** में इसका उल्लेख नहीं है।

- There is **no provision** to charge **reasonable fees** for **excessive or unfounded requests**.
  अनावश्यक या बेबुनियाद अनुरोधों के लिए **उचित शुल्क** वसूलने का कोई प्रावधान नहीं है।

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- A related ambiguity is whether the **government can demand access** to **sensitive business data**.

  एक संबंधित अस्पष्टता यह है कि क्या सरकार **संवेदनशील व्यावसायिक डेटा** तक **पहुंच की मांग** कर सकती है।

- If so, how will it ensure the **protection of trade secrets** from falling into **competitors' hands**?

  यदि ऐसा है, तो यह **व्यापार रहस्यों की सुरक्षा** कैसे सुनिश्चित करेगा ताकि वे **प्रतिद्वंद्वियों के हाथों में** न जाएं?

What Lies Ahead

आगे क्या है

- According to **IBM**, **data breaches** cost Indian businesses an average of **₹19.5 crore ($2.35 million)** in **2024**.

  IBM के अनुसार, **डेटा उल्लंघन** ने भारतीय व्यवसायों को **2024** में औसतन **₹19.5 करोड़ ($2.35 मिलियन)** का नुकसान पहुंचाया।

- Compliance with **data protection laws** should not be seen as a **regulatory obligation**, but as **critical to protecting business reputation** and ensuring continuity.

  डेटा संरक्षण कानूनों का अनुपालन एक **नियामक दायित्व** के रूप में नहीं, बल्कि **व्यवसाय की प्रतिष्ठा की सुरक्षा** और **निरंतरता सुनिश्चित** करने के लिए महत्वपूर्ण माना जाना चाहिए।

- India must move beyond reliance on **notice-and-consent mechanisms** to safeguard citizens' **privacy** in future laws.

  भारत को नागरिकों की **गोपनीयता** की रक्षा के लिए **नोटिस-एंड-कंसेंट तंत्र** पर निर्भरता से आगे बढ़ना चाहिए।

- Notice and consent work effectively in **controlled settings**, such as the **medical profession**, but not in **public spaces** like **malls, airports, or beaches**.

  नोटिस और कंसेंट चिकित्सा क्षेत्र जैसे **नियंत्रित वातावरण** में प्रभावी होते हैं, लेकिन **मॉल, हवाई अड्डे या समुद्र तट** जैसी **सार्वजनिक जगहों** पर नहीं।

- The **Internet of Things**, **5G**, and **artificial intelligence** enable **unprecedented data collection**, making consent mechanisms less effective.

  इंटरनेट ऑफ थिंग्स, **5G**, और **कृत्रिम बुद्धिमत्ता अभूतपूर्व डेटा संग्रह** को सक्षम बनाते हैं, जिससे कंसेंट तंत्र कम प्रभावी हो जाते हैं।

- **Public consultations** must refine the draft rules to maintain a **balance** between **innovation, economic growth**, and **individual rights**.

  सार्वजनिक परामर्श को ड्राफ्ट नियमों को परिष्कृत करना चाहिए ताकि **नवाचार, आर्थिक विकास**, और **व्यक्तिगत अधिकारों** के बीच **संतुलन** बना रहे।

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Centralising control

The Centre must not attempt to run universities by proxy appointments

In a federal setup, attempts at undermining any stakeholder in the subject matter of education, which is in the Concurrent List, will prove disruptive. The Draft UGC (Minimum Qualifications for Appointment and Promotion of Teachers and Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education) Regulations, 2025, seeks to do precisely this. Demonstrating the Centre's penchant for facilitating control over institutions through gubernatorial proxies, it proposes to divest State governments of their role in the selection process for Vice Chancellor (VC) of universities. All powers are sought to be vested in the Chancellor – i.e., the Governor in most State universities – by taking away the function of constituting the search-cum-selection committee from the higher education departments. Such a committee would comprise a nominee each of the Chancellor; UGC Chairman; and of the respective university syndicate/senate. The Chancellor would appoint the VC out of three to five names recommended by the committee. Any violations, the draft warns, could attract debarment from participating in UGC schemes and denial of funding under the UGC Act. This comes against the backdrop of conflicts between State governments and Raj Bhavans on appointing VCs, which have deprived several universities, particularly in Tamil Nadu, of leadership. Naturally, opposition has come from several States, including Tamil Nadu, which passed a House resolution urging the Centre to immediately withdraw the draft. Tamil Nadu Chief Minister M.K. Stalin has argued that the draft is not only against the basic federal principles enshrined in the Constitution but also poses a threat to the higher education system. Kerala Chief Minister Pinarayi Vijayan, the AIADMK and the CPI-M have endorsed this stance.

A proposal to make non-academics eligible for the VC's job has also drawn criticism. The draft says such non-academics must have served for at least 10 years at a senior level in industry, public administration, public policy and/or public sector undertakings, with a proven track record of significant academic or scholarly contributions. Mr. Vijayan fears this could be used to appoint Sangh Parivar loyalists. However, universities have benefited from the scholarship of non-academics such as former President K.R. Narayanan and scientist Y. Nayudamma; appointing academics does not guarantee visionary leadership. The proposal to extend the VC's tenure from the typical three to five years is welcome. The UGC would do well to remove anti-federal clauses from the draft regulations and allay apprehensions on other provisions. In the long run, it should aim for reforms to obliterate any governmental role in university administration, except maybe, for funding, and elevate them into truly autonomous institutions that nurture excellence.

Centralising Control
केंद्रित नियंत्रण

The Centre must not attempt to run universities by proxy appointments.
केंद्र को विश्वविद्यालयों को प्रतिनिधि नियुक्तियों के माध्यम से चलाने का प्रयास नहीं करना चाहिए।

Attempts to Undermine Federal Setup

संघीय व्यवस्था को कमजोर करने के प्रयास

- In a **federal setup**, any attempt to undermine **stakeholders** in **education**, which is in the **Concurrent List**, will prove **disruptive**.
संघीय ढांचे में, शिक्षा जैसे विषय, जो समवर्ती सूची में आता है, में किसी भी हितधारक को कमजोर करने का प्रयास विघटनकारी साबित होगा।

- The **Draft UGC Regulations, 2025** (Minimum Qualifications for Appointment and Promotion of Teachers and Academic Staff) aims to **centralise control** over universities.
यूजीसी के मसौदा विनियम, 2025 (शिक्षकों और शैक्षणिक स्टाफ की नियुक्ति और पदोन्नति के लिए न्यूनतम योग्यता) विश्वविद्यालयों पर केंद्रित नियंत्रण स्थापित करने का प्रयास करते हैं।

Proposal to Divest State Governments of Role in VC Appointments

कुलपति नियुक्तियों में राज्य सरकारों की भूमिका समाप्त करने का प्रस्ताव

- The draft proposes to **divest State governments** of their role in the selection process for **Vice Chancellors (VCs)**.
मसौदा राज्य सरकारों को कुलपति (VC) की नियुक्ति प्रक्रिया में उनकी भूमिका से वंचित करने का प्रस्ताव करता है।

- **All powers** for VC appointments are to be vested in the **Chancellor** (mostly the **Governor** in State universities).
सभी अधिकार कुलपति की नियुक्ति के लिए कुलाधिपति (जो अधिकांशतः राज्य विश्वविद्यालयों में राज्यपाल होते हैं) को सौंपे जाएंगे।

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- The **search-cum-selection committee** would be formed by nominees of:
  खोज-सह-चयन समिति के सदस्य होंगे:
    - **Chancellor's nominee**
    - **UGC Chairman's nominee**
    - **University Syndicate/Senate nominee**
- The **Chancellor** would appoint the VC from a list of **3 to 5 names** recommended by the committee.
  कुलाधिपति समिति द्वारा सुझाए गए **3 से 5 नामों** में से कुलपति की नियुक्ति करेंगे।

Consequences for Non-compliance

अनुपालन न करने के परिणाम

- **Violations** of these regulations could lead to **debarment from UGC schemes** and **denial of funding** under the **UGC Act**.
  इन नियमों का **उल्लंघन** करने पर विश्वविद्यालयों को **यूजीसी योजनाओं से बाहर** किया जा सकता है और उन्हें **यूजीसी अधिनियम** के तहत **वित्त पोषण** से वंचित किया जा सकता है।
- The move comes amid **conflicts** between **State governments** and **Raj Bhavans** over the appointment of **VCs**.
  यह कदम **राज्य सरकारों** और **राज भवनों** के बीच **कुलपति नियुक्तियों** को लेकर चल रहे **संघर्षों** के बीच आया है।
- Several universities, especially in **Tamil Nadu**, have been deprived of **leadership** due to these conflicts.
  विशेष रूप से **तमिलनाडु** में कई विश्वविद्यालय **नेतृत्व** से वंचित हो गए हैं।

Opposition from States

राज्यों से विरोध

- **Tamil Nadu** passed a **House resolution** urging the **Centre** to **withdraw** the draft regulations immediately.
  तमिलनाडु ने एक **सदन प्रस्ताव** पारित कर केंद्र से **मसौदा विनियमों** को **तुरंत वापस लेने** का आग्रह किया।
- **Tamil Nadu CM M.K. Stalin** argued that the draft violates **federal principles** enshrined in the **Constitution** and poses a threat to the **higher education system**.
  तमिलनाडु के मुख्यमंत्री एम.के. स्टालिन ने तर्क दिया कि यह मसौदा **संविधान** में निहित **संघीय सिद्धांतों** का उल्लंघन करता है और **उच्च शिक्षा प्रणाली** के लिए खतरा है।
- **Kerala CM Pinarayi Vijayan**, the **AIADMK**, and the **CPI-M** have supported this stance.
  केरल के मुख्यमंत्री पिनाराई विजयन, **एआईएडीएमके**, और **सीपीआई-एम** ने इस रुख का समर्थन किया है।

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Proposal to Appoint Non-Academics as VCs

गैर-शिक्षाविदों को कुलपति नियुक्त करने का प्रस्ताव

- The draft proposes to make **non-academics** eligible for the **VC's position**.
  मसौदा **गैर-शिक्षाविदों** को **कुलपति पद** के लिए **योग्य** बनाने का प्रस्ताव करता है।
- **Non-academics** must have served at least **10 years** in **senior positions** in **industry**, **public administration**, **public policy**, or **public sector undertakings** with a **proven academic record**.
  गैर-शिक्षाविदों को उद्योग, सार्वजनिक प्रशासन, सार्वजनिक नीति, या सार्वजनिक क्षेत्र के उपक्रमों में कम से कम **10 वर्षों** का **वरिष्ठ स्तर का अनुभव** होना चाहिए, साथ ही उनका **सिद्ध शैक्षणिक रिकॉर्ड** होना चाहिए।
- **Kerala CM** fears that this provision could be used to appoint **Sangh Parivar loyalists**.
  केरल के मुख्यमंत्री को आशंका है कि इस प्रावधान का उपयोग **संघ परिवार के वफादारों** को नियुक्त करने के लिए किया जा सकता है।

Historical Examples of Non-Academic VCs

गैर-शिक्षाविद कुलपतियों के ऐतिहासिक उदाहरण

- Universities have benefited from **non-academic leadership**, such as:
  विश्वविद्यालयों ने **गैर-शिक्षाविद नेतृत्व** से लाभ उठाया है, जैसे:
    - **K.R. Narayanan** (former President)
    - **Y. Nayudamma** (scientist)
- Appointing **academics** does not always guarantee **visionary leadership**.
  केवल **शिक्षाविदों** की नियुक्ति **दूरदर्शी नेतृत्व** की **गारंटी** नहीं है।

Proposal to Extend VC's Tenure

कुलपति का कार्यकाल बढ़ाने का प्रस्ताव

- The draft proposes to extend the **VC's tenure** from **3 years** to **5 years**.
  मसौदा कुलपतियों के कार्यकाल को **3 वर्ष** से बढ़ाकर **5 वर्ष** करने का प्रस्ताव करता है।
- This proposal is seen as a **welcome step**.
  यह प्रस्ताव एक **सराहनीय कदम** माना जा रहा है।

UGC Must Address Anti-Federal Clauses

यूजीसी को संघ-विरोधी प्रावधानों को संबोधित करना चाहिए

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- The **UGC** should **remove anti-federal clauses** and **allay fears** regarding other provisions.

  यूजीसी को **संघ-विरोधी प्रावधानों** को **हटाना** चाहिए और अन्य प्रावधानों को लेकर **आशंकाओं** को दूर करना चाहिए।

- In the **long term**, universities should become **truly autonomous institutions**, with the government's role limited to **funding**.

  दीर्घकालिक रूप से, विश्वविद्यालयों को **स्वायत्त संस्थान** बनना चाहिए, और सरकार की भूमिका केवल **वित्तपोषण** तक सीमित होनी चाहिए।

Law by reflex
Good implementation, not stringency of law, will deter sexual crimes

The tendency to make existing laws more stringent is an administrative reflex action often occasioned by political problems set off by particular crimes. The amendments enacted by the Tamil Nadu Assembly to criminal laws on sexual crimes against women fall under this category. In response to the Opposition moves to corner the DMK regime after a rape within the premises of Anna University in Chennai, the government has moved to enhance punishments under the penal and procedural laws. That the perpetrator is a DMK sympathiser and that some details of the student survivor were leaked added political sharpness to the general criticism over such an offence happening inside the campus. At pains to deny any leniency and overcome the setback to its image after the Madras High Court formed a special investigation team, the DMK government has chosen to amend the law based on the theory that more stringent laws deter sexual assault and harassment. This belief is not founded on any statistical or empirical evidence, but is often invoked by those in government. This invariably means the use of legislative power to send out a political message that the administration is committed to women's safety. After all, necessary amendments need not have to wait for a brazen crime or a public outcry.

This is not to say the amendments are unreasonable: they enhance punishments for a range of sexual offences and extend bail-denying features to such offences as well as those under the POCSO Act. Also welcome is the new provision for passing binding protection orders that will ensure perpetrators do not contact survivors by any means. The death penalty has been introduced for acid attack that results in the victim being reduced to a vegetative state. On the other hand, the newly introduced definition of harassment of women to cover the use of digital and electronic means and even non-verbal means may be too broadly worded and prone to misuse. Few would disagree with the enhancement of jail terms for rape, sexual assault, sexual harassment, stalking and voyeurism, but a question does arise whether the mere increase in the quantum of punishment increases the possibility of conviction or reduces the incidence of these crimes. The onus of arresting offenders, gathering credible evidence and proving it in court remains the same. Impartial investigation and resisting pressure for a cover-up while effectively implementing existing laws are more crucial for demonstrating commitment to women's safety. Making workplaces, public space and homes safer for women will work better than merely adding to the severity of laws.

Law by Reflex
प्रतिक्रियात्मक कानून निर्माण

The tendency to make existing laws more stringent is an administrative reflex action often triggered by political problems set off by particular crimes.

मौजूदा कानूनों को अधिक कठोर बनाने की प्रवृत्ति अक्सर विशिष्ट अपराधों से उत्पन्न राजनीतिक समस्याओं के कारण प्रशासनिक प्रतिक्रिया के रूप में देखी जाती है।

- The amendments enacted by the **Tamil Nadu Assembly** to **criminal laws on sexual crimes against women** fall under this category.

  तमिलनाडु विधानसभा द्वारा महिलाओं के खिलाफ **यौन अपराधों पर आपराधिक कानूनों** में किए गए संशोधन इसी श्रेणी में आते हैं।

- In response to the **Opposition moves** to corner the **DMK regime** after a **rape within the premises of Anna University in Chennai**, the government has moved to **enhance punishments under the penal and procedural laws**.

  चेन्नई के अन्ना विश्वविद्यालय में बलात्कार के बाद **डीएमके शासन** को घेरने के लिए **विपक्षी दलों की रणनीति** के जवाब में सरकार ने **दंड और प्रक्रिया कानूनों** के तहत **सजा को कड़ा** करने का कदम उठाया।

- The **perpetrator** is a **DMK sympathiser**, and **details of the student survivor were leaked**, adding **political sharpness** to the criticism over the incident.

  अपराधी **डीएमके समर्थक** है, और **पीड़िता की जानकारी लीक** होने से इस घटना पर **राजनीतिक आलोचना** और तेज हो गई।

- The **Madras High Court** formed a **special investigation team (SIT)**, and the **DMK government** chose to amend the law to **demonstrate commitment to women's safety**.

