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THE HINDU NEWSPAPER

16 FEBRUARY 2026

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GS Paper 1: History,	
TOPICS COVERED	16 February 2026
1. Over 40 lakh devotees take holy dip on last day of the Magh Mela माघ मेला के अंतिम दिन 40 लाख से अधिक श्रद्धालुओं ने पवित्र स्नान किया	

Over 40 lakh devotees take holy dip on last day of the Magh Mela

More than 22 crore devotees took holy dip during this year's Magh Mela, with the highest turnout recorded on Mauni Amavasya on January 18

GS I: History: A&C

Press Trust of India
PRAYAGRAJ

On the last day of the Magh Mela on Sunday that coincided with the Maha Sivaratri festival, over 40 lakh devotees took a holy dip in the Ganga and Sangam, an official said.

A mela authority official said that devotees started arriving at the fair area since late Saturday night to take a holy dip on the auspicious occasion and over 40 lakh devotees took bath in the Ganga and Sangam, the official said.

Adequate security

District Magistrate Manish Kumar Verma said that amid adequate security arrangements the Magh Mela ended on Sunday.

Mr. Verma said that more than 22 crore devotees took a holy dip during this year's Magh Mela, with the highest turnout recorded on Mauni Amavasya on January 18, when about 4.36 crore took bath.

He said the scale of participation this year far surpassed the record of the

Devotees gather in large numbers at the Triveni Sangam in Prayagraj on Sunday. @UPGOVT X

The scale of participation this year far surpassed the record of the 2013 Kumbh held in Prayagraj

2013 Kumbh held in Prayagraj, when around 12 crore devotees had taken the holy dip.

Controversy erupts

The Magh Mela also remained in the news amid tensions between Swami Avimukteshwaranand Saraswati and the administration.

A controversy erupted on Mauni Amavasya morning at the Sangam Nose when police, citing heavy crowd pressure, allegedly stopped the seer from proceeding to the Sangam in a palanquin along with a large number of supporters.

Following the incident, the seer did not take the ceremonial bath on any subsequent auspicious day and his differences with the government continued.

Over 40 lakh devotees take holy dip on last day of the Magh Mela
माघ मेला के अंतिम दिन 40 लाख से अधिक श्रद्धालुओं ने पवित्र स्नान किया

- More than **22 crore devotees** took holy dip during this year's **Magh Mela**, with the highest turnout recorded on **Mauni Amavasya** on **January 18**.
  इस वर्ष के **माघ मेला** के दौरान **22 करोड़ से अधिक श्रद्धालुओं** ने पवित्र स्नान किया, जिसमें सबसे अधिक भीड़ **18 जनवरी** को **मौनी अमावस्या** के दिन दर्ज की गई।
- On the last day of the **Magh Mela** on **Sunday** that coincided with the **Maha Sivaratri festival**, over **40 lakh devotees** took a holy dip in the **Ganga and Sangam**, an official said.

रविवार को **माघ मेला** के अंतिम दिन, जो **महाशिवरात्रि पर्व** के साथ पड़ा, **40 लाख से अधिक श्रद्धालुओं** ने **गंगा और संगम** में पवित्र स्नान किया, एक अधिकारी ने कहा।

- A mela authority official said that devotees started arriving at the fair area late **Saturday night** to take a holy dip on the auspicious occasion and over **40 lakh devotees** took bath in the **Ganga and Sangam**, the official said.

मेला प्राधिकरण के एक अधिकारी ने कहा कि शुभ अवसर पर पवित्र स्नान करने के लिए श्रद्धालु **शनिवार रात** से ही मेला क्षेत्र में पहुंचने लगे थे और **40 लाख से अधिक श्रद्धालुओं** ने **गंगा और संगम** में स्नान किया।

Adequate security
पर्याप्त सुरक्षा

- District Magistrate **Manish Kumar Verma** said that amid adequate security arrangements the **Magh Mela** ended on **Sunday**.

जिलाधिकारी **मनीष कुमार वर्मा** ने कहा कि पर्याप्त सुरक्षा व्यवस्थाओं के बीच **माघ मेला रविवार** को संपन्न हुआ।

- Mr. Verma said that more than **22 crore devotees** took a holy dip during this year's **Magh Mela**, with the highest turnout recorded on **Mauni Amavasya** on **January 18**, when about **4.36 crore** took bath.

श्री वर्मा ने कहा कि इस वर्ष के **माघ मेला** में **22 करोड़ से अधिक श्रद्धालुओं** ने पवित्र स्नान किया, जिसमें सबसे अधिक भीड़ **18 जनवरी** को **मौनी अमावस्या** के दिन रही, जब लगभग **4.36 करोड़** लोगों ने स्नान किया।

- He said the scale of participation this year far surpassed the record of the **2013 Kumbh** held in **Prayagraj**, when around **12 crore devotees** had taken the holy dip.

उन्होंने कहा कि इस वर्ष की भागीदारी का स्तर **प्रयागराज** में आयोजित **2013 कुंभ** के रिकॉर्ड को भी काफी पीछे छोड़ गया, जब लगभग **12 करोड़ श्रद्धालुओं** ने पवित्र स्नान किया था।

Controversy erupts
विवाद खड़ा हुआ

- The **Magh Mela** also remained in the news amid tensions between **Swami Avimukteshwaranand Saraswati** and the **administration**.

माघ मेला, **स्वामी अविमुक्तेश्वरानंद सरस्वती** और **प्रशासन** के बीच तनाव को लेकर भी खबरों में रहा।

- A controversy erupted on **Mauni Amavasya morning** at the **Sangam Nose** when police, citing heavy crowd pressure, allegedly stopped the seer from proceeding to the **Sangam** in a palanquin along with a large number of supporters.

मौनी अमावस्या की सुबह संगम नोज पर उस समय विवाद खड़ा हो गया, जब पुलिस ने भारी भीड़ का हवाला देते हुए कथित तौर पर संत को बड़ी संख्या में समर्थकों के साथ पालकी में **संगम** की ओर बढ़ने से रोक दिया।

- Following the incident, the seer did not take the ceremonial bath on any subsequent auspicious day and his differences with the **government** continued.

इस घटना के बाद, संत ने किसी भी बाद के शुभ दिन पर औपचारिक स्नान नहीं किया और **सरकार** के साथ उनके मतभेद जारी रहे।

GS Paper 1: Society	
TOPICS COVERED	**16 February 2026**
1.	**Love and its newfangled terms** प्रेम और उसके नए-नए शब्द
2.	**Displaced Kashmiri Pandits celebrate Herath as Muslims recall past bonds** विस्थापित कश्मीरी पंडितों ने हेरथ मनाया, मुसलमानों ने पुराने रिश्तों को याद किया

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Love and its newfangled terms

Married couples in India are, reportedly, increasingly opening themselves up to alternative relationship models and structures, often in pursuit of authentic happiness and trust. Perceived for long as conservative, it seems Tamil Nadu is not entirely so. Some of the cities are now accommodating ethical non-monogamy — very simply, a relationship involving many and with consent. **Preeti M.S.** syncs up with married couples in Tamil Nadu to explore these new trends

Chennai-based entrepreneur Madan Raj* and his techie wife Vandana Raj*, both 30 years old, are on a popular dating app – together and separately. If this is confusing, you have just been introduced to the world of ethical non-monogamy, or ENM as it is popularly called in the online dating stratosphere. The couple date other people on the app, with each other's consent, while being transparent to the people they date. "We were high school sweethearts who got married young. We realised we wanted to explore dating other people while being committed to each other," explains Mr. Madan.

ENM, as a concept, has been growing among married couples in the last 15 years and the pandemic turned out to be a catalyst, not only in Indian metros but also in smaller towns and tier-two cities, including Guwahati, Lucknow, and Bareilly. As the acronym suggests, ENM refers to a couple committed to each other either as primary partners or a married couple, opening their marriage/relationship to find other suitors/lovers/partners within the parameters of a mutually agreed framework, with clear rules and communication guidelines.

"Healthy boundaries, clear communication, and mutual respect are the cornerstones of any relationship; and when you open up a marriage or a once-committed monogamous relationship, then the need for rules, clarity, and communication becomes even more imperative," says Vidya Jebaraj, a Bengaluru-based marriage counsellor, who handholds couples looking to open up their marriage.

Anecdotal stories

One has to rely on surveys conducted by dating apps, the odd research paper, or news article for more reliable data and statistics on open marriages and relationships. On the contrary, anecdotal stories of couples in open marriages offer a plethora of insight and wisdom.

Married couples who have successfully explored ENM claim that it has not only helped build trust in the marriage but also spiced things up, especially when a relationship has lasted until it hit drudgery. "We opened up our marriage after a decade of being married and after two kids; our ENM is clearly structured, ensuring nothing impacts or disrupts our lives together or the kids. It has helped build trust, and has even made us happier," notes Selvam Durai*, 40, based in Chennai.

Speaking to many young couples in their 20s and 30s in smaller cities indicates that not just Chennai but towns such as Salem, Madurai, Coimbatore and Tiruchi are, indeed, accommodative of couples exploring ENM. It is also evident from talking to them that patriar-

> When you open up a marriage, then the need for rules, clarity, and communication becomes even more imperative
>
> VIDYA JEBARAJ,
> Marriage counsellor

chal dynamics, far more firmly entrenched in the non-metro cities, enable men to more openly explore ENM. The women, however, either reluctantly follow along or do not themselves date other men, but consent grudgingly or sometimes willingly, for their husbands to meet or date other women. In among only two of the eight couples interviewed from smaller cities do the women also feel an equal dynamic, with their husband, in exploring ENM. Almost no one was willing to share their real names, much less be photographed, indicating that while the more things change, the more they stay the same.

A 2022 Bumble study found that 61% of single Indians surveyed were open to exploring ENM, indicating a growing interest in consensual non-monogamous structures. Mumbai-based psychologist Amanpreet Nagpal noted an increase in polyamorous clients over the past five years; they associate this lifestyle with being modern and progressive, though many also seek her help for the emotional complications and insecurities that often tend to arise in such situations.

Why choose ENM?

Married couples in India pursue ENM for diverse reasons. Some discover polyamorous inclinations years into marriage. Others view marriage as providing practical benefits, including legal and society sanction, while going with non-monogamy. There is, of course, no set practice – there are variations galore. Some couples date separately, others together, and many create hybrid models that work best for them. Hierarchical arrangements with primary and secondary partners remain common, though couples maintain boundaries that evolve over time through ongoing negotiation.

There still is much stigma surrounding ENM in India but this does not seem to deter its practitioners; but it means that most people are discreet about their polyamorous status at work, with family, friends, or even online. Finding housing proves nearly impossible for the openly polyamorous, and women face disproportionate judgment compared with men. Ms. Nagpal observes a dearth of emotional grounding in open marriages, with boundaries about who constitutes the "real" couple blurring. Jealousy, insecurity, and fear of rejection surface regularly, requiring significant emotional labour and honest communication, she says.

Progressive court verdicts, including the decriminalisation of adultery and Section 377, have helped forge some acceptance of alternative sexualities and romantic lifestyles, and recognition that familial relationships may take non-traditional forms and be functional. However, legal frameworks do not recognise polyamorous relationships. Indian metros have a history of small but thriving online communities engaged in exploring ENM, but the real popularity in lived practice seems to point to smaller towns and cities where there is greater patriarchal sway for married men to explore ENM with the wife tagging along, most times, reluctantly.

Facebook groups such as 'Polyamory India' and 'Indian Polyamory and Open Relationships' exist, while Reddit's polyamoryindia group remains small if active. Even mainstream dating apps like OkCupid, Feeld, and Bumble now include options for identifying as non-monogamous, facilitating connections that circumvent awkward disclosures and discoveries.

Small polyamory meet-ups too exist, including fortnightly groups addressing loneliness within marriage in Chennai. Participants support each other with navigating family pressures, child-rearing, and secrecy, viewing polyamory as aspirational rather than mainstream. Niche apps such as Flamr and Swing-Towns list Chennai poly-seekers, indicating a

> The challenge isn't love itself but navigating a society that doesn't yet have the vocabulary for it
>
> SHOBHA JAMES
> Relationship therapist

quiet demand in a cultural context that is still largely rigid and conservative, but is definitely changing. At the end of the day, ENM among married couples in Tamil Nadu, and India in general, continues to exist in a paradoxical bubble. There is growing interest and acceptance coupled with persistent stigma requiring couples to be strategically closeted, as modern aspirations lock horns with traditional structures. While data suggest shifting attitudes and openness to new ways of navigating relationship dynamics, particularly among urban, educated Indians, actual practice remains largely underground.

Grounding in polyamory

Arundhati Ghosh's *All Our Loves: Journeys with Polyamory in India* combines memoir, interviews, and critical analysis to explore polyamory – loving multiple people simultaneously with everyone's consent – in contemporary India. She positions polyamory as "perhaps, the last existing taboo" in India, where even liberal minds struggle when the singularity of love is challenged.

Ms. Ghosh explores practical aspects, including navigating jealousy, managing time between partners, establishing boundaries, and the emotional labour required for this. In a series of responses for this article (sent via WhatsApp), she notes that it is not just the younger couples but also older ones who have been in monogamous relationships/marriages for decades, who are on a journey to seek new and alternative ways of exploring their deeper desires and authentic selves.

Post-pandemic shifts

The post-pandemic period in India saw significant societal shifts. A 2023 Bumble study revealed that 60% of single Indians are open to consensual non-monogamy. A 2023 Gleeden-IPSOS survey of 1,503 married Indians found that 22% have embraced the notion of being an open couple and are now in non-monogamous relationships. Dating platforms experienced explosive growth post the COVID-19 pandemic. Gleeden grew from 800,000 users in 2017 to 2 million by early 2023, and reached 3 million by mid-2025, making India the fifth largest market globally.

Research points to several factors behind this growth: work-life imbalance contributing to relationship dissatisfaction, social media enabling connections, progressive court verdicts decriminalising adultery and Section 377; and overall greater emotional self-awareness among urban Indians who have begun to find value in centering mental well-being.

The growth is predictably high in Indian metros, though Tier-2 cities are not far behind. The trajectory suggests ENM in India has evolved from a fringe practice in 2015 to a significant minority phenomenon by 2025, with acceptance fuelling the pace of actual practice, particularly among younger, urban, educated populations. The availability of more reliable and centralised data and statistics on ENM might take at least another generation, as stigma and societal shaming are still prevalent around these newer relationship dynamics.

A 2020 research paper in the *International Journal of Indian Psychology* compared mental well-being between polyamorous and monogamous individuals and found that the former had better mental health. Shobha James who has worked with over 150 non-monogamous couples, notes, "The challenge isn't love itself but navigating a society that doesn't yet have the vocabulary for it."

Amaha, a mental health platform, now has therapists specifically providing therapy and psychiatric support for polyamorous couples.

*(*Names changed)*
(Preeti M.S. is a Chennai-based journalist and radio/podcast producer)

Love and its newfangled terms
प्रेम और उसके नए-नए शब्द

- Married couples in India are, reportedly, increasingly opening themselves up to **alternative relationship models** and **structures**, often in pursuit of **authentic happiness** and **trust**.

भारत में विवाहित जोड़े, कथित तौर पर, **वैकल्पिक रिश्तों के मॉडल** और **संरचनाओं** के लिए खुद को अधिक खोल रहे हैं, अक्सर **प्रामाणिक खुशी** और **विश्वास** की तलाश में।

- Perceived for long as **conservative**, it seems **Tamil Nadu** is not entirely so.
  लंबे समय से **रूढ़िवादी** माने जाने के बावजूद, ऐसा लगता है कि **तमिलनाडु** पूरी तरह ऐसा नहीं है।
- Some of the cities are now accommodating **ethical non-monogamy** — very simply, a relationship involving many and with **consent**.
  कुछ शहर अब **एथिकल नॉन-मोनोगैमी** को अपनाने लगे हैं — सरल शब्दों में, **सहमति** के साथ कई लोगों को शामिल करने वाला रिश्ता।
- **Preeti M.S.** syncs up with married couples in **Tamil Nadu** to explore these new trends.
  प्रीति एम.एस. इन नए रुझानों को समझने के लिए **तमिलनाडु** के विवाहित जोड़ों से जुड़ती हैं।
- Chennai-based entrepreneur **Madan Raj*** and his techie wife **Vandana Raj***, both **30 years old**, are on a popular **dating app** — together and separately.
  चेन्नई स्थित उद्यमी **मदन राज*** और उनकी टेक प्रोफेशनल पत्नी **वंदना राज***, दोनों **30 वर्ष** की, एक लोकप्रिय **डेटिंग ऐप** पर — साथ और अलग-अलग — मौजूद हैं।
- If this is confusing, you have just been introduced to the world of **ethical non-monogamy**, or **ENM** as it is popularly called in the online dating stratosphere.
  अगर यह भ्रमित करता है, तो आपको अभी-अभी **एथिकल नॉन-मोनोगैमी या ENM** की दुनिया से परिचित कराया गया है, जैसा कि ऑनलाइन डेटिंग जगत में कहा जाता है।
- The couple date other people on the app, with each other's **consent**, while being **transparent** to the people they date.
  यह जोड़ा ऐप पर अन्य लोगों से डेट करता है, एक-दूसरे की **सहमति** के साथ, और जिनसे वे डेट करते हैं उनके प्रति **पारदर्शिता** रखते हुए।
- "We were high school sweethearts who got married young. We realised we wanted to explore dating other people while being committed to each other," explains Mr. Madan.
  "हम हाई स्कूल के स्वीटहार्ट्स थे और कम उम्र में शादी की। हमें एहसास हुआ कि एक-दूसरे के प्रति प्रतिबद्ध रहते हुए हम अन्य लोगों को डेट करना चाहते हैं," मदन बताते हैं।
- ENM, as a **concept**, has been growing among married couples in the last **15 years** and the **pandemic** turned out to be a **catalyst**, not only in Indian metros but also in smaller towns and **tier-two cities**, including **Guwahati**, **Lucknow**, and **Bareilly**.
  ENM, एक **अवधारणा** के रूप में, पिछले **15 वर्षों** में विवाहित जोड़ों के बीच बढ़ी है और **महामारी** एक **उत्प्रेरक** साबित हुई, न केवल भारतीय महानगरों में बल्कि छोटे कस्बों और **टियर-2 शहरों** में भी, जिनमें **गुवाहाटी**, **लखनऊ** और **बरेली** शामिल हैं।
- As the acronym suggests, ENM refers to a couple committed to each other either as **primary partners** or a **married couple**, opening their marriage/relationship to find other suitors/lovers/partners within a **mutually agreed framework**, with clear rules and **communication guidelines**.
  जैसा कि संक्षेप बताता है, ENM उन जोड़ों को संदर्भित करता है जो **प्राथमिक साथी** या **विवाहित जोड़े** के रूप में एक-दूसरे के प्रति प्रतिबद्ध रहते हुए, स्पष्ट नियमों और **संचार दिशानिर्देशों** के साथ **परस्पर सहमत ढांचे** में अपने विवाह/रिश्ते को अन्य साथियों के लिए खोलते हैं।
- "Healthy **boundaries**, clear **communication**, and **mutual respect** are the cornerstones of any relationship; and when you open up a marriage or a once-committed monogamous relationship, then the need for rules, clarity, and communication becomes even more imperative," says **Vidya Jebaraj**, a **Bengaluru-based** marriage counsellor.
  "स्वस्थ **सीमाएँ**, स्पष्ट **संचार**, और **आपसी सम्मान** किसी भी रिश्ते की आधारशिला हैं; और जब आप किसी विवाह या पहले एकनिष्ठ रहे रिश्ते को खोलते हैं, तो नियमों, स्पष्टता और संचार की आवश्यकता और भी अधिक महत्वपूर्ण हो जाती है," **बेंगलुरु स्थित** विवाह परामर्शदाता **विद्या जेबराज** कहती हैं।

Anecdotal stories
किस्सों पर आधारित कहानियाँ

- One has to rely on surveys conducted by **dating apps**, the odd **research paper**, or **news article** for more reliable data and statistics on open marriages and relationships.
  ओपन मैरिज और रिश्तों पर अधिक विश्वसनीय डेटा और आंकड़ों के लिए **डेटिंग ऐप्स** द्वारा किए गए सर्वे, कभी-कभार **शोध पत्र**, या **समाचार लेख** पर निर्भर रहना पड़ता है।

- On the contrary, anecdotal stories of couples in open marriages offer a plethora of **insight** and **wisdom**.

  इसके विपरीत, ओपन मैरिज में जोड़ों की किस्सों पर आधारित कहानियाँ **अंतर्दृष्टि** और **समझ** का भंडार देती हैं।

- Married couples who have successfully explored ENM claim that it has not only helped build **trust** in the marriage but also **spiced things up**, especially when a relationship has lasted until it hit **drudgery**.

  जिन विवाहित जोड़ों ने ENM को सफलतापूर्वक अपनाया है, उनका दावा है कि इससे न केवल विवाह में **विश्वास** बढ़ा है बल्कि रिश्ते में **नयापन** भी आया है, खासकर जब रिश्ता **उबाऊपन** तक पहुँच गया हो।

- "We opened up our marriage after a **decade** of being married and after **two kids**; our ENM is clearly **structured**, ensuring nothing impacts or disrupts our lives together or the kids. It has helped build trust, and has even made us happier," notes **Selvam Durai***, **40**, based in **Chennai**.

  "हमने शादी के **दस साल** बाद और **दो बच्चों** के बाद अपने विवाह को खोला; हमारा ENM स्पष्ट रूप से **संरचित** है, जिससे हमारे साथ के जीवन या बच्चों पर कोई असर नहीं पड़ता। इससे विश्वास बढ़ा है और हम और खुश हुए हैं," **चेन्नई** निवासी **सेल्वम दुरई***, **40**, कहते हैं।

- Speaking to many young couples in their **20s and 30s** in smaller cities indicates that not just **Chennai** but towns such as **Salem**, **Madurai**, **Coimbatore** and **Tiruchi** are, indeed, accommodative of couples exploring ENM.

  छोटे शहरों में **20s और 30s** के कई युवा जोड़ों से बातचीत यह संकेत देती है कि केवल **चेन्नई** ही नहीं बल्कि **सेलम**, **मदुरै**, **कोयंबटूर** और **तिरुचि** जैसे शहर भी ENM को अपनाने वाले जोड़ों के प्रति सहनशील हैं।

- It is also evident that **patriarchal dynamics**, more firmly entrenched in non-metro cities, enable men to more openly explore ENM.

  यह भी स्पष्ट है कि गैर-महानगरों में अधिक गहराई से जमी **पितृसत्तात्मक संरचनाएँ** पुरुषों को ENM को अधिक खुले तौर पर अपनाने में सक्षम बनाती हैं।

- A **2022 Bumble study** found that **61%** of single Indians surveyed were open to exploring ENM.

  2022 के बंबल अध्ययन में पाया गया कि सर्वे किए गए **61%** अविवाहित भारतीय ENM को आज़माने के लिए खुले थे।

Why choose ENM?
ENM क्यों चुनें?

- Married couples in India pursue ENM for **diverse reasons**.

  भारत में विवाहित जोड़े **विविध कारणों** से ENM अपनाते हैं।

- There still is much **stigma** surrounding ENM in India but this does not seem to deter its practitioners.

  भारत में ENM के आसपास अब भी काफी **कलंक** है, लेकिन यह इसके अभ्यासकर्ताओं को रोकता नहीं दिखता।

- **Grounding in polyamory**

  पॉलीएमरी में आधार

- **Arundhati Ghosh's** All Our Loves: Journeys with Polyamory in India explores **polyamory** in contemporary India.

  अरुंधति घोष की ऑल आवर लव्स: जर्नीज़ विद पॉलीएमरी इन इंडिया समकालीन भारत में **पॉलीएमरी** की पड़ताल करती है।

Post-pandemic shifts
महामारी के बाद के बदलाव

- A **2023 Bumble study** revealed that **60%** of single Indians are open to consensual non-monogamy.

  2023 के बंबल अध्ययन में सामने आया कि **60%** अविवाहित भारतीय सहमति-आधारित नॉन-मोनोगैमी के लिए खुले हैं।

- A **2023 Gleeden-IPSOS survey** of **1,503** married Indians found that **22%** have embraced being an open couple.

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2023 के ग्लीडन-आईपीएसओएस सर्वे (**1,503** विवाहित भारतीय) में पाया गया कि **22%** ने ओपन कपल की अवधारणा अपनाई है।

- A **2020 research paper** in the International Journal of Indian Psychology found better **mental health** among polyamorous individuals.

