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03J6	I know I am not far away from the top



मुझे पता है कि मैं शीर्ष से ज्यादा दूर नहीं हूँ

Overloading, long ride hours weighed heavy on Gulmarg Gondola

Peerzada Ashiq
SRINAGAR

Overloading, extended ride hours, and violation of standard operating procedures (SOPs) have made Asia's highest cable car, the Gulmarg Gondola, vulnerable to technical faults, according to officials.

Panic gripped the tourist hotspot in north Kashmir's Baramulla on May 25 after a snag left about 300 tourists stranded mid-air. The rescue operation lasted over six hours.

Set up in 1998, the gondola runs in two phases every day: Gulmarg to Kongdoori (10-minute ride) and Kongdoori to Apharwat (12-minute ride), with the highest point located at an altitude of 4,390 metres (14,403 feet). Official sources said 63 cabins, each with a carrying capacity of



Efforts under way to rescue tourists stranded in Asia's highest cable car following a snag at Gulmarg, Jammu and Kashmir, on May 25. PTI

six persons, are operated in the first phase.

According to officials, the J&K Cable Car Corpora-

tion, which runs the gondola, started allowing 7,000 to 8,000 tourists to take the ride in the first

phase this year against the approved upper limit of 4,000. The second phase, with a carrying capacity of 1,500 people in 33 cabins, started ferrying 3,000 tourists, officials said.

On May 25, about 3,000 tourists had taken the ride in the first phase up to 1 p.m., when the snag occurred. Another batch of about 3,000 could not take the ride. Official sources said if tourists were stranded in the second phase, then the "rescue operation would have been almost impossible, given the terrain and altitude".

While ₹810 is charged per person in the first phase, the price is ₹1,010 in the second. About a million tourists took the gondola in 2024, an average of 2,739 persons per day. The year saw revenue generation of ₹108 crore.

Besides overloading, the corporation also extended the operating time by four hours this year. Official sources said the cable car ran operations from 9 a.m. to 6 p.m. last year. However, this year, the ride would start at 7.30 a.m. and close by 8.30 p.m. Officials said running the cable car after sunset "is against the SOPs laid down in 1998 for the Gulmarg Gondola".

'Change in routine'

"The earlier maintenance routine stipulated that the cable car should rest every Monday for technicians to take a look. However, maintenance was shifted to night hours and Monday too was included to ferry tourists," an official said.

At present, there are six stations for the cable car ride and an open-air chair lift in Gulmarg. However,

these stations are not manned by mandatory technical staff, which would include electrical and mechanical engineers, another official said.

The corporation has also failed to fill the technical posts that remained vacant after 2012, "significantly decreasing the technical staff", the backbone of the gondola, according to officials. The staff strength in the Electrical Department has fallen from eight to three this year, they said.

Meanwhile, the J&K Cable Car Corporation remains indecisive about reopening the ride. "No date has been fixed for reopening the facility. Refunds for tourists who had booked tickets between May 25 and June 3 are being processed," said Syed Qamar Sajjad, managing director of the corporation.

03J6. Overloading, long ride hours weighed heavy on Gulmarg Gondola

अधिक भार और लंबे संचालन समय ने गुलमर्ग गॉडोला पर डाला भारी दबाव

- Set up in 1998, the gondola runs in two phases every day: **Gulmarg to Kongdoori** (10-minute ride) and **Kongdoori to Apharwat** (12-minute ride), with the highest point located at an altitude of **4,390 metres (14,403 feet)**.

1998 में स्थापित यह गॉडोला प्रतिदिन दो चरणों में संचालित होता है: गुलमर्ग से कॉंगडूरी (10 मिनट की यात्रा) और कॉंगडूरी से अफरवात (12 मिनट की यात्रा), जिसका उच्चतम बिंदु 4,390 मीटर (14,403 फीट) की ऊँचाई पर स्थित है।

TOP 5 HIGHEST AND LONGEST CABLE CAR SYSTEMS IN THE WORLD

Highest Cable Car Systems

1. Matterhorn Alpine Crossing

- Highest 3S cableway in the world.
- The system reaches Europe's highest cable-car station at about **3,883 m (12,739 ft)** above sea level.
- It connects Switzerland and Italy across the Alps.