मद्रास हाई कोर्ट ने **विशेष जांच दल (SIT)** का गठन किया, और **डीएमके सरकार** ने **महिलाओं की सुरक्षा के प्रति प्रतिबद्धता दिखाने के लिए** कानून में संशोधन किया।

Belief in Stringent Laws
कठोर कानूनों में विश्वास

- The government's belief that **more stringent laws deter sexual assault and harassment** is **not based on any statistical or empirical evidence**.
  सरकार का यह विश्वास कि **अधिक कठोर कानून यौन उत्पीड़न और उत्पीड़न को रोकते हैं**, किसी भी **सांख्यिकीय या अनुभवजन्य साक्ष्य** पर आधारित नहीं है।
- This belief is often used to **send a political message** that the **administration is committed to women's safety**.
  यह विश्वास अक्सर **राजनीतिक संदेश** देने के लिए इस्तेमाल किया जाता है कि **सरकार महिलाओं की सुरक्षा के प्रति प्रतिबद्ध है।**

Amendments in Criminal Laws
आपराधिक कानूनों में संशोधन

- The amendments include **enhanced punishments for a range of sexual offences** and **bail-denying provisions for POCSO Act cases**.
  इन संशोधनों में **विभिन्न यौन अपराधों के लिए सजा बढ़ाने** और **POCSO अधिनियम के मामलों में जमानत से इनकार के प्रावधान** शामिल हैं।
- A new provision allows for **binding protection orders**, ensuring that **perpetrators do not contact survivors by any means**.
  एक नया प्रावधान **संरक्षण आदेश** की अनुमति देता है, जिससे यह सुनिश्चित होता है कि **अपराधी किसी भी माध्यम से पीड़िता से संपर्क नहीं कर सकते।**
- The **death penalty** has been introduced for **acid attacks** that result in **the victim being reduced to a vegetative state**.
  एसिड हमलों के लिए **मृत्युदंड** का प्रावधान किया गया है, यदि पीड़िता **अचेत अवस्था** में पहुंच जाती है।

Concerns Over Misuse
दुरुपयोग को लेकर चिंताएँ

- The newly introduced **definition of harassment of women** covers **digital, electronic, and non-verbal means**, which may be **too broad** and **prone to misuse**.
  महिलाओं के उत्पीड़न की **नई परिभाषा** में **डिजिटल, इलेक्ट्रॉनिक, और गैर-मौखिक साधन** शामिल हैं, जो **बहुत व्यापक** और **दुरुपयोग की संभावना वाला** हो सकता है।

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Effectiveness of Stringent Laws
कठोर कानूनों की प्रभावशीलता

- Few would disagree with the **enhancement of jail terms for rape, sexual assault, harassment, stalking**, and **voyeurism**, but it is questionable whether **increasing punishment** actually **reduces crime rates**.
  बलात्कार, यौन उत्पीड़न, पीछा करना, और झांकने के लिए **जेल की सजा बढ़ाने** से **अपराध दर में कमी** आती है या नहीं, यह एक सवाल है।

- The **onus of arresting offenders, gathering evidence**, and **proving cases in court** remains **unchanged**.
  अपराधियों को गिरफ्तार करने, साक्ष्य एकत्र करने, और न्यायालय में मामलों को साबित करने की जिम्मेदारी **बनी रहती है**।

Need for Effective Implementation
प्रभावी कार्यान्वयन की आवश्यकता

- **Impartial investigation** and **resisting pressure for cover-ups** are **more crucial** than simply **enhancing punishments**.
  निष्पक्ष जांच और **ढांकने के दबाव का विरोध करना** केवल **सजा बढ़ाने** से अधिक **महत्वपूर्ण** है।

- **Making workplaces, public spaces**, and **homes safer for women** will have a **greater impact on women's safety** than merely **adding to the severity of laws**.
  कार्यस्थलों, सार्वजनिक स्थानों, और **घरों को महिलाओं के लिए सुरक्षित बनाना** केवल **कानूनों को कड़ा करने** से महिलाओं की सुरक्षा पर अधिक **प्रभाव डाल सकता** है।

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Draft digital data protection rules and authoritarianism

GS Paper II: Right to Privacy and Digitisation of data.

In August 2024, as India marked six years since the K.S. Puttaswamy judgment reaffirmed privacy as a fundamental right, the Internet Freedom Foundation hosted its annual "Privacy Supreme" event – not as a celebration, but as a sombre reflection on its unfulfilled promise. Social activist Nikhil Dey shared chilling accounts, from Ajmer in Rajasthan, on how Aadhaar, heralded for efficiency, has excluded vulnerable residents from pensions and rations. This grim reality must be central to tech policy discussions, including the Draft Digital Data Protection Rules, 2025.

Executive overreach, scant transparency

Rulemaking typically fleshes out legislation, ensuring laws passed by Parliament are enforceable while maintaining administrative flexibility. Yet, the draft Data Protection Rules provoke concern on questions of executive overreach and vague governance. Some earlier analysis here bears repetition for these rules are a conscientious pupil in obedience of its master. Here, its parent is the Digital Personal Data Protection Act, 2023, that was rammed through Parliament as "a product of the subversion of the democratic process". There is more than a mere lack of trust in how the law was created, for its substantive provisions advance a broader policy of "total state control – a digital leash to yank us and make us stand in line than to serve the preambular objectives of the Constitution of India". Its provisions are deliberately vague, granting broad discretion under the nebulous phrase "as may be prescribed".

Despite the Act's swift passage on August 9, 2023, its implementation remains in limbo. Sixteen months later, the draft Rules have been unveiled for consultation. But are they truly "public"? Published as a 51-page pdf (in Hindi/English as a gazette notification), with a three-page explanatory note that reads as AI glop, a simplistic and vague summary offers little insight into the policy choices during drafting. Comments can only be submitted through the MyGov platform that might encourage expert input but restricts broader participation.

Apar Gupta

an advocate and the founder-director of the Internet Freedom Foundation

There is a common thread with the parent Digital Personal Data Protection Act, 2023, with its digital leash

Transparency is undermined by the government's decision to treat submissions as fiduciary, precluding public disclosure and counter-comments. This controlled feedback process resembles a "corporate consultation" rather than a public one.

Substantively, the Data Protection Rules build on a framework of intentional vagueness and executive dominance. Many compliance obligations are either self-determined by companies handling personal data or left to government discretion. Consider Rule 3, which governs consent notices. It mandates "clear and plain language" but fails to define these terms, leaving interpretation subject to India's vast linguistic and comprehension diversity. Without specific standards, notices risk being overly generic or oversimplified, omitting critical details. Similarly, while the Rules require an "itemized description" of data, they do not clarify whether the disclosure is for categories such as financial or health data; or to specific data points such as account numbers, or even metadata and inferred data. Nor do they define timelines for data breach notifications to users, raising risks for individuals in urgent situations. Such ambiguities, if purely administrative, should have been resolved by the standard setting powers of an independent regulatory authority that does not exist.

No independence for Data Protection Board

The vagueness reflects deeper structural flaws. The Act eschews the creation of an independent regulatory body, instead, consolidating power within the Union Government. Through informal interactions and gazette notifications, the government wields unchecked authority over citizens and the digital marketplace. Even the Data Protection Board (DPB), which has a limited ambit of jurisdiction to adjudicate on breaches, lacks independence. The Board's chairperson is selected based on recommendations of a search and selection committee chaired by the Cabinet Secretary, raising critical concerns. How will the committee address the critiques of political control that plague similar appointment processes? What value does the search committee offer when it has advance knowledge that its recommendations are not binding on the Union Government?

Even after its formation, the DPB is hamstrung. Its authority is largely limited to determining data breaches, and its independence is compromised by service conditions of its members to central government employees. This contravenes long-standing recommendations, such as the 2006 Planning Commission consultation paper on regulation, which emphasised that "the selection, appointment, and removal of chairpersons and members should be insulated against any perceived interference or manipulation that may influence the outcome". How will a subservient DPB apply data protection effectively? Rule 5 exempts data processing for subsidies from consent requirements. In such cases, can there be any meaningful accountability? It is not unreasonable to foresee scenarios where the DPB may fail to act promptly or effectively, particularly when complaints involve powerful government entities such as the UIDAI that handles Aadhaar. It raises fundamental doubts about what it means for community organisations that may approach it for redress on user rights for things as simple as getting a data record corrected to receive rations.

Finally, regarding Rule 22, which contains the power of the government to requisition information, there is an absence of limitations and safeguards. As many may read this column, they may still wonder why the data protection rules are too late, too little, too vague? The answer may be provided by Mr. Dey who framed his characterisation of the digital policies of the Indian state with a reference to Through the Looking-Glass. When Alice probes Humpty Dumpty on how the same word can have different meanings, his reply captures the core of India's data protection regime: "The question is… which is to be master – that's all."

Draft Digital Data Protection Rules and Authoritarianism
डिजिटल डेटा प्रोटेक्शन नियम और सत्तावाद

In August 2024, India marked six years since the K.S. Puttaswamy judgment, which reaffirmed privacy as a fundamental right.
अगस्त 2024 में, भारत ने के.एस. पुट्टस्वामी फैसला के छह साल पूरे किए, जिसने गोपनीयता को एक मौलिक अधिकार के रूप में फिर से स्थापित किया।

- The **Internet Freedom Foundation** hosted its annual event **"Privacy Supreme"** to reflect on the **unfulfilled promise** of privacy rights.
  इंटरनेट फ्रीडम फाउंडेशन ने अपने वार्षिक कार्यक्रम **"प्राइवेसी सुप्रीम"** का आयोजन किया, ताकि गोपनीयता अधिकारों की **अपूर्ण वादे** पर चर्चा की जा सके।
- Social activist **Nikhil Dey** shared chilling accounts from **Ajmer, Rajasthan**, highlighting how **Aadhaar** excluded **vulnerable residents** from pensions and rations.
  सामाजिक कार्यकर्ता **निखिल डे** ने **अजमेर, राजस्थान** से ऐसे उदाहरण साझा किए, जिनमें **आधार** ने **कमजोर नागरिकों** को पेंशन और राशन से बाहर कर दिया।

Executive Overreach, Scant Transparency

कार्यकारी अतिक्रमण और पारदर्शिता की कमी

- Rulemaking typically fleshes out legislation to ensure laws passed by **Parliament** are enforceable while maintaining **administrative flexibility**.
  नियम बनाना आमतौर पर **संसद** द्वारा पारित कानूनों को लागू करने योग्य बनाता है और **प्रशासनिक लचीलापन** बनाए रखता है।
- The **Draft Data Protection Rules** raise concerns about **executive overreach** and **vague governance**.
  ड्राफ्ट डेटा प्रोटेक्शन नियम कार्यकारी अतिक्रमण और **अस्पष्ट शासन** को लेकर चिंताएं पैदा करते हैं।
- The **Digital Personal Data Protection Act, 2023**, which these rules follow, has been criticized as **"a product of the subversion of the democratic process"**.
  डिजिटल पर्सनल डेटा प्रोटेक्शन अधिनियम, 2023, जिसकी ये नियम पालना करते हैं, को **"लोकतांत्रिक प्रक्रिया के कमजोर करने का उत्पाद"** कहा गया है।

Public Consultation and Transparency Issues

सार्वजनिक परामर्श और पारदर्शिता से संबंधित मुद्दे

- The draft rules were **published 16 months** after the Act's passage in **August 2023** but are not truly **public consultations**.
  ड्राफ्ट नियम अधिनियम के **अगस्त 2023** में पारित होने के **16 महीने बाद** प्रकाशित हुए, लेकिन ये **वास्तविक सार्वजनिक परामर्श** नहीं हैं।
- The rules were shared as a **51-page PDF** in **Hindi/English**, with an **explanatory note** that was too vague.
  नियमों को **51-पृष्ठ के पीडीएफ** के रूप में **हिंदी/अंग्रेज़ी** में साझा किया गया, जिसमें एक **स्पष्टीकरण नोट** था जो बहुत अस्पष्ट था।
- Comments can only be submitted via the **MyGov platform**, limiting **broader participation**.

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टिप्पणी केवल **MyGov प्लेटफ़ॉर्म** के माध्यम से ही दी जा सकती है, जिससे **विस्तृत भागीदारी** सीमित हो जाती है।

Vague Provisions in Rules

नियमों में अस्पष्ट प्रावधान

- Rule **3** governs **consent notices** and mandates **"clear and plain language"**, but it fails to define **specific standards**.
  नियम **3 सहमति सूचनाओं** को नियंत्रित करता है और **"स्पष्ट और साधारण भाषा"** अनिवार्य करता है, लेकिन इसमें **विशिष्ट मानक** परिभाषित नहीं किए गए हैं।

- There is **no clarity** on whether the **data categories** (like financial or health data) or **specific data points** (like account numbers) need to be disclosed.
  यह स्पष्ट नहीं है कि **डेटा श्रेणियों** (जैसे वित्तीय या स्वास्थ्य डेटा) या **विशिष्ट डेटा बिंदुओं** (जैसे खाता संख्या) का खुलासा आवश्यक है या नहीं।

- The rules **do not define timelines** for **data breach notifications**, increasing risks for individuals in **urgent situations**.
  नियम **डेटा उल्लंघन अधिसूचनाओं** के लिए **समयसीमा निर्धारित नहीं करते**, जिससे **आपातकालीन स्थितियों** में व्यक्तियों के लिए जोखिम बढ़ जाता है।

No Independence for Data Protection Board

डेटा प्रोटेक्शन बोर्ड के लिए कोई स्वतंत्रता नहीं

- The **Data Protection Board (DPB)** lacks independence as its **chairperson** is selected by a committee chaired by the **Cabinet Secretary**.
  डेटा प्रोटेक्शन बोर्ड (DPB) स्वतंत्रता से वंचित है क्योंकि इसका **अध्यक्ष** चयन समिति द्वारा चुना जाता है, जिसकी अध्यक्षता **कैबिनेट सचिव** करते हैं।

- The **selection process** raises concerns about **political control** over the DPB.
  चयन प्रक्रिया राजनीतिक नियंत्रण के बारे में चिंताएं पैदा करती है।

- The **DPB's authority** is limited to determining **data breaches**, and its members' service conditions are tied to the **central government**.
  DPB की अधिकारिता केवल **डेटा उल्लंघनों** तक सीमित है, और इसके सदस्यों की सेवा शर्तें **केंद्र सरकार** पर निर्भर हैं।

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The reforms needed in the MEA

India is on the rise, thanks to its consistent economic growth, political stability, and a bold, autonomous foreign policy. Whether it is the success of its G20 presidency, its strategic autonomy during the Russia-Ukraine conflict, its leadership in vaccine diplomacy during COVID-19, or its initiative in voicing the concerns of the Global South, India has established itself as a major player in global affairs.

However, with this increased global stature comes the need for an organisational framework that supports and sustains such ambitions. The Ministry of External Affairs (MEA) needs to keep pace with the demands of this new era and evolve to meet them. A critical examination of its staffing, structure, and operational approach reveals significant gaps that must be addressed urgently.

Col Rajeev Agarwal (retired)
Former Director at Ministry of External affairs, New Delhi

Areas of improvement

The MEA is staffed with about 850 Indian Foreign Service (IFS) officers tasked with formulating and executing foreign policy across 193 embassies and consulates worldwide. While the annual intake of IFS officers has increased from 12-14 to 32-35 in recent years, it remains grossly inadequate. Comparatively, the U.S. has around 14,500 foreign service officers; the U.K., 4,600; and Russia around 4,500 officers.

Given the current intake rate, India would require decades to reach an optimal workforce of 1,500 officers. To address this challenge, the Ministry should consider lateral hiring and absorbing officers from other government services, including defence personnel with experience as defence attachés and academics specialising in international relations. Such recruitment should be subject to stringent selection criteria and probation periods to ensure quality. Additionally, consultants could be engaged for specialised roles. The current perception is that they are stop-gap appointees.

The MEA's internal structure

India has established itself as a major player in global affairs. The Ministry of External Affairs needs to keep pace with the demands of this new era

requires reorganisation to reduce fragmentation and improve coordination. It has many small divisions, especially territorial ones, which often result in inefficiencies. For instance, India's immediate neighbourhood, a declared priority in its foreign policy, is managed by four separate divisions: the PAI Division (Pakistan, Afghanistan, and Iran), the BM Division (Bangladesh and Myanmar), the Northern Division (Nepal and Bhutan) and the IOR Division (Sri Lanka, Maldives, and other nations in the Indian Ocean Region). While inputs from these are collated at higher levels, such fragmentation increases the risk of oversight and hinders cohesive regional engagement.

Similarly, the Gulf Division oversees eight Gulf countries, and the WANA Division handles the rest of West Asia and North Africa. Surprisingly, Iran and Türkiye, two pivotal nations in the region, do not fall under either division. Instead, Türkiye is managed by the Central Europe Division, while Iran falls under the PAI Division. Many similar misalignments highlight the need for restructuring and consolidating divisions to create a more efficient and integrated approach.

While officers posted abroad enjoy substantial financial and administrative support, their counterparts in Delhi face significant challenges. Housing facilities have improved, but are still inadequate to accommodate the growing cadre. Furthermore, financial incentives and allowances for officers posted in India are limited, making domestic postings less appealing than foreign assignments. Providing better housing, medical coverage, and educational facilities for their families could work wonders for the morale of these officers. Also, offering financial incentives for Delhi postings could help. After all, this is where critical assessments are made, and key policies are formulated before being executed abroad.

The MEA has long debated the balance between generalist and specialist roles within the IFS. Language skills, a key aspect of diplomatic expertise, often fall victim to the rotational posting system. Officers undergo rigorous training in one foreign language during their initial years and are typically posted in countries where that language is spoken. However, subsequent postings often do not align with their linguistic expertise, reducing the long-term benefits of this training.

To address this, at least one language-trained officer should be posted in each embassy to reduce dependence on interpreters. Often, in tricky negotiations, language skills have proved to be a game changer, and the Ministry could leverage this aspect. Moreover, as officers progress in their careers, they should be encouraged to become specialists or subject matter experts.

As technology increasingly influences foreign policy, the MEA must build capacity in fields such as cybersecurity, space policy, and artificial intelligence. Expecting all IFS officers to master these highly technical areas alongside their core responsibilities is unrealistic. Instead, the Ministry should hire and retain domain specialists who can focus exclusively on these issues throughout their careers.

Steps in the right direction

Despite these challenges, the MEA has made significant efforts to evolve. The establishment of divisions such as Policy, Planning and Research, and the Centre for Contemporary China Studies, reflects its intent to adapt to emerging global trends. The dynamic leadership of Dr. S. Jaishankar has been instrumental in the display of innovation and greater assertiveness in foreign policy and also, as he emphasises, in aligning foreign policy with India's aspirations to become a 'Viksit Bharat' (Developed India).

As India moves towards its 100 years of independence in 2047, its foreign policy must evolve in tandem with its global ambitions.

The reforms needed in the MEA
MEA में सुधार की आवश्यकता

India is on the rise, thanks to its consistent economic growth, political stability, and a bold, autonomous foreign policy.

भारत अपनी लगातार आर्थिक वृद्धि, राजनीतिक स्थिरता, और साहसिक, स्वायत्त विदेश नीति के कारण वृद्धि कर रहा है।

- Whether it is the success of its **G20 presidency**, its **strategic autonomy** during the **Russia-Ukraine conflict**, its leadership in **vaccine diplomacy** during **COVID-19**, or its initiative in voicing the concerns of the **Global South**, **India** has established itself as a major player in global affairs.

  चाहे वह **G20 अध्यक्षता** की सफलता हो, **रूस-यूक्रेन संघर्ष** के दौरान **रणनीतिक स्वायत्तता**, **COVID-19** के दौरान **वैक्सीनेशन कूटनीति** में नेतृत्व, या **वैश्विक दक्षिण** की चिंताओं को व्यक्त करने की पहल हो, **भारत** ने खुद को वैश्विक मामलों में एक प्रमुख खिलाड़ी के रूप में स्थापित किया है।

- With this increased global stature comes the need for an organisational framework that supports and sustains such ambitions.