  इंटरनेशनल जर्नल ऑफ इंडियन साइकोलॉजी में **2020 के शोध पत्र** में पॉलीएमरस व्यक्तियों में बेहतर **मानसिक स्वास्थ्य** पाया गया।

- **Amaha**, a **mental health platform**, now has therapists specifically providing support for **polyamorous couples**.

  आमह नामक **मानसिक स्वास्थ्य प्लेटफॉर्म** अब विशेष रूप से **पॉलीएमरस जोड़ों** के लिए सहायता प्रदान करने वाले थेरेपिस्ट उपलब्ध कराता है।

GS Paper 1: Geography	
TOPICS COVERED	**16 February 2026**
1. LHS 1903: a strange system LHS 1903: एक अजीब प्रणाली	
2. Rubio visits eastern Europe to bolster ties with Hungary, Slovakia हंगरी, स्लोवाकिया के साथ संबंध मजबूत करने के लिए रूबियो का पूर्वी यूरोप दौरा	
3. Russia's Taman port damaged in strikes हमलों में रूस का तामान बंदरगाह क्षतिग्रस्त	
4. Myanmar expels representative of East Timor over war crimes case युद्ध अपराध मामले को लेकर म्यांमार ने पूर्वी तिमोर के प्रतिनिधि को निष्कासित किया	

Smoke and lava erupting and flowing from the Piton dela Fournaise volcano, in the southeast of the French overseas island of La Reunion on February 13. The Piton de la Fournaise volcano on Reunion Island erupted for the second time this year on February 13 and is one of the most active volcanoes in the world.

Smoke and lava erupting and flowing from the Piton de la Fournaise volcano, in the southeast of the French overseas island of La Reunion on February 13. The Piton de la Fournaise volcano on Reunion Island erupted for the second time this year on February 13 and is one of the most active volcanoes in the world. AFP

LHS 1903: a strange system

GS I: Geography

Reuters

Astronomers have observed a planetary system that challenges current planet formation theories, with a rocky planet that formed beyond the orbits of its gaseous neighbors, possibly after much of the planet-forming material had been used up.

The system, observed using the European Space Agency's Cheops space telescope, consists of four planets, two rocky and two gaseous, orbiting a relatively small and dim star called a red dwarf about 117 light-years from the earth. The star, named LHS 1903, is about 50% as massive and 5% as luminous as our sun. The innermost planet is rocky, the next two are gaseous and the next two, which current planetary formation theory suggests should be gaseous, is rocky.

The two rocky planets are superearths, meaning rocky like the earth but two to ten times more massive. The two gas planets are categorised as mini-Neptunes: gaseous and smaller than Neptune but larger than the earth.

The researchers suspect that rather than forming all at once in a large disk of gas and dust swirling around their host star, the system's planets formed

An artist's impression of the LHS 1903 planetary system. REUTERS

in series, with gas that otherwise would have made up the atmosphere of the fourth planet being used up by its sibling planets before it coalesced. Another possibility is that the planet was born with a gaseous atmosphere that later was lost in a calamity, leaving behind just the rocky planetary core.

This fourth planet also is interesting because its surface temperature is 60º C, which means it could be habitable.

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

LHS 1903: a strange system
LHS 1903: एक अजीब प्रणाली

Astronomers have observed a planetary system
खगोलविदों ने एक ग्रह प्रणाली का अवलोकन किया है

- Astronomers have observed a planetary system that challenges current planet formation theories, with a rocky planet that formed beyond the orbits of its gaseous neighbors, possibly after much of the planet-forming material had been used up.

  खगोलविदों ने एक ऐसी ग्रह प्रणाली का अवलोकन किया है जो वर्तमान ग्रह निर्माण सिद्धांतों को चुनौती देती है, जिसमें एक पथरीला ग्रह अपने गैसीय पड़ोसी ग्रहों की कक्षाओं से परे बना, संभवतः तब जब ग्रह निर्माण सामग्री का अधिकांश भाग उपयोग हो चुका था।

- The system, observed using the **European Space Agency's Cheops space telescope**, consists of **four planets**, two rocky and two gaseous, orbiting a relatively small and dim star called a **red dwarf** about **117 light-years** from the earth.

  यह प्रणाली, जिसे **European Space Agency** के **Cheops space**

telescope से देखा गया, **चार ग्रहों** से बनी है, जिनमें दो पथरीले और दो गैसीय हैं, जो एक अपेक्षाकृत छोटे और मंद तारे **red dwarf** के चारों ओर परिक्रमा कर रहे हैं, जो पृथ्वी से लगभग **117 light-years** दूर है।

- The star, named **LHS 1903**, is about **50% as massive** and **5% as luminous** as our sun.
  इस तारे का नाम **LHS 1903** है, जो हमारे सूर्य की तुलना में लगभग **50% द्रव्यमान** और **5% चमक** वाला है।

- The innermost planet is rocky, the next two are gaseous and the fourth, which current planetary formation theory suggests should be gaseous, is rocky.
  सबसे अंदरूनी ग्रह पथरीला है, अगले दो गैसीय हैं और चौथा, जिसे वर्तमान ग्रह निर्माण सिद्धांत के अनुसार गैसीय होना चाहिए, पथरीला है।

- The two rocky planets are **superearths**, meaning rocky like the earth but **two to ten times more massive**.
  दो पथरीले ग्रह **superearths** हैं, अर्थात पृथ्वी की तरह पथरीले लेकिन **दो से दस गुना अधिक द्रव्यमान** वाले।

- The two gas planets are categorised as **mini-Neptunes**: gaseous and smaller than Neptune but larger than the earth.
  दो गैसीय ग्रह **mini-Neptunes** के रूप में वर्गीकृत हैं: गैसीय और नेपच्यून से छोटे लेकिन पृथ्वी से बड़े।

- The researchers suspect that rather than forming all at once in a large disk of gas and dust swirling around their host star, the system's planets formed in series, with gas that otherwise would have made up the atmosphere of the fourth planet being used up by its sibling planets before it coalesced.
  शोधकर्ताओं का संदेह है कि अपने मेजबान तारे के चारों ओर घूमती गैस और धूल की बड़ी डिस्क में एक साथ बनने के बजाय, इस प्रणाली के ग्रह क्रमिक रूप से बने, और जो गैस चौथे ग्रह के वायुमंडल का निर्माण करती, वह उसके बनने से पहले अन्य ग्रहों द्वारा उपयोग कर ली गई।

- Another possibility is that the planet was born with a gaseous atmosphere that later was lost in a calamity, leaving behind just the rocky planetary core.
  एक अन्य संभावना यह है कि ग्रह गैसीय वायुमंडल के साथ बना था जो बाद में किसी आपदा में नष्ट हो गया, और पीछे केवल पथरीला ग्रह कोर रह गया।

- This fourth planet also is interesting because its surface temperature is **60°C**, which means it could be **habitable**.
  यह चौथा ग्रह भी रोचक है क्योंकि इसका सतही तापमान **60°C** है, जिसका अर्थ है कि यह **रहने योग्य** हो सकता है।

BUDAPEST
Rubio visits eastern Europe to bolster ties with Hungary, Slovakia

GS I: Geography: Mapping

U.S. Sec... an a two-day trip to eastern Europe on Sunday to bolster ties with Slovakia and Hungary, whose conservative leaders, often at odds with other European Union countries, have warm ties with Donald Trump. Mr. Rubio will use the trip to discuss energy cooperation and bilateral issues. REUTERS

Rubio visits eastern Europe to bolster ties with Hungary, Slovakia
हंगरी, स्लोवाकिया के साथ संबंध मजबूत करने के लिए रूबियो का पूर्वी यूरोप दौरा

- Rubio visits eastern Europe to bolster ties with **Hungary, Slovakia**
  हंगरी, स्लोवाकिया के साथ संबंध मजबूत करने के लिए **पूर्वी यूरोप** का दौरा करते रूबियो

- U.S. Secretary of State **Marco Rubio** began a two-day trip to eastern Europe on Sunday to bolster ties with **Slovakia** and **Hungary**, whose conservative leaders, often at odds with other **European Union** countries, have warm ties with **Donald Trump**.
  अमेरिका के विदेश मंत्री **मार्को रूबियो** ने रविवार को **पूर्वी यूरोप** की **दो दिवसीय यात्रा** शुरू की, ताकि **स्लोवाकिया** और **हंगरी** के साथ संबंध मजबूत किए जा सकें, जिनके **रूढ़िवादी नेता** अक्सर अन्य **यूरोपीय संघ** देशों से मतभेद रखते हैं और जिनके **डोनाल्ड ट्रंप** के साथ अच्छे संबंध हैं।

- Mr. Rubio will use the trip to discuss **energy cooperation** and **bilateral issues**.
  श्री **रूबियो** इस यात्रा का उपयोग **ऊर्जा सहयोग** और **द्विपक्षीय मुद्दों** पर चर्चा के लिए करेंगे।

Russia's Taman port damaged in strikes

GS I: Geography: Mapping

MOSCOW

Russia's Black Sea port of Taman, which handles oil products, grain, coal and commodities, has been damaged by a Ukrainian drone attack, the governor of Russia's Krasnodar region said on Sunday.

Two persons were injured as an oil storage tank, warehouse and terminals took damage in Volna village, the site of Taman port, Veniamin Kondra-tyev said in a post on Telegram.

Mr. Kondratyev said that more than 100 people were working to put out several fires at the port.

Separate strikes on the resort city of Sochi and the village of Yurovka, close to the seaside town of Anapa, had caused less significant damage, he added.

Industry sources said that about 4.16 million metric tonnes of oil products were shipped through Taman last year.

Russia's Taman port damaged in strikes
हमलों में रूस का तामान बंदरगाह क्षतिग्रस्त

- Russia's **Black Sea** port of **Taman**, which handles **oil products**, **grain**, **coal** and **commodities**, has been damaged by a **Ukrainian drone attack**, the governor of Russia's **Krasnodar region**.

रूस के **ब्लैक सी** स्थित **तामान बंदरगाह**, जहाँ **तेल उत्पाद**, **अनाज**, **कोयला** और **कमोडिटीज़** का संचालन होता है, को **यूक्रेनी ड्रोन हमले** में नुकसान पहुँचा है, यह बात रूस के **क्रास्नोदार क्षेत्र** के गवर्नर ने रविवार को कही।

Myanmar expels representative of East Timor over war crimes case

GS I: Geography: Mapping

Agence France-Presse

YANGON

Myanmar's junta on Sunday announced the ejection of East Timor's top representative in the country, after a rights group said Dili had opened a legal case against the military for war crimes.

Myanmar's military – which snatched power in a 2021 coup – has for decades been accused of rights abuses, mostly tar-geting the nation's ethnic minorities.

The nation is currently defending itself from prosecution at the International Court of Justice over allegations of genocide against the mostly Muslim Rohingya minority.

But the Chin Human Rights Organisation (CHRO) said this month East Timor has opened its own case against the junta for both war crimes and crimes against humanity.

The CHRO said "a senior Timorese prosecutor has been appointed to look into the criminal file" presented by the organisation.

A statement issued by the junta said Dili's reported appointment of a prosecutor to probe the case was a "great disappointment".

It said East Timor's charge d'affaires had been summoned on Friday and was given a week to leave Myanmar.

Myanmar expels representative of East Timor over war crimes case
युद्ध अपराध मामले को लेकर म्यांमार ने पूर्वी तिमोर के प्रतिनिधि को निष्कासित किया

- Myanmar's junta on Sunday announced the ejection of **East Timor**'s top representative in the country, after a rights group said **Dili** had opened a legal case

against the military for **war crimes**.

रविवार को म्यांमार की **जुंटा** सरकार ने देश में **पूर्वी तिमोर** के शीर्ष प्रतिनिधि को निष्कासित करने की घोषणा की, जब एक अधिकार समूह ने कहा कि **दिली** ने सेना के खिलाफ **युद्ध अपराधों** को लेकर एक कानूनी मामला खोला है।

GS Paper II: Polity,	
TOPICS COVERED	**16 February 2026**
1. **Critical Bill to be brought in second part of the Budget Session, says Rijiju** बजट सत्र के दूसरे हिस्से में अहम विधेयक लाया जाएगा, रिजिजू ने कहा	

Kerala setting newer models for the world, says Pinarayi

As Kerala completes 75 years in 2031, goal is to prepare for future, says CM at Vision 2031 event; he flags fiscal constraints and the Centre's restrictions on borrowing as challenges facing the State

GS II: Polity

The Hindu Bureau
THIRUVANANTHAPURAM

The human development gains made by Kerala are not the end of a path but the starting point for a new stage of economic and social progress, Chief Minister Pinarayi Vijayan said on Sunday, calling this the "central idea" of the State government's Vision 2031 for the State.

Inaugurating the three-day "Vision 2031: an international conference on development and democracy" organised by the State Planning Board in Thiruvananthapuram, Mr. Vijayan said Kerala was setting newer models for the world by constantly renewing itself in tune with the needs of the changing times.

"As Kerala approaches its 75th year [in 2031], the goal is not merely to celebrate past achievements. The goal is to prepare for the future: an economy that is productive and knowledge-based, a society that is inclusive and just, a State that is resilient in the face of climate challenges, and a democracy that continues to value discussion and participation," he said.

Society's effort
The coming five years offer the State an opportunity to bring together growth and justice, technology and humanity, modernisation and sustainability. "Kera-

Expert guidance: Amartya Sen joins the Kerala government's 'Vision 31' meet virtually at on Sunday. NIRMAL HARINDRAN

Pinarayi will win another term, says Aiyar

Ahead of State Assembly polls, the Communist Party of India (Marxist) drew unexpected praise from senior Congress leader and former Union Minister Mani Shankar Aiyar on Sunday, who went to the extent of saying that he was "sure" that Chief Minister Pinarayi Vijayan "will be the next Chief Minister."

He criticised his own party members for their absence at the Vision 2031 event.

Kerala will help strengthen secularism: Sen

Economist and Nobel laureate Amartya Sen on Sunday expressed the hope that Kerala, in the coming days, can make a definitive contribution to India as a whole in strengthening secularism.

Professor Sen, underscoring the importance of safeguarding secularism and its further advancement, noted that while secularism has weakened in India, it has remained strong in Kerala.

la's history shows that such a balance is possible," he said. The success of this vision, he said, hinges not merely on government action, but on a collective effort by society.

He described the Vision 2031 conference, in which more than 120 international experts are participat-

ing, as not just a review exercise, but an effort to chart the next phase of Kerala's development journey.

When Kerala completes 75 years as a State, it will also be a moment that demands reflection and imagination, he said.

"Seventy-five years is a

long period, enough to assess where we began, what we have achieved, and what remains to be done."

Mr. Vijayan described fiscal constraints and the Centre's restrictions on borrowing and revenue centralisation as challenges that Kerala continues to face.

Economist and Nobel laureate Amartya Sen and historian Romila Thapar joined the inaugural session online. World Food Prize laureate Shakuntala Thilsted; Ambassador of Palestine to India Abdullah Abu Shawesh; senior Congress leader and former Union Minister Mani Shankar Aiyar; member of the Provincial Government of Havana, Cuba, Aymee Alejandra Díaz Negrin; State Planning Board Vice-Chairman V.K. Ramachandran; Ministers V.N. Vasavan, R. Bindu, P. Prasad, and A.K. Saseendran; and Chief Secretary A. Jayathilak spoke in the inaugural session. Minister for Food and Civil Supplies G.R. Anil presided.

According to the Planning Board, the three-day event is intended to chart the future course for the State.

On Monday, 18 thematic seminars will be held across nine venues across the capital city.

The Chief Minister will address the closing ceremony at the Sankaranarayanan Thampi Members' Lounge of the Legislative Assembly on Tuesday.

Kerala setting newer models for the world, says Pinarayi
केरल दुनिया के लिए नए मॉडल स्थापित कर रहा है, पिनरायी ने कहा

- Kerala setting newer models for the world, says **Pinarayi**
  केरल दुनिया के लिए नए मॉडल स्थापित कर रहा है, पिनरायी ने कहा

- As Kerala completes **75 years in 2031**, goal is to prepare for future, says **CM** at **Vision 2031** event; he flags **fiscal constraints** and the **Centre's restrictions on borrowing** as challenges facing the State
  जब केरल **2031 में 75 वर्ष** पूरे करेगा, तो लक्ष्य भविष्य के लिए तैयारी करना है, **मुख्यमंत्री** ने **विजन 2031** कार्यक्रम में कहा; उन्होंने **वित्तीय बाधाओं** और **केंद्र की उधारी पर प्रतिबंधों** को राज्य के सामने चुनौतियों के रूप में रेखांकित किया

- The human development gains made by Kerala are not the end of a path but the starting point for a new stage of economic and social progress, **Chief Minister Pinarayi Vijayan** said on **Sunday**, calling this the **"central idea"** of the State government's **Vision 2031** for the State.
  केरल द्वारा प्राप्त मानव विकास उपलब्धियाँ किसी रास्ते का अंत नहीं बल्कि आर्थिक और सामाजिक प्रगति के नए चरण की शुरुआत हैं, **मुख्यमंत्री पिनरायी विजयन** ने **रविवार** को कहा और इसे राज्य सरकार के **विजन 2031** की **"केंद्रीय अवधारणा"** बताया।

- Inaugurating the three-day **"Vision 2031: an international conference on development and democracy"** organised by the **State Planning Board** in **Thiruvananthapuram**, Mr. Vijayan said Kerala was setting newer models for the world by constantly renewing itself in tune with the needs of the changing times.
  तिरुवनंतपुरम में **राज्य योजना बोर्ड** द्वारा आयोजित तीन दिवसीय **"विजन 2031: विकास और लोकतंत्र पर अंतरराष्ट्रीय सम्मेलन"** का उद्घाटन करते हुए श्री विजयन ने कहा कि केरल बदलते समय की जरूरतों के अनुरूप खुद को निरंतर नया रूप देकर दुनिया के लिए नए मॉडल स्थापित कर रहा है।

- " As Kerala approaches its **75th year [in 2031]**, the goal is not merely to celebrate past achievements. The goal is to prepare for the future: an economy that is productive and **knowledge-based**, a society that is **inclusive and just**, a State that is **resilient** in the face of **climate challenges**, and a democracy that continues to value **discussion and participation**," he said.
  " जैसे-जैसे केरल अपने **75वें वर्ष [2031 में]** के करीब पहुंच रहा है, लक्ष्य केवल पिछली उपलब्धियों का जश्न मनाना नहीं है। लक्ष्य भविष्य के लिए तैयारी करना है: एक ऐसी अर्थव्यवस्था जो उत्पादक और **ज्ञान-आधारित** हो, एक ऐसा समाज जो **समावेशी और न्यायपूर्ण** हो, एक ऐसा राज्य जो **जलवायु चुनौतियों** के सामने **लचीला** हो, और एक ऐसा लोकतंत्र जो **चर्चा और भागीदारी** को महत्व देता रहे," उन्होंने कहा।

Society's effort
समाज का प्रयास

- The coming five years offer the State an opportunity to bring together growth and justice, technology and humanity, modernisation and sustainability. "Kerala's history shows that such a balance is possible," he said.
  आने वाले पांच वर्ष राज्य को विकास और न्याय, प्रौद्योगिकी और मानवता, आधुनिकीकरण और स्थिरता को एक साथ लाने का अवसर देते हैं। "केरल का इतिहास दिखाता है कि ऐसा संतुलन संभव है," उन्होंने कहा।

- The success of this vision, he said, hinges not merely on government action, but on a **collective effort by society**.
  उन्होंने कहा कि इस दृष्टि की सफलता केवल सरकारी कार्रवाई पर नहीं, बल्कि **समाज के सामूहिक प्रयास** पर निर्भर करती है।

- He described the **Vision 2031 conference**, in which more than **120 international experts** are participating, as not just a review exercise, but an effort to chart the next phase of Kerala's development journey.
  उन्होंने **विजन 2031 सम्मेलन** को, जिसमें **120 से अधिक अंतरराष्ट्रीय विशेषज्ञ** भाग ले रहे हैं, केवल समीक्षा अभ्यास नहीं बल्कि केरल की विकास यात्रा के अगले चरण को निर्धारित करने का प्रयास बताया।

- When Kerala completes **75 years as a State**, it will also be a moment that demands reflection and imagination, he said.
  उन्होंने कहा कि जब केरल **एक राज्य के रूप में 75 वर्ष** पूरे करेगा, तो यह आत्मचिंतन और कल्पना की भी मांग करने वाला क्षण होगा।

- **"Seventy-five years** is a long period, enough to assess where we began, what we have achieved, and what remains to be done."

  "पचहत्तर वर्ष एक लंबा समय है, यह आकलन करने के लिए पर्याप्त है कि हमने कहां से शुरुआत की, क्या हासिल किया और क्या किया जाना बाकी है।"

- Mr. Vijayan described **fiscal constraints** and the **Centre's restrictions on borrowing and revenue centralisation** as challenges that Kerala continues to face.

  श्री विजयन ने **वित्तीय बाधाओं** और **उधारी तथा राजस्व केंद्रीकरण पर केंद्र के प्रतिबंधों** को केरल के सामने लगातार बनी रहने वाली चुनौतियों के रूप में बताया।

- Economist and **Nobel laureate Amartya Sen** and historian **Romila Thapar** joined the inaugural session online.

  अर्थशास्त्री और **नोबेल पुरस्कार विजेता अमर्त्य सेन** तथा इतिहासकार **रोमिला थापर** उद्घाटन सत्र में ऑनलाइन शामिल हुए।

- **World Food Prize laureate Shakuntala Thilsted; Ambassador of Palestine to India Abdullah Abu Shawesh;** senior Congress leader and former Union Minister **Mani Shankar Aiyar;** member of the Provincial Government of Havana, Cuba, **Aymee Alejandra Díaz Negrin; State Planning Board Vice-Chairman V.K. Ramachandran;** Ministers **V.N. Vasavan**, **R. Bindu**, **P. Prasad**, and **A.K. Saseendran;** and **Chief Secretary A. Jayathilak** spoke in the inaugural session.

  विश्व खाद्य पुरस्कार विजेता शकुंतला थिल्स्टेड; भारत में **फिलिस्तीन के राजदूत अब्दुल्ला अबू शावेश;** वरिष्ठ कांग्रेस नेता और पूर्व केंद्रीय मंत्री **मणि शंकर अय्यर;** क्यूबा के हवाना प्रांतीय सरकार की सदस्य **आयमी एलेजांद्रा दियाज़ नेग्रिन;** राज्य योजना बोर्ड के उपाध्यक्ष **वी.के. रामचंद्रन;** मंत्री **वी.एन. वासवन, आर. बिंदु, पी. प्रसाद,** और **ए.के. ससींद्रन;** तथा **मुख्य सचिव ए. जयथिलक** ने उद्घाटन सत्र में संबोधित किया।

- Minister for Food and Civil Supplies **G.R. Anil** presided.

  खाद्य और नागरिक आपूर्ति मंत्री **जी.आर. अनिल** ने अध्यक्षता की।

- According to the **Planning Board**, the three-day event is intended to chart the future course for the State.

  योजना बोर्ड के अनुसार, यह तीन दिवसीय कार्यक्रम राज्य के भविष्य की दिशा तय करने के लिए आयोजित किया गया है।

- On **Monday**, **18 thematic seminars** will be held across **nine venues** across the capital city.

  सोमवार को राजधानी शहर में **नौ स्थानों** पर **18 विषयगत सेमिनार** आयोजित किए जाएंगे।

- The **Chief Minister** will address the closing ceremony at the **Sankaranarayanan Thampi Members' Lounge** of the **Legislative Assembly** on **Tuesday**.

  मुख्यमंत्री मंगलवार को **विधानसभा** के **शंकरनारायणन थम्पी मेंबर्स लाउंज** में समापन समारोह को संबोधित करेंगे।

GS Paper II: Governance,	
TOPICS COVERED	**16 February** 2026
1. **8 provisions of rural jobs Act challenged in Madras High Court** ग्रामीण रोजगार अधिनियम के 8 प्रावधानों को मद्रास उच्च न्यायालय में चुनौती	
2. **A common framework to build trust in AI in Asia** एशिया में कृत्रिम बुद्धिमत्ता पर विश्वास बनाने के लिए एक साझा ढांचा	

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8 provisions of rural jobs Act challenged in Madras High Court

GS II: Governance: GS

Mohamed Imranullah S.
CHENNAI

A public interest litigation petition has been filed in the Madras High Court challenging eight provisions of the Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) Act (VB-G RAM G Act) of 2025, which has replaced the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) of 2005.