2. Gulmarg Gondola

- Reaches approximately **3,980 m (13,058 ft)** at Apharwat Peak and is widely





recognized as one of the world's highest operating gondolas.

3. Mérida Cable Car

- The famous **Mukumbarí** system climbs to **Pico Espejo** in the Andes at around **4,765 m (15,633 ft)**, making it one of the highest cable-car systems ever built.

4. Tianmen Mountain Cableway

- Although not the highest by summit elevation, it rises dramatically over **1,279 m vertically**, one of the greatest elevation gains achieved by a passenger cableway.

5. Mi Teleférico

- The world's largest urban cable-car network operates at elevations exceeding **4,000 m**, making it one of the highest public transit systems on Earth.

Longest Passenger Cable Car Systems

1. Hon Thom Cable Car

- Length: 7.899 km**, Holds the Guinness record for the world's longest non-stop three-rope cable car over the sea.

Quick Comparison

Cable Car	Country	Approx. Length	Maximum Elevation
Hon Thom Cable Car	Vietnam	7.9 km	~175 m
Tochal Telecabin	Iran	7.5 km	~3,740 m
Tianmen Mountain Cableway	China	7.455 km	~1,519 m
Gulmarg Gondola	India	~5 km (two phases)	~3,980 m
Matterhorn Alpine Crossing	Switzerland–Italy	Multi-section	~3,883 m station
Wings of Tatev	Armenia	5.75 km	~320 m above gorge



PCS

Brand value

RCB helped IPL's latest edition build on previous successes

Derided for not matching potential with performance in the past, Royal Challengers Bengaluru (RCB) emphatically put those old ghosts to rest. Having won the Indian Premier League (IPL) title last year, RCB did one better this year, and retained the championship. A commanding display over Gujarat Titans in the final at Ahmedabad's Narendra Modi Stadium on Sunday ensured that RCB joined the likes of Chennai Super Kings (CSK) and Mumbai Indians, teams that have won the title for two consecutive years. Ever since the league's inception in 2008, the Bengaluru squad tended to flourish in spurts and then fade away. Three finals were made too prior to 2025, and in all those summit clashes, RCB choked. Last year, however, a turnaround was effected but as Rajat Patidar's men exulted, the moment turned tragic with 11 fans losing their lives in a stampede outside the M. Chinnaswamy Stadium in Bengaluru. In the latest edition, RCB maintained remarkable consistency and while Patidar marshalled his resources, Virat Kohli, Bhuvneshwar Kumar, Krunal Pandya and Josh Hazlewood chipped in. Fittingly, Patidar dedicated the triumph to the 11 fans who passed away. Meanwhile, Titans led by Shubman Gill, ran into a stronger outfit in the final and could not cash in on the advantage of playing at their home ground.

Having commenced on March 28, the IPL with 10 teams and 74 matches, had a bloated air and at times viewer interest dipped. The cricket, though, was from the top-drawer of T20 cricket as batters muscled sixes. The leading star was Vaibhav Sooryavanshi, who belied his 15 summers. The Rajasthan Royals' player is one for the future and there is talk of the selectors fast-tracking him into the national squad. Just as Sachin Tendulkar made his international debut at 16, Sooryavanshi too seems set to join that space of young talent pursuing higher glory. For now, a spot in T20I beckons even as the youngster is keen to play Tests too. Just as RCB, Titans, Sunrisers Hyderabad and Rajasthan Royals made it to the play-offs, legacy units such as CSK, Mumbai Indians and Kolkata Knight Riders fell by the wayside. A churn is on the cards and Rishabh Pant has already relinquished his captaincy with the Lucknow Super Giants. India, the reigning T20 champion, has enough talent as was evident through the IPL. The club against country debate too stirred up as England speedster Jofra Archer's IPL contract overlapped with the one that he has with The England and Wales Cricket Board. The IPL is a massive sporting brand but it should not cannibalise traditional cricket.