  इस बढ़ती वैश्विक स्थिति के साथ ऐसी महत्वाकांक्षाओं का समर्थन और संरक्षण करने के लिए एक संगठनात्मक ढांचे की आवश्यकता है।

- **The Ministry of External Affairs (MEA)** needs to keep pace with the demands of this new era and evolve to meet them.

  विदेश मंत्रालय (MEA) को इस नए युग की आवश्यकताओं के साथ कदम से कदम मिलाकर चलने और उन्हें पूरा करने के लिए विकसित होना चाहिए।

Areas of improvement
सुधार के क्षेत्र

- The MEA is staffed with about **850 Indian Foreign Service (IFS)** officers tasked with formulating and executing foreign policy across **193 embassies** and consulates worldwide.

  MEA में लगभग **850 भारतीय विदेश सेवा (IFS)** अधिकारी हैं, जो **193 दूतावासों** और कांसुलेटों में विदेश नीति को तैयार करने और लागू करने का काम करते हैं।

- While the annual intake of IFS officers has increased from **12-14** to **32-35** in recent years, it remains grossly inadequate.

  जबकि IFS अधिकारियों की वार्षिक भर्ती हाल के वर्षों में **12-14** से **32-35** तक बढ़ी है, फिर भी यह बेहद अपर्याप्त है।

- **India** would require decades to reach an optimal workforce of **1,500 officers** at the current intake rate.

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वर्तमान भर्ती दर पर **भारत** को **1,500 अधिकारियों** की उपयुक्त कार्यबल तक पहुंचने में दशकों लगेंगे।

- To address this challenge, the Ministry should consider **lateral hiring** and absorbing officers from other government services, including **defence personnel** with experience as **defence attachés** and **academics** specialising in international relations.

इस चुनौती का समाधान करने के लिए मंत्रालय को **पार्श्व भर्ती** पर विचार करना चाहिए और अन्य सरकारी सेवाओं से अधिकारियों को समाहित करना चाहिए, जिसमें **रक्षा कर्मी**, जो **रक्षा अताशे** के रूप में अनुभव रखते हैं, और **अंतर्राष्ट्रीय संबंधों में विशेषज्ञ** अकादमिक शामिल हैं।

- The MEA's internal structure requires reorganisation to reduce fragmentation and improve coordination.

MEA की आंतरिक संरचना में पुनर्गठन की आवश्यकता है ताकि विखंडन को कम किया जा सके और समन्वय में सुधार हो सके।

- **India's immediate neighbourhood**, a declared priority in its foreign policy, is managed by four separate divisions:

भारत का तत्काल पड़ोसी, जो इसकी विदेश नीति में घोषित प्राथमिकता है, चार अलग-अलग विभागों द्वारा प्रबंधित किया जाता है:
  - The **PAI Division** (Pakistan, Afghanistan, and Iran)
  - The **BM Division** (Bangladesh and Myanmar)
  - The **Northern Division** (Nepal and Bhutan)
  - The **IOR Division** (Sri Lanka, Maldives, and other nations in the Indian Ocean Region)

- The Gulf Division oversees **eight Gulf countries**, and the WANA Division handles the rest of **West Asia** and **North Africa**.

गल्फ विभाग **आठ गल्फ देशों** की देखरेख करता है, और WANA विभाग बाकी **पश्चिम एशिया** और **उत्तर अफ्रीका** का संचालन करता है।

- **Iran** and **Türkiye**, two pivotal nations in the region, do not fall under either division. Instead, **Türkiye** is managed by the **Central Europe Division**, while **Iran** falls under the **PAI Division**.

ईरान और **तुर्की**, जो क्षेत्र में दो महत्वपूर्ण देश हैं, किसी भी विभाग के अंतर्गत नहीं आते। इसके बजाय, **तुर्की** को **केंद्रीय यूरोप विभाग** द्वारा प्रबंधित किया जाता है, जबकि **ईरान** को **PAI विभाग** के तहत रखा जाता है।

- Many similar misalignments highlight the need for restructuring and consolidating divisions to create a more efficient and integrated approach.

ऐसी कई मिसअलाइनमेंट्स इस बात को उजागर करती हैं कि सुधार और विभागों के समेकन की आवश्यकता है ताकि एक अधिक कुशल और एकीकृत दृष्टिकोण बनाया जा सके।

- Housing facilities have improved, but are still inadequate to accommodate the growing cadre.

आवास सुविधाओं में सुधार हुआ है, लेकिन यह बढ़ते कर्मचारियों को समायोजित करने के लिए अभी भी अपर्याप्त हैं।

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- Financial incentives and allowances for officers posted in **India** are limited, making domestic postings less appealing than foreign assignments.
  भारत में पोस्टेड अधिकारियों के लिए वित्तीय प्रोत्साहन और भत्ते सीमित हैं, जिससे घरेलू पोस्टिंग विदेशी नियुक्तियों की तुलना में कम आकर्षक हो जाती है।

- Offering better housing, **medical coverage**, and **educational facilities** for families could improve the morale of these officers.
  परिवारों के लिए बेहतर आवास, **चिकित्सकीय कवरेज**, और **शैक्षिक सुविधाएं** प्रदान करने से इन अधिकारियों का मनोबल बढ़ सकता है।

- The MEA has long debated the balance between **generalist** and **specialist** roles within the IFS.
  MEA लंबे समय से IFS के भीतर **सामान्यवादी** और **विशेषज्ञ** भूमिकाओं के बीच संतुलन पर बहस कर रहा है।

- **Language skills**, a key aspect of diplomatic expertise, often fall victim to the rotational posting system.
  भाषाई कौशल, जो कूटनीतिक विशेषज्ञता का एक महत्वपूर्ण पहलू है, अक्सर रोटेशनल पोस्टिंग सिस्टम का शिकार हो जाते हैं।

- To address this, at least one language-trained officer should be posted in each embassy to reduce dependence on interpreters.
  इसे संबोधित करने के लिए, प्रत्येक दूतावास में कम से कम एक भाषा-प्रशिक्षित अधिकारी को पोस्ट किया जाना चाहिए ताकि दुभाषियों पर निर्भरता कम की जा सके।

- As technology increasingly influences foreign policy, the MEA must build capacity in fields such as **cybersecurity**, **space policy**, and **artificial intelligence**.
  जैसे-जैसे प्रौद्योगिकी विदेश नीति पर अधिक प्रभाव डालती है, MEA को **साइबर सुरक्षा**, **अंतरिक्ष नीति**, और **कृत्रिम बुद्धिमत्ता** जैसे क्षेत्रों में क्षमता निर्माण करना चाहिए।

- The Ministry should hire and retain **domain specialists** who can focus exclusively on these issues throughout their careers.
  मंत्रालय को **डोमेन विशेषज्ञों** को नियुक्त करना चाहिए और बनाए रखना चाहिए जो अपने करियर के दौरान इन मुद्दों पर विशेष ध्यान केंद्रित कर सकें।

Steps in the right direction
सही दिशा में कदम

- Despite these challenges, the MEA has made significant efforts to evolve.
  इन चुनौतियों के बावजूद, MEA ने विकसित होने के लिए महत्वपूर्ण प्रयास किए हैं।

- The establishment of divisions such as **Policy, Planning and Research**, and the **Centre for Contemporary China Studies**, reflects its intent to adapt to emerging global trends.
  नीति, योजना और शोध जैसे विभागों की स्थापना, और **समकालीन चीन अध्ययन केंद्र**, इसके उभरते वैश्विक रुझानों के अनुरूप अनुकूलन की मंशा को दर्शाते हैं।

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- The dynamic leadership of **Dr. S. Jaishankar** has been instrumental in the display of innovation and greater assertiveness in foreign policy.

  डॉ. एस. जयशंकर का गतिशील नेतृत्व विदेश नीति में नवाचार और अधिक आक्रामकता दिखाने में महत्वपूर्ण रहा है।

- As **India** moves towards its **100 years of independence** in **2047**, its foreign policy must evolve in tandem with its global ambitions.

  जैसे-जैसे **भारत** अपने **स्वतंत्रता के 100 वर्षों** की ओर बढ़ता है (**2047** में), इसकी विदेश नीति को इसकी वैश्विक महत्वाकांक्षाओं के साथ समकालिक रूप से विकसित होना चाहिए।

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Should voter IDs be linked with Aadhaar?

Why was the National Electoral Rolls Purification and Authentication Program launched by the Election Commission? How do already existing voters link EPIC with their respective Aadhaar numbers? What did the Supreme Court mandate in the Puttaswamy case in 2018?

GS Paper II: Right to Privacy
EXPLAINER

Rangarajan. R

The story so far:
The Aam Aadmi Party (AAP) and the Bharatiya Janata Party (BJP) have accused each other of manipulating electoral rolls before the Delhi Assembly elections. This has reignited the debate about linking voter IDs/Election Photo Identity Card (EPIC) with respective Aadhaar numbers.

What is the history of the proposal?
The Election Commission (EC) had in February 2015 launched the National Electoral Rolls Purification and Authentication Program (NERPAP). This was to address the issue of duplicate entries in the electoral roll and to remove such entries. In order to achieve this, the EC began authenticating EPIC data by linking it with the Aadhaar database. It had linked more than 300 million voters in a span of three months. However, the Supreme Court in an interim order, in August 2015, held that the mandatory use of Aadhaar should only be for welfare schemes and PAN linking. Following this order, the NERPAP exercise was discontinued.

After the Supreme Court's final order in *Puttaswamy* in September 2018, that upheld the constitutional validity of the Aadhaar Act, the EC sought amendments to the Representation of the People Act, 1950 (RP Act, 1950). The Parliament amended the RP Act, 1950 and The Registration of Electors Rules, 1960 in December 2021 to enable the linking of EPIC with Aadhaar. It provided the format in which Aadhaar information may be submitted to the electoral registration officer by a new voter at the time of fresh registration (Form 6: to establish identity) or an existing voter already included in the electoral roll (Form 6B: for the purpose of authentication). Any other listed document may be submitted only if the voter is unable to furnish their

Need to verify: A special camp for linking Aadhaar with voter ID card held in Madurai in 2022. FILE PHOTO

Aadhaar number because they do not have one. However, in order to keep these amendments voluntary in nature, the word 'may' have been used in the amendments. Further, the amendment also specifies that no application for inclusion of name in the electoral roll shall be denied and no entries shall be deleted due to the inability of an individual to furnish or intimate the Aadhaar number due to 'sufficient cause.'

Such individuals may furnish alternate documents like PAN card, Driving Licence, Passport, Bank passbook etc.

While the above amendments were challenged in the Supreme Court, the EC in September 2023 informed the court that submission of the Aadhaar number is not mandatory. It added that it is looking into issuing appropriate clarificatory changes in the forms introduced for this purpose. However, it may be noted that Form 6 and 6B have not been amended till date and they continue to seek the same details as before from the applicants.

The forms require the voters to declare that they do not have an Aadhar number to avoid providing the same.

What are the pros and cons?
EPIC linkage with the respective Aadhaar

number would definitely help in weeding out duplicate entries; that is essential. At present, more than 650 million Aadhaar numbers have already been uploaded in the process of finalising the electoral rolls. However, there are some concerns about this exercise that need to be considered.

Firstly, the errors in the Aadhaar database, however miniscule, may result in wrongful rejection or deletion of entries from the electoral roll. Secondly, Aadhaar is only a proof of residence and not a proof of citizenship. Thus, it may not help in removing voters who are not citizens from the electoral roll. It would require a separate effort from the EC.

Finally, while the linkage is to happen at the back end and a mere mention of the Aadhaar number on the EPIC/electoral roll may not by itself be a violation of right to privacy, it may still result in misuse as the electoral rolls are widely circulated amongst political parties.

What can be the way forward?
The right to vote is a constitutional right and declared so by the Supreme Court in various cases. It is part of the basic structure of free and fair elections and cannot be constricted through legislative action. Citizens are the most important stakeholders in a democracy and any electoral process should gain their confidence. There must be wide publicity about the benefits of linking EPIC and Aadhaar to clean up the electoral roll of duplicate entries, which in turn strengthens the electoral process. Any misplaced concern amongst voters about the secrecy of their vote being compromised because of this linking should be assuaged.

Meanwhile, the forms should be suitably modified without any delay, to reflect that providing Aadhaar is not mandatory, as per the submission of the EC in the Supreme Court in September 2023.

Rangarajan R is a former IAS officer and author of 'Polity Simplified'. Views expressed are personal.

THE GIST
▼
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▼
EPIC linkage with the respective Aadhaar number would definitely help in weeding out duplicate entries; that is essential.

Should voter IDs be linked with Aadhaar?
क्या वोटर आईडी को आधार से जोड़ा जाना चाहिए?

The Election Commission (EC) launched the National Electoral Rolls Purification and Authentication Program (NERPAP) in February 2015 to address duplicate entries in the electoral roll.

चुनाव आयोग (EC) ने फरवरी 2015 में राष्ट्रीय निर्वाचक रजिस्ट्रीकरण शुद्धीकरण और प्रमाणीकरण कार्यक्रम (NERPAP) शुरू किया ताकि निर्वाचन सूची में दोहरी प्रविष्टियों को संबोधित किया जा सके।

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- The EC started linking **EPIC data** with the **Aadhaar database**, and over **300 million voters** were linked in three months.

  EC ने **EPIC डेटा** को **आधार डेटाबेस** से जोड़ना शुरू किया, और तीन महीनों में **300 मिलियन मतदाताओं** को जोड़ लिया गया।

- In **August 2015**, the Supreme Court issued an interim order, stating **Aadhaar** should only be mandatory for **welfare schemes and PAN linking**.

  अगस्त 2015 में, सर्वोच्च न्यायालय ने एक अंतरिम आदेश जारी किया, जिसमें कहा गया कि **आधार** केवल **कल्याणकारी योजनाओं और PAN लिंकिंग** के लिए अनिवार्य होना चाहिए।

- Following the **Puttaswamy case** in **September 2018**, which upheld the constitutional validity of the **Aadhaar Act**, the EC sought amendments to the **Representation of the People Act, 1950**.

  सितंबर 2018 में **पुट्टस्वामी मामले** के बाद, जिसमें **आधार अधिनियम** की संवैधानिक वैधता को बरकरार रखा गया, EC ने **लोगों के प्रतिनिधित्व अधिनियम, 1950** में संशोधन करने का अनुरोध किया।

- **December 2021**: Parliament amended the **Representation of the People Act, 1950** and **The Registration of Electors Rules, 1960** to allow linking **EPIC** with **Aadhaar**.

  दिसंबर 2021: संसद ने **लोगों के प्रतिनिधित्व अधिनियम, 1950** और **निर्वाचक पंजीकरण नियम, 1960** में संशोधन करके **EPIC** को **आधार** से जोड़ने की अनुमति दी।

- **Form 6** is used for new voters registering, while **Form 6B** is for existing voters who need **authentication**.

  फॉर्म 6 नए मतदाताओं के पंजीकरण के लिए है, जबकि **फॉर्म 6B** मौजूदा मतदाताओं के लिए है जिन्हें **प्रमाणीकरण** की आवश्यकता है।

- **Supreme Court**, in **September 2023**, stated that submitting the **Aadhaar number** is not mandatory, and the EC is reviewing changes in the forms.

  सुप्रीम कोर्ट, **सितंबर 2023** में, ने कहा कि **आधार नंबर** प्रदान करना अनिवार्य नहीं है, और EC फॉर्म में बदलाव की समीक्षा कर रहा है।

Pros and Cons of Linking EPIC with Aadhaar
EPIC को आधार से जोड़ने के लाभ और हानियां

- **EPIC linkage** with **Aadhaar** helps in removing **duplicate entries** from the electoral roll, with **650 million Aadhaar numbers** already uploaded.

  EPIC लिंकिंग आधार के साथ निर्वाचन सूची से **दोहरी प्रविष्टियों** को हटाने में मदद करती है, और **650 मिलियन आधार नंबर** पहले ही अपलोड किए जा चुके हैं।

- There are concerns regarding **errors in the Aadhaar database** causing wrongful rejection or deletion of electoral roll entries.

  आधार डेटाबेस में त्रुटियां होने के कारण निर्वाचन सूची में प्रविष्टियों का गलत तरीके से खारिज या हटाया जा सकता है।

- **Aadhaar** is **proof of residence**, not **proof of citizenship**, so it can't address non-citizen voters.

आधार निवास प्रमाण है, **नागरिकता प्रमाण** नहीं, इसलिए यह गैर-नागरिक मतदाताओं को संबोधित नहीं कर सकता।

- Although the **Aadhaar linkage** will be at the **back end**, there are concerns about **misuse** as the electoral rolls are widely circulated.
  हालांकि **आधार लिंकिंग पीछे की तरफ** होगी, फिर भी **दुरुपयोग** को लेकर चिंताएं हैं क्योंकि निर्वाचन सूची को व्यापक रूप से प्रसारित किया जाता है।

Way Forward
आगे का रास्ता

- **Right to vote** is a **constitutional right** and must not be restricted through legislative actions.
  मतदान का अधिकार एक **संविधानिक अधिकार** है और इसे वैधानिक कार्यों के माध्यम से प्रतिबंधित नहीं किया जाना चाहिए।

- There must be **wide publicity** to assure citizens of the benefits of **linking EPIC** and **Aadhaar**.
  EPIC और **आधार** को जोड़ने के लाभों को नागरिकों को आश्वस्त करने के लिए **व्यापक प्रचार** होना चाहिए।

- The forms must be **modified without delay** to reflect that providing **Aadhaar** is not **mandatory**, as per the Supreme Court's statement in **September 2023**.
  फॉर्म को **बिना देरी के संशोधित** किया जाना चाहिए ताकि यह दिखाया जा सके कि **आधार** प्रदान करना **अनिवार्य** नहीं है, जैसा कि **सितंबर 2023** में सर्वोच्च न्यायालय के बयान में कहा गया है।

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What is different about small language models?

What led to the shift to small language models from large language models? What are the use cases for such models? Are they better than LLMs?

GS Paper III: S&T

Poulomi Chatterjee

The story so far:

"We've achieved peak data," former OpenAI chief scientist Ilya Sutskever said onstage at the NeurIPS conference last year. "We have to deal with the data that we have, and there's only one Internet." Mr. Sutskever's comment comes amidst speculation that the speed of progress in large language models (LLM) was hitting a wall as scaling was reaching its digital end.