The PIL plea is expected to be listed for hearing before the first Division Bench of Chief Justice Manindra Mohan Shrivastava and Justice G. Arul Murugan this week. Seventy-one-year-old advocate T. Sivagnanasambandan of T. Nagar in Chennai had filed the case through his counsel on record M.L. Ravi. In his affidavit, the litigant stated that the MGNREGA had been one of the world's largest social security initiatives which had been studied and evaluated intensively by multiple organisations. All those studies had recognised its transformative effects on the weaker sections of society, he claimed.

"The MGNREGA exempted State governments from most of the financial burden since the cost sharing ratio between the Centre and the States was 90:10. But now, as per the new Act, the cost-sharing ratio is 90:10 only for northeastern and himalayan States and 60:40 for others," he complained.

Similarly, the MGNRE-

Petitioner contends Sections 3(1), 4(5), 5(1), 6(2), 22, 30, 34 and 37 of the Act are unconstitutional

GA granted greater autonomy to village panchayats, in accordance with the 73rd Constitutional amendment, by making them the principal implementation authority but the VB-G RAM G Act had bid "good bye" to those constitutional guarantees given to panchayats, the petitioner lamented.

Claiming that the MGNREGA and other beneficial legislation such as the National Food Security Act of 2013 had prevented hunger deaths during COVID-19, the petitioner said: "The demolition of MGNREGA now will have a catastrophic impact on crores of people across rural India."

He contended Sections 3(1), 4(5), 5(1), 6(2), 22, 30, 34 and 37 of the VB-G RAM G Act were unjust, anti-federal and unconstitutional since they were against the rights guaranteed under Articles 14 (right to equality), 16 (right to equality of opportunity) and 21 (right to life) of the Constitution.

Section 3(1) requires the State governments to frame a scheme consistent with the provisions of VB-G RAM G Act within six months from its commencement.

For the full story, visit: https://newsth.live/
VBGRAMG

- A public interest litigation petition has been filed in the Madras High Court challenging eight provisions of the **Viksit Bharat Guarantee for Rozgar and Ajeevika Mission (Gramin) Act (VB-G RAM G Act) of 2025**, which has replaced the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) of 2005**.

मद्रास उच्च न्यायालय में एक जनहित याचिका दायर की गई है, जिसमें **विकसित भारत गारंटी फॉर रोजगार एंड आजीविका मिशन (ग्रामीण) अधिनियम (VB-G RAM G Act) 2025** के आठ प्रावधानों को चुनौती दी गई है, जिसने **महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम (MGNREGA) 2005** को प्रतिस्थापित किया है।

- The PIL plea is expected to be listed for hearing before the first **Division Bench** of **Chief Justice Manindra Mohan Shrivastava** and **Justice G. Arul Murugan** this week.

यह जनहित याचिका इस सप्ताह **मुख्य न्यायाधीश मनींद्र मोहन श्रीवास्तव** और **न्यायमूर्ति जी. अरुल मुरुगन** की पहली **डिवीजन बेंच** के समक्ष सुनवाई के लिए सूचीबद्ध होने की उम्मीद है।

- **Seventy-one-year-old** advocate **T. Sivagnanasambandan** of **T. Nagar in Chennai** had filed the case through his counsel on record **M.L. Ravi**.

71 वर्षीय अधिवक्ता **टी. शिवज्ञानसम्बंदन**, चेन्नई के टी. नगर से, ने यह मामला अपने रिकॉर्ड पर वकील **एम.एल. रवि** के माध्यम से दायर किया था।

- In his affidavit, the litigant stated that the **MGNREGA** had been one of the world's largest **social security initiatives** which had been studied and evaluated intensively by multiple organisations.

अपने हलफनामे में, याचिकाकर्ता ने कहा कि **MGNREGA** दुनिया की सबसे बड़ी **सामाजिक सुरक्षा पहलों** में से एक रहा है, जिसका कई संगठनों द्वारा गहन अध्ययन और मूल्यांकन किया गया है।

- All those studies had recognised its **transformative effects** on the **weaker sections of society**, he claimed.

उन्होंने दावा किया कि उन सभी अध्ययनों ने समाज के **कमजोर वर्गों** पर इसके **परिवर्तनकारी प्रभावों** को मान्यता दी है।

- "The **MGNREGA** exempted State governments from most of the **financial burden** since the **cost sharing ratio** between the Centre and the States was **90:10**.

"**MGNREGA** ने राज्यों को अधिकांश **वित्तीय बोझ** से मुक्त रखा था क्योंकि केंद्र और राज्यों के बीच **लागत साझा अनुपात 90:10** था।

- But now, as per the **new Act**, the cost-sharing ratio is **90:10** only for **northeastern and Himalayan States** and **60:40** for others," he complained.
  लेकिन अब **नए अधिनियम** के अनुसार, लागत साझा अनुपात केवल **पूर्वोत्तर और हिमालयी राज्यों** के लिए **90:10** और अन्य राज्यों के लिए **60:40** है," उन्होंने शिकायत की।

- Similarly, the **MGNREGA** granted greater autonomy to **village panchayats**, in accordance with the **73rd Constitutional amendment**, by making them the **principal implementation authority** but the **VB-G RAM G Act** had bid "good bye" to those **constitutional guarantees** given to panchayats, the petitioner lamented.
  इसी तरह, **MGNREGA** ने **73वें संवैधानिक संशोधन** के अनुरूप **ग्राम पंचायतों** को **मुख्य कार्यान्वयन प्राधिकरण** बनाकर अधिक स्वायत्तता दी थी, लेकिन **VB-G RAM G Act** ने पंचायतों को दी गई उन **संवैधानिक गारंटियों** को "अलविदा" कह दिया है, याचिकाकर्ता ने अफसोस जताया।

- Claiming that the **MGNREGA** and other beneficial legislation such as the **National Food Security Act of 2013** had prevented **hunger deaths** during **COVID-19**, the petitioner said:
  यह दावा करते हुए कि **MGNREGA** और **राष्ट्रीय खाद्य सुरक्षा अधिनियम 2013** जैसे अन्य लाभकारी कानूनों ने **COVID-19** के दौरान **भूख से होने वाली मौतों** को रोका, याचिकाकर्ता ने कहा:

- "The demolition of **MGNREGA** now will have a **catastrophic impact** on **crores of people** across **rural India**."
  "अब **MGNREGA** को खत्म करना **ग्रामीण भारत** में **करोड़ों लोगों** पर **विनाशकारी प्रभाव** डालेगा।"

- He contended Sections **3(1), 4(5), 5(1), 6(2), 22, 30, 34 and 37** of the **VB-G RAM G Act** were **unjust, anti-federal and unconstitutional** since they were against the rights guaranteed under **Articles 14, 16 and 21** of the **Constitution**.
  उन्होंने तर्क दिया कि **VB-G RAM G Act** की धाराएँ **3(1), 4(5), 5(1), 6(2), 22, 30, 34 और 37** **अन्यायपूर्ण, संघ-विरोधी और असंवैधानिक** हैं क्योंकि वे **संविधान** के **अनुच्छेद 14, 16 और 21** के तहत प्रदत्त अधिकारों के खिलाफ हैं।

- **Section 3(1)** requires the **State governments** to frame a scheme consistent with the provisions of **VB-G RAM G Act** within **six months** from its commencement.
  धारा 3(1) के अनुसार **राज्य सरकारों** को **VB-G RAM G Act** के प्रावधानों के अनुरूप इसकी शुरुआत से **छह महीने** के भीतर एक योजना बनानी होगी।

A common framework to build trust in AI in Asia

Artificial intelligence (AI) holds extraordinary promise for addressing globally persistent challenges such as improving public health outcomes, expanding access to education, and boosting productivity while respecting human rights. However, across South Asia, Southeast Asia, and the wider Asia-Pacific, AI-driven transformation is unfolding unevenly. Decisions about safety, bias, accountability, and social impact are often made far from the communities most affected by them. With these contrasting developments, it is clear that the gains of AI will only be realised if AI systems are trusted by users, developers, regulators, and society at large.

Without trusted AI ecosystems, even the most advanced AI systems risk rejection by societies, resistance from governments, and misuse by certain entities. Enabling trust is a challenge since AI ecosystems are transnational, in terms of global data flows, global interdependence on the hardware, dispersed infrastructure supply chains, skewed supply of global talent, and the absence of common cybersecurity practices securing AI systems. For many developing countries, particularly in South and Southeast Asia, this means becoming consumers of AI systems over which they exercise little influence.

Differing agendas

Recognising this, countries have come up with national AI policies attempting to create a conducive ecosystem for responsible AI development. However, their agendas differ, owing to their technological capabilities and resources. South Korea wants to retain its memory chip dominance within the AI supply chain. Singapore, as stated in its policy, aims to become the "pace-setter" for AI governance. China aims to lead the global AI governance efforts by respecting the sovereign control of the state within the borders. India looks to upskill its IT workforce and take advantage of its expanding digital market, while Nepal aims to establish itself as the provider of energy-efficient compute infrastructure.

Arun Teja Polcumpally

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Amidst these differing objectives, the AI policy and governance frameworks of Asian economies emphasise one common principle: building trust among stakeholders. For example, India announced its AI Governance Guidelines last November, anchoring trust as the foundation of AI development and adoption. South Korea's AI Basic Act, which came into force on January 22, 2026, aims to establish a foundation for trustworthiness. The UN Secretary-General's AI Advisory Body has called for shared understanding, common ground, and common benefits in AI governance.

To meet that objective, a common framework is required that measures and strengthens trust in AI ecosystems across Asia. Such a framework should reflect regional realities while remaining interoperable with global norms, encompassing cybersecurity practices, bias and risk mitigation, institutional accountability, and policy preparedness.

A trusted AI ecosystem in Asia rests on the interaction of several foundational layers. At its core are trusted datasets – a real-time, high-quality, and representative data infrastructure that reflects Asia's linguistic, cultural, and social diversity – increasingly anchored in Digital Public Infrastructure. This must be complemented by resilient AI infrastructure, including reliable access to compute, energy, and cloud resources that can withstand geopolitical and supply-side disruptions without undermining broader socioeconomic activity. Equally critical are AI skills and public awareness, encompassing both advanced technical talent pipelines and widespread societal literacy that enables responsible adoption and productivity gains.

Trust is further shaped by a country's leverage on the global AI value chain, particularly its access to semiconductors, critical minerals, and manufacturing capabilities that determine the stability and predictability of AI development. Proportionate AI governance is essential to balance innovation with accountability – tackling risks such as misinformation, deepfakes, and liability – without disrupting data flows, hindering AI development, or deterring investment. Such governance institutions must operate within global frameworks, such as UNESCO's Recommendation on the Ethics of AI, and consider ISO 42001/42005 standards for AI management. Finally, cybersecurity underpins the entire ecosystem, safeguarding AI systems against both AI-enabled threats and attacks. Together, these layers provide a foundation for measuring trust in AI ecosystems and for guiding policy choices

India's opportunity

As AI adoption accelerates across Asia, the region faces a choice. One pathway is to accept the fragmented governance that reinforces existing asymmetries. Another is to establish a shared framework that ensures technological progress and translates into inclusive human development. When the AI value chain is global and interdependent, India is particularly well positioned to lead this with its approach to AI governance. Characteristics such as techno-legal solutions that simplify compliance help establish governance mechanisms, balancing AI innovation with safeguards for individuals and society. India's AI Impact Summit offers an opportunity to advance the establishment of a shared framework that measures trust of AI ecosystems in Asia. It aims not to minimise AI's risks, but to build the trusted ecosystems necessary to realise its promise.

A shared framework that ensures technological progress and translates into inclusive human development is the need of the hour for Asia

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A common framework to build trust in AI in Asia
एशिया में कृत्रिम बुद्धिमत्ता पर विश्वास बनाने के लिए एक साझा ढांचा

- Artificial intelligence (**AI**) holds extraordinary promise for addressing globally persistent challenges such as improving public health outcomes, expanding access to education, and boosting productivity while respecting human rights.
  कृत्रिम बुद्धिमत्ता वैश्विक स्तर की चुनौतियों जैसे सार्वजनिक स्वास्थ्य सुधार, शिक्षा तक पहुँच बढ़ाने और मानवाधिकारों का सम्मान करते हुए उत्पादकता बढ़ाने में असाधारण संभावनाएँ रखती है।

- However, across **South Asia, Southeast Asia, and the wider Asia-Pacific**, AI-driven transformation is unfolding unevenly.
  हालाँकि **दक्षिण एशिया, दक्षिण-पूर्व एशिया और व्यापक एशिया-प्रशांत** में एआई आधारित परिवर्तन असमान रूप से विकसित हो रहा है।

- Decisions about safety, bias, accountability, and social impact are often made far from the communities most affected by them.

सुरक्षा, पक्षपात, जवाबदेही और सामाजिक प्रभाव से जुड़े निर्णय अक्सर उन समुदायों से दूर लिए जाते हैं जो उनसे सबसे अधिक प्रभावित होते हैं।

- With these contrasting developments, it is clear that the gains of AI will only be realised if AI systems are trusted by users, developers, regulators, and society at large.
  इन भिन्न परिस्थितियों के साथ यह स्पष्ट है कि **कृत्रिम बुद्धिमत्ता** के लाभ तभी प्राप्त होंगे जब एआई प्रणालियों पर उपयोगकर्ताओं, डेवलपर्स, नियामकों और समाज का विश्वास होगा।

- Without trusted AI ecosystems, even the most advanced AI systems risk rejection by societies, resistance from governments, and misuse by certain entities.
  विश्वसनीय एआई पारिस्थितिकी तंत्र के बिना उन्नत एआई प्रणालियाँ भी समाज द्वारा अस्वीकृति, सरकारों के प्रतिरोध और दुरुपयोग का जोखिम उठाती हैं।

- Enabling trust is a challenge since AI ecosystems are transnational, in terms of global data flows, global interdependence on the hardware, dispersed infrastructure supply chains, skewed supply of global talent, and the absence of common cybersecurity practices securing AI systems.
  विश्वास स्थापित करना चुनौतीपूर्ण है क्योंकि एआई पारिस्थितिकी तंत्र वैश्विक डेटा प्रवाह, हार्डवेयर पर वैश्विक निर्भरता, बिखरी आपूर्ति शृंखलाओं, असमान प्रतिभा वितरण और सामान्य साइबर सुरक्षा मानकों की कमी से प्रभावित है।

- For many developing countries, particularly in **South and Southeast Asia**, this means becoming consumers of AI systems over which they exercise little influence.
  कई विकासशील देशों के लिए, विशेषकर **दक्षिण और दक्षिण-पूर्व एशिया** में, इसका अर्थ है ऐसी एआई प्रणालियों के उपभोक्ता बनना जिन पर उनका सीमित नियंत्रण है।

Differing agendas
भिन्न प्राथमिकताएँ

- Recognising this, countries have come up with national AI policies attempting to create a conducive ecosystem for responsible AI development.
  इसे समझते हुए देशों ने जिम्मेदार एआई विकास के लिए अनुकूल पारिस्थितिकी तंत्र बनाने हेतु राष्ट्रीय नीतियाँ बनाई हैं।

- However, their agendas differ, owing to their technological capabilities and resources.
  हालाँकि उनकी प्राथमिकताएँ तकनीकी क्षमता और संसाधनों के आधार पर भिन्न हैं।

- **South Korea** wants to retain its memory chip dominance within the AI supply chain.
  दक्षिण कोरिया एआई आपूर्ति शृंखला में अपनी मेमोरी चिप की प्रधानता बनाए रखना चाहता है।

- **Singapore**, as stated in its policy, aims to become the "pace-setter" for AI governance.
  सिंगापुर अपनी नीति के अनुसार एआई शासन में अग्रणी बनना चाहता है।

- **China** aims to lead the global AI governance efforts by respecting the sovereign control of the state within the borders.
  चीन राज्य की संप्रभुता को ध्यान में रखते हुए वैश्विक एआई शासन में नेतृत्व करना चाहता है।

- **India** looks to upskill its IT workforce and take advantage of its expanding digital market, while **Nepal** aims to establish itself as the provider of energy-efficient compute infrastructure.
  भारत अपनी सूचना प्रौद्योगिकी कार्यबल को उन्नत बनाकर डिजिटल बाजार का लाभ उठाना चाहता है, जबकि **नेपाल** ऊर्जा-कुशल संगणन अवसंरचना प्रदाता बनने का लक्ष्य रखता है।

- Amidst these differing objectives, the AI policy and governance frameworks of Asian economies emphasise one common principle: building trust among stakeholders.
  इन भिन्न लक्ष्यों के बीच एशियाई अर्थव्यवस्थाओं की एआई नीतियाँ एक समान सिद्धांत पर बल देती हैं — हितधारकों के बीच विश्वास निर्माण।

- For example, **India** announced its AI Governance Guidelines last **November**, anchoring trust as the foundation of AI development and adoption.
  उदाहरण के लिए **भारत** ने पिछले **नवंबर** में एआई शासन दिशानिर्देश घोषित किए, जिनमें विश्वास को एआई विकास और अपनाने की नींव बनाया गया।

- **South Korea's AI Basic Act**, which came into force on **January 22, 2026**, aims to establish a foundation for trustworthiness.
  दक्षिण कोरिया का एआई मूल अधिनियम, जो **22 जनवरी 2026** को लागू हुआ, विश्वसनीयता की नींव स्थापित करने का लक्ष्य रखता है।

- The **UN Secretary-General's AI Advisory Body** has called for shared understanding, common ground, and common benefits in AI governance.
  संयुक्त राष्ट्र महासचिव के एआई सलाहकार निकाय ने एआई शासन में साझा समझ, समान आधार और साझा लाभ की आवश्यकता बताई है।

- To meet that objective, a common framework is required that measures and strengthens trust in AI ecosystems across Asia.
  इस लक्ष्य को प्राप्त करने के लिए एशिया में एआई पारिस्थितिकी तंत्र में विश्वास को मापने और मजबूत करने वाला साझा ढाँचा आवश्यक है।

- Such a framework should reflect regional realities while remaining interoperable with global norms, encompassing cybersecurity practices, bias and risk mitigation, institutional accountability, and policy preparedness.
  ऐसा ढाँचा क्षेत्रीय वास्तविकताओं को दर्शाते हुए वैश्विक मानकों के अनुकूल होना चाहिए और इसमें साइबर सुरक्षा, पक्षपात और जोखिम न्यूनीकरण, संस्थागत जवाबदेही तथा नीतिगत तैयारी शामिल होनी चाहिए।

- A trusted **AI ecosystem in Asia** rests on the interaction of several foundational layers.
  एशिया में एक विश्वसनीय **कृत्रिम बुद्धिमत्ता पारिस्थितिकी तंत्र** कई आधारभूत स्तरों के परस्पर संबंध पर आधारित है।

- At its core are trusted datasets — a real-time, high-quality, and representative data infrastructure that reflects Asia's linguistic, cultural, and social diversity — increasingly anchored in **Digital Public Infrastructure**.
  इसके केंद्र में विश्वसनीय डेटा सेट हैं — वास्तविक समय, उच्च गुणवत्ता और प्रतिनिधिक डेटा अवसंरचना जो एशिया की भाषाई, सांस्कृतिक और सामाजिक विविधता को दर्शाती है — जो **डिजिटल सार्वजनिक अवसंरचना** पर आधारित है।

- This must be complemented by resilient **AI infrastructure**, including reliable access to compute, energy, and cloud resources that can withstand geopolitical and supply-side disruptions without undermining broader socioeconomic activity.
  इसे मजबूत **कृत्रिम बुद्धिमत्ता अवसंरचना** से पूरक होना चाहिए, जिसमें संगणन, ऊर्जा और क्लाउड संसाधनों तक विश्वसनीय पहुँच शामिल हो, जो भू-राजनीतिक और आपूर्ति संबंधी बाधाओं के बावजूद सामाजिक-आर्थिक गतिविधियों को प्रभावित किए बिना कार्य कर सके।

- Equally critical are **AI skills and public awareness**, encompassing both advanced technical talent pipelines and widespread societal literacy that enables responsible adoption and productivity gains.
  समान रूप से महत्वपूर्ण **कृत्रिम बुद्धिमत्ता कौशल और जन जागरूकता** हैं, जिसमें उन्नत तकनीकी प्रतिभा और व्यापक सामाजिक साक्षरता शामिल है जो जिम्मेदार उपयोग और उत्पादकता वृद्धि को सक्षम बनाती है।

- Trust is further shaped by a country's leverage on the global AI value chain, particularly its access to **semiconductors, critical minerals, and manufacturing capabilities** that determine the stability and predictability of AI development.
  विश्वास वैश्विक एआई मूल्य शृंखला में देश की स्थिति से भी प्रभावित होता है, विशेषकर **अर्धचालक, महत्वपूर्ण खनिज और विनिर्माण क्षमता** तक पहुँच से, जो एआई विकास की स्थिरता और पूर्वानुमान को निर्धारित करते हैं।

- Proportionate **AI governance** is essential to balance innovation with accountability — tackling risks such as misinformation, deepfakes, and liability — without disrupting data flows, hindering AI development, or deterring investment.
  उचित **कृत्रिम बुद्धिमत्ता शासन** नवाचार और जवाबदेही के संतुलन के लिए आवश्यक है — जिसमें भ्रामक सूचना, कृत्रिम वीडियो और उत्तरदायित्व जैसे जोखिमों से निपटना शामिल है — बिना डेटा प्रवाह बाधित किए, एआई विकास रोके या निवेश हतोत्साहित किए।

- Such governance institutions must operate within global frameworks, such as **UNESCO's Recommendation on the Ethics of AI**, and consider **ISO 42001/42005** standards for AI management.
  ऐसे शासन संस्थानों को वैश्विक ढाँचों के भीतर कार्य करना चाहिए, जैसे **यूनेस्को की कृत्रिम बुद्धिमत्ता नैतिकता सिफारिशें**, और एआई प्रबंधन के लिए **आईएसओ 42001/42005** मानकों को ध्यान में रखना चाहिए।

- Finally, **cybersecurity** underpins the entire ecosystem, safeguarding AI systems against both AI-enabled threats and attacks.
  अंततः **साइबर सुरक्षा** पूरे तंत्र का आधार है, जो एआई प्रणालियों को खतरों और हमलों से सुरक्षित रखती है।

- Together, these layers provide a foundation for measuring trust in AI ecosystems and for guiding policy choices.

ये सभी स्तर मिलकर एआई पारिस्थितिकी तंत्र में विश्वास मापने और नीतिगत निर्णयों का मार्गदर्शन करने की आधारशिला प्रदान करते हैं।

India's opportunity
भारत का अवसर

- As AI adoption accelerates across Asia, the region faces a choice.
  जैसे-जैसे एशिया में एआई अपनाने की गति बढ़ रही है, क्षेत्र एक विकल्प का सामना कर रहा है।
- One pathway is to accept the fragmented governance that reinforces existing asymmetries.
  एक मार्ग खंडित शासन को स्वीकार करना है, जो मौजूदा असमानताओं को मजबूत करता है।
- Another is to establish a shared framework that ensures technological progress and translates into inclusive human development.
  दूसरा मार्ग एक साझा ढाँचा स्थापित करना है, जो तकनीकी प्रगति को समावेशी मानव विकास में परिवर्तित करे।
- When the **AI value chain** is global and interdependent, **India** is particularly well positioned to lead this with its approach to AI governance.
  जब **कृत्रिम बुद्धिमत्ता मूल्य शृंखला** वैश्विक और परस्पर निर्भर है, तब **भारत** अपने एआई शासन दृष्टिकोण से नेतृत्व करने की स्थिति में है।
- Characteristics such as techno-legal solutions that simplify compliance help establish governance mechanisms, balancing AI innovation with safeguards for individuals and society.
  तकनीकी और कानूनी समाधान जैसे उपाय अनुपालन को सरल बनाकर शासन तंत्र स्थापित करने में मदद करते हैं और नवाचार तथा सामाजिक सुरक्षा के बीच संतुलन बनाए रखते हैं।
- India's **AI Impact Summit** offers an opportunity to advance the establishment of a shared framework that measures trust of AI ecosystems in Asia.
  भारत का **एआई प्रभाव शिखर सम्मेलन** एशिया में एआई पारिस्थितिकी तंत्र के विश्वास को मापने वाले साझा ढाँचे को आगे बढ़ाने का अवसर प्रदान करता है।
- It aims not to minimise AI's risks, but to build the trusted ecosystems necessary to realise its promise.
  इसका उद्देश्य जोखिमों को कम करना नहीं बल्कि विश्वसनीय पारिस्थितिकी तंत्र का निर्माण करना है, जिससे एआई की संभावनाओं को साकार किया जा सके।

GS Paper II: International Relations	
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The UAE-India corridor is sparking a growth story

GS II: IR   **MQB**

Something remarkable has happened in the economic relationship between India and the United Arab Emirates (UAE). When the Comprehensive Economic Partnership Agreement (CEPA) was signed in 2022, both sides had set a target of $100 billion in bilateral trade by 2030. That milestone was reached five years ahead of schedule. In January this year, leaders set a new target of $200 billion by 2032. Few economic corridors in the world today are moving with the speed and ambition of this one.