Indians and Kolkata Knight Riders fell by the wayside.

जहाँ RCB, टाइटंस, सनराइजर्स हैदराबाद और राजस्थान रॉयल्स प्ले-ऑफ में पहुँचे, वहीं पारंपरिक सफल टीमों जैसे CSK, मुंबई इंडियंस और कोलकाता नाइट राइडर्स पीछे रह गईं।

- The IPL is a massive sporting brand but it should not cannibalise traditional cricket. IPL एक विशाल खेल ब्रांड है, लेकिन इसे पारंपरिक क्रिकेट को नुकसान पहुँचाने वाला नहीं बनना चाहिए।

03J6. Brand value

ब्रांड मूल्य

- A commanding display over **Gujarat Titans** in the final at Ahmedabad's **Narendra Modi Stadium** on Sunday ensured that RCB joined the likes of **Chennai Super Kings (CSK)** and **Mumbai Indians**, teams that have won the title for two consecutive years.

रविवार को अहमदाबाद के नरेंद्र मोदी स्टेडियम में फाइनल में गुजरात टाइटंस पर शानदार प्रदर्शन ने सुनिश्चित किया कि RCB अब चेन्नई सुपर किंग्स (CSK) और मुंबई इंडियंस जैसी उन टीमों की श्रेणी में शामिल हो जाए, जिन्होंने लगातार दो वर्षों तक खिताब जीता है।

- Ever since the league's inception in 2008, the Bengaluru squad tended to flourish in spurts and then fade away.

2008 में लीग की शुरुआत से ही बेंगलुरु की टीम बीच-बीच में शानदार प्रदर्शन करती थी, लेकिन बाद में उसका प्रदर्शन कमजोर पड़ जाता था।

- Last year, however, a turnaround was effected but as **Rajat Patidar's** men exulted, the moment turned tragic with 11 fans losing their lives in a stampede outside the **M. Chinnaswamy Stadium** in Bengaluru. हालाँकि, पिछले वर्ष परिस्थितियाँ बदलीं, लेकिन जब **रजत पाटीदार** की टीम जीत का उत्सव मना रही थी, उसी समय बेंगलुरु के **एम. चिन्नास्वामी स्टेडियम** के बाहर भगदड़ में 11 प्रशंसकों की मृत्यु से यह क्षण दुखद बन गया।

- Having commenced on **March 28**, the IPL with 10 teams and 74 matches, had a bloated air and at times viewer interest dipped.

28 मार्च से शुरू हुए IPL में 10 टीमों और 74 मैच शामिल थे, जिसके कारण यह कुछ अधिक विस्तारित प्रतीत हुआ और कई बार दर्शकों की रुचि भी कम हुई।

- Just as **Sachin Tendulkar** made his international debut at 16, **Sooryavanshi** too seems set to join that space of young talent pursuing higher glory.

जिस प्रकार **सचिन तेंदुलकर** ने 16 वर्ष की आयु में अंतरराष्ट्रीय पदार्पण किया था, उसी प्रकार **सूर्यवंशी** भी युवा प्रतिभाओं की उस श्रेणी में शामिल होते दिखाई दे रहे हैं, जो उच्च उपलब्धियों की ओर अग्रसर हैं।

- Just as RCB, Titans, **Sunrisers Hyderabad** and **Rajasthan Royals** made it to the play-offs, legacy units such as CSK, Mumbai



The finish line is still far for Indian sprinting

Gurindervir Singh's national-record, 10.09s, ranks 524th on the all-time list; only 39 countries have broken the 10-second barrier