Why are smaller models in demand?
The race towards building large AI models has been building up ever since OpenAI released their 175 billion parameter LLM, GPT-3, in 2020. In the next three years, the company's LLMs further increased in size with GPT-4 trained on 1.7 trillion parameters. But, in 2024, researchers started to look at language models differently as scaling training data, scoured from the Internet, was giving marginal gains. The idea of building smaller language models emerged then.

This is evident in announcements made by Big Tech firms. Most of them released a nifty language model alongside their flagship AI models. Google DeepMind released Gemini Ultra, Nano and Flash models, while OpenAI and Meta launched their GPT-4o mini and Llama 3 models. Amazon-backed Anthropic AI launched Claude 3 and Haiku alongside its Opus.

What are the pros and cons of small language models?
Small Language Models (SLMs) are cheaper and ideal for specific use cases. For a company that needs AI for a set of specialised tasks, a large AI model is not required. Training small models require less time, less compute and smaller training data. French start up Mistral AI, an SLM provider, pitched its AI model to be as efficient as LLMs for specialised, focused applications. Microsoft released a family of small language models called Phi (the latest Phi-3-mini comprised 3.8 billion parameters).

Apple Intelligence, the AI system deployed in the latest iPhones and iPads, runs on-device AI models that can sort of match the performance of top LLMs. If LLMs are built to achieve Artificial General Intelligence (AGI), small language models are made for specific use cases.

How do use cases differ?
"Small language models are perfect for edge cases," said Rahul Dandwate, ML engineer at Adobe. "When I am using WhatsApp or any Meta application which is powered by the Llama 8B model, I am trying to learn a new language because its reasonably good at translation and other basic tasks like this."

"But they wouldn't do well at most benchmarks that large language models are measured against like coding or logical problems. There still isn't a small language model that's as good at solving more complex problems," he said.

We still aren't fully aware why this bottleneck exists. "But the best way we can understand this is just as human beings have brains with a massive number of neurons, a smaller animal has a limited number of neurons. This is why human brains have the capacity for far more complex levels of intelligence. This is similar to how small language models and large language models work," he said.

How does it work for India?
In a country like India, where the scope of AI adoption is immense but resources are constrained, the diminutiveness of SLMs is perfect. Another AI initiative from IIIT Hyderabad, Visvam, is building datasets from the ground up to build SLMs that can be used in healthcare, agriculture, education and to "promote and preserve language and cultural diversity through AI," their website stated. As the world of language model develops, it's not just enough to build frontier models from scratch. Sarvam AI's co-founder Vivek Raghavan said, "We want to build GenAI that a billion Indians can use."

What is different about small language models?

छोटे भाषा मॉडलों में क्या अंतर है?

Ilya Sutskever, former OpenAI chief scientist, said in NeurIPS 2023 that "we have achieved peak data" and scaling of large models is facing challenges.

Ilya Sutskever, OpenAI के पूर्व मुख्य वैज्ञानिक, ने NeurIPS 2023 में कहा कि "हमने डेटा की चरम सीमा प्राप्त कर ली है" और बड़े मॉडलों का स्केलिंग चुनौतियों का सामना कर रहा है।

- The shift to **small language models (SLMs)** began in **2024** when researchers realized that scaling **LLMs** was giving **marginal gains**.
  2024 में छोटे भाषा मॉडल (SLMs) की ओर रुझान शुरू हुआ जब शोधकर्ताओं ने महसूस किया कि **LLMs** का स्केलिंग **अत्यल्प लाभ** दे रहा था।

What led to the shift to small language models from large language models?

बड़े भाषा मॉडलों से छोटे भाषा मॉडलों की ओर बदलाव क्यों हुआ?

- In **2020**, **OpenAI's GPT-3** was launched with **175 billion parameters**.
  2020 में **OpenAI का GPT-3 175 बिलियन पैरामीटर्स** के साथ लॉन्च हुआ।
- By **2024**, GPT-4 was trained with **1.7 trillion parameters** but showed diminishing returns, prompting interest in **smaller models**.
  2024 तक, **GPT-4** को **1.7 ट्रिलियन पैरामीटर्स** के साथ प्रशिक्षित किया गया था, लेकिन इसके लाभ में कमी आई, जिससे **छोटे मॉडलों** में रुचि बढ़ी।
- **Big Tech** companies began releasing **smaller models** alongside flagship AI models, like **Google DeepMind's Gemini Ultra, Nano, Flash**, and **OpenAI's GPT-4o mini**.
  Big Tech कंपनियों ने प्रमुख एआई मॉडल के साथ **छोटे मॉडल** जारी किए, जैसे **Google DeepMind के Gemini Ultra, Nano, Flash**, और **OpenAI का GPT-4o mini**।

What are the use cases for such models?

ऐसे मॉडलों के उपयोग मामले क्या हैं?

- Small language models are **cheaper**, require **less time** and **compute**, and are ideal for **specific tasks**.
  छोटे भाषा मॉडल **सस्ते**, **कम समय** और **कम कंप्यूट** की आवश्यकता होती है, और ये **विशिष्ट कार्यों** के लिए आदर्श होते हैं।
- **Mistral AI**, a **French startup**, provides **SLMs** for **specialized applications** that perform as efficiently as LLMs.
  Mistral AI, एक **फ्रांसीसी स्टार्टअप**, **विशिष्ट अनुप्रयोगों** के लिए **SLMs** प्रदान करता है जो LLMs के समान कुशलता से काम करते हैं।
- **Apple Intelligence** powers **iPhones** and **iPads** with on-device **AI models**, performing similarly to top LLMs.
  Apple Intelligence iPhones और **iPads** को ऑन-डिवाइस **AI मॉडलों** से संचालित करता है, जो शीर्ष LLMs के समान प्रदर्शन करता है।

Are they better than LLMs?

क्या ये LLMs से बेहतर हैं?

- While **LLMs** aim for **Artificial General Intelligence (AGI)**, **small models** are designed for **specific use cases**.
  जहां **LLMs** का उद्देश्य **कृत्रिम सामान्य बुद्धिमत्ता (AGI)** है, छोटे मॉडल विशिष्ट उपयोग मामलों के लिए डिज़ाइन किए गए हैं।

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How do use cases differ?
उपयोग मामलों में कैसे अंतर है?

- **Small language models** are perfect for **edge cases** like language translation or basic tasks, as seen in **WhatsApp** and **Meta applications**.
  छोटे **भाषा मॉडल एज मामलों** के लिए आदर्श होते हैं जैसे भाषा अनुवाद या बुनियादी कार्य, जैसा कि **WhatsApp** और **Meta अनुप्रयोगों** में देखा गया है।

- However, they are not as effective for **complex problems** like **coding** or **logical tasks**.
  हालाँकि, ये **जटिल समस्याओं** जैसे **कोडिंग** या **तर्क कार्यों** में उतने प्रभावी नहीं हैं।

- The difference is akin to the brain capacity of **humans** versus **smaller animals**.
  यह अंतर **मानवों** और **छोटे जानवरों** के मस्तिष्क क्षमता के समान है।

How does it work for India?
भारत में यह कैसे काम करता है?

- In **India**, where **AI adoption** is immense but resources are constrained, **small models** are ideal for sectors like **healthcare, agriculture, and education**.
  भारत में, जहां **AI अपनाना** विशाल है लेकिन संसाधन सीमित हैं, **छोटे मॉडल स्वास्थ्य, कृषि और शिक्षा** जैसे क्षेत्रों के लिए आदर्श हैं।

- **IIIT Hyderabad**'s **Visvam** initiative is working on datasets to build SLMs that promote **language** and **cultural diversity**.
  IIIT हैदराबाद की **Visvam** पहल ऐसे डेटासेट पर काम कर रही है जो **भाषा** और **सांस्कृतिक विविधता** को बढ़ावा देती है।

- **Sarvam AI** aims to build **GenAI** for a billion Indians.
  Sarvam AI का **उद्देश्य** एक **GenAI** बनाना है जो **एक बिलियन भारतीयों** के लिए उपयोगी हो।

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How the draft rules for implementing data protection falls short

Although the draft rules provide some guidance for implementing the DPDP Act, they lack detailed guidelines to help improve the lives of India's digital nagriks. The government needs to seek appropriate expert advice, conduct wide consultations, and clarify timelines for implementation

GS Paper III: Data Protection

Jhalak M. Kakkar
Shashank Mohan

After a long wait of 16 months, the Ministry of Electronics and Information Technology (MeitY) has released the draft rules for implementing the Digital Personal Data Protection Act, 2023 (DPDP Act). These rules are open for public feedback until the middle of February. Various stakeholders, including civil society, academia, and industry, have been eagerly awaiting the publication of these proposed rules as they contain the baseline implementation framework of the DPDP Act.

The DPDP Act is India's first comprehensive data privacy law that applies to all spheres of commerce and industry. It lays down operational obligations for data processors, special protections for children, and rights for all users, and a body for grievance redressal called the Data Protection Board of India. At the time of release, the DPDP Act was criticised by civil society for not instituting a specialised regulator, not incorporating standard protections against government access to data, and excessive delegation of regulatory functions to the Central government.

Lack of detail
The draft rules propose operative guidance for critical mechanisms such as notice and consent to a user for data collection and processing, intimation of data breaches, collection of parental consent on behalf of children, data localisation measures, and the procedure for setting up the Data Protection Board. Although the draft rules provide some guidance for implementing the DPDP Act, they lack detailed guidelines to help improve the lives of India's digital *nagriks*. Let's illustrate some shortcomings from the perspective of two critical avenues that the DPDP Act seeks to introduce – rights of users and the protection of children's data.

User rights
The DPDP Act enhances the autonomy of users over their personal data by providing them with the right to access, correct, complete, update, and erase their data. The law leaves it to the corresponding rules for clarifying the manner in which users can exercise these rights. Unfortunately, the draft rules do not make it clear how users may make these requests. They simply state that users can make requests to data processors for exercising their rights by following the steps published by businesses. This is simply restating what the Act lays down in another language.

For example, as per the right to erasure, can users ask search engines to remove links to certain websites? Courts in India have frequently asked Google to 'de-list' certain links from showing up on its public search engine. The rules could have prescribed standards to clarify the mechanism in these situations such as requiring that users share specific hyperlinks for erasure.

Since the right to erasure may also impact a third-parties' online speech, the draft rules could have articulated certain modes or conditions for objection that data processors could make against such an erasure request. However, the draft rules do not bring out any such clarity.

Protecting children
Today children are increasingly using various websites on the internet including social media platforms.

To safeguard children, the DPDP Act obligates data processors to seek verifiable parental consent before accessing the personal data of children under the age of 18. The manner of obtaining parental consent was to be laid down in the subsequent rules. However, here again the draft rules fall short. There is no detailing of an exact mechanism for identifying children and collecting parental consent. The rules provide that data processors will need to adopt appropriate technical and organisational measures to ensure parental consent is obtained prior to accessing data of a child. The rules focus on how data processors must exercise due diligence for checking that parents are identifiable adults. This is a simple rephrasing of what the law lays down in the DPDP Act.

The rules were required to lay down detailed procedures for how businesses are expected to verify the identity of parents. They simply lay down illustrations where parents could either point to their existing user details on a common platform, or prove their identity by providing details of any kind of formal identity, for example a government issued ID. Again, critical questions remain.

How will data processors identify parental relations, that is, that the adult proving their identity and providing consent is actually the guardian of the child? What if children lie about their actual age when accessing a website? What mechanisms do platforms need to put in place to gauge the veracity of an age claim? Indian families, including children, often share a single device to access digital services, how will businesses identify children in these cases? The draft rules do not provide any guidance to these practical implementation questions.

Despite a 16-month window for drafting and consulting experts for the framing of these rules, the MeitY has released a document that is vague, incomplete, and rushed. Typically guidelines are very detailed, account for consumer privacy, and provide operational clarity for businesses and data processors. Unfortunately, the proposed rules leave much to be desired.

The government needs to seek appropriate expert advice, conduct wide consultations, and clarify timelines for implementation, before finalising the rules that will form the back-bone of India's first data privacy law.

Jhalak M. Kakkar is the Executive Director and Shashank Mohan is the Associate Director at the Centre for Communication Governance at the National Law University Delhi.

How the draft rules for implementing data protection fall short

डाटा सुरक्षा लागू करने के लिए मसौदा नियमों में कहां कमी है

After a long wait of 16 months, the Ministry of Electronics and Information Technology (MeitY) has released the draft rules for implementing the Digital Personal Data Protection Act, 2023 (DPDP Act).

16 महीने के लंबे इंतजार के बाद, इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी मंत्रालय

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(MeitY) ने डिजिटल पर्सनल डेटा प्रोटेक्शन एक्ट, 2023 (DPDP Act) को लागू करने के लिए मसौदा नियमों को जारी किया।

- These rules are open for public feedback until the middle of **February**.
  ये नियम **फरवरी** के मध्य तक सार्वजनिक प्रतिक्रिया के लिए खुले हैं।
- The **DPDP Act** is India's first comprehensive data privacy law that applies to all spheres of commerce and industry.
  DPDP एक्ट भारत का पहला समग्र डेटा गोपनीयता कानून है, जो वाणिज्य और उद्योग के सभी क्षेत्रों पर लागू होता है।
- At the time of release, the **DPDP Act** was criticized by **civil society** for not instituting a specialized regulator, not incorporating standard protections against government access to data, and excessive delegation of regulatory functions to the **Central government**.
  जारी होने के समय, **DPDP एक्ट** की **सिविल सोसाइटी** द्वारा आलोचना की गई थी, क्योंकि इसमें एक विशेष नियामक स्थापित नहीं किया गया, सरकारी डेटा तक पहुंच के खिलाफ मानक सुरक्षा उपायों को शामिल नहीं किया गया और नियामक कार्यों को अत्यधिक **केंद्रीय सरकार** को सौंपा गया था।

Lack of Detail
विवरण की कमी

- The draft rules propose operative guidance for critical mechanisms such as **notice and consent** to a user for **data collection** and processing, **intimation of data breaches**, **collection of parental consent** on behalf of children, **data localization measures**, and the procedure for setting up the **Data Protection Board**.
  मसौदा नियम महत्वपूर्ण यांत्रणों के लिए संचालनात्मक मार्गदर्शन प्रस्तुत करते हैं, जैसे **डेटा संग्रहण** और प्रसंस्करण के लिए उपयोगकर्ता को **सूचना और सहमति**, **डेटा उल्लंघन** की सूचना, बच्चों की ओर से **माता-पिता की सहमति** का संग्रहण, **डेटा स्थानीयकरण उपाय** और **डेटा प्रोटेक्शन बोर्ड** की स्थापना की प्रक्रिया।
- The draft rules provide some guidance for implementing the **DPDP Act**, but they lack detailed guidelines to help improve the lives of India's **digital nagriks**.
  मसौदा नियम **DPDP एक्ट** को लागू करने के लिए कुछ मार्गदर्शन प्रदान करते हैं, लेकिन इनमें भारत के **डिजिटल नागरिकों** के जीवन को बेहतर बनाने के लिए विस्तृत दिशानिर्देशों की कमी है।
- The **DPDP Act** enhances the autonomy of users over their **personal data** by providing them with the **right to access**, **correct**, **complete**, **update**, and **erase** their data.
  DPDP एक्ट उपयोगकर्ताओं को उनके **व्यक्तिगत डेटा** पर अधिकार बढ़ाता है, जिसमें उन्हें अपने डेटा को **समान्य**, **सही**, **पूर्ण**, **अपडेट** और **मिटाने** का अधिकार प्रदान किया जाता है।
- The draft rules do not make it clear how users may make these requests.
  मसौदा नियम यह स्पष्ट नहीं करते कि उपयोगकर्ता इन अनुरोधों को कैसे कर सकते हैं।

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- They simply state that users can make requests to **data processors** for exercising their rights by following the steps published by businesses.
  वे केवल यह कहते हैं कि उपयोगकर्ता **डेटा प्रोसेसर** से अपने अधिकारों का प्रयोग करने के लिए व्यवसायों द्वारा प्रकाशित किए गए कदमों का पालन कर सकते हैं।

- For example, as per the right to **erasure**, can users ask **search engines** to remove links to certain websites?
  उदाहरण के लिए, **मिटाने के अधिकार** के अनुसार, क्या उपयोगकर्ता **सर्च इंजन** से कुछ वेबसाइटों के लिंक हटाने के लिए कह सकते हैं?

- The rules could have prescribed standards to clarify the mechanism in these situations, such as requiring that users share specific hyperlinks for erasure.
  नियमों को इन परिस्थितियों में तंत्र को स्पष्ट करने के लिए मानक निर्धारित करने चाहिए थे, जैसे कि उपयोगकर्ताओं से विशिष्ट हाइपरलिंक्स साझा करने की आवश्यकता।

- Since the **right to erasure** may also impact a **third party's online speech**, the draft rules could have articulated certain modes or conditions for **objection** that data processors could make against such an erasure request.
  चूंकि **मिटाने का अधिकार तीसरे पक्ष की ऑनलाइन अभिव्यक्ति** पर भी असर डाल सकता है, मसौदा नियमों को **विरोध** के लिए कुछ तरीके या शर्तों को स्पष्ट करना चाहिए था, जिन्हें डेटा प्रोसेसर ऐसे अनुरोधों के खिलाफ प्रस्तुत कर सकते थे।

Protecting Children
बच्चों की सुरक्षा

- To safeguard children, the **DPDP Act** obligates data processors to seek **verifiable parental consent** before accessing the personal data of children under the age of **18**.
  बच्चों की सुरक्षा के लिए, **DPDP एक्ट** डेटा प्रोसेसरों को बच्चों के **18 वर्ष** से कम उम्र के व्यक्तिगत डेटा तक पहुंच प्राप्त करने से पहले **सत्यापन योग्य माता-पिता की सहमति** प्राप्त करने की बाध्यता डालता है।

- The draft rules fall short in detailing the exact mechanism for identifying children and collecting **parental consent**.
  मसौदा नियम बच्चों की पहचान करने और **माता-पिता की सहमति** प्राप्त करने के लिए सही तंत्र को विस्तृत करने में कमी करते हैं।

- The rules provide that data processors will need to adopt appropriate **technical and organisational measures** to ensure parental consent is obtained prior to accessing data of a child.
  नियमों में कहा गया है कि डेटा प्रोसेसरों को यह सुनिश्चित करने के लिए उपयुक्त **तकनीकी और संगठनात्मक उपाय** अपनाने होंगे कि बच्चे के डेटा तक पहुंच प्राप्त करने से पहले माता-पिता की सहमति प्राप्त की गई हो।

- The rules focus on how data processors must exercise **due diligence** for checking that parents are identifiable adults.