Badr Jafar

is Special Envoy of the United Arab Emirates Foreign Minister for Business and Philanthropy

The scale and direction

The numbers tell part of the story. Non-oil trade between the two countries grew nearly 20% last year to reach $65 billion, demonstrating that this partnership has moved well beyond its energy origins. UAE entities have invested over $22 billion into India since 2000, while Indian companies have invested more than $16 billion into the UAE. Nearly five million Indian nationals live and work in the Emirates, forming its largest diaspora community and the human backbone of a corridor that now supports over 1,200 flights a week between the two countries – one of the busiest air routes on earth.

But what excites the most is not just the scale. It is the direction. This corridor is being reshaped by advanced manufacturing, financial services, technology, and logistics. Reliance Industries has partnered with TA'ZIZ on a $2 billion-plus investment in low-carbon chemicals manufacturing in Abu Dhabi. Ashok Leyland has relocated its electric bus production from the United Kingdom to the UAE. Larsen & Toubro has been selected as preferred contractor for one of the world's most ambitious solar-plus-storage projects in Abu Dhabi. Indian banks, technology firms, and health-care companies are building real operational presence across the Emirates. These are not tentative first steps. They are

The UAE-India corridor is driving growth, technology and strategic global expansion

confident long-term industrial commitments.

Investment is flowing with equal conviction in the other direction. DP World has committed an additional $5 billion to Indian infrastructure, expanding its already extensive network of ports and logistics parks across the country. Emirates NBD's acquisition of a majority stake in RBL Bank represents the largest single foreign direct investment in Indian banking history. ADNOC has signed long-term LNG supply agreements with Indian Oil Corporation Ltd and Hindustan Petroleum Corporation Limited worth billions of dollars. Mubadala has deployed over $4 billion across Indian health care, renewables, and technology platforms. Abu Dhabi Investment Authority became the first sovereign wealth fund to establish a base in India's GIFT City.

It is for the long term

What underpins all of this is trust built over decades, reinforced by human connections, and supported by a policy architecture – the CEPA, which eliminated tariffs on roughly 90% of tariff lines, the 2024 Bilateral Investment Treaty, and now a strategic defence partnership - that gives businesses the certainty to make long-term bets.

The ambition is now extending into third markets. Bharat Mart, currently under construction in the UAE, will serve as a wholesale hub for Indian goods targeting Africa, West Asia and Eurasia, aiming to help double India's exports to these regions. India and the UAE are also exploring joint digital infrastructure and capacity-building initiatives across Africa. The corridor is becoming a platform not just for bilateral exchange but also for global reach.

Artificial intelligence (AI) is emerging as the next major frontier for this corridor. India this week hosts the AI Impact Summit in New Delhi (February 16-20, 2026) – the first global AI summit held in the Global South. It is a powerful statement of India's growing role in shaping how this technology develops and is governed. The UAE, which appointed the world's first Minister of State for AI back in 2017 and has invested heavily in AI infrastructure and research ever since, is a natural partner in this space. The UAE and India are already exploring cooperation on advanced computing capacity, data centres, and AI-driven innovation. In a technology that will reshape every sector of every economy, the countries that lead will not be those that build fastest alone, but those that build the smartest partnerships.

The next chapter

India's global moment is here. As the world's fourth-largest economy, with GDP at around $4 trillion, it is powered by entrepreneurial energy, manufacturing ambition, and digital infrastructure that are genuinely world-class. In conversations with Indian business leaders, there is one theme that is coming through consistently: the appetite to scale internationally has never been stronger. The question is no longer whether Indian enterprise will go global, but how effectively the right corridors can accelerate that journey.

This is also part of a wider realignment. The recent Delhi Declaration between India and Arab Foreign Ministers outlined an ambitious programme of cooperation across politics, economy, energy, technology, and security through 2028. The India-UAE corridor is at the vanguard of that broader convergence.

The UAE and India are demonstrating what becomes possible when two countries align policy, capital, and execution around a shared vision. The first $100 billion came faster than anyone expected. The next chapter will be defined not by the numbers alone, but by how deeply their economies integrate – and how far that integration reaches.

The UAE-India corridor is sparking a growth story
यूएई-भारत कॉरिडोर एक विकास कहानी को प्रज्वलित कर रहा है

- Something remarkable has happened in the economic relationship between **India and the United Arab Emirates (UAE)**.
  भारत और संयुक्त अरब अमीरात के आर्थिक संबंधों में एक उल्लेखनीय परिवर्तन हुआ है।

- When the **Comprehensive Economic Partnership Agreement (CEPA)** was signed in **2022**, both sides had set a target of **$100 billion** in bilateral trade by **2030**.
  जब **व्यापक आर्थिक साझेदारी समझौता** 2022 में हस्ताक्षरित हुआ, तब दोनों पक्षों ने **2030** तक द्विपक्षीय व्यापार **100 अरब डॉलर** का लक्ष्य रखा था।

- That milestone was reached **five years ahead** of schedule.
  यह लक्ष्य निर्धारित समय से **पाँच वर्ष पहले** प्राप्त कर लिया गया।

- In **January this year**, leaders set a new target of **$200 billion by 2032**.
  इस वर्ष जनवरी में नेताओं ने **2032** तक **200 अरब डॉलर** का नया लक्ष्य निर्धारित किया।

- Few economic corridors in the world today are moving with the speed and ambition of this one.
  आज दुनिया में बहुत कम आर्थिक गलियारे ऐसे हैं जो इतनी गति और महत्वाकांक्षा के साथ आगे बढ़ रहे हैं।

The scale and direction
पैमाना और दिशा

- The numbers tell part of the story. Non-oil trade between the two countries grew nearly **20% last year** to reach **$65 billion**, demonstrating that this partnership has moved well beyond its energy origins.

आँकड़े कहानी का एक हिस्सा बताते हैं। दोनों देशों के बीच गैर-तेल व्यापार **पिछले वर्ष लगभग 20%** बढ़कर **65 अरब डॉलर** तक पहुँच गया, जिससे स्पष्ट है कि यह साझेदारी ऊर्जा क्षेत्र से आगे बढ़ चुकी है।

- UAE entities have invested over **$22 billion** into India since **2000**, while Indian companies have invested more than **$16 billion** into the **UAE**.
  2000 से **संयुक्त अरब अमीरात** की संस्थाओं ने भारत में **22 अरब डॉलर** से अधिक निवेश किया है, जबकि भारतीय कंपनियों ने **संयुक्त अरब अमीरात** में **16 अरब डॉलर** से अधिक निवेश किया है।

- Nearly **five million Indian nationals** live and work in the Emirates, forming its largest diaspora community and the human backbone of a corridor that now supports over **1,200 flights a week** between the two countries — one of the busiest air routes on earth.
  लगभग **पाँच मिलियन भारतीय नागरिक** अमीरात में रहते और काम करते हैं, जो सबसे बड़ा प्रवासी समुदाय बनाते हैं और एक ऐसे गलियारे की मानव रीढ़ हैं जो अब दोनों देशों के बीच प्रति सप्ताह **1,200 से अधिक उड़ानों** का समर्थन करता है।

- But what excites the most is not just the scale. It is the direction.
  लेकिन सबसे महत्वपूर्ण केवल पैमाना नहीं बल्कि दिशा है।

- This corridor is being reshaped by advanced manufacturing, financial services, technology, and logistics.
  यह गलियारा उन्नत विनिर्माण, वित्तीय सेवाओं, प्रौद्योगिकी और लॉजिस्टिक्स द्वारा पुनः आकार ले रहा है।

- **Reliance Industries** has partnered with **TA'ZIZ** on a **$2 billion-plus** investment in low-carbon chemicals manufacturing in **Abu Dhabi**.
  रिलायंस इंडस्ट्रीज ने **अबू धाबी** में कम कार्बन रसायन निर्माण के लिए **2 अरब डॉलर से अधिक** निवेश पर साझेदारी की है।

- **Ashok Leyland** has relocated its electric bus production from the **United Kingdom** to the **UAE**.
  अशोक लेलैंड ने अपनी विद्युत बस उत्पादन इकाई को **यूनाइटेड किंगडम** से **संयुक्त अरब अमीरात** स्थानांतरित किया है।

- **Larsen & Toubro** has been selected as preferred contractor for one of the world's most ambitious solar-plus-storage projects in **Abu Dhabi**.
  लार्सन एंड टुब्रो को **अबू धाबी** में विश्व की सबसे महत्वाकांक्षी सौर एवं भंडारण परियोजनाओं में से एक के लिए प्रमुख ठेकेदार चुना गया है।

- Indian banks, technology firms, and health-care companies are building real operational presence across the Emirates.
  भारतीय बैंक, प्रौद्योगिकी कंपनियाँ और स्वास्थ्य सेवा संस्थान अमीरात में वास्तविक परिचालन उपस्थिति स्थापित कर रहे हैं।

- These are not tentative first steps. They are confident long-term industrial commitments.
  ये प्रारंभिक कदम नहीं बल्कि दीर्घकालिक औद्योगिक प्रतिबद्धताएँ हैं।

- Investment is flowing with equal conviction in the other direction.
  निवेश दूसरी दिशा में भी समान विश्वास के साथ प्रवाहित हो रहा है।

- **DP World** has committed an additional **$5 billion** to Indian infrastructure, expanding its already extensive network of ports and logistics parks across the country.
  डीपी वर्ल्ड ने भारतीय बुनियादी ढाँचे में अतिरिक्त **5 अरब डॉलर** निवेश का संकल्प लिया है, जिससे उसके बंदरगाह और लॉजिस्टिक्स पार्कों का नेटवर्क और विस्तृत होगा।

- **Emirates NBD's** acquisition of a majority stake in **RBL Bank** represents the largest single foreign direct investment in Indian banking history.
  एमिरेट्स एनबीडी द्वारा **आरबीएल बैंक** में बहुमत हिस्सेदारी का अधिग्रहण भारतीय बैंकिंग इतिहास का सबसे बड़ा एकल प्रत्यक्ष विदेशी निवेश है।

- **ADNOC** has signed long-term **LNG** supply agreements with **Indian Oil Corporation Ltd** and **Hindustan Petroleum Corporation Limited** worth billions of dollars.
  एडीएनओसी ने **भारतीय तेल निगम लिमिटेड** और **हिंदुस्तान पेट्रोलियम निगम लिमिटेड** के साथ अरबों डॉलर के दीर्घकालिक गैस आपूर्ति समझौते किए हैं।

- **Mubadala** has deployed over **$4 billion** across Indian health care, renewables, and technology platforms.
  मुबाडाला ने भारतीय स्वास्थ्य सेवा, नवीकरणीय ऊर्जा और प्रौद्योगिकी क्षेत्रों में **4 अरब डॉलर** से अधिक निवेश किया है।

- **Abu Dhabi Investment Authority** became the first sovereign wealth fund to establish a base in **India's GIFT City**.

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अबू धाबी निवेश प्राधिकरण भारत के **गिफ्ट सिटी** में आधार स्थापित करने वाला पहला संप्रभु संपत्ति कोष बना।

It is for the long term
यह दीर्घकाल के लिए है

- What underpins all of this is trust built over decades, reinforced by human connections, and supported by a policy architecture — the **CEPA**, which eliminated tariffs on roughly **90%** of tariff lines, the **2024 Bilateral Investment Treaty**, and now a strategic defence partnership – that gives businesses the certainty to make long-term bets.
  इस पूरे ढाँचे की नींव दशकों में बने विश्वास, मानवीय संबंधों की मजबूती और नीति संरचना पर आधारित है — जिसमें **व्यापक आर्थिक साझेदारी समझौता** द्वारा लगभग **90%** शुल्क हटाए गए, **2024 द्विपक्षीय निवेश संधि**, तथा रणनीतिक रक्षा साझेदारी शामिल है — जो व्यवसायों को दीर्घकालिक निवेश का विश्वास देती है।

- The ambition is now extending into third markets.
  अब महत्वाकांक्षा तीसरे बाजारों तक फैल रही है।

- **Bharat Mart**, currently under construction in the **UAE**, will serve as a wholesale hub for Indian goods targeting **Africa, West Asia and Eurasia**, aiming to help double India's exports to these regions.
  भारत मार्ट, जो वर्तमान में **संयुक्त अरब अमीरात** में निर्माणाधीन है, **अफ्रीका, पश्चिम एशिया और यूरेशिया** के लिए भारतीय वस्तुओं का थोक केंद्र बनेगा और इन क्षेत्रों में भारत के निर्यात को दोगुना करने का लक्ष्य रखता है।

- India and the **UAE** are also exploring joint digital infrastructure and capacity-building initiatives across **Africa**.
  भारत और **संयुक्त अरब अमीरात अफ्रीका** में संयुक्त डिजिटल अवसंरचना और क्षमता निर्माण पहलों का भी अन्वेषण कर रहे हैं।

- The corridor is becoming a platform not just for bilateral exchange but also for global reach.
  यह गलियारा अब केवल द्विपक्षीय आदान-प्रदान का नहीं बल्कि वैश्विक विस्तार का मंच बन रहा है।

- **Artificial intelligence (AI)** is emerging as the next major frontier for this corridor.
  कृत्रिम बुद्धिमत्ता इस गलियारे के लिए अगला प्रमुख क्षेत्र बनकर उभर रही है।

- India this week hosts the **AI Impact Summit in New Delhi (February 16-20, 2026)** — the first global AI summit held in the Global South.
  भारत इस सप्ताह **नई दिल्ली में एआई प्रभाव शिखर सम्मेलन (16-20 फरवरी 2026)** की मेजबानी कर रहा है — जो वैश्विक दक्षिण में आयोजित पहला वैश्विक एआई शिखर सम्मेलन है।

- It is a powerful statement of India's growing role in shaping how this technology develops and is governed.
  यह इस तकनीक के विकास और शासन में भारत की बढ़ती भूमिका का सशक्त संकेत है।

- The **UAE**, which appointed the world's first Minister of State for AI back in **2017** and has invested heavily in AI infrastructure and research ever since, is a natural partner in this space.
  संयुक्त अरब अमीरात, जिसने **2017** में विश्व का पहला एआई राज्य मंत्री नियुक्त किया और तब से एआई अवसंरचना तथा अनुसंधान में भारी निवेश किया है, इस क्षेत्र में स्वाभाविक भागीदार है।

- The **UAE** and India are already exploring cooperation on advanced computing capacity, data centres, and AI-driven innovation.
  संयुक्त अरब अमीरात और भारत उन्नत संगणन क्षमता, डेटा केंद्र और एआई आधारित नवाचार पर सहयोग का अन्वेषण कर रहे हैं।

- In a technology that will reshape every sector of every economy, the countries that lead will not be those that build fastest alone, but those that build the smartest partnerships.
  यह तकनीक हर अर्थव्यवस्था के हर क्षेत्र को बदल देगी, और नेतृत्व वही देश करेंगे जो केवल तेजी से निर्माण नहीं बल्कि सबसे बुद्धिमान साझेदारियाँ बनाएँगे।

The next chapter
अगला अध्याय

- India's global moment is here. As the world's **fourth-largest economy**, with GDP at around **$4 trillion**, it is powered by entrepreneurial energy, manufacturing ambition, and digital infrastructure that are genuinely world-class.

भारत का वैश्विक क्षण आ चुका है। विश्व की **चौथी सबसे बड़ी अर्थव्यवस्था** के रूप में लगभग **4 ट्रिलियन डॉलर** के सकल घरेलू उत्पाद के साथ यह उद्यमशील ऊर्जा, विनिर्माण महत्वाकांक्षा और विश्वस्तरीय डिजिटल अवसंरचना से संचालित है।

- In conversations with Indian business leaders, there is one theme that is coming through consistently: the appetite to scale internationally has never been stronger.
  भारतीय उद्योग नेताओं के साथ चर्चाओं में एक बात लगातार सामने आ रही है कि अंतरराष्ट्रीय स्तर पर विस्तार की इच्छा पहले से अधिक मजबूत है।

- The question is no longer whether Indian enterprise will go global, but how effectively the right corridors can accelerate that journey.
  अब प्रश्न यह नहीं है कि भारतीय उद्यम वैश्विक होंगे या नहीं, बल्कि यह है कि सही आर्थिक गलियारे इस यात्रा को कितनी प्रभावी गति दे सकते हैं।

- This is also part of a wider realignment.
  यह व्यापक पुनर्संरेखण का भी हिस्सा है।

- The recent **Delhi Declaration** between India and **Arab Foreign Ministers** outlined an ambitious programme of cooperation across politics, economy, energy, technology, and security through **2028**.
  हाल की **दिल्ली घोषणा** में भारत और अरब देशों के विदेश मंत्रियों ने **2028** तक राजनीति, अर्थव्यवस्था, ऊर्जा, प्रौद्योगिकी और सुरक्षा में सहयोग का महत्वाकांक्षी कार्यक्रम निर्धारित किया।

- The **India-UAE corridor** is at the vanguard of that broader convergence.
  भारत-संयुक्त अरब अमीरात गलियारा इस व्यापक समन्वय के अग्रभाग में है।

- The **UAE** and India are demonstrating what becomes possible when two countries align policy, capital, and execution around a shared vision.
  संयुक्त अरब अमीरात और भारत यह प्रदर्शित कर रहे हैं कि जब दो देश साझा दृष्टि के साथ नीति, पूँजी और क्रियान्वयन को समन्वित करते हैं तो क्या संभव हो सकता है।

- The first **$100 billion** came faster than anyone expected.
  पहले **100 अरब डॉलर** का लक्ष्य अपेक्षा से अधिक तेजी से प्राप्त हुआ।

- The next chapter will be defined not by the numbers alone, but by how deeply their economies integrate — and how far that integration reaches.
  अगला अध्याय केवल आँकड़ों से नहीं बल्कि उनकी अर्थव्यवस्थाओं के एकीकरण की गहराई और उसके विस्तार से निर्धारित होगा।

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Behind hype of Indian CEOs dominating global corporate firms

It was an unwelcome first day in my APAC role. One of my senior colleagues, in her first meeting with me, resigned as soon as we sat for our introductory catch-up. She said, "I have heard you Indians run organisations like a sweatshop. Sea diving is my hobby, and I want to ensure I protect that time." That interaction shaped my way of working the next five years. As I juggled time zones, I had to constantly demonstrate my hard-working side to my bosses and, at the same time, empathise with my team's need for a work-life balance. The start-up hustle mode we were in didn't really give the team much respite. The results didn't show either. Should I say my Indian model of working hard didn't pay off?

A decade later, when I began observing Indian-origin leaders taking over CEO roles in Fortune 500 firms, I wondered what the qualities were that made them rise or sustain their growth to the top.

Immigrants vs locals
It's natural for us to celebrate the rise of Indian-origin CEOs in global Fortune 500 companies. We currently have 11 such leaders. It used to be 13 in 2024 and 16 in 2023. In the Forbes 2000 list, there are 28 Indian-origin CEOs. Whether that is significant for us to brag about depends on whether we consider the glass half-full or half-empty. At 2% and 1.4% people representation, I would rather not be part of the conversation that claims Indians are rising to the top. Compare that to the number of immigrants who are CEOs in Fortune 500 companies. More than 46% of the Fortune 500 companies (231 out of 500) in 2025 were founded by immigrants or their children (109 by immigrants, and 122 by children of immigrants). Among the 14 companies that debuted in the Fortune 500 list in 2025, 10 were founded by immigrants or their children. Should we credit their success to the American ecosystem, rather than Indian tough upbringing or education system? The large number of immigrants at the top of Fortune 500 companies makes that crystal clear.

Loyalty exaggerated?
Recently, Zoho founder Sridhar Vembu commented on social media platform X that Indians have risen in global corporations due to organisational loyalty – meaning they had long tenures in these firms, giving them the edge. But as per executive search and leadership advisory firm Russel Reynolds, nearly 68% of new CEO appointments in 2025 across major global indices were internal promotions. This implies the notion that only Indians work long tenures and hence grow faster is highly misplaced.

According to the Hurun Global Unicorn Index 2025, Indians have co-founded over 130 unicorns overseas, over 90% in the U.S., and a handful in the U.K. and Germany.

Impact of PIOs
As per Migrationpolicy.org, Indians in the U.S. participate in the labour force at higher rates than both native and the overall foreign-born populations. In 2023, 74% of Indian immigrants aged 16 and above were in the civilian labour force, compared to 63 per cent of U.S.-born and 67% of all immigrants. Compared to the two other groups, those born in India were more likely to work in the management, business, science, and arts occupations. Moreover, on average, Indians have much higher incomes than the total foreign- and native-born populations. In 2023, households headed by an Indian immigrant had a median annual income of $1,66,200, compared to $78,700 for all immigrant-led households and $77,600 for native-led households.

We have economic reasons to celebrate our NRIs in the U.S. more than just the 11 people of Indian origin who have become CEOs of Fortune 500 companies and the unicorn founders. Last year, 27% of the $135 billion foreign remittances to India was from Indians working in the U.S.

The struggle
In the last 12 months, 58,000 technology professionals from India travelled to countries like the US, UAE, the UK, Canada and Germany, and about 40,000 came back. Those who return find it difficult to sync with employers on home turf, especially if they have been away longer.

(Kamal Karanth is co-founder of Xpheno, a specialist staffing firm)

(From Left) Satya Nadella of Microsoft, Sundar Pichai (Google) and Indra Nooyi (formerly PepsiCo).

Behind hype of Indian CEOs dominating global corporate firms
वैश्विक कॉर्पोरेट कंपनियों पर भारतीय CEOs के वर्चस्व के हाइप के पीछे

Immigrants vs locals
प्रवासी बनाम स्थानीय

- It's natural for us to celebrate the rise of Indian-origin CEOs in global Fortune 500 companies.
  वैश्विक **Fortune 500** कंपनियों में **भारतीय मूल** के CEOs के उभार का जश्न मनाना हमारे लिए स्वाभाविक है।
- We currently have 11 such leaders.
  वर्तमान में हमारे पास ऐसे **11** नेता हैं।
- It used to be 13 in 2024 and 16 in 2023.
  यह संख्या **2024 में 13** और **2023 में 16** थी।
- In the Forbes 2000 list, there are 28 Indian-origin CEOs.
  Forbes 2000 सूची में **28 भारतीय मूल** के CEOs हैं।
- Whether that is significant for us to brag about depends on whether we consider the glass half-full or half-empty.
  क्या यह हमारे लिए गर्व करने लायक है या नहीं, यह इस बात पर निर्भर करता है कि हम गिलास को आधा भरा मानते हैं या आधा खाली।
- At 2% and 1.4% people representation, I would rather not be part of the conversation that claims Indians are rising to the top.
  2% और **1.4%** लोगों के प्रतिनिधित्व के साथ, मैं उस बातचीत का हिस्सा बनना पसंद नहीं करूंगा जो यह दावा करती है कि भारतीय शीर्ष पर पहुंच रहे हैं।
- Compare that to the number of immigrants who are CEOs in Fortune 500 companies.
  इसे **Fortune 500** कंपनियों में CEOs के रूप में काम कर रहे **प्रवासियों** की संख्या से तुलना करें।
- More than 46% of the Fortune 500 companies (231 out of 500) in 2025 were founded by immigrants or their children (109 by immigrants, and 122 by children of immigrants).
  2025 में **Fortune 500** की **46% से अधिक कंपनियां** (**500 में से 231**) प्रवासियों या उनके बच्चों द्वारा स्थापित की गई थीं (**109 प्रवासियों द्वारा**, और **122 प्रवासियों के बच्चों द्वारा**)।
- Among the 14 companies that debuted in the Fortune 500 list in 2025, 10 were founded by immigrants or their children.
  2025 में **Fortune 500** सूची में शामिल हुई **14 कंपनियों** में से **10** प्रवासियों या उनके बच्चों द्वारा स्थापित थीं।
- Should we credit their success to the American ecosystem, rather than Indian tough upbringing or education system?
  क्या हमें उनकी सफलता का श्रेय **अमेरिकी इकोसिस्टम** को देना चाहिए, न कि **भारतीय कठोर परवरिश** या **शिक्षा प्रणाली** को?
- The large number of immigrants at the top of Fortune 500 companies makes that crystal clear.
  Fortune 500 कंपनियों के शीर्ष पर प्रवासियों की बड़ी संख्या इसे बिल्कुल स्पष्ट कर देती है।

Loyalty exaggerated?
क्या वफादारी को बढ़ा-चढ़ाकर बताया गया है?

- Loyalty exaggerated?
  क्या वफादारी को बढ़ा-चढ़ाकर बताया गया है?

- Recently, Zoho founder Sridhar Vembu commented on social media platform X that Indians have risen in global corporations due to organisational loyalty — meaning they had long tenures in these firms, giving them the edge.
  हाल ही में **Zoho** के संस्थापक **Sridhar Vembu** ने सोशल मीडिया प्लेटफॉर्म **X** पर टिप्पणी की कि भारतीय वैश्विक कॉर्पोरेशनों में **संगठनात्मक वफादारी** के कारण ऊपर पहुंचे हैं — यानी इन कंपनियों में उनकी **लंबी अवधि** रही, जिससे उन्हें बढ़त मिली।

- But as per executive search and leadership advisory firm Russel Reynolds, nearly 68% of new CEO appointments in 2025 across major global indices were internal promotions.
  लेकिन **Russel Reynolds** नामक **एग्जीक्यूटिव सर्च और लीडरशिप एडवाइजरी फर्म** के अनुसार, **2025** में प्रमुख वैश्विक सूचकांकों में **लगभग 68%** नए **CEO** नियुक्तियां **आंतरिक प्रमोशन** थीं।

- This implies the notion that only Indians work long tenures and hence grow faster is highly misplaced.
  इससे यह स्पष्ट होता है कि केवल भारतीय ही लंबी अवधि तक काम करते हैं और इसलिए तेजी से आगे बढ़ते हैं, यह धारणा पूरी तरह **गलत** है।

- According to the **Hurun Global Unicorn Index 2025**, Indians have co-founded over 130 unicorns overseas, over 90% in the U.S., and a handful in the U.K. and Germany.
  Hurun Global Unicorn Index 2025 के अनुसार, भारतीयों ने विदेशों में **130 से अधिक यूनिकॉर्न** की सह-स्थापना की है, जिनमें से **90% से अधिक अमेरिका** में हैं, और **कुछ यू.के.** और **जर्मनी** में हैं।

Impact of PIOs
PIOs का प्रभाव

- In 2023, 74% of Indian immigrants aged 16 and above were in the civilian labour force, compared to 63 per cent of U.S.-born and 67% of all immigrants.
  2023 में, **16 वर्ष और उससे अधिक आयु** के **74% भारतीय प्रवासी** नागरिक श्रमबल में थे, जबकि यह आंकड़ा **अमेरिका में जन्मे लोगों के लिए 63%** और **सभी प्रवासियों के लिए 67%** था।

- Compared to the two other groups, those born in India were more likely to work in the management, business, science, and arts occupations.
  अन्य दो समूहों की तुलना में, **भारत में जन्मे** लोग **प्रबंधन, व्यवसाय, विज्ञान और कला** से जुड़े पेशों में काम करने की अधिक संभावना रखते थे।

- Moreover, on average, Indians have much higher incomes than the total foreign- and native-born populations.
  इसके अलावा, औसतन, भारतीयों की आय कुल विदेशी और स्थानीय जन्मी आबादी की तुलना में कहीं अधिक है।

- In 2023, households headed by an Indian immigrant had a median annual income of $1,66,200, compared to $78,700 for all immigrant-led households and $77,600 for native-led households.
  2023 में, **भारतीय प्रवासी** द्वारा संचालित परिवारों की **मध्य वार्षिक आय $1,66,200** थी, जबकि सभी प्रवासी-नेतृत्व वाले परिवारों के लिए यह **$78,700** और स्थानीय-नेतृत्व वाले परिवारों के लिए **$77,600** थी।

- We have economic reasons to celebrate our NRIs in the U.S. more than just the 11 people of Indian origin who have become CEOs of Fortune 500 companies and the unicorn founders.
  हमें **अमेरिका में NRIs** का जश्न मनाने के लिए केवल **Fortune 500** कंपनियों के **11 भारतीय मूल** के CEOs और यूनिकॉर्न संस्थापकों से कहीं अधिक **आर्थिक कारण** हैं।

- Last year, 27% of the $135 billion foreign remittances to India was from Indians working in the U.S.
  पिछले वर्ष, भारत को मिलने वाले **$135 बिलियन** के **विदेशी प्रेषण** में से **27% अमेरिका में काम कर रहे भारतीयों** से आया था।

The struggle
संघर्ष

- The struggle
  संघर्ष

- In the last 12 months, 58,000 technology professionals from India travelled to countries like the US, UAE, the UK, Canada and Germany, and about 40,000 came back.
  पिछले **12 महीनों** में, भारत से **58,000 तकनीकी पेशेवर अमेरिका, UAE, यू.के., कनाडा और जर्मनी** जैसे देशों में गए, और लगभग **40,000** वापस लौट आए।
- Those who return find it difficult to sync with employers on home turf, especially if they have been away longer.
  जो लोग लौटते हैं, उन्हें **देश में नियोक्ताओं** के साथ तालमेल बैठाने में कठिनाई होती है, खासकर अगर वे लंबे समय तक बाहर रहे हों।

	GS Paper III: Economy,	
	TOPICS COVERED	**16 February 2026**
1.	Trade deals made from position of strength: PM मज़बूत स्थिति से किए गए व्यापार समझौते: प्रधानमंत्री	
2.	AI Impact Summit 2026 begins today, Modi set to inaugurate India AI Expo AI इम्पैक्ट समिट 2026 आज से शुरू, मोदी इंडिया AI एक्सपो का उद्घाटन करेंगे	
3.	India adds more than 50,000 MW of power generation capacity भारत ने 50,000 मेगावाट से अधिक बिजली उत्पादन क्षमता जोड़ी	
4.	Cotton farmers oppose Goyal's U.S. import remarks, warn of price crash कपास किसान गोयल की अमेरिका से आयात संबंधी टिप्पणी का विरोध, कीमत गिरने की चेतावनी	
5.	T.N. govt. likely to release second edition of Economic Survey today तमिलनाडु सरकार आज आर्थिक सर्वेक्षण का दूसरा संस्करण जारी कर सकती है	
6.	Most 'professors of practice' hired in T.N., show UGC data यूजीसी के आंकड़ों के अनुसार, टी.एन. में सबसे अधिक 'प्रोफेसर्स ऑफ प्रैक्टिस' की नियुक्ति	
7.	Ambiguities in the U.S.-India trade deal अमेरिका-भारत व्यापार समझौते में अस्पष्टताएँ	
8.	Tariff-driven exim: access cant guarantee success शुल्क-प्रेरित निर्यात-आयात: पहुँच सफलता की गारंटी नहीं दे सकती	

Gold rush

GS III: Economy

Pushing prospects: An aerial view shows artisanal miners digging holes as they look for gold in a patch of land outside Springs township in Ekurhuleni, South Africa on Sunday, after unconfirmed reports of gold deposits in the area. The land, riddled with holes dug with pickaxes, was a cattle pen just a week ago; barbed wire at the site bears witness to this. AFP

Pushing prospects: An aerial view shows artisanal miners digging holes as they look for gold in a patch of land outside Springs township in Ekurhuleni, South Africa on Sunday, after unconfirmed reports of gold deposits in the area. The land, riddled with holes dug with pickaxes, was a cattle pen just a week ago; barbed wire at the site bears witness to this.

Top 5 Gold Producing Countries in the World

1. China

- World's largest gold producer since **2007**.
- Annual production about **370–380 tonnes**.
- Major mining regions — Shandong, Henan, Jiangxi, Fujian.

2. Australia

- Second largest producer globally.
- Annual production about **310–320 tonnes**.
- Major mines — Western Australia (Kalgoorlie "Super Pit").

3. Russia

- Third largest gold producer.
- Annual production about **300–310 tonnes**.
- Key regions — Siberia, Far East (Krasnoyarsk, Magadan).

4. Canada

- Fourth largest producer.
- Annual production about **190–200 tonnes**.
- Important mining areas — Ontario, Quebec, British Columbia.

5. United States of America (USA)

- Fifth largest gold producer.
- Annual production about **160–170 tonnes**.
- Major region — Nevada (produces nearly 75–80% of U.S. gold).

Trade deals made from position of strength: PM

▮ Modi urges the private sector to step up and take advantage of new policy framework

▮ Slew of trade agreements will expand global market access for MSMEs in key sectors

▮ The govt.'s 'political stability' has restored investors' confidence in the country, says PM

GS III: Economy

The Hindu Bureau
NEW DELHI

India recently entered into a slew of trade agreements, including with the European Union and the United States, "from a position of strength", Prime Minister Narendra Modi said on Sunday, adding that these deals were designed to expand global market access for Indian manufacturing and services.

In a written interview to the Press Trust of India, Mr. Modi said the 2026 Budget gave private sector the opportunity to step up and take advantage of government's investment in infrastructure and capital expenditure.

"This is not a 'now or never' moment born out of compulsion. It is a 'we are ready' moment born out of preparation and inspiration. This Budget reflects this yearning to become a developed nation," he said, explaining the Budget's boost for capital expenditure.
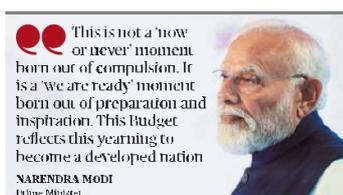
He added that it was now time for the private sector to step up and take advantage of the government's investment in infrastructure and capital expenditure.

The Prime Minister's remarks comes as Parliament remains in recess after the first part of the Budget Session where the government faced an attack by the Opposition on the terms of the trade deals.

Mr. Modi defended the agreements, noting that while long negotiations by the previous Congress-led UPA government had not yielded any results, his government's "political stability and political predictability" had restored investors' confidence in India.

His government's top three reform priorities for the next decade, Mr. Modi said, would be continued structural reforms, deepening innovation, and further simplification of governance.

"I am proud to say that we have moved from incremental adjustments to systemic transformation," the Prime Minister said.

Looking beyond tariffs
The Prime Minister spoke at length about his own government's efforts to enable the environment to strike these deals as well as his expectations from the private sector in taking advantage of these agreements.

"Trade competitiveness is not only about tariffs. It is about liquidity, certification, technology adoption and compliance with global standards. Our Free Trade Agreements (FTAs) are designed to reduce non-tariff barriers and expand market access for Micro Small and Medium Enterprises (MSMEs) in sectors such as textiles, leather, processed food, engineering goods, chemicals, handicrafts and gems and jewellery," Mr. Modi said.

"Indian MSMEs are more export-ready than before, and India's trade policy now deliberately places MSMEs at the centre of global integration. These FTAs are tools to ensure that our youth are not just suppliers to the domestic market, but active participants in global trade and growth," he said.

But, he added, "policy can only create the enabling framework. The next phase of transformation requires a decisive response from the private sector."

"As a country that is part of various trade agreements, making Indian products and services globally competitive is crucial. Our stance on 'Zero Defect, Zero Effect' has resonated deeply with the youth, start-ups and small and medium businesses," the Prime Minister said.

"MSMEs must move beyond being peripheral suppliers. They must become technologically upgraded, globally integrated and export-oriented enterprises that form the backbone of India's participation in global value chains," he added.

Defence focus
On defence expenditure and reforms, he noted that his government's focus on the issue had visibly paid off during the course of Operation Sindoor against Pakistan. "During the operation, one could see the benefits of the reforms we have undertaken in the last decade. Defence budgets, modernisation, etc., all these are parts of our continuous effort and need not be linked to any particular issue," he said.

Asked whether the higher budgetary allocation to the defence sector was part of the lesson learnt from Operation Sindoor, he answered in the affirmative. "Yes, the reality is that our country has to be strong and be prepared at all times, and that is what we are doing," Mr. Modi said.

"In this year's budget, a record ₹7.85 lakh crore have been allocated to the sector. This is 15% higher than the previous budget and is also the biggest chunk allotted to any ministry or department," he said.

> This is not a 'now' moment born out of compulsion. It is a 'we are ready' moment born out of preparation and inspiration. This Budget reflects this yearning to become a developed nation
>
> **NARENDRA MODI**
> Prime Minister

Opposition slams PM's interview

NEW DELHI

The Congress dismissed Prime Minister Narendra Modi's interview with the Press Trust of India as a "carefully scripted" one and a "desperate PR exercise". **» PAGE 4**

Trade deals made from positio

n of strength: PM
मज़बूत स्थिति से किए गए व्यापार समझौते: प्रधानमंत्री

- Mr. Modi defended the agreements, noting that while long negotiations by the previous Congress-led **UPA** government had not yielded any results, his government's "**political stability** and **political predictability**" had restored investors' confidence in India.
  श्री मोदी ने समझौतों का बचाव करते हुए कहा कि जहां पिछली कांग्रेस-नेतृत्व वाली **UPA** सरकार की लंबी वार्ताओं से कोई परिणाम नहीं निकले, वहीं उनकी सरकार की "**राजनीतिक स्थिरता** और **राजनीतिक पूर्वानुमेयता**" ने भारत में निवेशकों का भरोसा बहाल किया है।
- His government's top three reform priorities for the next decade, Mr. Modi said, would be continued **structural reforms**, deepening **innovation**, and further **simplification of governance**.
  श्री मोदी ने कहा कि अगले दशक के लिए उनकी सरकार की शीर्ष तीन सुधार प्राथमिकताएं होंगी — निरंतर **संरचनात्मक सुधार**, **नवाचार** को गहरा करना, और **शासन का और सरलीकरण**।
- "I am proud to say that we have moved from incremental adjustments to **systemic transformation**," the Prime Minister said.
  प्रधानमंत्री ने कहा, "मुझे गर्व है कि हम क्रमिक समायोजनों से आगे बढ़कर **प्रणालीगत परिवर्तन** की ओर आए हैं।"

Looking beyond tariffs
शुल्क से आगे की सोच

- "Trade competitiveness is not only about **tariffs**. It is about **liquidity**, **certification**, **technology adoption** and compliance with **global standards**.
- Our **Free Trade Agreements (FTAs)** are designed to reduce **non-tariff barriers** and expand market access for **Micro Small and Medium Enterprises (MSMEs)** in sectors such as **textiles**, **leather**, **processed food**, **engineering goods**, **chemicals**, **handicrafts** and **gems and jewellery**," Mr. Modi said.
  श्री मोदी ने कहा, "व्यापार प्रतिस्पर्धात्मकता केवल **शुल्क** तक सीमित नहीं है। यह **तरलता**, **प्रमाणीकरण**, **प्रौद्योगिकी अपनाने** और **वैश्विक मानकों** के अनुपालन से जुड़ी है। हमारे **मुक्त व्यापार समझौते (FTAs)** गैर-शुल्क बाधाओं को कम करने और **सूक्ष्म, लघु और मध्यम उद्यमों (MSMEs)** के लिए **वस्त्र, चमड़ा, प्रसंस्कृत खाद्य, इंजीनियरिंग वस्तुएं, रसायन, हस्तशिल्प** और **रत्न एवं आभूषण** जैसे क्षेत्रों में बाज़ार पहुंच बढ़ाने के लिए बनाए गए हैं।"
- "Indian MSMEs are more **export-ready** than before, and India's trade policy now deliberately places MSMEs at the centre of **global integration**.
- These FTAs are tools to ensure that our **youth** are not just suppliers to the domestic market, but active participants in **global trade and growth**," he said.
  उन्होंने कहा, "भारतीय **MSMEs** पहले से अधिक **निर्यात-तैयार** हैं, और भारत की व्यापार नीति अब जानबूझकर MSMEs को **वैश्विक एकीकरण** के केंद्र में रखती है। ये FTAs यह सुनिश्चित करने के उपकरण हैं कि हमारे **युवा** केवल घरेलू बाज़ार के आपूर्तिकर्ता न रहें, बल्कि **वैश्विक व्यापार और विकास** में सक्रिय भागीदार बनें।"
- "As a country that is part of various trade agreements, making Indian products and services **globally competitive** is crucial. Our stance on '**Zero Defect, Zero Effect**' has resonated deeply with the **youth**, **start-ups** and **small and medium businesses**," the Prime Minister said.
  प्रधानमंत्री ने कहा, "एक ऐसे देश के रूप में जो विभिन्न व्यापार समझौतों का हिस्सा है, भारतीय उत्पादों और सेवाओं को **वैश्विक रूप से प्रतिस्पर्धी** बनाना अत्यंत महत्वपूर्ण है। '**शून्य दोष, शून्य प्रभाव**' पर हमारा रुख **युवाओं, स्टार्ट-अप्स** और **लघु एवं मध्यम व्यवसायों** के साथ गहराई से जुड़ा है।"
- "MSMEs must move beyond being **peripheral suppliers**.
- They must become **technologically upgraded**, **globally integrated** and **export-oriented enterprises** that form the backbone of India's participation in **global value chains**," he added.
  उन्होंने जोड़ा, "**MSMEs** को केवल **हाशिए के आपूर्तिकर्ता** बने रहने से आगे बढ़ना होगा। उन्हें **प्रौद्योगिकीय**

रूप से उन्नत, **वैश्विक रूप से एकीकृत** और **निर्यात-उन्मुख उद्यम** बनना होगा, जो **वैश्विक मूल्य श्रृंखलाओं में** भारत की भागीदारी की रीढ़ हों।"

Defence focus
रक्षा पर फोकस

- "Yes, the reality is that our country has to be **strong** and be prepared at all times, and that is what we are doing," Mr. Modi said.
  श्री मोदी ने कहा, "हां, वास्तविकता यह है कि हमारे देश को हर समय **मज़बूत** और तैयार रहना होगा, और हम वही कर रहे हैं।"

- "In this year's budget, a record **₹7.85 lakh crore** has been allocated to the sector.

- This is **15% higher** than the previous budget and is also the biggest chunk allotted to any ministry or department," he said.

AI Impact Summit 2026 begins today, Modi set to inaugurate India AI Expo

GS III: Economy
Suhasini Haidar
NEW DELHI

Global tech leaders Sundar Pichai and Sam Altman and leaders of about 20 countries, including Brazil and France, are among those from about 100 countries expected to attend the Artificial Intelligence (AI) Impact Summit this week. The event kicks off on Monday with Prime Minister Narendra Modi inaugurating the "India AI Impact Expo 2026", which includes pavilions from 13 other countries.

The event is being hosted from February 16 to 20 at the Bharat Mandapam complex in Delhi where the G-20 Summit was hosted first in 2023. It marks the fourth AI Summit after summits in the U.K., South Korea, and France. Officials said it would be showcased as the first time the summit on the transformative effect and challenges from AI is hosted in a Global South country.

"India has consistently championed the voice of developing economies in digital policy forums. The summit will push for equitable access to AI resources and fair rule-making," a senior government official said. Unlike developed countries, India was not seeking to build regulatory frameworks, but was focusing the summit on a "human-centric" approach, for the "economic good" of all, the official added.

According to a statement issued by the Prime Minister's Office on Sunday, the AI Impact event will feature more than 3,000 speakers over 500 sessions and host more than 300 exhibitions and live demonstrations of AI technology and startups, which are "structured across three thematic chakras – People, Planet and Progress". The government hopes to attract more than 2.5 lakh visitors to the event, the statement said.

After the Expo inauguration on Monday, the summit will see an "all-woman" hackathon on Tuesday in Delhi.

Stacked schedule
Mr. Modi and French President Emmanuel Macron will hold bilateral talks in Mumbai on February 17. On February 18, he will host a dinner banquet for

Preparations on for the fourth iteration of the global AI summit at Bharat Mandapam in New Delhi on Sunday. SHASHI SHEKHAR KASHYAP

the dignitaries and then chair a leaders' summit followed by a Tech-CEOs event on February 19. Brazil President Lula, who will hold bilateral talks with Mr. Modi, is accompanied by a large AI official and tech company delegation and will host an entire session on February 20.

The heads of 18 other countries attending range from European countries including Switzerland, Spain, Serbia, Slovakia, Croatia, Estonia, Netherlands, Finland and Greece, to Mauritius, Bhutan and Sri Lanka in the neighbourhood and Kazakhstan, two countries from South America (Bolivia and Guyana) and one from Africa (Seychelles), a list provided by the External Affairs Ministry said.

Restricted access on Day 1, expo to open from Day 2

NEW DELHI

Entry to the summit will have some restrictions on the first day of the event, and the expo being organised along with it will open for all from February 17, according to an official advisory. "Registration for the event is free," an IT Ministry official said. PTI

Crown princes of Liechtenstein and the UAE will also attend as heads of their delegations as will some prominent former leaders such as former British Prime Ministers Tony Blair and Rishi Sunak. Ministerial delegations from over 45 countries would participate, officials said. UN Secretary-General Antonio Guterres, whose tenure ends this year, will also attend.

Officials said that big tech leaders such as Google's Sundar Pichai and Open AI CEO Sam Altman will "headline" sessions as will Demis Hassabis (CEO of DeepMind Technologies), Dario Amodei (Anthropic CEO) and Brad Smith (Microsoft president). NVIDIA CEO Jensen Huang, who was to be a key speaker, pulled out on Saturday "due to unforeseen circumstances". Microsoft founder Bill Gates, who is at the centre of allegations over his links with American businessman and convicted sex offender Jeffery Epstein, is expected to attend.

On Monday, Mr. Gates will be in Andhra Pradesh for a series of meetings with Chief Minister Chandrababu Naidu to discuss digital technologies and health development issues.

Reacting to a poster of Mr. Gates at the AI Summit, Opposition MP Priyanka Chaturvedi called the invitation to him "shameful" and has asked the government not to give "platform and promote" him.

AI Impact Summit 2026 begins today, Modi set to inaugurate India AI Expo
AI इम्पैक्ट समिट 2026 आज से शुरू, मोदी इंडिया AI एक्सपो का उद्घाटन करेंगे

- AI Impact Summit 2026 begins today, Modi set to inaugurate India AI Expo
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- Global tech leaders **Sundar Pichai** and **Sam Altman** and leaders of about **20 countries**, including **Brazil** and **France**, are among those from about **100 countries** expected to attend the **Artificial Intelligence (AI) Impact Summit** this week.
  वैश्विक तकनीकी नेता **सुंदर पिचाई** और **सैम ऑल्टमैन** तथा लगभग **20 देशों** के नेता, जिनमें **ब्राज़ील** और **फ्रांस** शामिल हैं, उन प्रतिनिधियों में हैं जो इस सप्ताह **आर्टिफ़िशियल इंटेलिजेंस (AI) इम्पैक्ट समिट** में भाग लेने के लिए लगभग **100 देशों** से आने की उम्मीद है।

- The event kicks off on Monday with Prime Minister **Narendra Modi** inaugurating the **"India AI Impact Expo 2026"**, which includes pavilions from **13 other countries**.
  यह आयोजन सोमवार को प्रधानमंत्री **नरेंद्र मोदी** द्वारा **"इंडिया AI इम्पैक्ट एक्सपो 2026"** के उद्घाटन के साथ शुरू होगा, जिसमें **13 अन्य देशों** के पवेलियन शामिल हैं।

- The event is being hosted from **February 16 to 20** at the **Bharat Mandapam** complex in **Delhi** where the **G-20 Summit** was hosted first in **2023**.
  यह आयोजन **16 से 20 फ़रवरी** तक **दिल्ली** के **भारत मंडपम** परिसर में आयोजित किया जा रहा है, जहां **2023** में पहली बार **G-20 शिखर सम्मेलन** आयोजित हुआ था।

- It marks the **fourth AI Summit** after summits in the **United Kingdom**, **South Korea**, and **France**.
  यह **चौथा AI शिखर सम्मेलन** है, इससे पहले **यूनाइटेड किंगडम**, **दक्षिण कोरिया** और **फ्रांस** में ऐसे सम्मेलन हो चुके हैं।

- Officials said it would be showcased as the **first time** the summit on the **transformative effect and challenges from AI** is hosted in a **Global South country**.