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नियम इस पर केंद्रित हैं कि डेटा प्रोसेसरों को यह सुनिश्चित करने के लिए **सावधानीपूर्वक जांच** करनी होगी कि माता-पिता पहचान योग्य वयस्क हैं।

- The rules provide examples where parents could either point to their existing user details on a common platform or prove their identity by providing **government issued ID**.
  नियम उदाहरण प्रस्तुत करते हैं जहां माता-पिता या तो सामान्य प्लेटफ़ॉर्म पर अपने मौजूदा उपयोगकर्ता विवरण दिखा सकते हैं या **सरकारी जारी आईडी** प्रदान करके अपनी पहचान साबित कर सकते हैं।

- However, critical questions remain on how data processors will identify **parental relations**, and verify if the adult proving their identity is the guardian of the child.
  हालांकि, महत्वपूर्ण प्रश्न बने रहते हैं कि डेटा प्रोसेसर **माता-पिता के रिश्ते** की पहचान कैसे करेंगे, और यह कैसे सत्यापित करेंगे कि जो वयस्क अपनी पहचान साबित कर रहे हैं वह बच्चे के अभिभावक हैं।

- What if children lie about their actual age when accessing a website?
  अगर बच्चे किसी वेबसाइट तक पहुंचते समय अपनी वास्तविक उम्र के बारे में झूठ बोलते हैं तो क्या होगा?

- The draft rules do not provide guidance for practical implementation questions such as identifying children using a shared family device.
  मसौदा नियम व्यावहारिक कार्यान्वयन के सवालों के लिए मार्गदर्शन प्रदान नहीं करते जैसे कि साझा परिवारिक डिवाइस का उपयोग करके बच्चों की पहचान कैसे करें।

Conclusion
निष्कर्ष

- Despite a **16-month** window for drafting and consulting experts, the **MeitY** has released a document that is vague, incomplete, and rushed.
  16 महीने की अवधि के बावजूद, **MeitY** ने एक दस्तावेज़ जारी किया है जो अस्पष्ट, अधूरा और जल्दबाजी में तैयार किया गया है।

- Typically, guidelines are very detailed, account for consumer privacy, and provide operational clarity for businesses and data processors.
  सामान्यतः, दिशानिर्देश बहुत विस्तृत होते हैं, उपभोक्ता गोपनीयता का ध्यान रखते हैं और व्यवसायों और डेटा प्रोसेसरों के लिए संचालनात्मक स्पष्टता प्रदान करते हैं।

- The **government** needs to seek appropriate expert advice, conduct wide consultations, and clarify timelines for implementation before finalizing the rules.
  सरकार को उपयुक्त विशेषज्ञ सलाह प्राप्त करनी चाहिए, व्यापक विचार-विमर्श करना चाहिए, और नियमों को अंतिम रूप देने से पहले कार्यान्वयन के लिए समयरेखा स्पष्ट करनी चाहिए।

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Centre's wildlife panel clears oil and gas exploratory drilling in Assam sanctuary

GS Paper III: Environment

Press Trust of India
NEW DELHI

The Centre's wildlife panel has approved a proposal to carry out oil and gas exploration in the ecosensitive zone of the Hoollongapar Gibbon Wildlife Sanctuary in Assam's Jorhat district.

The Standing Committee of the National Board for Wildlife (NBWL), chaired by Union Environment Minister Bhupender Yadav, approved the proposal by Vedanta Group's Cairn Oil and Gas during its meeting on December 21, according to the minutes of the meeting.

Assam's Principal Chief Conservator of Forests (Wildlife) and Chief Wil-

Vedanta Group has given an assurance that no commercial drilling will be conducted.

dlife Warden had recommended clearance for the project last August, citing "national interest".

The Forest Advisory Committee of the Union Environment Ministry had also granted in-principle approval during its meeting on August 27 last year.

According to the minutes of the NBWL meeting, a team comprising officials from the Union Environment Ministry, the Wildlife Institute of India, and the Assam Forest Department inspected the project site, located about 13 km from the sanctuary.

The inspection committee found that exploratory drilling would cause minimal damage, but said commercial drilling would not be allowed. Vedanta Group has given a written assurance that no commercial drilling will be conducted at the site. It also assured that no hazardous substances would be used during the exploration process, the officials said.

हूलोंगापार गिबन वन्यजीव अभयारण्य के पारिस्थितिकी-संवेदनशील क्षेत्र में तेल और गैस अन्वेषण करने का प्रस्ताव मंजूर किया।

- The **Standing Committee of the National Board for Wildlife (NBWL)**, chaired by **Union Environment Minister Bhupender Yadav**, approved the proposal by **Vedanta Group's Cairn Oil and Gas** during its meeting on **December 21**.

  राष्ट्रीय वन्यजीव बोर्ड (NBWL) की स्थायी समिति, जिसकी अध्यक्षता **केंद्रीय पर्यावरण मंत्री भूपेंद्र यादव** कर रहे थे, ने **वेदांता समूह के केर्न ऑयल एंड गैस** द्वारा प्रस्तुत प्रस्ताव को **21 दिसंबर** को अपनी बैठक में मंजूरी दी।

- Assam's **Principal Chief Conservator of Forests (Wildlife)** and **Chief Wildlife Warden** had recommended clearance for the project last **August**, citing "national interest".

  असम के **प्रधान मुख्य वन संरक्षक (वन्यजीव)** और **मुख्य वन्यजीव वार्डन** ने परियोजना के लिए **अगस्त** में "राष्ट्रीय हित" का हवाला देते हुए मंजूरी की सिफारिश की थी।

- The **Forest Advisory Committee of the Union Environment Ministry** had also granted **in-principle approval** during its meeting on **August 27 last year**.

  केंद्रीय पर्यावरण मंत्रालय की वन सलाहकार समिति ने भी **27 अगस्त पिछले वर्ष** को अपनी बैठक में **सैद्धांतिक मंजूरी** प्रदान की थी।

- A team comprising officials from the **Union Environment Ministry**, the **Wildlife Institute of India**, and the **Assam Forest Department** inspected the project site, located about **13 km from the sanctuary**.

  केंद्रीय पर्यावरण मंत्रालय, **भारत वन्यजीव संस्थान**, और **असम वन विभाग** के अधिकारियों की एक टीम ने परियोजना स्थल का निरीक्षण किया, जो अभयारण्य से लगभग **13 किमी** दूर स्थित है।

- The inspection committee found that exploratory drilling would cause minimal damage, but said **commercial drilling** would not be allowed.

  निरीक्षण समिति ने पाया कि अन्वेषण ड्रिलिंग से न्यूनतम क्षति होगी, लेकिन कहा कि **व्यावसायिक ड्रिलिंग** की अनुमति नहीं दी जाएगी।

- **Vedanta Group** has given a written assurance that **no commercial drilling** will be conducted at the site. It also assured that **no hazardous substances** would be used during the exploration process.

  वेदांता समूह ने लिखित आश्वासन दिया है कि स्थल पर **कोई व्यावसायिक ड्रिलिंग** नहीं की जाएगी। इसने यह भी आश्वासन दिया कि अन्वेषण प्रक्रिया के दौरान **कोई हानिकारक पदार्थ** का उपयोग नहीं किया जाएगा।

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Companies look to localise data storage, telecom tech

Moving away from China, firms are pushing for producing networking equipment in India; data storage within the country is slowly picking up pace as local servers and data centres come up

GS Paper III: S&T

Aroon Deep
NEW DELHI

From data centres to telecom equipment, Indian firms are capitalising on key policy developments to indigenise the Indian tech stack, from both hardware and software point of view. The main movers are emerging from markets that sell to large businesses.

One firm, CloudPhotonix, recently established by veterans of the transceiver industry, has started selling the product to telecom firms, as networks look to move away from foreign, specifically Chinese-made components.

Another firm, DigiBoxx, is offering cloud storage and enterprise backup locally in India, anticipating demand from firms seeking to pre-emptively comply with localisation requirements in the wake of laws such as the Digital Personal Data Protection Act, 2023. While the Act does not currently require data localisation within Indian borders, it leaves that possibility open in some sectors; the Reserve Bank of India requires payment data of Indians to be stored locally.

Booming market: The optical transceiver market worldwide could grow to $47.64 billion by 2035, according to an estimate. FILE PHOTO

Late last year, CloudPhotonix co-founder Tarun Sibal hosted a small event in Delhi gathering academics and industry players, outlining the importance of transceivers, a key component in networking and telecom equipment to transmit and receive data.

Mr. Sibal pointed out that making transceivers and dealing with the science of photonics, which most telcos and data centre firms import into India, was a "dark art", a term that his colleagues repeated in subsequent presentations. They seek to leverage not just the shift away from Chinese technology in telecom networks, which started after the border clashes in 2020, but the growing impulse to make and market the tech locally.

As per an estimate by the Mohali-based Roots Analysis, the optical transceiver market worldwide could grow to $47.64 billion by 2035, over four times its current value.

The firm's CTO, Sunil Khatana, said in a presentation that a significant share of data centre and network infrastructure expenditure was on imported transceivers.

DigiBoxx, meanwhile, bills itself as the "first swadeshi SaaS [Software as a Service]-based digital storage and sharing platform"

and its "servers and data centres are based in India, so customers can be assured their digital assets and IP are stored safely in the country", said Arnab Mitra, CEO. Security isn't always a function of the location of data, but over the years, localisation mandates like the RBI's have pushed firms in other industries to seek local storage options, even if they are more expensive due to a lack of scale.

The reason local storage is "becoming an even hotter topic is obviously the rise of privacy", Mr. Mitra said in an interview. He admitted that local storage was more expensive but added that firms looked out for their reputation when making storage decisions for regulatory purposes. "So, it's in many ways priceless," he said.

Union Secretary for Electronics and Information Technology S. Krishnan welcomed the growing introduction of local options in telecom equipment and data storage in an interview with *The Hindu*, saying, "These are commercially driven decisions, and that's the way it ought to be."

- Indian firms are capitalising on key policy developments to indigenise the Indian tech stack, from both **hardware** and **software** perspectives.
  भारतीय कंपनियाँ प्रमुख नीतिगत विकासों का लाभ उठाकर भारतीय तकनीकी ढांचे को **हार्डवेयर** और **सॉफ़्टवेयर** दोनों दृष्टिकोणों से स्वदेशी बनाने की दिशा में काम कर रही हैं।

- The main movers are emerging from markets that sell to large businesses.
  मुख्य प्रेरक बड़े व्यवसायों को बेचने वाले बाजारों से उभर रहे हैं।

- One firm, **CloudPhotonix**, recently established by veterans of the transceiver industry, has started selling the product to telecom firms, as networks look to move away from foreign, specifically **Chinese-made components**.
  एक कंपनी, **CloudPhotonix**, जो हाल ही में ट्रांससीवर उद्योग के अनुभवी लोगों द्वारा स्थापित की गई थी, ने टेलीकॉम कंपनियों को उत्पाद बेचना शुरू किया है, क्योंकि नेटवर्क विदेशी, विशेष रूप से **चीनी निर्मित घटकों** से दूर जाने की कोशिश कर रहे हैं।

- Another firm, **DigiBoxx**, is offering **cloud storage** and **enterprise backup** locally in **India**, anticipating demand from firms seeking to pre-emptively comply with **localisation requirements** in the wake of laws such as the **Digital Personal Data Protection Act, 2023**.
  एक और कंपनी, **DigiBoxx**, **भारत** में स्थानीय रूप से **क्लाउड स्टोरेज** और **एंटरप्राइज बैकअप** प्रदान कर रही है, जो कंपनियों की मांग की उम्मीद कर रही है जो **स्थानीयकरण आवश्यकताओं** के अनुरूप पहले से ही पालन करना चाहती हैं, जैसे कि **डिजिटल व्यक्तिगत डेटा संरक्षण अधिनियम, 2023**।

- While the Act does not currently require **data localisation** within Indian borders, it leaves that possibility open in some sectors; the **Reserve Bank of India** requires **payment data** of Indians to be stored locally.
  हालाँकि यह अधिनियम वर्तमान में **भारत की सीमाओं** के भीतर **डेटा स्थानीयकरण** की आवश्यकता नहीं करता है, यह कुछ क्षेत्रों में उस संभावना को खुला छोड़ता है; **भारतीय रिजर्व बैंक** ने **भारतीयों के भुगतान डेटा** को स्थानीय रूप से संग्रहीत करने की आवश्यकता दी है।

- Late last year, **CloudPhotonix** co-founder **Tarun Sibal** hosted a small event in **Delhi** gathering academics and industry players, outlining the importance of **transceivers**, a key component in networking and telecom equipment to transmit and receive data.
  पिछले वर्ष के अंत में, **CloudPhotonix** के सह-संस्थापक **तरुण सिबल** ने **दिल्ली** में एक छोटा कार्यक्रम आयोजित किया जिसमें अकादमिक और उद्योग के खिलाड़ी शामिल हुए, और **ट्रांससीवर** के महत्व को रेखांकित किया, जो नेटवर्किंग और टेलीकॉम उपकरणों में डेटा भेजने और प्राप्त करने के लिए एक महत्वपूर्ण घटक है।

- **Mr. Sibal** pointed out that making **transceivers** and dealing with the science of **photonics**, which most telcos and data centre firms import into India, was a "dark art," a term that his colleagues repeated in subsequent presentations.
  श्री सिबल ने बताया कि **ट्रांससीवर** बनाने और **फोटोनिक्स** के विज्ञान से निपटना, जिसे अधिकांश टेलकॉम और डेटा केंद्र कंपनियाँ भारत में आयात करती हैं, एक "अंधी कला" है, एक शब्द जिसे उनके सहयोगियों ने बाद में अपनी प्रस्तुतियों में दोहराया।

- They seek to leverage not just the shift away from **Chinese technology** in telecom networks, which started after the **border clashes in 2020**, but the growing impulse to make and market the tech locally.
  वे न केवल **चीनी प्रौद्योगिकी** से टेलीकॉम नेटवर्क्स में बदलाव का लाभ उठाना चाहते हैं, जो **2020**

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के सीमा संघर्षों के बाद शुरू हुआ था, बल्कि स्थानीय रूप से तकनीक बनाने और विपणन करने की बढ़ती प्रवृत्ति का भी लाभ उठाना चाहते हैं।

- As per an estimate by the **Mohali-based Roots Analysis**, the **optical transceiver market** worldwide could grow to **$47.64 billion** by **2035**, over **four times** its current value.

  मोहाली स्थित रूट्स एनालिसिस के अनुमान के अनुसार, **ऑप्टिकल ट्रांससीवर बाजार** विश्वभर में **2035 तक $47.64 बिलियन** तक बढ़ सकता है, जो इसके वर्तमान मूल्य से **चार गुना** अधिक है।

- The firm's **CTO**, **Sunil Khatana**, said in a presentation that a significant share of **data centre** and **network infrastructure** expenditure was on imported **transceivers**.

  कंपनी के **सीटीओ**, **सुनील खटाना** ने एक प्रस्तुति में कहा कि **डेटा केंद्र** और **नेटवर्क अवसंरचना** खर्च का एक महत्वपूर्ण हिस्सा आयातित **ट्रांससीवर** पर था।

- **DigiBoxx**, meanwhile, bills itself as the "**first swadeshi SaaS** [Software as a Service]-based digital storage and sharing platform" and its "**servers** and **data centres** are based in **India**, so customers can be assured their digital assets and IP are stored safely in the country," said **Arnab Mitra**, CEO.

  इस बीच, **DigiBoxx** अपने आप को "**पहला स्वदेशी SaaS** [सॉफ़्टवेयर के रूप में सेवा]-आधारित डिजिटल स्टोरेज और साझा करने का प्लेटफ़ॉर्म" के रूप में प्रस्तुत करता है और इसके "**सर्वर** और **डेटा केंद्र भारत** में स्थित हैं, ताकि ग्राहक यह सुनिश्चित कर सकें कि उनकी डिजिटल संपत्ति और आईपी देश में सुरक्षित रूप से संग्रहीत हैं," **अर्नब मित्रा**, सीईओ ने कहा।

- **Security** isn't always a function of the location of data, but over the years, **localisation mandates** like the RBI's have pushed firms in other industries to seek local storage options, even if they are more expensive due to a lack of scale.

  सुरक्षा हमेशा डेटा के स्थान का परिणाम नहीं होती है, लेकिन वर्षों से, **स्थानीयकरण अनिवार्यताओं** जैसे कि आरबीआई की, ने अन्य उद्योगों की कंपनियों को स्थानीय स्टोरेज विकल्पों की तलाश करने के लिए प्रेरित किया है, भले ही वे पैमाने की कमी के कारण महंगे हों।

- The reason local storage is "becoming an even hotter topic is obviously the rise of **privacy**," Mr. **Mitra** said in an interview.

  स्थानीय स्टोरेज "अभी और भी गर्म विषय बन रहा है, यह स्पष्ट रूप से **गोपनीयता** के बढ़ने के कारण है," श्री **मित्रा** ने एक साक्षात्कार में कहा।

- He admitted that local storage was more expensive but added that firms looked out for their reputation when making storage decisions for regulatory purposes. "So, it's in many ways priceless," he said.

  उन्होंने स्वीकार किया कि स्थानीय स्टोरेज महंगा था, लेकिन यह भी जोड़ा कि कंपनियाँ नियामक उद्देश्यों के लिए स्टोरेज निर्णय लेते समय अपनी प्रतिष्ठा का ध्यान रखती हैं। "तो, यह कई मायनों में अनमोल है," उन्होंने कहा।

- **Union Secretary for Electronics and Information Technology S. Krishnan** welcomed the growing introduction of local options in telecom equipment and data storage in an interview with **The Hindu**, saying, "These are commercially driven decisions, and that's the way it ought to be."

  इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी के केंद्रीय सचिव एस. कृष्णन ने द हिंदू से एक साक्षात्कार

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में टेलीकॉम उपकरणों और डेटा स्टोरेज में स्थानीय विकल्पों के बढ़ते परिचय का स्वागत किया, और कहा, "ये **व्यावसायिक रूप से संचालित** निर्णय हैं, और यही तरीका होना चाहिए।"

Bengal govt. announces new initiatives to attract pilgrims to Gangasagar Mela

GS Paper I: A&C

Shiv Sahay Singh
SAGAR (WEST BENGAL)

Competing with the Maha Kumbh at Prayagraj, the organisers of the Gangasagar Mela, held at the confluence of the Ganga with the Bay of Bengal in West Bengal, on Sunday announced a slew of initiatives, including a certificate for pilgrims participating in the annual pilgrimage.

A number of Ministers of the West Bengal government, led by Power Minister Aroop Biswas, held a press conference announcing the Bandhan initiative for pilgrims visiting the site in availing a certificate in three languages.

Other initiatives include the e-Anushandhan (pilgrims can access facilities at the mela ground) and e-Parichay (QR code-enabled identity band) to prevent missing people in the mela

Official visit: Aroop Biswas at the Gangasagar Mela. He and his Cabinet colleagues are present at the venue. DEBASISH BHADURI

crowd. "So far, about 42 lakh pilgrims have visited the island," Mr. Biswas said, expressing hope that the number of pilgrims would cross the record of one crore set in 2023.

While claims of the number of pilgrims visiting the ecologically fragile island during the Makar Sankranti festival is contested by Opposition political parties, Chief Minister Mamata Banerjee has been

pushing for a "national mela" status for the Gangasagar Mela for several years.

Earlier this month, Ms. Banerjee had said that the Union government supported the Kumbh Mela but did not extend any support to the Gangasagar Mela.

Trinamool Congress Ministers echoed similar sentiments. They questioned why the Gangasagar Mela was not being granted the

status of a "national mela".

Mr. Biswas said elaborate arrangements had been made to transport pilgrims from different parts of the State to Sagar Island, including about 2,500 government and private buses, 21 jetties, nine barges, 32 vessels, and 120 launches.

"About 13,000 policemen have been posted to ensure safety and security at the Gangasagar Mela," the Minister said.

The State government also organises 'Ganga Aarti' every year during the mela, much like the event held at the ghats of Varanasi.

This year, the 'Ganga Aarti' is being organised from January 11 to January 13.

In separate incidents, one person died and two others were airlifted after they fell ill at the Gangasagar Mela.

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pilgrimage.

प्रयागराज में महाकुंभ के साथ प्रतिस्पर्धा करते हुए, पश्चिम बंगाल में गंगा और बंगाल की खाड़ी के संगम पर आयोजित गंगासागर मेला के आयोजकों ने रविवार को तीर्थयात्रियों के लिए प्रमाण पत्र सहित कई पहल की घोषणा की।

- A number of **Ministers of the West Bengal government**, led by **Power Minister Aroop Biswas**, held a press conference announcing the **Bandhan initiative** for pilgrims visiting the site in availing a certificate in **three languages**.

  पश्चिम बंगाल सरकार के कई मंत्रियों ने, जिनकी अगुवाई **पावर मंत्री अरूप बिस्वास** कर रहे थे, एक प्रेस कॉन्फ्रेंस आयोजित की और तीर्थयात्रियों के लिए तीन भाषाओं में प्रमाण पत्र प्राप्त करने के लिए **बंधन पहल** की घोषणा की।

- Other initiatives include the **e-Anushandhan** (pilgrims can access facilities at the mela ground) and **eParichay** (QR code-enabled identity band) to prevent missing people in the mela crowd.

  अन्य पहलें हैं **ई-अनुसंधान** (जहां तीर्थयात्री मेला मैदान पर सुविधाओं का उपयोग कर सकते हैं) और **ई-परीचय** (QR कोड सक्षम पहचान बैंड) ताकि मेला में भीड़ में लापता व्यक्तियों को रोका जा सके।

- "So far, about **42 lakh pilgrims** have visited the island," Mr. **Biswas** said, expressing hope that the number of pilgrims would cross the record of **one crore** set in **2023**.

  "अब तक, लगभग **42 लाख तीर्थयात्रियों** ने द्वीप का दौरा किया है," श्री **बिस्वास** ने कहा, यह व्यक्त करते हुए कि तीर्थयात्रियों की संख्या 2023 में बनाए गए **एक करोड़** के रिकॉर्ड को पार कर जाएगी।

- While claims of the number of pilgrims visiting the ecologically fragile island during the **Makar Sankranti** festival is contested by Opposition political parties, **Chief Minister Mamata Banerjee** has been pushing for a "**national mela**" status for the **Gangasagar Mela** for several years.

  जबकि **मकर संक्रांति** महोत्सव के दौरान पर्यावरणीय रूप से संवेदनशील द्वीप पर आने वाले तीर्थयात्रियों की संख्या पर विपक्षी राजनीतिक दलों द्वारा सवाल उठाए जाते हैं, **मुख्यमंत्री ममता बनर्जी** कई वर्षों से **गंगासागर मेला** को "**राष्ट्रीय मेला**" का दर्जा दिलाने के लिए प्रयास कर रही हैं।

- Earlier this month, Ms. **Banerjee** had said that the **Union government** supported the **Kumbh Mela** but did not extend any support to the **Gangasagar Mela**.

  इस महीने की शुरुआत में, श्रीमती **बनर्जी** ने कहा था कि **केंद्रीय सरकार महाकुंभ मेला** का समर्थन करती है लेकिन **गंगासागर मेला** को कोई समर्थन नहीं देती।

- **Trinamool Congress Ministers** echoed similar sentiments. They questioned why the **Gangasagar Mela** was not being granted the status of a "**national mela**".

  तृणमूल कांग्रेस के मंत्रियों ने समान विचार व्यक्त किए। उन्होंने यह सवाल उठाया कि **गंगासागर मेला** को "**राष्ट्रीय मेला**" का दर्जा क्यों नहीं दिया जा रहा।

- Mr. **Biswas** said elaborate arrangements had been made to transport pilgrims from different parts of the State to **Sagar Island**, including about **2,500 government and private buses**, **21 jetties**, **nine barges**, **32 vessels**, and **120 launches**.

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श्री **बिस्वास** ने कहा कि तीर्थयात्रियों को राज्य के विभिन्न हिस्सों से **सागर द्वीप** तक ले जाने के लिए विस्तृत व्यवस्थाएँ की गई हैं, जिसमें लगभग **2,500 सरकारी और निजी बसें**, **21 घाट**, **नौ बार्ज**, **32 जलयान**, और **120 launches** शामिल हैं।

- "About **13,000 policemen** have been posted to ensure safety and security at the **Gangasagar Mela**," the Minister said.

  "**लगभग 13,000 पुलिसकर्मियों** को **गंगासागर मेला** में सुरक्षा और सुरक्षा सुनिश्चित करने के लिए तैनात किया गया है," मंत्री ने कहा।

- The State government also organises '**Ganga Aarti**' every year during the mela, much like the event held at the ghats of **Varanasi**.

  राज्य सरकार मेला के दौरान हर साल '**गंगा आरती**' भी आयोजित करती है, जो **वाराणसी** के घाटों पर आयोजित होने वाले कार्यक्रम के समान है।

- This year, the '**Ganga Aarti**' is being organised from **January 11 to January 13**.

  इस वर्ष, '**गंगा आरती**' **11 जनवरी से 13 जनवरी** तक आयोजित की जा रही है।

- In separate incidents, one person died and two others were airlifted after they fell ill at the **Gangasagar Mela**.

  अलग-अलग घटनाओं में, एक व्यक्ति की मृत्यु हो गई और दो अन्य को **गंगासागर मेला** में बीमार होने के बाद एयरलिफ्ट किया गया।

Malala slams Taliban for instituting 'gender apartheid' against women

PCS

REUTERS

Nobel laureate Malala Yousafzai slammed the Taliban for instituting a system of "gender apartheid" against women by disguising their crimes in the cloak of culture and religion. "The Taliban do not see women as human beings. These policies are a violation of human rights," she said while speaking on girls' education in Islamabad. PTI

Malala slams Taliban for instituting 'gender apartheid' against women

मलाला ने महिलाओं के खिलाफ 'लैंगिक रंगभेद' स्थापित करने के लिए तालिबान की आलोचना की

Malala Yousafzai Slams Taliban's "Gender Apartheid"
मलाला यूसुफजई ने तालिबान के "लिंग अलगाव" की निंदा की

- **Malala Yousafzai**, a **Nobel laureate**, criticized the **Taliban** for creating a system of **"gender apartheid"** against women, disguising their actions as part of **culture** and **religion**.

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मलाला यूसुफजई, **नोबेल पुरस्कार विजेता**, ने **तालिबान** की आलोचना की और कहा कि उन्होंने महिलाओं के ख़िलाफ **"लिंग अलगाव"** का एक प्रणाली बनाई है, जो अपनी क्रियाओं को **संस्कृति** और **धर्म** के आड़ में छिपा रहे हैं।

- She stated, "The Taliban do not see women as human beings. These policies are a violation of **human rights**."

उन्होंने कहा, "तालिबान महिलाओं को इंसान नहीं मानते हैं। ये नीतियां **मानव अधिकारों** का उल्लंघन हैं।"

- Malala made these statements while speaking on **girls' education** in **Islamabad**.

मलाला ने यह बयान **इस्लामाबाद** में **लड़कियों की शिक्षा** पर बोलते हुए दिया।

Croatia's President Milanovic is the favourite to win run-off elections

PCS

REUTER

Croatia's incumbent President Zoran Milanović, left, was the favourite to win reelection as he faced Dragan Primorac from the ruling conservative party in a run-off on Sunday. The left-leaning Milanovic comfortably won the first round on December 29. He fell short of securing 50% of the vote by just 5,000 votes. AFP

Croatia's President Milanovic is the favourite to win run-off elections

क्रोएशिया के राष्ट्रपति मिलनोविक आगामी चुनाव जीतने के लिए सबसे पसंदीदा उम्मीदवार हैं

Croatia's Presidential Election - Zoran Milanović Faces Reelection
क्रोएशिया का राष्ट्रपति चुनाव - जोरान मिलानोविच को फिर से चुनाव का सामना

- **Zoran Milanović**, the incumbent **President of Croatia**, was the **favourite** to win reelection as he faced **Dragan Primorac** from the ruling **conservative party** in a **run-off** on **Sunday**.

जोरान मिलानोविच, क्रोएशिया के वर्तमान **राष्ट्रपति**, को फिर से चुनाव जीतने के लिए **पसंदीदा** माना जा रहा था, क्योंकि उन्होंने **रविवार** को सत्ता में बैठी **संविधानिक पार्टी** के **द्रागन प्रिमोरेक** से मुकाबला किया।

- Milanović, who is left-leaning, **comfortably won** the first round on **December 29**.

मिलानोविच, जो **बाएं झुकाव** वाले हैं, ने **29 दिसंबर** को पहले चरण में आराम से जीत हासिल की।

- He fell short of securing **50% of the vote** by just **5,000 votes**.

वह **50% वोट** हासिल करने से सिर्फ **5,000 वोट** से चूक गए।

Firefighters scramble to contain Los Angeles fires

Agence France-Presse
LOS ANGELES

Firefighters battled on Sunday to get on top of massive wildfires around Los Angeles as winds ramped up, pushing the blazes toward previously untouched neighbourhoods.

At least 16 persons were confirmed dead from fires that have ripped through the city, leaving communities in ruins and testing the mettle of thousands of firefighters – and millions of California residents.

Despite heroic efforts, including precision sorties from aerial crews, the Palisades Fire continued to grow, pushing east and north to the densely populated San Fernando Valley.

A brief lull in the wind was rapidly giving way to

No respite: A fire-fighting helicopter at work near the Mandeville Canyon neighbourhood in California on Saturday. AFP

gusts that forecasters warned would feed the blazes for days to come.

"Critical fire-weather conditions will unfortunately ramp up again today for southern California and last through at least early next week," the National Weather Service said.

"This may lead to the spread of ongoing fires as well as the development of new ones."

The Palisades Fire was 11% contained on Saturday but had grown to 23,600 acres, while the Eaton Fire was at 14,000 acres and 15% contained.

Firefighters scramble to contain Los Angeles fires

लॉस एंजिल्स के रिज़र्व में आग पर काबू पाने के लिए अग्निशमन दल ने हाथापाई की

Firefighters Battle Massive Wildfires in Los Angeles
लॉस एंजिल्स में विशाल जंगल की आग से लड़ते दमकलकर्मी

- **Firefighters** fought on **Sunday** to get on top of massive wildfires around **Los Angeles** as **winds** ramped up, pushing the blazes toward previously untouched neighbourhoods.
  दमकलकर्मियों ने **रविवार** को **लॉस एंजिल्स** के आस-पास विशाल जंगल की आग पर काबू पाने के लिए संघर्ष किया, क्योंकि **हवाएँ** तेज हो गईं, जिससे आग पहले अछूते क्षेत्रों की ओर बढ़ने लगी।

- At least **16 persons** were confirmed dead from fires that have ripped through the city, leaving communities in ruins and testing the mettle of thousands of **firefighters** — and millions of **California** residents.
  शहर में से गुजर रही आग से कम से कम **16 लोग** मारे गए हैं, जिससे समुदायों का बहुत बड़ा नुकसान हुआ है और हजारों **दमकलकर्मियों** और लाखों **कैलिफोर्निया** निवासियों की सहनशक्ति पर परीक्षा ली जा रही है।

- Despite heroic efforts, including precision sorties from aerial crews, the **Palisades Fire** continued to grow, pushing east and north to the densely populated **San Fernando Valley**.
  नायकात्मक प्रयासों के बावजूद, जिसमें हवाई दलों द्वारा सटीक हमले शामिल थे, **पैलिसेड्स आग** बढ़ती रही, जो **सैन फर्नांडो घाटी** की ओर पूर्व और उत्तर की ओर बढ़ रही थी, जो घनी आबादी वाली है।

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- A brief lull in the wind was rapidly giving way to gusts that forecasters warned would feed the blazes for **days to come**.

  हवाओं में एक छोटा सा ठहराव जल्दी ही तेज़ हवाओं में बदल गया, जिनसे पूर्वानुमानकर्ताओं ने चेतावनी दी थी कि यह आग को आने वाले **दिनों तक** बढ़ावा देगा।

- The **National Weather Service** said, "**Critical fire-weather conditions** will unfortunately ramp up again today for **southern California** and last through at least early next week."

  नेशनल वेदर सर्विस ने कहा, "**आग-जलवायु परिस्थितियाँ** दुख की बात है कि आज फिर से **दक्षिणी कैलिफोर्निया** के लिए बढ़ेंगी और कम से कम अगले सप्ताह की शुरुआत तक बनी रहेंगी।"

- The **Palisades Fire** was **11% contained** on **Saturday** but had grown to **23,600 acres**, while the **Eaton Fire** was at **14,000 acres** and **15% contained**.

  पैलिसेड्स आग शनिवार को **11% नियंत्रित** थी, लेकिन यह **23,600 एकड़** तक फैल चुकी थी, जबकि ईटन आग **14,000 एकड़** तक फैल चुकी थी और **15% नियंत्रित** थी।

Italy's Justice Minister asks court to release Iranian man held on U.S. warrant

GS Paper II: IR

Associated Press
ROME

Italy's Justice Minister has asked an appeals court to revoke the arrest of an Iranian citizen wanted by the U.S. over a drone attack in Jordan that killed three Americans a year ago.

Mohammad Abedini was scheduled to appear at a Milan court on Wednesday in connection with his bid for house arrest pending the extradition process to the U.S.

Iransaid Mr. Abedini will return to Iran "within hours." The report said the release and return of Mr. Abedini came after Iran's Foreign Ministry pursued the case with Italy.

Mr. Abedini was arrested based on a U.S. warrant on December 16, three days before Italian journalist Cecilia Sala was detained while on a reporting trip to Iran. Ms. Sala, who was believed to have been held as a bargaining chip for Mr. Abedini's release, returned home last week, giving rise to speculation about his fate.

Quid pro quo: Italian journalist Cecilia Sala, believed to have been held as a bargaining chip, had returned home last week. REUTERS

Finer details
The Justice Ministry on Sunday said that under Italy-U.S. extradition treaties, "only crimes that are punishable according to the laws of both sides can lead to extradition, a condition which, based on the state of documents, can't be considered as existing."

The potential charge against Mr. Abedini – criminal association for violating the International Emergency Economic Powers Act, a U.S. federal law – "did not correspond to any conduct recognised by Italian law as a crime."

Italy's Justice Minister asks court to release Iranian man held on U.S. warrant

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इटली के न्याय मंत्री ने अदालत से अमेरिकी वारंट पर पकड़े गए ईरानी व्यक्ति को रिहा करने का अनुरोध किया

Italy's Justice Minister Requests Court to Revoke Iranian Citizen's Arrest
इटली के न्याय मंत्री ने ईरानी नागरिक की गिरफ्तारी को रद्द करने के लिए कोर्ट से अनुरोध किया

- **Italy's Justice Minister** has asked an **appeals court** to revoke the **arrest** of an Iranian citizen wanted by the **U.S.** over a **drone attack** in **Jordan** that killed three **Americans** a year ago.

  इटली के न्याय मंत्री ने एक **अपील कोर्ट** से अनुरोध किया है कि **ईरान** के एक नागरिक की **गिरफ्तारी** को रद्द किया जाए, जिसे **यू.एस.** ने एक **ड्रोन हमले** के लिए वांछित किया था, जिसमें एक साल पहले **जॉर्डन** में तीन **अमेरिकियों** की मौत हो गई थी।

- **Mohammad Abedini** was scheduled to appear at a **Milan court** on **Wednesday** in connection with his bid for **house arrest** pending the **extradition** process to the **U.S.**

  मोहम्मद अबेदीनी को **बुधवार** को **मिलान कोर्ट** में **घर में नजरबंदी** के लिए पेश होना था, जो **यू.एस.** को प्रत्यर्पण की प्रक्रिया के तहत था।

- **Iran** said Mr. Abedini will return to **Iran** "within hours."