  अधिकारियों ने कहा कि इसे **पहली बार** ऐसे रूप में प्रस्तुत किया जाएगा जब **AI के परिवर्तनकारी प्रभाव और चुनौतियों** पर शिखर सम्मेलन किसी **ग्लोबल साउथ देश** में आयोजित हो रहा है।

- "India has consistently championed the voice of **developing economies** in **digital policy forums**. The summit will push for **equitable access** to AI resources and **fair rule-making**," a senior government official said.

  एक वरिष्ठ सरकारी अधिकारी ने कहा, "भारत ने **डिजिटल नीति मंचों** पर लगातार **विकासशील अर्थव्यवस्थाओं** की आवाज़ का समर्थन किया है। यह शिखर सम्मेलन AI संसाधनों तक **समान पहुंच** और **न्यायसंगत नियम-निर्माण** के लिए दबाव बनाएगा।"

- Unlike developed countries, India was not seeking to build **regulatory frameworks**, but was focusing the summit on a **"human-centric" approach**, for the **"economic good"** of all, the official added.

  अधिकारी ने जोड़ा कि विकसित देशों के विपरीत, भारत **नियामक ढांचे** बनाने की कोशिश नहीं कर रहा है, बल्कि शिखर सम्मेलन को सभी के **"आर्थिक हित"** के लिए **"मानव-केंद्रित" दृष्टिकोण** पर केंद्रित कर रहा है।

- According to a statement issued by the **Prime Minister's Office** on Sunday, the AI Impact event will feature more than **3,000 speakers** over **500 sessions** and host more than **300 exhibitions and live demonstrations** of AI technology and startups, which are "structured across three thematic chakras — **People, Planet and Progress**".

  रविवार को **प्रधानमंत्री कार्यालय** द्वारा जारी बयान के अनुसार, AI इम्पैक्ट आयोजन में **500 से अधिक सत्रों** में **3,000 से अधिक वक्ता** शामिल होंगे और AI तकनीक व स्टार्ट-अप्स की **300 से अधिक प्रदर्शनियां और लाइव डेमोंस्ट्रेशन** होंगे, जिन्हें "तीन थीमेटिक चक्रों — **पीपल, प्लैनेट और प्रोग्रेस** — में संरचित किया गया है।"

- The government hopes to attract more than **2.5 lakh visitors** to the event, the statement said.

  बयान में कहा गया कि सरकार को इस आयोजन में **2.5 लाख से अधिक आगंतुकों** के आने की उम्मीद है।

- After the Expo inauguration on Monday, the summit will see an **"all-woman"** hackathon on Tuesday in Delhi.

  सोमवार को एक्सपो के उद्घाटन के बाद, मंगलवार को दिल्ली में शिखर सम्मेलन के तहत एक **"ऑल-वुमन" हैकाथॉन** आयोजित होगा।

Stacked schedule
व्यस्त कार्यक्रम

- Mr. Modi and French President **Emmanuel Macron** will hold **bilateral talks** in **Mumbai** on **February 17**.

  श्री मोदी और फ़्रांस के राष्ट्रपति **इमैनुएल मैक्रों 17 फ़रवरी** को **मुंबई** में **द्विपक्षीय वार्ता** करेंगे।

- On **February 18**, he will host a **dinner banquet** for the dignitaries and then chair a **leaders' summit** followed by a **Tech-CEOs event** on **February 19**.

  18 फ़रवरी को वह गणमान्य व्यक्तियों के लिए **डिनर भोज** की मेज़बानी करेंगे और इसके बाद **नेताओं के शिखर सम्मेलन** की अध्यक्षता करेंगे, जिसके बाद **19 फ़रवरी** को **टेक-सीईओ कार्यक्रम** होगा।

- **Lula**, who will hold bilateral talks with Mr. Modi, is accompanied by a large **AI official and tech company delegation** and will host an entire session on **February 20**.

  ब्राज़ील के राष्ट्रपति लूला, जो श्री मोदी के साथ द्विपक्षीय वार्ता करेंगे, एक बड़े **AI अधिकारी और तकनीकी कंपनियों के प्रतिनिधिमंडल** के साथ आ रहे हैं और **20 फ़रवरी** को एक पूरा सत्र आयोजित करेंगे।

- The heads of **18 other countries** attending range from European countries including **Switzerland**, **Spain**, **Serbia**, **Slovakia**, **Croatia**, **Estonia**, **Netherlands**, **Finland** and **Greece**, to **Mauritius**, **Bhutan** and **Sri Lanka** in the neighbourhood and **Kazakhstan**, two countries from South America (**Bolivia** and **Guyana**) and one from Africa (**Seychelles**), a list provided by the **External Affairs Ministry** said.

  विदेश मंत्रालय द्वारा दी गई सूची के अनुसार, भाग लेने वाले **18 अन्य देशों** के राष्ट्राध्यक्षों में यूरोप के **स्विट्ज़रलैंड, स्पेन, सर्बिया, स्लोवाकिया, क्रोएशिया, एस्टोनिया, नीदरलैंड्स, फ़िनलैंड** और **ग्रीस** शामिल हैं, साथ ही पड़ोसी देशों में **मॉरीशस, भूटान** और **श्रीलंका, कज़ाख़स्तान**, दक्षिण अमेरिका के दो देश (**बोलीविया** और **गुयाना**) तथा अफ्रीका से **सेशेल्स** शामिल हैं।

- Crown princes of **Liechtenstein** and the **United Arab Emirates** will also attend as heads of their delegations as will some prominent former leaders such as former British Prime Ministers **Tony Blair** and **Rishi Sunak**.

लिकटेंस्टीन और **संयुक्त अरब अमीरात** के क्राउन प्रिंस भी अपने-अपने प्रतिनिधिमंडलों के प्रमुख के रूप में भाग लेंगे, साथ ही ब्रिटेन के पूर्व प्रधानमंत्री **टोनी ब्लेयर** और **ऋषि सुनक** जैसे कुछ प्रमुख पूर्व नेता भी उपस्थित होंगे।

- Ministerial delegations from over **45 countries** would participate, officials said. **Antonio Guterres**, whose tenure ends this year, will also attend.
  अधिकारियों ने कहा कि **45 से अधिक देशों** के मंत्रीस्तरीय प्रतिनिधिमंडल भाग लेंगे। **संयुक्त राष्ट्र महासचिव एंटोनियो गुटेरेस**, जिनका कार्यकाल इस वर्ष समाप्त हो रहा है, भी इसमें शामिल होंगे।

- Officials said that big tech leaders such as Google's **Sundar Pichai** and **Open AI CEO Sam Altman** will "headline" sessions as will **Demis Hassabis**, **Dario Amodei** and **Brad Smith**.
  अधिकारियों ने कहा कि गूगल के **सुंदर पिचाई** और **OpenAI के CEO सैम ऑल्टमैन** के साथ-साथ **डेमिस हासाबिस**, **डारियो अमोदेई** और **ब्रैड स्मिथ** भी सत्रों की "हेडलाइन" करेंगे।

- **Jensen Huang**, who was to be a key speaker, pulled out on Saturday "due to unforeseen circumstances".
  एनवीडिया के CEO जेनसन हुआंग, जो मुख्य वक्ता होने वाले थे, शनिवार को "अप्रत्याशित परिस्थितियों" के कारण बाहर हो गए।

- **Bill Gates**, who is at the centre of allegations over his links with American businessman and convicted sex offender **Jeffrey Epstein**, is expected to attend.
  बिल गेट्स, जिन पर अमेरिकी व्यवसायी और दोषी यौन अपराधी **जेफ्री एप्सटीन** से संबंधों को लेकर आरोप लगे हैं, के इसमें शामिल होने की उम्मीद है।

- On Monday, Mr. Gates will be in **Andhra Pradesh** for a series of meetings with Chief Minister **Chandrababu Naidu** to discuss **digital technologies** and **health development issues**.
  सोमवार को श्री गेट्स **आंध्र प्रदेश** में होंगे, जहां वह मुख्यमंत्री **चंद्रबाबू नायडू** के साथ **डिजिटल प्रौद्योगिकियों** और **स्वास्थ्य विकास मुद्दों** पर चर्चा के लिए कई बैठकों में भाग लेंगे।

India adds more than 50,000 MW of power generation capacity

GS III: Economy

The Hindu Bureau
NEW DELHI

India has added 52,537 megawatts (MW) of electricity generation from all sources combined in the ongoing financial year until January 31, the Union Power Ministry said on Sunday.

This translates to an addition of more than 11% to the total installed capacity of the country at the end of the previous financial year.

"This [also] marks the highest-ever capacity addition in a single year, surpassing the previous record of 34,054 MW achieved during FY 2024-25," it stated.

Of the total generation capacity added, 39,657 MW comes from renewable energy sources. This includes 34,955 MW from solar power and 4,613 MW from wind power.

With the addition, according to the Ministry, India commands a total power generation capacity of 5,20,510.95 MW. Approximately 48%, or 2,48,541.62 MW, is based on fossil fuels.

With the addition, India's total power generation capacity stands at 5,20,510.95 MW.

The generation capacity centered on renewable sources represents about 50.5% of the overall capacity at 2,63,189.33 MW, while nuclear accounts for approximately 1.6% at 8,780 MW.

India adds more than 50,000 MW of power generation capacity
भारत ने 50,000 मेगावाट से अधिक बिजली उत्पादन क्षमता जोड़ी

- India has added **52,537 megawatts (MW)** of electricity generation from all sources combined in the ongoing financial year until **January 31**, the **Union Power Ministry** said on Sunday.
  चालू वित्तीय वर्ष में **31 जनवरी** तक भारत ने सभी स्रोतों से मिलाकर **52,537 मेगावाट (MW)** बिजली उत्पादन क्षमता जोड़ी है, **केंद्रीय विद्युत मंत्रालय** ने रविवार को कहा।

- This translates to an addition of more than **11%** to the total installed capacity of the country at the end of the previous financial year.
  यह पिछले वित्तीय वर्ष के अंत में देश की कुल स्थापित क्षमता में **11%** से अधिक की वृद्धि को दर्शाता है।

- "This [also] marks the **highest-ever capacity addition in a single year**, surpassing the previous record of **34,054 MW** achieved during **FY 2024–25**," it stated.
  "यह [भी] **एक ही वर्ष में अब तक की सबसे अधिक क्षमता वृद्धि** को दर्शाता है, जो **वित्त वर्ष 2024–25** के दौरान हासिल **34,054 मेगावाट** के पिछले रिकॉर्ड को पार करता है," बयान में कहा गया।

- Of the total generation capacity added, **39,657 MW** comes from **renewable energy sources**.
  जोड़ी गई कुल उत्पादन क्षमता में से **39,657 मेगावाट नवीकरणीय ऊर्जा स्रोतों** से आती है।

- This includes **34,955 MW** from **solar power** and **4,613 MW** from **wind power**.

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इसमें **34,955 मेगावाट सौर ऊर्जा** से और **4,613 मेगावाट पवन ऊर्जा** से शामिल हैं।

- With the addition, according to the Ministry, India commands a total power generation capacity of **5,20,510.95 MW**.
  इस वृद्धि के साथ, मंत्रालय के अनुसार, भारत की कुल बिजली उत्पादन क्षमता **5,20,510.95 मेगावाट** हो गई है।

- Approximately **48%**, or **2,48,541.62 MW**, is based on **fossil fuels**.
  लगभग **48%**, यानी **2,48,541.62 मेगावाट**, **जीवाश्म ईंधन** आधारित है।

- The generation capacity centered on **renewable sources** represents about **50.5%** of the overall capacity at **2,63,189.33 MW**, while **nuclear** accounts for approximately **1.6%** at **8,780 MW**.
  नवीकरणीय स्रोतों पर आधारित उत्पादन क्षमता कुल क्षमता का लगभग **50.5%** है, जो **2,63,189.33 मेगावाट** है, जबकि **परमाणु ऊर्जा** लगभग **1.6%** यानी **8,780 मेगावाट** है।

Cotton farmers oppose Goyal's U.S. import remarks, warn of price crash

Groups of farmers across the country protest against the statement that India can import raw cotton from the U.S., process it into cloth and export it back at zero reciprocal tariff; farm bodies say this will intensify indebtedness in crisis-ridden fields

GS III: Economy

A.M. Jigeesh
NEW DELHI

Groups of cotton farmers across the country have protested against Union Commerce Minister Piyush Goyal's recent statement that if India purchases raw cotton from the United States, processes it domestically, makes cloth and exports the finished products back to the U.S., then the country can avail itself of a zero reciprocal tariff – similar to a facility reportedly extended to Bangladesh. Farmers' organisations argue that by taking such a stand, the Centre ignored the interests of domestic cotton cultivators.

Mr. Goyal had said that the Opposition was misleading the public by claiming Bangladesh had secured greater benefits. "Just as Bangladesh has a facility that if raw material is purchased from America, processed into cloth and exported, it will be available at zero reciprocal tariff, India also has the same facility and will get it," he said.

Several farmer bodies, particularly those working among cotton farmers,

Price slump: Farmer bodies warn zero-duty U.S. cotton imports will further lower already low domestic prices. FILE PHOTO

have decided to launch protests. Gurbhej Singh Rohiwala, a district leader of the Bharatiya Kisan (Union) (Ekta-Ugrahan) in Fazilka, Punjab, said the district was once known as the "Manchester of Punjab" for its high-quality cotton.

Domestic concern
"Five blocks in this district were known for cotton production. We even had a separate market for cotton procurement. In the last decade, production declined primarily due to

poor prices. Now we know the real reason for this neglect. If the government wants to import cotton from the U.S., what is its plan for cotton farmers in Punjab and other States," he asked.

Palbhai Ambalia, a farmers' leader from Gujarat, echoed similar concerns. "Mr. Goyal is working for big textile companies. What should farmers do if India allows cheap U.S. cotton to be dumped here," Mr. Ambalia asked.

The Samyukt Kisan Morcha (SKM) reiterated its demand for Mr. Goyal's resignation.

"The statement revealed the naked truth that the Narendra Modi government surrendered the self-reliance and sovereignty of India to the U.S. The declaration proves that the claim that 'agriculture is out of the U.S. trade deal' is false and is meant to mislead people, and substantiates the fact that FTAs signed by the Modi government are the blueprint of economic colonisation of India," the SKM said. Importing raw cotton at zero

tariffs will devastate the cotton farmers of India by depleting the domestic prices, the SKM said. If calculated as per the M.S. Swaminathan formula, the minimum support price (MSP) for cotton should have been ₹10,075 per quintal, and the MSP fixed was ₹7,710 per quintal. "Cotton imports from the U.S. surged 95.5% from $199.30 million in January-November 2024 to $377.90 million in January-November 2025," the SKM said.

The All India Kisan Sabha said, "Import of U.S. raw cotton will further reduce the already low domestic price, and the crisis-ridden cotton fields will witness intensifying indebtedness as well as greater peasant suicides." It stated India's cotton production for 2025-26 is estimated at 29.22 million bales, whereas U.S. production for 2024-25 stood at 14.41 million bales.

If Indian farmers are exposed to unrestricted global competition, the likely outcome would be further distress, pushing already crisis-ridden cotton farmers towards abandoning agriculture altogether, the AIKS said.

Cotton farmers oppose Goyal's U.S. import remarks, warn of price crash
कपास किसान गोयल की अमेरिका से आयात संबंधी टिप्पणी का विरोध, कीमत गिरने की चेतावनी

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- Groups of farmers across the country protest against the statement that India can import raw cotton from the U.S., process it into cloth and export it back at zero reciprocal tariff; farm bodies say this will intensify indebtedness in crisis-ridden fields

  देश भर के किसानों के समूह इस बयान के खिलाफ विरोध कर रहे हैं कि भारत अमेरिका से कच्चा कपास आयात कर सकता है, उसे कपड़े में प्रसंस्कृत कर सकता है और शून्य पारस्परिक शुल्क पर वापस निर्यात कर सकता है; किसान संगठनों का कहना है कि इससे संकटग्रस्त खेतों में कर्ज और बढ़ेगा

- Groups of cotton farmers across the country have protested against Union Commerce Minister **Piyush Goyal's** recent statement that if India purchases raw cotton from the **United States**, processes it domestically, makes cloth and exports the finished products back to the U.S., then the country can avail itself of a **zero reciprocal tariff** — similar to a facility reportedly extended to **Bangladesh**.

  देश भर के कपास किसानों के समूहों ने केंद्रीय वाणिज्य मंत्री **पीयूष गोयल** के हालिया बयान के खिलाफ विरोध किया है कि यदि भारत **संयुक्त राज्य अमेरिका** से कच्चा कपास खरीदता है, उसे देश में प्रसंस्कृत करता है, कपड़ा बनाता है और तैयार उत्पादों को वापस अमेरिका निर्यात करता है, तो देश को **शून्य पारस्परिक शुल्क** की सुविधा मिल सकती है — जो कथित तौर पर **बांग्लादेश** को भी दी गई है।

- "Just as Bangladesh has a facility that if raw material is purchased from America, processed into cloth and exported, it will be available at zero reciprocal tariff, India also has the same facility and will get it," he said.

  "जिस तरह बांग्लादेश के पास यह सुविधा है कि यदि कच्चा माल अमेरिका से खरीदा जाए, कपड़े में प्रसंस्कृत कर निर्यात किया जाए तो वह शून्य पारस्परिक शुल्क पर उपलब्ध होगा, उसी तरह भारत के पास भी वही सुविधा है और वह इसे प्राप्त करेगा," उन्होंने कहा।

- If calculated as per the **M.S. Swaminathan formula**, the **minimum support price (MSP)** for cotton should have been **₹10,075 per quintal**, and the MSP fixed was **₹7,710 per quintal**.

  यदि **एम.एस. स्वामीनाथन सूत्र** के अनुसार गणना की जाए, तो कपास का **न्यूनतम समर्थन मूल्य (MSP)** **₹10,075 प्रति क्विंटल** होना चाहिए था, जबकि तय एमएसपी **₹7,710 प्रति क्विंटल** है।

- "Cotton imports from the U.S. surged 95.5% from $199.30 million in **January–November 2024** to **$377.90 million** in **January–November 2025**," the SKM said.

  "अमेरिका से कपास आयात **जनवरी–नवंबर 2024** में $199.30 मिलियन से बढ़कर **जनवरी–नवंबर 2025** में **$377.90 मिलियन** हो गया, यानी **95.5%** की वृद्धि," एसकेएम ने कहा।

- It stated India's cotton production for **2025–26** is estimated at **29.22 million bales**, whereas U.S. production for **2024–25** stood at **14.41 million bales**.

  इसमें कहा गया कि भारत का कपास उत्पादन **2025–26** के लिए **29.22 मिलियन गांठ** अनुमानित है, जबकि अमेरिका का उत्पादन **2024–25** में **14.41 मिलियन गांठ** था।

India's Handbook Of Statistics On Indian States

- During **2024-25**, its **Gross State Domestic Product** registered a growth of **11.2%**, according to the **Reserve Bank of India's Handbook Of Statistics On Indian States**.

  2024-25 के दौरान, **भारतीय रिज़र्व बैंक की** Handbook Of Statistics On Indian States के अनुसार, इसका **सकल राज्य घरेलू उत्पाद 11.2%** की वृद्धि दर्ज करता है।

GS III: Economy

Most 'professors of practice' hired in T.N., show UGC data

Tamil Nadu is leading the way in hiring industry experts as 'professors of practice' in its Higher Education Institutions to impart real-world experiences in the classroom. The South Indian State is followed by Maharashtra and Gujarat, according to UGC data. According to the data, 1,841 PoPs have been hired by 349 institutions so far, the highest of them in Tamil Nadu (395). While 193 PoPs have been hired in Maharashtra (193), Gujarat and Karnataka have appointed 179 and 170 professionals, respectively. Leading the way in hiring industry professionals in the academic workforce are private universities, while the Central universities have hired only 15 PoPs so far. PTI

Professors of Practice

- Tamil Nadu is leading the way in hiring industry experts as '**professors of practice**' in its **Higher Education Institutions** to impart **real-world experiences** in the classroom.

  तमिलनाडु अपने **उच्च शिक्षा संस्थानों** में उद्योग विशेषज्ञों को '**प्रोफेसर्स ऑफ प्रैक्टिस**' के रूप में नियुक्त करने में अग्रणी है, ताकि कक्षा में **वास्तविक दुनिया का अनुभव** दिया जा सके।

- The South Indian State is followed by **Maharashtra** and **Gujarat**, according to **University Grants Commission data**.

  यूजीसी के आंकड़ों के अनुसार, इस **दक्षिण भारतीय राज्य** के बाद **महाराष्ट्र** और **गुजरात** का स्थान है।

- According to the data, **1,841 PoPs** have been hired by **349 institutions** so far, the highest of them in **Tamil Nadu (395)**.

  आंकड़ों के अनुसार, अब तक **349 संस्थानों** द्वारा **1,841 पीओपी** नियुक्त किए गए हैं, जिनमें सबसे अधिक **तमिलनाडु (395)** में हैं।

- While **193 PoPs** have been hired in **Maharashtra (193)**, **Gujarat** and **Karnataka** have appointed **179** and **170 professionals**, respectively.

  जहां **महाराष्ट्र (193)** में **193 पीओपी** नियुक्त किए गए हैं, वहीं **गुजरात** और **कर्नाटक** में क्रमशः **179** और **170 पेशेवरों** की नियुक्ति हुई है।

- Leading the way in hiring **industry professionals** in the **academic workforce** are **private universities**, while the **Central universities** have hired only **15 PoPs** so far.

  शैक्षणिक कार्यबल में **उद्योग पेशेवरों** की नियुक्ति में **निजी विश्वविद्यालय** अग्रणी हैं, जबकि **केंद्रीय विश्वविद्यालयों** ने अब तक केवल **15 पीओपी** नियुक्त किए हैं।

Ambiguities in the U.S.-India trade deal

The interim agreement raises several uncomfortable questions on a wide spectrum of issues, from its likely impact on several key stakeholders in India, particularly farmers, to the ability of the Indian government to take sovereign decisions in critical areas.

WORLD INSIGHT

Biswajit Dhar

Almost a year after India agreed to launch negotiations for a bilateral trade agreement with the U.S., the two countries took the first step by agreeing on an interim agreement. This agreement ends a period of fractured ties between the two strategic partners that began in August 2025 when U.S. President Donald Trump imposed 25% tariffs on imports from India, and additional tariffs of 25% as penalty for importing Russian crude oil.

As per the interim agreement, the U.S. will reduce tariffs on India's imports from 50% to 18% while India makes three significant concessions. First, India will eliminate or reduce tariffs and non-tariff barriers on its imports of all industrial goods and a wide range of food and agricultural products from the U.S. Secondly, India, as per Mr. Trump's Executive Order issued alongside the Joint Statement, has made a huge commitment to stop "directly or indirectly" importing Russian oil (which Indian officials are yet to confirm). And finally, India has expressed its intent to "purchase $500 billion of U.S. energy products, aircraft and aircraft parts, precious metals, technology products, and coking coal over the next 5 years". Mr. Trump has imposed this condition to ensure that henceforth, India cannot maintain the positive balance in its trade with the U.S., which it currently enjoys.

The interim agreement has found support in some quarters of the country. Advocates of the agreement point out that the reduction in U.S. tariffs would provide opportunities to Indian businesses to expand their presence in the world's biggest economy. They argue that India's labour-intensive products, especially textiles and clothing, would enjoy a competitive edge over the products of its neighbours in South and Southeast Asia since they face higher U.S. tariffs. But this

purported advantage would be considerably diluted as the U.S. and Bangladesh have also announced their trade deal on February 9, under which certain textile and clothing products from Bangladesh would enjoy duty-free access into the U.S.

Protecting farmers interests

The interim agreement raises several uncomfortable questions on a wide spectrum of issues, from its likely impact on several key stakeholders in India, particularly farmers, to the ability of the Indian government to take sovereign decisions in critical areas.

One, the interim agreement does not explicitly state that India would not reduce tariff-sensitive agricultural products, especially cereals, as has been the case in all its Free Trade Agreements

Lingering doubts: Congress President Mallikarjun Kharge with other opposition MPs protest the India-U.S. interim trade deal outside Parliament in New Delhi on February 12. ANI

(FTAs), including the recent EU-India FTA. Does this absence of a clear statement that tariff protection on cereals would be maintained, suggest that India has yielded to Mr. Trump's pressures to comprehensively open India's agricultural market to U.S. agri-business? Serious doubts arose regarding this possibility when the U.S. Secretary of Agriculture, Brooke Rollins tweeted that the U.S.-India deal would help "export more American farm products to India's massive market, lifting prices, and pumping cash into rural America". The Government of India must ensure that the final deal with the U.S. unambiguously states that imports of cereals from the U.S. would not be allowed, which is the sole guarantee for protecting farmers' livelihoods and also the country's hard earned food security. This is also critical for the government's

credibility as Prime Minster Narendra Modi during last year's Independence Day speech had assured farmers that their interests would be protected in a trade deal with the U.S.