  ईरान ने कहा कि श्री अबेदीनी **ईरान** "कुछ घंटों के भीतर" लौटेंगे।

- The release and return of Mr. Abedini came after **Iran's Foreign Ministry** pursued the case with **Italy**.

  श्री अबेदीनी की रिहाई और वापसी के बाद, **ईरान के विदेश मंत्रालय** ने **इटली** के साथ मामला आगे बढ़ाया।

- **Mr. Abedini** was arrested based on a **U.S. warrant** on **December 16**, three days before **Italian journalist Cecilia Sala** was detained while on a reporting trip to **Iran**.

  श्री अबेदीनी को **यू.एस. वारंट** पर **16 दिसंबर** को गिरफ्तार किया गया, तीन दिन पहले **इतालवी पत्रकार सेसिलिया साला** को **ईरान** में रिपोर्टिंग यात्रा पर गिरफ्तार किया गया था।

- **Ms. Sala**, who was believed to have been held as a bargaining chip for Mr. Abedini's release, returned home last week, giving rise to speculation about his fate.

  सुश्री साला, जिन्हें श्री अबेदीनी की रिहाई के लिए सौदेबाजी का पात्र माना जा रहा था, पिछले हफ्ते घर लौट आईं, जिससे उनकी किस्मत को लेकर अटकलें तेज हो गईं।

Finer Details
विवरण

- The **Justice Ministry** on **Sunday** said that under **Italy-U.S. extradition treaties**, "only crimes that are punishable according to the laws of both sides can lead to extradition, a condition which, based on the state of documents, can't be considered as existing."

  न्याय मंत्रालय ने **रविवार** को कहा कि **इटली-यू.एस. प्रत्यर्पण संधियों** के तहत, "केवल वे अपराध जो

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दोनों पक्षों के कानूनों के तहत दंडनीय हैं, ही प्रत्यर्पण की ओर ले जा सकते हैं, एक शर्त जो, दस्तावेजों की स्थिति के आधार पर, मौजूद नहीं मानी जा सकती।"

- The potential charge against **Mr. Abedini** — **criminal association** for violating the **International Emergency Economic Powers Act**, a **U.S. federal law** — "did not correspond to any conduct recognised by **Italian law** as a crime."

श्री अबेदीनी के खिलाफ संभावित आरोप – **अंतर्राष्ट्रीय आपातकालीन आर्थिक शक्तियों अधिनियम** का उल्लंघन करने के लिए **अपराधी संघ** — "**इतालवी कानून** द्वारा किसी अपराध के रूप में मान्यता प्राप्त किसी आचरण से मेल नहीं खाता।"

Myanmar junta air strike kills 15 civilians, says rebel group

GS Paper II: IR

Agence France-Presse
BANGKOK

A Myanmar junta air strike killed at least 15 civilians and wounded 10 others at a market in a gold-mining area in northern Kachin state, a spokesman for an ethnic rebel group that controls the area said on Sunday.

The junta has been accused of carrying out multiple attacks on civilian targets as it struggles to quell resistance to its 2021 coup.

The latest attack happened around 11:00 a.m. on Saturday, Colonel Naw Bu, a spokesperson from the Kachin Independence Army (KIA), said.

"All those killed were civilians including gold miners and local shopkeepers," he said.

The KIA, which can call on around 7,000 fighters, has been battling the military for decades for autonomy and control of local resources in Kachin State.

The State is home to huge jade mines and rare heavy earth elements, most of which are exported to China. Naw Bu said the attack took place in a mining area in Tanaing Township, in the western part of the State.

बताया।

Myanmar Junta Air Strike Kills 15 Civilians in Kachin
म्यांमार सेना के हवाई हमले में कचिन में 15 नागरिकों की मौत

- A **Myanmar junta air strike** killed at least **15 civilians** and wounded **10 others** at a market in a **gold-mining area** in **northern Kachin state**, a spokesman for an ethnic rebel group that controls the area said on **Sunday**.

एक **म्यांमार सेना के हवाई हमले** में **15 नागरिकों** की मौत हो गई और **10 अन्य** घायल हो गए, यह हमला **उत्तर कचिन राज्य** के एक **सोने की खदान क्षेत्र** में एक बाज़ार में हुआ, जहां के एक जातीय विद्रोही समूह के प्रवक्ता ने **रविवार** को

- The **junta** has been accused of carrying out multiple attacks on **civilian targets** as it struggles to quell resistance to its **2021 coup**.

सेना पर आरोप है कि उसने **2021 के सैन्य तख़्तापलट** के खिलाफ प्रतिरोध को दबाने के लिए **नागरिक लक्ष्यों** पर कई हमले किए हैं।

- The latest attack happened around **11:00 a.m.** on **Saturday**, Colonel **Naw Bu**, a spokesperson from the **Kachin Independence Army (KIA)**, said.
  शनिवार को **11:00 बजे** के आसपास नवीनतम हमला हुआ, यह जानकारी **कचिन स्वतंत्रता सेना (KIA)** के प्रवक्ता **कर्नल नव बू** ने दी।

- "All those killed were civilians including **gold miners** and **local shopkeepers**," he said.
  "सभी मारे गए लोग नागरिक थे, जिनमें **सोने के खनिक** और **स्थानीय दुकानदार** शामिल थे," उन्होंने कहा।

- The **KIA**, which can call on around **7,000 fighters**, has been battling the military for decades for **autonomy** and control of local resources in **Kachin State**.
  KIA, जिसके पास लगभग **7,000 सैनिक** हैं, दशकों से **कचिन राज्य** में **स्वायत्तता** और स्थानीय संसाधनों के नियंत्रण के लिए सेना से लड़ रहा है।

- The State is home to huge **jade mines** and rare **heavy earth elements**, most of which are exported to **China**.
  राज्य में विशाल **जेड खदानें** और दुर्लभ **भारी पृथ्वी तत्व** हैं, जिनमें से अधिकांश **चीन** को निर्यात किए जाते हैं।

- Naw Bu said the attack took place in a mining area in **Tanaing Township**, in the **western part of the State**.
  नव बू ने कहा कि हमला राज्य के **पश्चिमी भाग** में **तानींग टाउनशिप** के एक खनन क्षेत्र में हुआ।

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Saikia, Bhatia take over as secretary and treasurer of BCCI

PCS

Amol Karhadkar
MUMBAI

Devajit Saikia's and Prabhtej Singh Bhatia's uncontested election as the secretary and treasurer, respectively, of the Board of Control for Cricket in India (BCCI) was formalised during the BCCI's Special General Meeting (SGM) on Sunday.

With Saikia, the incumbent joint secretary, and Bhatia, who has earlier served as a councillor, being lone candidates in their respective categories, there was no need for a ballot vote. Election officer A.K. Joti formally appointed the duo as office-bearers in the SGM that lasted 10 minutes.

The need for election had arisen since Jay Shah and Ashish Shelar had to vacate their posts for varied reasons. While Shah resigned as secretary on November 30 before taking over as the International Cricket Council chair on December 1, Shelar had to step down immediately after being sworn in as a Minister in Maharashtra's Ca-

Devajit Saikia. PTI

binet last month.

The BCCI will now have to conduct an election for joint secretary's post in the next 45 days, with Mumbai Cricket Association vice-president Sanjay Naik being a frontrunner to fill in till the AGM later this year.

Saikia played four Ranji Trophy games for Assam in 1990-91. However, he has had a glittering career ever since stepping into the Assam Cricket Association in 2016. He has been instrumental in developing the Barsapara Cricket Stadium in Guwahati.

Bhatia, a young entrepreneur, was a councillor for three years from 2019 to '22.

Saikia, Bhatia take over as secretary and treasurer of BCCI

सैकिया, भाटिया ने बीसीसीआई के सचिव और कोषाध्यक्ष का पदभार संभाला

Devajit Saikia and Prabhtej Singh Bhatia's Election in BCCI
देवजीत सैकीया और प्रभतेज सिंह भाटिया का BCCI में चुनाव

• **Devajit Saikia** and **Prabhtej Singh Bhatia's** uncontested election as the **secretary** and **treasurer** of the **Board of Control for Cricket in India (BCCI)** was formalised during the **BCCI's Special General Meeting (SGM)** on **Sunday**.

देवजीत सैकीया और प्रभतेज सिंह भाटिया का सचिव और कोषाध्यक्ष के रूप में भारतीय क्रिकेट कंट्रोल बोर्ड (BCCI) में निर्विरोध चुनाव रविवार को BCCI की विशेष आम बैठक (SGM) में औपचारिक रूप से मान्यता प्राप्त किया।

• Saikia, the **incumbent joint secretary**, and Bhatia, who has earlier served as a **councillor**, were the lone candidates in their respective categories, meaning there was no need for a ballot vote.

सैकीया, जो वर्तमान में **संयुक्त सचिव** हैं, और भाटिया, जो पहले **काउंसलर** रह चुके हैं, अपने-अपने श्रेणियों में अकेले उम्मीदवार थे, जिससे मतदान की आवश्यकता नहीं पड़ी।

• **Election officer A.K. Joti** formally appointed the duo as office-bearers in the SGM that lasted **10 minutes**.

चुनाव अधिकारी ए.के. जोति ने **10 मिनट** तक चली SGM में दोनों को कार्यालयधारियों के रूप में औपचारिक रूप से नियुक्त किया।

- The need for the election arose because **Jay Shah** and **Ashish Shelar** had to vacate their posts for various reasons.
  चुनाव की आवश्यकता इसलिए पड़ी क्योंकि **जय शाह** और **आशीष शेलर** को विभिन्न कारणों से अपने पदों को छोड़ना पड़ा।

- **Jay Shah** resigned as secretary on **November 30**, before taking over as the **International Cricket Council (ICC) chair** on **December 1**.
  जय शाह ने **30 नवंबर** को सचिव के पद से इस्तीफा दिया, उसके बाद **1 दिसंबर** को उन्होंने **इंटरनेशनल क्रिकेट काउंसिल (ICC) के अध्यक्ष** के रूप में कार्यभार संभाला।

- **Ashish Shelar** had to step down immediately after being sworn in as a **Minister in Maharashtra's Cabinet** last month.
  आशीष शेलर को पिछले महीने महाराष्ट्र के **मंत्री के रूप में शपथ लेने के बाद** तुरंत इस्तीफा देना पड़ा।

- The **BCCI** will now have to conduct an election for the **joint secretary's post** in the next **45 days**, with **Mumbai Cricket Association vice president Sanjay Naik** being a frontrunner to fill in until the **AGM** later this year.
  BCCI को अब अगले **45 दिनों** में **संयुक्त सचिव** के पद के लिए चुनाव करना होगा, जिसमें **मुंबई क्रिकेट संघ के उपाध्यक्ष संजय नाइक** AGM तक इस पद पर कार्यभार संभालने के प्रमुख उम्मीदवार हैं।

- **Saikia** played four **Ranji Trophy** games for **Assam** in **1990-91**, and has had a notable career since stepping into the **Assam Cricket Association** in **2016**.
  सैकीया ने **1990-91** में **असम** के लिए चार **रणजी ट्रॉफी** मैच खेले, और 2016 में **असम क्रिकेट संघ** में शामिल होने के बाद उनका करियर बहुत ही उज्जवल रहा।

- He has been instrumental in developing the **Barsapara Cricket Stadium** in **Guwahati**.
  उन्होंने **गुवाहाटी** में **बारसापारा क्रिकेट स्टेडियम** के विकास में महत्वपूर्ण भूमिका निभाई।

- **Bhatia**, a young entrepreneur, was a councillor for **three years** from **2019 to 2022**.
  भाटिया, जो एक युवा व्यवसायी हैं, **2019 से 2022** तक **तीन साल** काउंसलर रहे।

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An unlikely mystery: studies shed new light on how genes are made

In 1970, Japanese-American biologist Susumu Ohno proposed that the main source of new genes is gene duplication. When the body's genome has two copies of the same gene, one copy can continue to provide the original function while the other is free to mutate and acquire new functions

D.P. Kasbekar

The likeness of identical twins can be startling. They are alike because all their genes are alike. Genes are those segments of the genome where, if changes occur, the characteristics of an organism change. Non-identical twins vary in 50% of their genes and are much less alike. Thus, genes define our individuality in many ways.

In December 2024, two research groups addressed how new genes are created. The University of Nevada, Reno, group reported its findings in *Molecular Biology and Evolution,* and the other, from the Max Planck Institute for Evolutionary Biology Plön, Germany, reported in *Genome Biology and Evolution.*

The 24 molecules

A group of 24 molecules of DNA gives identity to our 24 chromosomes. These are the chromosomes numbered 1 to 22 and the sex chromosomes X and Y. Our cells contain two sets of the genome: one derived from the mother's egg and the other from the father's sperm. Eggs and sperm receive only one chromosome of each pair. When they fuse and form the zygote, the latter has two sets again. The zygote then multiplies to form a baby.

The cells in human bodies possess two copies of chromosomes 1-22. Biological females have two X chromosomes, whereas biological males have an X chromosome and a Y chromosome.

Identical twins arise from a single zygote, while non-identical twins arise from two zygotes produced simultaneously.

Each DNA molecule has two strands held together by bonds between compounds on the strands, called base pairs. Our genome contains 3.2 billion base pairs. A gene is typically a few-thousand base-pair-long segment of DNA.

When a gene is 'expressed,' it means a cell will transcribe the underlying base pair sequence to a molecule called messenger RNA (mRNA), and read the mRNA like a recipe to make a protein.

In the human genome, there are 20,000 protein-coding genes and 20,000 genes that cells use to create RNA that influences the expression of other genes. There are also some genes, called promoters and enhancers, which tell the cell when and where other genes are copied into mRNA.

Two compounds involved in forming the base pairs are cytosine and thymine. Sometimes the cytosine molecules bind to a methyl ion and are said to be methylated. A methylated cytosine

Each DNA molecule has two strands held together by bonds between compounds on the strands, called base pairs. Our genome contains 3.2 billion base-pairs. Representative illustration. GETTY IMAGES/ISTOCKPHOTO

molecule is likelier than an unmethylated one to mutate and become a thymine molecule.

Duplications create new genes

In 1970, Japanese-American biologist Susumu Ohno proposed that the main source of new genes is gene duplication. When the body's genome has two copies of the same gene, one copy can continue to provide the original function while the other is free to mutate and acquire new functions.

Ohno's proposal was simple but had one flaw: it didn't explain how the organism's cells would deal with producing twice the quantity of the same proteins as a result. Protein over-expression can lead to debilitating conditions. The University of Nevada, Reno, researchers addressed this problem.

Humans and mice last shared a common ancestor 75 million years ago. The researchers compared genes duplicated in human or mouse genomes, those duplicated in both, and those not duplicated in either.

They found the promoters of duplicated genes had more methylated DNA than the promoters of genes that hadn't been duplicated. Increased methylation would have prevented the cells from manufacturing twice as many proteins, minimising the ill effects of duplication and allowing the duplicate gene to survive long enough to acquire

> **Cells possess two copies of chromosomes 1-22. Females have two X chromosomes, whereas males have an X chromosome and a Y chromosome**

new functions.

The researchers reported that the higher rate of methylation also elevated the rate of mutation.

Random sequences to incipient genes

The Max Planck Institute group inserted exogenous DNA into a population of cells derived from a human. (Exogenous means the DNA came from sources separate from the cells.) The researchers were careful to insert the DNA at a specific site in the genome and allowed the cells to make proteins with them.

The exogenous DNA had a chunk that consisted of a random sequence of base-pairs – which means the proteins the cells made with it would be random as well.

The researchers put together a collection of cells of 3,708 types and nurtured them for 20 days. At regular intervals they checked the relative abundance of different cell types.

After 20 days, the team found that 53% of cell types had become less abundant, 8% more abundant, and 40% didn't swing either way. That is, more often than not, random DNA sequences affected cell

growth and thus became relevant for evolution to act upon.

In yet other words: the random DNA inserts behaved like incipient genes.

Keeping vs. chucking a gene

For a genome to retain a gene, it must have some use, or the genome allows it to mutate. But establishing a gene's usefulness is challenging.

Consider blood groups. Individuals can have one of four groups – A, B, AB or O – depending on which variants of the *ABO* gene they've inherited. If a person receives *A* and *A* or *A* and *O,* they have the A blood type. If they have *B* and *B* or *B* and *O,* they have the B blood type. If they have *A* and *B* or *O* and *O,* then they have the AB or the O blood types, respectively.

In sum, every individual lacks either one or two of the variants, which means no variant is really essential. The *O* variant also encodes a protein with no known function and whose amino acid sequence is markedly different from those encoded by *A* and *B.*

Primates and humans took different branches on the tree of evolution millions of years ago but share blood types – which is to say evolution both found a way and saw fit to retain all three variants in so many species for a very long amount of time. Scientists don't yet have a simple answer to why evolution has done this, but they aren't complaining.

(D.P. Kasbekar is a retired scientist. kasbekardp@yahoo.co.in)

THE GIST

▼
A group of 24 molecules of DNA gives identity to our 24 chromosomes. Our cells contain two sets of the genome: one from the mother and the other from the father. Eggs and sperm receive only one chromosome. When they form the zygote, the latter has two sets again

▼
In the genome, there are 20,000 protein-coding genes and 20,000 genes that are used to create RNA that influences the expression of other genes. There are also some genes, called promoters and enhancers, which tell the cell when and where other genes are copied into mRNA

▼
Researchers found the promoters of duplicated genes had more methylated DNA. Methylation prevented the cells from manufacturing twice as many proteins, minimising the ill effects of duplication and allowing the duplicate gene to survive

▼
Primates and humans took different branches on the tree of evolution millions of years ago but share blood types — which is to say evolution both found a way and saw fit to retain all three gene variants in so many species for a very long amount of time

An unlikely mystery: studies shed new light on how genes are made

एक अकल्पनीय रहस्य: अध्ययनों से पता चला है कि जीन कैसे बनते हैं

In 1970, Japanese-American biologist Susumu Ohno proposed that the main source of new genes is gene duplication. When the body's genome has two copies of the same gene, one copy can continue to provide the original function while the other is free to mutate and acquire new functions

Gene Creation and Gene Duplication
जीन निर्माण और जीन दोहराव

- The **likeness of identical twins** can be startling. They are alike because all their **genes** are alike.