Unanswered questions

Two, the interim agreement states that India would address the long-standing Non-Tariff Barriers (NTBs) to trade of U.S. food and agricultural products in recognition of the importance of working together to resolve U.S.'s long-standing concerns. The U.S. has consistently opposed India's refusal to import Genetically Modified (GM) food products, long considered as India's most significant NTB on food products. By agreeing to resolve "long standing concerns" in the interim agreement, has the government allowed imports of GM food products?

Three, why has the government accepted the most unequal trade agreement by eliminating tariffs and non-tariff barriers on U.S. imports, while allowing the U.S. to impose 18% tariffs on India's exports? It may be noted that before Mr. Trump began his tariff war, average U.S. tariffs on India's exports was around 2.5%, implying that India has allowed a seven-fold increase in tariff protection on its exports to the U.S. Four, why has India accepted such an unequal deal when the legitimacy of Mr. Trump's tariffs are being questioned in U.S. courts, and, more importantly, when several countries, including Brazil and China have refused to yield to Mr. Trump's pressures? And finally, why has the government allowed the Trump Administration to maintain surveillance on India's oil imports? Mr. Trump has directed his administration to reimpose 25% additional tariffs if India resumes its Russian oil imports. This raises a much larger question; hasn't the Government of India's acquiescence opened the door for U.S. surveillance to extend to more sensitive areas that could challenge India's sovereignty?

Biswajit Dhar is former professor, Jawaharlal Nehru University.

THE GIST

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Advocates of the agreement point out that the reduction in U.S. tariffs would provide opportunities to Indian businesses to expand their presence in the world's biggest economy.

▼
The interim agreement does not explicitly state that India would not reduce tariff-sensitive agricultural products, especially cereals, as has been the case in all its Free Trade Agreements (FTAs), including the recent EU-India FTA.

▼
The U.S. has consistently opposed India's refusal to import Genetically Modified (GM) food products, long considered as India's most significant NTB on food products.

Ambiguities in the U.S.-India trade deal
अमेरिका-भारत व्यापार समझौते में अस्पष्टताएँ

- The **interim agreement** raises several **uncomfortable questions** on a **wide spectrum of issues**, from its likely **impact** on several **key stakeholders** in **India**, particularly **farmers**, to the **ability** of the **Indian government** to take **sovereign decisions** in **critical areas**.

  यह **अंतरिम समझौता** कई **असहज प्रश्न** उठाता है, जो **विभिन्न मुद्दों के व्यापक दायरे** से जुड़े हैं, जिनमें **भारत** के कई **मुख्य हितधारकों**, विशेषकर **किसानों**, पर संभावित **प्रभाव** से लेकर **भारतीय सरकार** की **महत्वपूर्ण क्षेत्रों** में **संप्रभु निर्णय** लेने की **क्षमता** तक शामिल हैं।

- Almost a year after India agreed to launch negotiations for a bilateral trade agreement with the **U.S.**, the two countries took the first step by agreeing on an **interim agreement**.

  भारत द्वारा **संयुक्त राज्य** के साथ द्विपक्षीय व्यापार समझौते की वार्ता शुरू करने की सहमति के लगभग एक वर्ष बाद दोनों देशों ने **अंतरिम समझौते** पर सहमति बनाकर पहला कदम उठाया।

- This agreement ends a period of fractured ties between the two strategic partners that began in **August 2025** when **U.S. President Donald Trump** imposed **25% tariffs** on imports from India, and additional tariffs of **25%** as penalty for importing **Russian crude oil**.

यह समझौता दोनों रणनीतिक भागीदारों के बीच **अगस्त 2025** से चली आ रही तनावपूर्ण स्थिति को समाप्त करता है जब **संयुक्त राज्य के राष्ट्रपति डोनाल्ड ट्रंप** ने भारत से आयात पर **25% शुल्क** तथा **रूसी कच्चे तेल** के आयात पर अतिरिक्त **25% दंडात्मक शुल्क** लगाया था।

- As per the **interim agreement**, the U.S. will reduce tariffs on India's imports from **50% to 18%** while India makes three significant concessions.
  अंतरिम समझौते के अनुसार संयुक्त राज्य भारत से आयात पर शुल्क **50% से घटाकर 18%** करेगा जबकि भारत तीन महत्वपूर्ण रियायतें देगा।

- First, India will eliminate or reduce tariffs and non-tariff barriers on its imports of all industrial goods and a wide range of food and agricultural products from the U.S.
  पहला, भारत संयुक्त राज्य से आयातित औद्योगिक वस्तुओं तथा अनेक खाद्य और कृषि उत्पादों पर शुल्क और गैर-शुल्क बाधाएँ समाप्त या कम करेगा।

- Secondly, India, as per **Executive Order** issued alongside the Joint Statement, has made a commitment to stop "directly or indirectly" importing **Russian oil**.
  दूसरा, संयुक्त वक्तव्य के साथ जारी **कार्यकारी आदेश** के अनुसार भारत ने "प्रत्यक्ष या अप्रत्यक्ष" रूप से **रूसी तेल** आयात रोकने की प्रतिबद्धता जताई है।

- Finally, India has expressed its intent to **purchase $500 billion of U.S. energy products, aircraft and aircraft parts, precious metals, technology products, and coking coal over the next 5 years**.
  अंततः भारत ने अगले **5 वर्षों** में **500 अरब डॉलर** के ऊर्जा उत्पाद, विमान और विमान भाग, बहुमूल्य धातु, प्रौद्योगिकी उत्पाद और कोकिंग कोयला खरीदने की मंशा व्यक्त की है।

- Advocates argue that the reduction in **U.S. tariffs** would provide opportunities to Indian businesses to expand their presence in the world's biggest economy.
  समर्थकों का तर्क है कि **संयुक्त राज्य शुल्क में कमी** से भारतीय व्यवसायों को विश्व की सबसे बड़ी अर्थव्यवस्था में विस्तार का अवसर मिलेगा।

- They argue that India's labour-intensive products, especially **textiles and clothing**, would gain a competitive edge over neighbouring countries in **South and Southeast Asia** that face higher U.S. tariffs.
  उनका कहना है कि भारत के श्रम-प्रधान उत्पाद विशेषकर **कपड़ा और परिधान** को **दक्षिण और दक्षिण-पूर्व एशिया** के देशों पर प्रतिस्पर्धात्मक बढ़त मिलेगी जहाँ उच्च शुल्क लागू हैं।

- However, this advantage would be diluted as the **U.S. and Bangladesh trade deal of February 9** allows certain textile and clothing products from Bangladesh **duty-free access** into the U.S.
  हालाँकि यह लाभ कम हो सकता है क्योंकि **9 फरवरी** के **संयुक्त राज्य और बांग्लादेश व्यापार समझौते** के तहत बांग्लादेश के कुछ कपड़ा और परिधान उत्पादों को **शुल्क मुक्त प्रवेश** मिला है।

Protecting farmers interests
किसानों के हितों की सुरक्षा

- One, the interim agreement does not explicitly state that India would not reduce **tariff-sensitive agricultural products**, especially **cereals**, as has been the case in all its Free Trade Agreements.
  पहला, अंतरिम समझौते में स्पष्ट रूप से यह नहीं कहा गया है कि भारत **संवेदनशील कृषि उत्पादों**, विशेषकर **अनाज**, पर शुल्क कम नहीं करेगा जैसा कि अन्य मुक्त व्यापार समझौतों में रहा है।

- Serious doubts arose when the **U.S. Secretary of Agriculture Brooke Rollins** stated that the deal would help export more **American farm products** to India's massive market and boost rural income in the U.S.
  गंभीर संदेह तब उत्पन्न हुए जब **संयुक्त राज्य कृषि सचिव ब्रूक रोलिंस** ने कहा कि यह समझौता भारत के बड़े बाजार में अधिक **अमेरिकी कृषि उत्पादों** के निर्यात और ग्रामीण आय बढ़ाने में सहायक होगा।

Unanswered questions
अनुत्तरित प्रश्न

- Two, the interim agreement states that India would address long-standing **Non-Tariff Barriers (NTBs)** to trade of U.S. food and agricultural products.

दूसरा, अंतरिम समझौते में कहा गया है कि भारत अमेरिकी खाद्य और कृषि उत्पादों के व्यापार में लंबे समय से मौजूद **गैर-शुल्क बाधाओं** को दूर करेगा।

- The U.S. has consistently opposed India's refusal to import **Genetically Modified (GM) food products**, considered a major NTB.
  संयुक्त राज्य लंबे समय से भारत द्वारा **आनुवंशिक रूप से परिवर्तित खाद्य उत्पादों** के आयात से इनकार का विरोध करता रहा है।

- By agreeing to resolve "long-standing concerns", has the government allowed imports of **GM food products**?
  लंबे समय से चली आ रही चिंताओं को दूर करने की सहमति देकर क्या सरकार ने **परिवर्तित खाद्य उत्पादों** के आयात की अनुमति दे दी है।

- Three, why has the government accepted an **unequal trade agreement** by eliminating tariffs on U.S. imports while allowing **18% tariffs** on India's exports?
  तीसरा, सरकार ने अमेरिकी आयात पर शुल्क हटाकर और भारतीय निर्यात पर **18% शुल्क** स्वीकार कर **असमान व्यापार समझौता** क्यों स्वीकार किया।

- Before the tariff war, average U.S. tariffs on India's exports were around **2.5%**, implying a **seven-fold increase**.
  शुल्क युद्ध से पहले भारतीय निर्यात पर औसत अमेरिकी शुल्क लगभग **2.5%** था, जो अब **सात गुना वृद्धि** दर्शाता है।

- Four, why has India accepted such a deal when the legitimacy of these tariffs is being questioned in **U.S. courts**, and when countries like **Brazil and China** refused to yield to such pressures?
  चौथा, जब इन शुल्कों की वैधता **अमेरिकी न्यायालयों** में चुनौती दी जा रही है और **ब्राज़ील तथा चीन** जैसे देशों ने दबाव नहीं स्वीकारा, तब भारत ने ऐसा समझौता क्यों किया।

- Finally, why has the government allowed continued **surveillance on India's oil imports** with a threat of **25% additional tariffs** if imports of Russian oil resume?
  अंततः, सरकार ने भारत के तेल आयात पर **निगरानी** और रूसी तेल आयात पुनः शुरू होने पर **25% अतिरिक्त शुल्क** की शर्त क्यों स्वीकार की।

Tariff-driven exim: access can't guarantee success
शुल्क-प्रेरित निर्यात-आयात: पहुँच सफलता की गारंटी नहीं दे सकती

- The **world trade** (see table) is about **$24 trillion**, accounting for **25%** of the world GDP.
  विश्व व्यापार लगभग **24 ट्रिलियन डॉलर** का है, जो वैश्विक GDP का **25%** है।

- The top countries are in both lists — **export and import**.
  शीर्ष देश **निर्यात और आयात** दोनों सूचियों में शामिल हैं।

- The **top 10 countries** account for **50%** of global imports and exports.
  शीर्ष 10 देश वैश्विक आयात और निर्यात के **50%** के लिए जिम्मेदार हैं।

- **Access** is the easy part, and access via **tariffs** is the new contained globalisation.
  पहुंच आसान हिस्सा है, और **शुल्कों** के माध्यम से पहुंच नई सीमित वैश्वीकरण है।

- We will see quick results in **commodities** both ways, but we will see slow progress in **branded goods and services** with real value.
  कमोडिटी में दोनों तरफ त्वरित परिणाम दिखेंगे, लेकिन वास्तविक मूल्य वाले **ब्रांडेड उत्पादों और सेवाओं** में प्रगति धीमी होगी।

- It will take a **decade** for us to gain from these trade agreements.
  इन व्यापार समझौतों से लाभ पाने में **एक दशक** लगेगा।

- Let's see how **India**, the **No. 3 GDP country** in the world, will gain by integrating with large trade countries.
  आइए देखें कि विश्व की **तीसरी सबसे बड़ी GDP** वाला **भारत** बड़े व्यापारिक देशों से जुड़कर कैसे लाभ उठाएगा।

- Our **supply chains** will become global; our **consumer choices** will also become global.
  हमारी **आपूर्ति श्रृंखलाएँ** वैश्विक होंगी; हमारे **उपभोक्ता विकल्प** भी वैश्विक होंगे।

- We have no choice but to be a **global trade partner** of the **top 10**.
  हमारे पास **शीर्ष 10** के **वैश्विक व्यापार भागीदार** बनने के अलावा कोई विकल्प नहीं है।

- **FDI and capital markets** will gain with trade stability and news of access.
  FDI और पूंजी बाजार व्यापार स्थिरता और पहुंच की खबरों से लाभान्वित होंगे।

- Expect strong growth in **market cap**.
  मार्केट कैप में मजबूत वृद्धि की उम्मीद करें।

- But **FDI** must move up to **3–4% of GDP** to create good jobs.
  अच्छी नौकरियाँ सृजित करने के लिए **FDI** को **GDP के 3–4%** तक बढ़ना होगा।

- Future exporters should learn **global brand building** from two-wheeler brands like **Bajaj** and **TVS**.
  भविष्य के निर्यातकों को **बजाज** और **TVS** जैसे दोपहिया ब्रांडों से **वैश्विक ब्रांड निर्माण** सीखना चाहिए।

- Their **playbook** will help.
  उनका **प्लेबुक** मदद करेगा।

- Technology brands can learn from the **IT services industry**.
  तकनीकी ब्रांड **आईटी सेवा उद्योग** से सीख सकते हैं।

- **Indian brands** will need to get competitive in the **domestic market**.
  भारतीय ब्रांडों को **घरेलू बाजार** में प्रतिस्पर्धी बनना होगा।

- It is not easy to beat Indian brands in India, and hence companies will need to **over-invest** — not in advertising but in understanding **consumer shifts by region**.
  भारत में भारतीय ब्रांडों को हराना आसान नहीं है, इसलिए कंपनियों को **अधिक निवेश** करना होगा — विज्ञापन में नहीं, बल्कि **क्षेत्रवार उपभोक्ता बदलाव** समझने में।

- Indian brands have nothing to worry about — very few **multinational brands** have succeeded in the Indian market in areas of concern like **dairy and agriculture**.
  भारतीय ब्रांडों को चिंता करने की जरूरत नहीं — **डेयरी और कृषि** जैसे क्षेत्रों में बहुत कम **बहुराष्ट्रीय ब्रांड** भारतीय बाजार में सफल हुए हैं।

- The **Indian farmer** needs the right support for **quality produce**.
  भारतीय किसान को **गुणवत्तापूर्ण उत्पादन** के लिए सही समर्थन चाहिए।

- Our **soft power rank** is **30th** — this must go up.
  हमारी **सॉफ्ट पावर रैंक 30वीं** है — इसे बढ़ाना होगा।

- Our **innovation rank** is **No. 38** — we must get into the **top 15**.
  हमारी **नवाचार रैंक 38वीं** है — हमें **शीर्ष 15** में आना होगा।

- Our **global competitiveness score** is **41**, way too low for a **No. 3 GDP nation**.
  हमारा **वैश्विक प्रतिस्पर्धात्मकता स्कोर 41** है, जो **तीसरी GDP** वाले देश के लिए बहुत कम है।

- We need to protect **IP** — our rank in IP is 38.
  हमें **बौद्धिक संपदा (IP)** की रक्षा करनी होगी — इसमें हमारी रैंक **38** है।

- The **government, bureaucracy and regulators** must unite to **reduce processes**, improve **consistency** and draw the line on **deviation**.
  सरकार, नौकरशाही और नियामक प्रक्रियाएँ **कम** करने, **संगति** सुधारने और **विचलन** पर सीमा तय करने के लिए एकजुट हों।

- India must move away from the **low-wage advantage moat**.
  भारत को **कम वेतन के लाभ** पर आधारित खाई से बाहर आना होगा।

- **Wages** will not remain low over a **decade**, and **China** is a good example.
  एक दशक में **वेतन** कम नहीं रहेंगे, और **चीन** इसका अच्छा उदाहरण है।

- India cannot play the **low wages card** for long.
  भारत **कम वेतन का पत्ता** लंबे समय तक नहीं खेल सकता।

- For Indian brands to be **global successes**, we need to improve **design thinking**, get better at understanding **global consumers**, and not remain content with serving the **Indian diaspora**.
  भारतीय ब्रांडों को **वैश्विक सफलता** के लिए **डिज़ाइन थिंकिंग** सुधारनी होगी, **वैश्विक उपभोक्ताओं** को बेहतर समझना होगा, और केवल **भारतीय प्रवासी** तक सीमित नहीं रहना होगा।

- Not a single **global brand** has emerged from India from serving the Indian diaspora.
  भारतीय प्रवासियों को सेवा देकर भारत से कोई भी **वैश्विक ब्रांड** नहीं उभरा है।

- We need to hire **multi-country managers** and integrate them into our **culture and ways of working**.
  हमें **बहु-देशीय प्रबंधकों** को नियुक्त कर उन्हें अपनी **संस्कृति और कार्यशैली** में एकीकृत करना होगा।

GS Paper III: S&T,	
TOPICS COVERED	**16 February 2026**
1.	**Launch vehicle debris with ISRO logo, National Emblem found on Maldives island** मालदीव द्वीप पर इसरो लोगो और राष्ट्रीय प्रतीक वाला प्रक्षेपण यान का मलबा मिला
2.	**Cows can use tools, and one Austrian cow has now shown it clearly** गाय उपकरणों का उपयोग कर सकती हैं, और एक ऑस्ट्रियाई गाय ने अब इसे स्पष्ट रूप से दिखाया है
3.	**What are bio-based chemicals and enzymes?** जैव-आधारित रसायन और एंजाइम क्या हैं?

Launch vehicle debris with ISRO logo, National Emblem found on Maldives island

GS III: S&T

The Hindu Bureau
BENGALURU

The debris from a launch vehicle bearing the Indian Space Research Organisation (ISRO) logo and the National Emblem has reportedly been found recently on an uninhabited island in the Maldives.

The debris of the payload fairing, believed to be from the ISRO's Launch Vehicle Mark-3 (LVM-3), washed up on an island near L. Kunahandhoo in the Maldives and was found on February 12.

A website which tracks Indian spaceflight and aerospace developments said on X that the debris was likely from the LVM3-M6 mission.

"A PLF [payload fairing] has washed up on an uninhabited island near L. Ku-

The debris could be from the LVM3-M6 mission, says website that tracks Indian spaceflight.

nahandhoo, #maldives (found February 12, 2026). The @isro logo's position below the national emblem suggests it is likely from the LVM3-M6 launch. This follows a similar recovery on December 28, 2025, in Sri Lanka (Trincomalee), which also appeared to be from the same mission," the website

indianspaceflight.in posted on X.

On December 19, 2025, the ISRO launched the LVM3-M6/BlueBird Block-2 Mission, a dedicated commercial mission aboard the LVM3 launch vehicle.

During the mission, it successfully launched the BlueBird Block-2 satellite of AST SpaceMobile, U.S., and on November 2 the space agency used the LVM-3 to launch the CMS-03 communication satellite.

The LVM3 is the heaviest rocket developed by the ISRO and is a three-stage launch vehicle comprising two solid strap-on motors, a liquid core stage, and a cryogenic upper stage. The ISRO is yet to confirm whether the debris is from an Indian launch vehicle.

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LVM3 launch vehicle

- Launch vehicle debris with ISRO logo, National Emblem found on Maldives island
  मालदीव द्वीप पर इसरो लोगो और राष्ट्रीय प्रतीक वाला प्रक्षेपण यान का मलबा मिला

- On **December 19, 2025**, the ISRO launched the **LVM3-M6/BlueBird Block-2 Mission**, a dedicated **commercial mission** aboard the **LVM3 launch vehicle**.
  19 दिसंबर 2025 को, इसरो ने **LVM3 प्रक्षेपण यान** पर सवार **LVM3-M6/ब्लूबर्ड ब्लॉक-2 मिशन**, एक समर्पित **वाणिज्यिक मिशन**, लॉन्च किया।

- During the mission, it successfully launched the **BlueBird Block-2 satellite** of **AST SpaceMobile, U.S.**, and on **November 2** the space agency used the **LVM-3** to launch the **CMS-03 communication satellite**.
  इस मिशन के दौरान, इसने **एएसटी स्पेसमोबाइल, अमेरिका** के **ब्लूबर्ड ब्लॉक-2 उपग्रह** को सफलतापूर्वक लॉन्च किया, और **2 नवंबर** को अंतरिक्ष एजेंसी ने **LVM-3** का उपयोग कर **CMS-03 संचार उपग्रह** भी प्रक्षेपित किया।

Cows can use tools, and one Austrian cow has now shown it clearly

A cow named Veronika has been documented using a brush as a tool, choosing different ends and techniques for different body parts. The finding challenges long-held assumptions about cattle cognition and suggests our environments and biases, rather than animals, set the limits of what we notice

Sayantan Datta

In 1960, when she was studying chimpanzees in Tanzania, the primatologist Jane Goodall observed one chimp strip a stick of its leaves and use it to extract termites from a mound. She telegraphed her observation to her supervisor, the paleoanthropologist Louis Leakey.

"Now we must redefine 'tool', redefine 'man' or accept chimpanzees as human," Leakey replied.

More than six decades later, another such moment has arrived – this time with an unlikely protagonist: Veronika, a cow in Austria.

A cow uses a tool
University of Veterinary Medicine, Austria, cognitive biologist and associate professor Alice Auersperg first learnt of Veronika in a video she received. It purported to show "a cow using a stick-like object to scratch her body in a way that did not appear accidental," she recalled. She forwarded the clip to her colleague Antonio J. Osuna Mascaró.

Both researchers study how animals perceive, learn, remember, solve problems, and make decisions. They recognised that Veronika's actions were "not a case of simple rubbing against objects," Dr. Osuna-Mascaró said. Instead, the cow appeared to be "actively manipulating an object, orienting it, and using it to reach specific body parts."

In other words, Veronika was demonstrating "genuine tool use", something that had not been previously reported in cattle.

Still, the team was cautious. "Most claims of animal tool use do not survive careful scrutiny," Dr. Osuna-Mascaró explained. This is because scientists consider an animal's interaction with objects to be tool use only when it uses its body to manipulate the object and achieve a goal. This is why dogs scratching against trees doesn't count whereas chimpanzees fashioning spears out of sticks to hunt galagos does.

To check whether Veronika's behaviour met this definition, the team travelled to Nötsch im Gailtal, the Austrian town where Veronika lived. If they could confirm their suspicions, Veronika's tool use would prove "cattle possess more behavioural flexibility than they are usually credited with," Dr. Auersperg said.

Scratch the itch
In Nötsch, the researchers designed an experiment to test Veronika's abilities. They chose a wooden scrubbing brush with bristles at the end of a smooth, long handle and expected Veronika to (a) use the brush to scratch parts of her body that were otherwise hard to reach, and (b) show a preference for the bristled end.

In more than 70 instances, the team presented the brush to Veronika in different orientations – all to ensure her preference for one end couldn't be explained by how the brush was positioned.

In almost every instance, Veronika lifted the brush with her tongue, held it between her teeth, and scratched the rear half of her body. And she used the bristled end more often.

Veronika's behaviour was thus evidence of "goal-directed, context-sensitive tooling," the team reported in a January 2026 Current Biology paper.

A surprise
There were, however, a small number of trials when Veronika used the handle. The team assumed these to be errors at first until they realised Veronika was "targeting different body areas with each end of the tool," Dr. Osuna-Mascaró told this reporter.

Veronika was using the abrasive bristles to scratch the thick skin of her upper body. But when scratching the delicate skin of her lower body, such as her udders, she used the smooth handle-end.

The team also saw Veronika use different techniques with the two ends. When using the bristled end, she raised the brush, rested it at a spot on the skin, then pulled it forward in what the researchers dubbed a "scrubbing motion". Her movements with the handle-end were however more precise and gentle "forward pushes".