  समान जुड़वां की समानता चौंकाने वाली हो सकती है। वे इसलिये समान होते हैं क्योंकि उनके सभी **जीन** समान होते हैं।

- **Genes** are those segments of the genome where, if changes occur, the characteristics of an organism change.

  जीन वे खंड होते हैं जिनमें परिवर्तन होने पर एक जीव के लक्षण बदल जाते हैं।

- **Non-identical twins** vary in **50% of their genes** and are much less alike.

  असमान जुड़वां के जीन में **50% अंतर** होता है और वे बहुत कम समान होते हैं।

- **Genes define our individuality** in many ways.

  जीन हमारे व्यक्तित्व को कई तरीकों से परिभाषित करते हैं।

- In **December 2024**, two research groups addressed how new genes are created.

  दिसंबर 2024 में, दो शोध समूहों ने बताया कि **नए जीन कैसे बनते हैं**।

- One research group from the **University of Nevada, Reno** published its findings in **Molecular Biology and Evolution**, and another from the **Max Planck Institute for Evolutionary Biology Plön, Germany** reported in **Genome Biology and Evolution**.

  एक शोध समूह **यूनिवर्सिटी ऑफ नेवाडा, रेनो** से Molecular Biology and Evolution में अपने निष्कर्ष प्रकाशित किया, और दूसरा **मैक्स प्लांक इंस्टिट्यूट फॉर इवोल्यूशनरी बायोलॉजी प्लॉन, जर्मनी** से Genome Biology and Evolution में रिपोर्ट किया।

- A group of **24 molecules of DNA** gives identity to our **24 chromosomes**.

  डीएनए के 24 अणुओं का एक समूह हमारे **24 गुणसूत्रों** को पहचान देता है।

- These chromosomes are numbered **1 to 22** and the sex chromosomes **X** and **Y**.

  ये गुणसूत्र **1 से 22** तक क्रमांकित होते हैं और **X** और **Y** यौन गुणसूत्र होते हैं।

- Our cells contain **two sets of the genome**, one from the mother's egg and one from the father's sperm.

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हमारे कोशिकाओं में **जीनोम के दो सेट** होते हैं, एक माँ के अंडाणु से और दूसरा पिता के शुक्राणु से।

- Eggs and sperm receive only **one chromosome** of each pair.
  अंडाणु और शुक्राणु हर जोड़ी का केवल **एक गुणसूत्र** प्राप्त करते हैं।

- The **zygote** forms when they fuse, which then multiplies to form a baby.
  जब ये मिलते हैं, तो **ज़ायगोट** बनता है, जो फिर बढ़कर बच्चे का निर्माण करता है।

- Human cells have **two copies of chromosomes 1-22**.
  मानव कोशिकाओं में **गुणसूत्रों 1-22 की दो प्रतियाँ** होती हैं।

- Biological **females** have **two X chromosomes**, while biological **males** have an **X** and a **Y chromosome**.
  जैविक **महिलाओं** के पास **दो X गुणसूत्र** होते हैं, जबकि जैविक **पुरुषों** के पास **X** और **Y गुणसूत्र** होते हैं।

- **Identical twins** arise from a single **zygote**, while non-identical twins arise from two **zygotes**.
  समान जुड़वां एक ही **ज़ायगोट** से उत्पन्न होते हैं, जबकि असमान जुड़वां दो **ज़ायगोट** से उत्पन्न होते हैं।

- Each **DNA molecule** has **two strands** held together by bonds called **base pairs**.
  प्रत्येक **डीएनए अणु** में **दो स्ट्रैंड** होते हैं जो **बेस पेयर** नामक बंधनों से जुड़े होते हैं।

- Our genome contains **3.2 billion base pairs**.
  हमारे जीनोम में **3.2 बिलियन बेस पेयर** होते हैं।

- A **gene** is typically a few-thousand **base-pair-long segment of DNA**.
  एक **जीन** सामान्यत: कुछ हजार **बेस-पेयर लंबा डीएनए खंड** होता है।

- When a gene is **expressed**, it means the cell transcribes the DNA into **messenger RNA (mRNA)** and uses it to make a **protein**.
  जब एक जीन **व्यक्त होता है**, तो इसका मतलब है कि कोशिका डीएनए को **मेसेन्जर आरएनए (mRNA)** में ट्रांसक्राइब करती है और इसका उपयोग **प्रोटीन** बनाने के लिए करती है।

- The human genome has **20,000 protein-coding genes** and **20,000 genes** for RNA creation that influence other gene expressions.
  मानव जीनोम में **20,000 प्रोटीन-कोडिंग जीन** होते हैं और **20,000 जीन** होते हैं जो आरएनए निर्माण के लिए होते हैं और अन्य जीन अभिव्यक्तियों को प्रभावित करते हैं।

- Some genes, called **promoters** and **enhancers**, tell the cell when and where to transcribe other genes into mRNA.
  कुछ जीन, जिन्हें **प्रोमोटर** और **एन्हांसर** कहा जाता है, कोशिका को बताते हैं कि कब और कहाँ अन्य जीनों को mRNA में ट्रांसक्राइब किया जाए।

- Two compounds, **cytosine** and **thymine**, are involved in forming base pairs.
  दो यौगिक, **साइटोसिन** और **थाइमिन**, बेस पेयर बनाने में शामिल होते हैं।

- Sometimes, **cytosine** binds to a **methyl ion** and is said to be **methylated**, making it more likely to mutate into **thymine**.
  कभी-कभी, **साइटोसिन** एक **मिथाइली आयन** से जुड़ जाता है और इसे **मिथाइलेटेड** कहा जाता है, जिससे यह **थाइमिन** में उत्परिवर्तित होने की संभावना बढ़ जाती है।

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- **Gene duplication** is proposed as the main source of new genes, where one copy provides the original function, and the other can mutate to acquire new functions.
  जीन दोहराव को नए जीनों का मुख्य स्रोत माना जाता है, जहां एक प्रति मौलिक कार्य प्रदान करती है, और दूसरी उत्परिवर्तित होकर नए कार्य प्राप्त कर सकती है।

- **Susumu Ohno**, in **1970**, proposed that gene duplication allows one gene copy to maintain its function while the other can mutate and acquire new functions.
  सुशुमु ओहनो, ने **1970** में प्रस्तावित किया था कि जीन दोहराव से एक जीन की प्रति अपनी कार्यक्षमता बनाए रख सकती है, जबकि दूसरी उत्परिवर्तित होकर नए कार्य प्राप्त कर सकती है।

- The **University of Nevada, Reno** researchers found that **duplicated genes** have more **methylated DNA** in their promoters, preventing overproduction of proteins.
  यूनिवर्सिटी ऑफ नेवाडा, रेनो के शोधकर्ताओं ने पाया कि **दोहराए गए जीनों** के प्रोमोटरों में अधिक **मिथाइलेटेड डीएनए** होता है, जो प्रोटीनों का अत्यधिक उत्पादन रोकता है।

- Higher **methylation rates** in duplicated genes reduce protein overproduction and help the duplicate gene acquire new functions.
  दोहराए गए जीनों में उच्च **मिथाइलेशन दर** प्रोटीन के अत्यधिक उत्पादन को कम करती है और प्रतिलिपि जीन को नए कार्य प्राप्त करने में मदद करती है।

- The researchers also found that higher **methylation rates** increase the rate of **mutation**.
  शोधकर्ताओं ने यह भी पाया कि उच्च **मिथाइलेशन दर उत्परिवर्तन** की दर को बढ़ाती है।

Random Sequences to Incipient Genes
आकस्मिक अनुक्रम से प्रारंभिक जीन तक

- The **Max Planck Institute group** inserted **exogenous DNA** into a population of cells derived from a human.
  मैक्स प्लांक इंस्टिट्यूट समूह ने **बाहरी डीएनए** को मानव से प्राप्त कोशिकाओं की एक जनसंख्या में डाला।

- **Exogenous** means the DNA came from sources separate from the cells.
  बाहरी का मतलब है कि डीएनए कोशिकाओं से अलग स्रोतों से आया था।

- The researchers inserted the DNA at a **specific site in the genome** and allowed the cells to make proteins with it.
  शोधकर्ताओं ने डीएनए को **जीनोम के एक विशिष्ट स्थान पर** डाला और कोशिकाओं को इसके साथ प्रोटीन बनाने की अनुमति दी।

- The exogenous DNA had a chunk consisting of a **random sequence of base-pairs**, meaning the proteins the cells made with it would be random as well.
  बाहरी डीएनए में एक खंड था जो **बेस-पेयर के आकस्मिक अनुक्रम** से बना था, जिसका मतलब है कि कोशिकाओं द्वारा बनाए गए प्रोटीन भी आकस्मिक होंगे।

- The researchers created a collection of **3,708 cell types** and nurtured them for **20 days**.
  शोधकर्ताओं ने **3,708 कोशिका प्रकार** बनाए और उन्हें **20 दिनों** तक पाला।

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- At regular intervals, they checked the **relative abundance** of different cell types.
  नियमित अंतराल पर, उन्होंने विभिन्न कोशिका प्रकारों की **सापेक्ष प्रचुरता** की जांच की।

- After **20 days**, the team found that **53%** of cell types had become less abundant, **8%** more abundant, and **40%** didn't swing either way.
  20 दिनों के बाद, टीम ने पाया कि **53%** कोशिका प्रकार कम प्रचुर हो गए, **8%** अधिक प्रचुर हो गए, और **40%** में कोई परिवर्तन नहीं हुआ।

- More often than not, **random DNA sequences** affected **cell growth** and became relevant for **evolution** to act upon.
  अधिकतर मामलों में, **आकस्मिक डीएनए अनुक्रम** ने **कोशिका वृद्धि** को प्रभावित किया और यह **विकास** के लिए प्रासंगिक हो गया।

- In other words, the **random DNA inserts** behaved like **incipient genes**.
  दूसरे शब्दों में, **आकस्मिक डीएनए जोड़** **प्रारंभिक जीनों** की तरह व्यवहार करते थे।

Keeping vs. Chucking a Gene
जीन को बनाए रखना बनाम उसे त्यागना

- For a genome to retain a gene, it must have some **use**, or the genome allows it to **mutate**.
  एक जीनोम को जीन बनाए रखने के लिए, उसे कुछ **उपयोग** होना चाहिए, या जीनोम इसे **उत्परिवर्तित** होने की अनुमति देता है।

- Establishing a gene's **usefulness** is challenging.
  जीन के **उपयोगिता** को स्थापित करना चुनौतीपूर्ण होता है।

- **Blood groups** (A, B, AB, O) depend on the variants of the **ABO gene** inherited by an individual.
  रक्त समूह (A, B, AB, O) एक व्यक्ति द्वारा विरासत में प्राप्त **ABO जीन** के प्रकारों पर निर्भर करते हैं।

- A person with **A and A** or **A and O** will have **A blood type**; with **B and B** or **B and O**, they will have **B blood type**; and with **A and B** or **O and O**, they will have **AB** or **O blood types**, respectively.
  एक व्यक्ति के पास **A और A** या **A और O** होने पर उनका **A रक्त समूह** होगा; **B और B** या **B और O** होने पर उनका **B रक्त समूह** होगा; और **A और B** या **O और O** होने पर उनके पास **AB** या **O रक्त समूह** होंगे, क्रमशः।

- Every individual lacks either **one or two** of the variants, which means **no variant is really essential**.
  हर व्यक्ति में **एक या दो** प्रकारों की कमी होती है, जिसका मतलब है कि **कोई भी प्रकार वास्तव में आवश्यक नहीं है**।

- The **O variant** encodes a protein with no known function and a markedly different **amino acid sequence** compared to **A** and **B**.
  O प्रकार एक प्रोटीन को कोड करता है जिसका कोई ज्ञात कार्य नहीं है और इसका **अमिनो अम्ल अनुक्रम** A और B के मुकाबले काफी भिन्न होता है।

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- **Primates** and humans took different branches on the tree of evolution millions of years ago but share **blood types**.

  प्राइमेट और मनुष्य लाखों साल पहले विकास की पेड़ पर अलग शाखाओं पर गए थे लेकिन वे **रक्त समूह** साझा करते हैं।

- Evolution both found a way and saw fit to **retain all three variants** in many species for a very long time.

  विकास ने एक रास्ता पाया और **तीनों प्रकारों को** कई प्रजातियों में बहुत लंबे समय तक बनाए रखने के लिए इसे उपयुक्त माना।

- Scientists don't yet have a **simple answer** as to why evolution has done this, but they aren't complaining.

  वैज्ञानिकों के पास अभी तक इसका **साधारण उत्तर** नहीं है कि विकास ने ऐसा क्यों किया, लेकिन वे शिकायत नहीं कर रहे हैं।

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IMD: India's weather tracker

Vasudevan Mukunth

On January 15, 2025, the India Meteorological Department (IMD) will turn 150 years old.

The organisation was set up by the provincial British government in the country in 1875, and its first (Imperial) Meteorological Reporter was Henry Francis Blanford. The IMD's genesis can be traced to the importance of the monsoons over South Asia and the formation and effects of cyclones from the Indian Ocean.

Its formation was particularly accelerated by the 1864 Calcutta cyclone, which devastated the city and left more than 60,000 people dead, and the Orissa famine that followed just two years later because the monsoons had failed. So the government at the time decided to funnel weather data collected around the country into a single set of records, managed by a bespoke organisation. This organisation was the IMD.

It was originally headquartered in Calcutta but by 1944 had moved to New Delhi. In independent India, the IMD became a member of the World Meteorological Organisation in 1949.

Students taking part in an event to mark the 150th anniversary of the India Meteorological Department (IMD) in Chennai. ANI

The IMD currently operates six Regional Meteorological Centres, a Meteorological Centre in every State capital, plus a panoply of centres for various meteorological services. Aside from tracking and studying phenomena like rainfall and cyclones, the IMD helps record earthquakes and atmospheric pollution and generates alerts and warnings about impending anomalous weather. It also maintains a complicated communications system that collects data from a variety of sources, including ground observatories, naval vessels, atmospheric balloons, and satellites.

For feedback and suggestions for 'Science', please write to science@thehindu.co.in with the subject 'Daily page'

IMD: India's weather tracker

आईएमडी: भारत का मौसम ट्रैकर

India Meteorological Department's 150th Anniversary
भारत मौसम विज्ञान विभाग का 150वां स्थापना वर्ष

- On **January 15, 2025**, the **India Meteorological Department (IMD)** will turn **150 years old**.
  15 जनवरी 2025 को भारत मौसम विज्ञान विभाग (IMD) 150 वर्ष का हो जाएगा।
- The organisation was set up by the **provincial British government** in **1875**, and its first (**Imperial**) **Meteorological Reporter** was **Henry Francis Blanford**.
  इस संगठन की स्थापना **ब्रिटिश प्रांतीय सरकार** द्वारा **1875** में की गई थी, और इसके पहले (**साम्राज्यवादी**) मौसम रिपोर्टर हेनरी फ्रांसिस ब्लैनफोर्ड थे।

- The IMD's genesis can be traced to the importance of the **monsoons** over **South Asia** and the formation and effects of **cyclones** from the **Indian Ocean**.
  IMD की उत्पत्ति **दक्षिण एशिया** में **मॉनसून** के महत्व और **भारत महासागर** से आने वाले **चक्रवातों** के निर्माण और प्रभावों से जुड़ी हुई है।

- Its formation was particularly accelerated by the **1864 Calcutta cyclone**, which devastated the city and left more than **60,000 people dead**, and the **Orissa famine** that followed just two years later due to the failure of the monsoons.
  इसकी स्थापना विशेष रूप से **1864 का कोलकाता चक्रवात** द्वारा तेज की गई, जिसने शहर को

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नष्ट कर दिया और **60,000 से अधिक लोगों** की मौत हो गई, और इसके बाद दो साल बाद **उड़ीसा अकाल** आया क्योंकि मॉनसून विफल हो गए थे।

- The government at the time decided to funnel weather data collected around the country into a single set of records, managed by a bespoke organisation.

  उस समय सरकार ने पूरे देश में एकत्र किए गए मौसम डेटा को एकल रिकॉर्ड सेट में एकत्र करने का निर्णय लिया, जिसे एक विशेष संगठन द्वारा प्रबंधित किया जाएगा।

- This organisation was the **IMD**.

  यह संगठन था **IMD**।

- It was originally headquartered in **Calcutta** but by **1944** had moved to **New Delhi**.

  इसका मुख्यालय मूल रूप से **कोलकाता** में था, लेकिन **1944** तक इसे **नई दिल्ली** में स्थानांतरित कर दिया गया था।

- In **independent India**, the IMD became a member of the **World Meteorological Organisation (WMO)** in **1949**.

  स्वतंत्र भारत में, IMD **विश्व मौसम विज्ञान संगठन (WMO)** का सदस्य बना **1949** में।

- The IMD currently operates **six Regional Meteorological Centres**, a **Meteorological Centre** in every **State capital**, plus a variety of centres for various meteorological services.

  वर्तमान में IMD **छह क्षेत्रीय मौसम विज्ञान केंद्र** संचालित करता है, हर **राज्य की राजधानी** में एक **मौसम विज्ञान केंद्र**, और विभिन्न मौसम विज्ञान सेवाओं के लिए विभिन्न केंद्र भी हैं।

- Aside from tracking and studying phenomena like **rainfall** and **cyclones**, the IMD helps record **earthquakes** and **atmospheric pollution** and generates **alerts and warnings** about impending anomalous weather.

  वर्षा और **चक्रवातों** जैसे घटनाओं का पता लगाने और अध्ययन करने के अलावा, IMD **भूकंप** और **वायुमंडलीय प्रदूषण** को रिकॉर्ड करने में मदद करता है और आगामी असामान्य मौसम के बारे में **चेतावनियाँ और अलर्ट** उत्पन्न करता है।

- It also maintains a complicated **communications system** that collects data from various sources, including **ground observatories**, **naval vessels**, **atmospheric balloons**, and **satellites**.

  यह एक जटिल **संचार प्रणाली** भी बनाए रखता है जो विभिन्न स्रोतों से डेटा एकत्र करता है, जिसमें **भौतिक वेधशालाएँ**, **नौसैनिक जहाज**, **वायुमंडलीय गुब्बारे**, और **उपग्रह** शामिल हैं।

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