Veronika was not only using a tool but

> In more than 70 instances, the team presented the brush to Veronika in different orientations; in almost every instance, Veronika lifted the brush with her tongue, held it between her teeth, and scratched the rear half of her body

using it in different ways had the team surprised.

"It is astonishing to find that a cow has the capability to do something like this," Dr. Osuna-Mascaró said.

Just noticing
Veronika's abilities are rivalled so far only by one other animal species: chimpanzees.

In the 2000s, researchers described chimpanzees in Congo using one end of a stick to pierce termite mounds and using the other, frayed end to scoop the insects out.

Ideally, Veronika's abilities shouldn't surprise us: "Given that there are numerous instances where cows have been recorded to make use of their tongues ... to open locks... it is not very surprising," University of Hyderabad associate professor of neural and cognitive sciences Joby Joseph said. At the same time, he agreed that "very few study and report these behaviours [in cattle]".

Primatologist Sindhu Radhakrishna, a professor at the National Institute of Advanced Studies, Bengaluru, agreed.

She added that Veronika's tool-use challenges biologists to rethink why "they expect to see 'higher' cognition in some species but don't expect to see it in others."

According to Dr. Osuna-Mascaró, cattle are seen as less intelligent than they actually are for two reasons: "a lack of opportunity and observation," and due to "anthropocentric and utilitarian assumptions about animal minds."

Anthropocentrism is the belief that human beings are superior to all other life.

Animal farm
Unlike Veronika, who has access to open meadows and human interaction, most cattle spend their lives in "barren environments with limited opportunities to manipulate objects," Dr. Osuna-Mascaró explained.

This means if farm animals were provided with richer environments, they could show more such behaviours. That, Dr. Osuna-Mascaró expressed hope, would ultimately force us to "reconsider how we treat them".

In the end, the discovery perhaps speaks more about humans than cattle. Despite co-existing for about 10,000 years, it is only now that scientists are taking cows' mental abilities seriously.

The real question then is "not whether cows can use tools, but why it took us so long to notice," Dr. Osuna-Mascaró said.

(Sayantan Datta is a faculty member at Krea University and an independent science journalist. dattasayantan95@gmail.com)

THE GIST
- Scientists consider an animal's interaction with objects to be tool use only when it uses its body to manipulate the object and achieve a goal
- Veronika used "a stick-like object to scratch her body in a way that did not appear accidental." Tool use such as this has not been reported in cattle earlier
- Veronika's behaviour was evidence of "goal-directed, context-sensitive tooling"

Unlike Veronika, who has access to open meadows and human interaction, most cattle spend their lives in barren environments. This means if farm animals were provided with richer environments, they could show more such behaviours. VOL. 36, ISSUE 2, PR44-R45 JANUARY 19, 2026

- The **LVM3** is the **heaviest rocket** developed by the ISRO and is a **three-stage launch vehicle** comprising **two solid strap-on motors**, a **liquid core stage**, and a **cryogenic upper stage**.

Cows can use tools, and one Austrian cow has now shown it clearly
गाय उपकरणों का उपयोग कर सकती हैं, और एक ऑस्ट्रियाई गाय ने अब इसे स्पष्ट रूप से दिखाया है

- A cow named **Veronika** has been documented using a **brush** as a **tool**, choosing **different ends** and **techniques** for different **body parts**.
  Veronika नाम की एक गाय को **brush** को एक **tool** के रूप में उपयोग करते हुए दर्ज किया गया है, जो अलग-अलग **body parts** के लिए अलग-अलग **ends** और **techniques** चुनती है।

- The **finding** challenges long-held **assumptions** about **cattle cognition** and suggests our **environments** and **biases**, rather than animals, set the **limits** of what we **notice**.
  यह **finding cattle cognition** के बारे में लंबे समय से चली आ रही **assumptions** को चुनौती देती है और यह सुझाव देती है कि जानवरों के बजाय हमारे **environments** और **biases** ही तय करते हैं कि हम क्या **notice** कर पाते हैं और उसकी **limits** क्या हैं।

- **In 1960, when she was studying chimpanzees in Tanzania, the primatologist Jane Goodall observed one chimp strip a stick of its leaves and use it to extract termites from a mound.**
  1960 में, जब वह **Tanzania** में **chimpanzees** का अध्ययन कर रही थीं, **primatologist Jane Goodall** ने एक **chimp** को एक डंडी से उसके पत्ते हटाकर उसे **termite mound** से दीमक निकालने के लिए उपयोग करते हुए देखा।

- It purported to show "a cow using a stick-like object to scratch her body in a way that did not appear accidental," she recalled.
  उस वीडियो में कथित तौर पर "एक **cow** को **stick-like object** का उपयोग करके अपने शरीर को ऐसे खरोंचते हुए दिखाया गया था जो आकस्मिक नहीं लग रहा था," उन्होंने याद किया।

- In **Nötsch**, the researchers designed an experiment to test **Veronika's** abilities.
  Nötsch में, शोधकर्ताओं ने **Veronika** की क्षमताओं का परीक्षण करने के लिए एक प्रयोग तैयार किया।

- They chose a wooden scrubbing brush with bristles at the end of a smooth, long handle and expected **Veronika** to (a) use the brush to scratch parts of her body that were otherwise hard to reach, and (b) show a preference for the bristled end.
  उन्होंने एक चिकने, लंबे हैंडल के अंत में ब्रिसल्स वाले लकड़ी के स्क्रबिंग ब्रश को चुना और उम्मीद की कि **Veronika** (a) अपने शरीर के उन हिस्सों को खरोंचने के लिए ब्रश का उपयोग करेगी जहाँ पहुँचना कठिन था, और (b) ब्रिसल्स वाले सिरे को प्राथमिकता दिखाएगी।

- Ideally, **Veronika's** abilities shouldn't surprise us: "Given that there are numerous instances where cows have been recorded to make use of their tongues … to open locks… it is not very surprising," **University of Hyderabad** associate professor of neural and cognitive sciences **Joby Joseph** said.

  आदर्श रूप से, **Veronika** की क्षमताएँ हमें आश्चर्यचकित नहीं करनी चाहिए: "यह देखते हुए कि कई बार गायों को अपनी जीभ का उपयोग करके ताले खोलते हुए दर्ज किया गया है… यह बहुत आश्चर्यजनक नहीं है," **University of Hyderabad** के न्यूरल और संज्ञानात्मक विज्ञान के सह-प्रोफेसर **Joby Joseph** ने कहा।

- According to **Dr. Osuna-Mascaró**, cattle are seen as less intelligent than they actually are for two reasons: "a lack of opportunity and observation," and due to "anthropocentric and utilitarian assumptions about animal minds."

  Dr. Osuna-Mascaró के अनुसार, मवेशियों को उनकी वास्तविक बुद्धिमत्ता से कम समझा जाता है, इसके दो कारण हैं: "अवसर और अवलोकन की कमी," तथा "पशु मन के बारे में मानव-केंद्रित और उपयोगितावादी धारणाएँ।"

- **Anthropocentrism** is the belief that human beings are superior to all other life.

  Anthropocentrism वह धारणा है कि मानव सभी अन्य जीवन से श्रेष्ठ हैं।

Animal farm
पशु फार्म

- Despite co-existing for about **10,000 years**, it is only now that scientists are taking cows' mental abilities seriously.

  लगभग **10,000 वर्षों** से साथ रहने के बावजूद, अब जाकर वैज्ञानिक गायों की मानसिक क्षमताओं को गंभीरता से ले रहे हैं।

What are bio-based chemicals and enzymes?

How is India positioned with respect to scaling bio-based chemicals and enzymes?

GS III: S&T

Shambhavi Naik

The story so far:

Bio-based chemicals are industrial chemicals produced using biological feedstocks like sugarcane, corn, starch, or biomass residues, often through fermentation or enzymatic processes. Examples include organic acids (such as lactic acid), bio-alcohols, solvents, surfactants, and intermediates used in plastics, cosmetics, and pharmaceuticals. Enzymes are biological catalysts widely used in detergents, food processing, pharmaceuticals, textiles, pulp and paper, and increasingly in biomanufacturing. Enzymes often work at lower temperatures and pressures, reducing energy use and emissions.

Why does India need such chemicals?

India has strong fundamentals for scaling bio-based chemicals and enzymes: a large agricultural base, deep expertise in fermentation from pharmaceuticals and vaccines, and a growing manufacturing sector. Expanding this space could reduce import dependence on petrochemicals, create new markets for agricultural produce, and position India as a competitive supplier of sustainable industrial inputs. For example, India imported roughly $479.8 million worth of acetic acid in 2023.

Where does India stand today?

India has prioritised bio-based chemicals and enzymes as a priority area under the Department of Biotechnology's BioE3 policy. In the bio-based chemicals segment, companies such as Praj Industries and Godrej Industries are leading. Other firms such as Godavari Biorefineries are pioneering ethanol-based, bio-derived chemicals in India, while Jubilant Ingrevia produces "acetyls" intermediates (for example, acetic anhydride/ethyl acetate). Emerging companies such as StringBio are using novel microbial strategies to develop such chemicals. The India enzymes market is consolidated in nature with top players accounting for more than 75% of the market share. Companies such as Novozymes India, DuPont, DSM, Advance Enzyme Technologies, BASF SE, and Ultreze Enzymes Private Limited are key players in the Indian market.

What are other countries doing?

The EU Bioeconomy Strategy and Action Plan provides coordinated support for bio-based chemicals as part of circular bioeconomy goals. It links industrial transformation to climate goals, waste reduction, and sustainable growth. In the U.S., the USDA BioPreferred Program mandates federal procurement preference for certified bio-based products, including chemicals and enzymes, creating early markets for producers. China's bioeconomy development plans explicitly prioritise high-value bio-based chemicals and enzyme technologies as strategic sectors. In Japan, priority projects funded through METI/NARO integrate bio-based chemical research with manufacturing readiness.

What are the risks?

A key risk in developing the bio-based chemicals sector is the comparative cost of bio-based products relative to petrochemical alternatives. While this cost disadvantage may be temporary and limited to early stages of scale-up, it nonetheless creates a significant entry barrier for private investment. A second risk relates to the availability of reliable feedstocks and supporting infrastructure required to produce different categories of bio-based chemicals at scale. A third challenge lies in market adoption – specifically, whether bio-based chemicals can seamlessly substitute existing inputs in manufacturing pipelines and whether downstream manufacturers are willing to switch, even when costs are comparable.

Scaling shared biomanufacturing infrastructure – such as biofoundries, pilot plants, and demonstration facilities under BioE3 – can reduce capital risk for firms. Clear standards, certification, and procurement policies can help create build investor confidence.

The author is chairperson, Takshashila Institution's Health & Life Sciences Policy.

THE GIST

▼ India has prioritised bio-based chemicals and enzymes as a priority area under the Department of Biotechnology's BioE3 policy.

▼ The India enzymes market is consolidated in nature with top players accounting for more than 75% of the market share.

▼ A key risk in developing the bio-based chemicals sector is the comparative cost of bio-based products relative to petrochemical alternatives.

What are bio-based chemicals and enzymes?
जैव-आधारित रसायन और एंजाइम क्या हैं?

Bio-based chemicals
जैव-आधारित रसायन

- Bio-based chemicals are **industrial chemicals** produced using **biological feedstocks** like sugarcane, corn, starch, or biomass residues, often through **fermentation** or **enzymatic processes**.
  जैव-आधारित रसायन वे **औद्योगिक रसायन** हैं जो **जैविक कच्चे माल** जैसे गन्ना, मक्का, स्टार्च या बायोमास अवशेष से प्रायः **किण्वन** या **एंजाइम प्रक्रियाओं** द्वारा बनाए जाते हैं।

- Examples include **organic acids** such as **lactic acid**, bio-alcohols, solvents, surfactants, and intermediates used in plastics, cosmetics, and pharmaceuticals.
  इसके उदाहरणों में **कार्बनिक अम्ल** जैसे **लैक्टिक अम्ल**, जैव-अल्कोहल, सॉल्वेंट, सर्फैक्टेंट तथा प्लास्टिक, कॉस्मेटिक और औषधि उद्योग में प्रयुक्त मध्यवर्ती रसायन शामिल हैं।

- **Enzymes** are **biological catalysts** widely used in detergents, food processing, pharmaceuticals, textiles, pulp and paper, and increasingly in **biomanufacturing**.
  एंजाइम जैविक **उत्प्रेरक** हैं जो डिटर्जेंट, खाद्य प्रसंस्करण, औषधि, वस्त्र, कागज तथा बढ़ते हुए **जैव-निर्माण** में उपयोग होते हैं।

- Enzymes often work at **lower temperatures and pressures**, reducing **energy use** and **emissions**.
  एंजाइम अक्सर **कम तापमान और दाब** पर कार्य करते हैं जिससे **ऊर्जा उपयोग** और **उत्सर्जन** कम होता है।

Why does India need such chemicals?
भारत को ऐसे रसायनों की आवश्यकता क्यों है

- India has strong fundamentals for scaling bio-based chemicals and enzymes including a large **agricultural base**, expertise in **fermentation**, and a growing **manufacturing sector**.
  भारत के पास जैव-आधारित रसायनों और एंजाइम के विस्तार हेतु मजबूत आधार है जैसे बड़ा **कृषि आधार**, **किण्वन** में विशेषज्ञता और बढ़ता हुआ **विनिर्माण क्षेत्र**।

- Expanding this space could reduce **import dependence on petrochemicals**, create markets for agricultural produce, and make India a supplier of **sustainable industrial inputs**.
  इस क्षेत्र का विस्तार **पेट्रोकेमिकल आयात निर्भरता** घटा सकता है, कृषि उत्पादों के लिए बाजार बना सकता है और भारत को **सतत औद्योगिक इनपुट** का आपूर्तिकर्ता बना सकता है।

- India imported roughly **$479.8 million** worth of **acetic acid in 2023**.
  भारत ने **2023** में लगभग **479.8 मिलियन डॉलर** मूल्य का **एसेटिक अम्ल** आयात किया।

Where does India stand today?
आज भारत की स्थिति

- India has prioritised bio-based chemicals and enzymes under the **BioE3 policy** of the **Department of Biotechnology**.
  भारत ने **जैव-प्रौद्योगिकी विभाग** की **BioE3 नीति** के तहत जैव-आधारित रसायनों और एंजाइम को प्राथमिकता दी है।

What are other countries doing?
अन्य देश क्या कर रहे हैं

- The **EU Bioeconomy Strategy** supports bio-based chemicals under **circular bioeconomy goals** linking climate action and sustainable growth.
  यूरोपीय संघ जैव-अर्थव्यवस्था रणनीति जलवायु लक्ष्यों और सतत विकास से जुड़े **जैव-अर्थव्यवस्था लक्ष्यों** के तहत समर्थन देती है।

GS III: Environment

Hot air
Donald Trump is trying to turn back the clock on environmental issues

As part of his continuing assault on science, U.S. President Donald Trump revoked a foundational guideline of the American environment regulator that allowed it to control the transportation sector's emission of greenhouse gases. The repeal of the 'endangerment finding' was the final, formal blow following a series of actions by the U.S.'s Environmental Protection Agency (EPA) in weakening Obama-era administration fuel economy and greenhouse gas (GHG) standards for vehicle model years 2021-26 and loosening fuel efficiency norms. The 'endangerment finding' emerged after the US Supreme Court's 2007 decision, in *Massachusetts vs EPA*, which held that greenhouse gases qualify as "air pollutants" and required the EPA to determine whether they endanger public health or welfare. In December 2009, the EPA concluded that six greenhouse gases – including carbon dioxide and methane – "may reasonably be anticipated to endanger" health and welfare, drawing heavily on assessments by the IPCC and U.S. scientific bodies. The EPA's action had a seismic impact on the American automotive industry, setting in motion the first federal greenhouse gas standards, set in 2010, for cars and light trucks (2012-16), later extended through 2025. Manufacturers accelerated fuel-efficiency improvements, invested in hybrid systems, lightweight materials, and, eventually, battery-electric vehicles. Regulatory credit markets emerged, benefiting firms such as Tesla, Inc. and resulting in the popularity of electric vehicles globally, including in India.

Though indirect, the stricter greenhouse gas emission norms also influenced a world-wide shift away from the 'small car' to the mid-sized Sport Utility Vehicles (SUV) with car markers improving the SUV's emissions profile. Mr. Trump seems to believe that doing away with the EPA regulations will revive America's 'gas guzzler' era, boost American manufacturing jobs, and somehow tie in with his administration's rediscovery of Venezuelan oil. These are pipedreams. Auto-manufacturing production lines today are optimised around electrification, hybridisation and emissions controls. With China dominating most of the production value chain, it is unlikely that auto-manufacturers, who have invested over a multi-decadal horizon into clean vehicles – and with the intention to export to countries where emissions norms are only getting stricter by the day – will change tack to a regress. At best, the norms will be a speed bump to electric vehicle rollout and could win Mr. Trump some brownie points with his voter base. The real danger lies in automakers in India citing such regulation as a pretext to weaken fuel efficiency standards. Although India's standards do not yet connect climate goals with cars, the domestic automotive sector should view them as a lodestar.

- A major risk is the higher **cost of bio-based products** compared to petrochemical alternatives, creating an **entry barrier for investment**.
  एक प्रमुख जोखिम जैव-उत्पादों की **उच्च लागत** है जो पेट्रोकेमिकल विकल्पों की तुलना में अधिक है और **निवेश के लिए बाधा** बनती है।

- Another risk is availability of reliable **feedstocks and infrastructure** for large-scale production.
  दूसरा जोखिम बड़े पैमाने पर उत्पादन हेतु विश्वसनीय **कच्चे माल और अवसंरचना** की उपलब्धता है।

- A third challenge is **market adoption**, whether industries will shift to bio-based inputs even when costs are similar.
  तीसरी चुनौती **बाजार स्वीकृति** है कि उद्योग समान लागत होने पर भी जैव-आधारित इनपुट अपनाएंगे या नहीं।

- Scaling shared **biomanufacturing infrastructure** such as biofoundries, pilot plants, and demonstration facilities can reduce **capital risk**.
  साझा **जैव-निर्माण अवसंरचना** जैसे बायोफाउंड्री, पायलट प्लांट और प्रदर्शन इकाइयों का विस्तार **पूंजी जोखिम** कम कर सकता है।

- Clear **standards, certification, and procurement policies** can build **investor confidence**.
  स्पष्ट **मानक, प्रमाणन और खरीद नीतियाँ निवेशक विश्वास** बढ़ा सकती हैं।

GS Paper III: Environment,	
TOPICS COVERED	**16 February 2026**
1.	Hot air गरम हवा

Hot air
गरम हवा

- **Donald Trump** is trying to **turn back the clock** on **environmental issues**.
  डोनाल्ड ट्रंप पर्यावरणीय मुद्दों पर **समय को पीछे मोड़ने** की कोशिश कर रहे हैं।

- As part of his continuing assault on science, **U.S. President Donald Trump** revoked a foundational guideline of the American environment regulator that allowed it to control the transportation sector's emission of greenhouse gases.
  विज्ञान पर अपने लगातार हमले के हिस्से के रूप में **अमेरिका के राष्ट्रपति डोनाल्ड ट्रंप** ने अमेरिकी पर्यावरण नियामक के एक मूलभूत दिशा-निर्देश को रद्द

कर दिया, जो उसे परिवहन क्षेत्र से निकलने वाली ग्रीनहाउस गैसों के उत्सर्जन को नियंत्रित करने की अनुमति देता था।

- The repeal of the **'endangerment finding'** was the final, formal blow following a series of actions by the U.S.'s **Environmental Protection Agency (EPA)** in weakening **Obama-era** administration fuel economy and greenhouse gas standards for vehicle model years **2021-26** and loosening fuel efficiency norms.
  'एंडेंजरमेंट फाइंडिंग' को रद्द करना अंतिम औपचारिक कदम था, जो **अमेरिकी पर्यावरण संरक्षण एजेंसी** द्वारा **ओबामा काल** के ईंधन अर्थव्यवस्था और ग्रीनहाउस गैस मानकों को कमजोर करने तथा **2021-26** के वाहन मॉडल वर्षों के लिए ईंधन दक्षता मानकों को ढीला करने की श्रृंखला के बाद आया।

- The **'endangerment finding'** emerged after the **US Supreme Court's 2007** decision, in **Massachusetts vs EPA**, which held that greenhouse gases qualify as "air pollutants" and required the EPA to determine whether they endanger public health or welfare.
  'एंडेंजरमेंट फाइंडिंग' 2007 में अमेरिकी सर्वोच्च न्यायालय के **मैसाचुसेट्स बनाम पर्यावरण संरक्षण एजेंसी** निर्णय के बाद सामने आई, जिसमें कहा गया कि ग्रीनहाउस गैसें "वायु प्रदूषक" हैं और एजेंसी को यह निर्धारित करना चाहिए कि वे सार्वजनिक स्वास्थ्य या कल्याण को खतरे में डालती हैं या नहीं।

- In **December 2009**, the **EPA** concluded that **six greenhouse gases** — including **carbon dioxide and methane** — "may reasonably be anticipated to endanger" health and welfare, drawing heavily on assessments by the **IPCC** and U.S. scientific bodies.
  दिसंबर 2009 में एजेंसी ने निष्कर्ष निकाला कि **छह ग्रीनहाउस गैसें**, जिनमें **कार्बन डाइऑक्साइड और मीथेन** शामिल हैं, स्वास्थ्य और कल्याण के लिए खतरा बन सकती हैं, और यह निष्कर्ष अंतरराष्ट्रीय जलवायु आकलनों तथा अमेरिकी वैज्ञानिक संस्थाओं पर आधारित था।

- Manufacturers accelerated fuel-efficiency improvements, invested in hybrid systems, lightweight materials, and, eventually, battery-electric vehicles.
  निर्माताओं ने ईंधन दक्षता सुधार में तेजी लाई, हाइब्रिड प्रणालियों, हल्की सामग्री और अंततः बैटरी चालित विद्युत वाहनों में निवेश किया।

- Though indirect, the stricter greenhouse gas emission norms also influenced a worldwide shift away from the 'small car' to the mid-sized **Sport Utility Vehicles (SUV)** with car makers improving the SUV's emissions profile.
  यद्यपि अप्रत्यक्ष रूप से, कठोर ग्रीनहाउस गैस उत्सर्जन मानकों ने छोटे वाहनों से मध्यम आकार के **स्पोर्ट यूटिलिटी वाहन** की ओर वैश्विक बदलाव को प्रभावित किया, जिसमें वाहन निर्माताओं ने उत्सर्जन स्तर में सुधार किया।

- Mr. Trump seems to believe that doing away with the **EPA** regulations will revive America's 'gas guzzler' era, boost American manufacturing jobs, and somehow tie in with his administration's rediscovery of Venezuelan oil.
  श्री ट्रम्प का मानना है कि पर्यावरण नियमों को हटाने से अधिक ईंधन खपत वाले वाहनों का दौर लौटेगा, विनिर्माण रोजगार बढ़ेंगे और यह वेनेजुएला के तेल से जुड़ जाएगा।

- Auto-manufacturing production lines today are optimised around electrification, hybridisation and emissions controls.
  आज ऑटोमोबाइल उत्पादन प्रणालियाँ विद्युतकरण, हाइब्रिड तकनीक और उत्सर्जन नियंत्रण के अनुरूप अनुकूलित हैं।

- With **China** dominating most of the production value chain, it is unlikely that auto-manufacturers, who have invested over a multi-decadal horizon into clean vehicles — and with the intention to export to countries where emissions norms are only getting stricter by the day — will change tack to a regress.
  उत्पादन मूल्य श्रृंखला के अधिकांश भाग पर **चीन** के प्रभुत्व के कारण यह असंभव है कि वाहन निर्माता, जिन्होंने दशकों से स्वच्छ वाहनों में निवेश किया है और कठोर उत्सर्जन मानकों वाले देशों को निर्यात करने का लक्ष्य रखा है, पीछे हटेंगे।

- At best, the norms will be a speed bump to electric vehicle rollout and could win Mr. Trump some brownie points with his voter base.
  अधिकतम यह कदम विद्युत वाहनों के प्रसार में हल्की बाधा बनेगा और उन्हें कुछ राजनीतिक समर्थन दिला सकता है।

- The real danger lies in automakers in **India** citing such regulation as a pretext to weaken fuel efficiency standards.
  वास्तविक खतरा यह है कि **भारत** में वाहन निर्माता ऐसे नियमों का हवाला देकर ईंधन दक्षता मानकों को कमजोर करने का प्रयास कर सकते हैं।