PCS

DATA POINT

Devvanshi Bihani

By the time the men's 100m final began at the Federation Cup in Ranchi on May 23, 2026, India's national record had already changed hands twice within that tournament – a first in Indian sprinting. A day earlier, Gurindervir Singh had lowered the national record to 10.17 seconds in the first semifinals. Minutes later, Animesh Kujur reclaimed it with 10.15 seconds in the second semifinal. Gurindervir seized the opportunity the final offered. His time of 10.09 seconds not only restored the record to his name but also made him the first Indian to break the 10.1-second barrier.

The achievement marked the latest chapter in a rivalry that is transforming Indian sprinting. Anil Kumar's national record of 10.21 seconds had remained unbeaten since 2000. By clocking 10.18 seconds, Animesh not only broke that in July 2025, but became the first Indian to cross the 10.2-second barrier.

While it took 25 years for Indian men's sprinting to breach the 10.2-second barrier, it has seen a dramatic leap forward since then. With Gurindervir's 10.09 seconds, followed by Animesh's 10.15 and 10.18 seconds, and Manikanta Hoblihdhar's 10.19 seconds, four of the five fastest 100m sprints by Indian men have been recorded in the last two seasons. But where does India's fastest-ever sprinter stand in the global arena?

An analysis of World Athletics' all-time men's 100m lists shows both the significance of Gurindervir's breakthrough and how far India remains from sprinting's elite. On the global all-time list, Gurindervir's record ranks only 524th.

At the very top, the sport remains remarkably concentrated. Ten of the top 11 performances belong to sprinters from just two countries – Jamaica and the U.S.

Jamaica's Usain Bolt holds the world record at 9.58 seconds. American Tyson Gay shares the second-fastest time in history at 9.69 seconds. The only exception is Kenya's Ferdinand Omanyala, whose 9.77-second run shares the 10th place (Chart 1).

The sub-10-second barrier remains one of athletics' most exclusive benchmarks. More than half a century after electronic timing became the standard in 1968, only 39 countries have produced athletes with 100m runs recorded under 10 seconds (Chart 2).

Martin Owens, Animesh's coach, told *The Hindu* that breaking that barrier requires far more than raw speed. "You need natural talent. You need good facilities. You need good recovery and medical backup. You need an intelligent programme," Mr. Owens said, adding that coaching from an early age, financial support and international exposure are also crucial.

When every country's fastest man ever is compared, India sits at around 65th among 182 nations. Several nations with populations under 1.5 crore rank ahead of India, including Trinidad and Tobago, Botswana and Namibia.

It is notable that the fastest sprint performances are usually recorded with a helping breeze. An analysis of the best performances from these 182 nations shows that 139 were achieved with tailwinds between 0.1 and 2 metres per second, while only 17 came while facing headwinds (Chart 3). Even slight wind assistance matters in an event decided by hundredths of a second.

Four of India's top five performances, including Gurindervir's, were recorded with tailwinds. However, his national record came with a relatively modest breeze of 0.3 metres per second, indicating scope for faster performances under more favourable conditions.

Gurindervir, after setting the new record, told the media that the world would soon see Indians running below 10 seconds.

Off and running

The data for the charts were sourced from World Athletics, the international governing body for the sport of athletics

TABLE 1: The top five Indian men's 100m performances

India Rank	World Rank	Competitor	Time (in seconds)	Wind (in m/s)	Date of performance
1	524	Gurindervir Singh	10.09	0.3	May 23, 2026
2	878	Animesh Kujur	10.15	0.3	May 22, 2026
3	1180	Manikanta Hoblihdhar	10.19	-0.6	September 28, 2025
4	1362	Anil Kumar	10.21	2	July 5, 2000
5	1480	Tamilarasu Senthilkumar	10.22	0.2	August 20, 2025

CHART 1: The all-time top-700 men's 100m performances

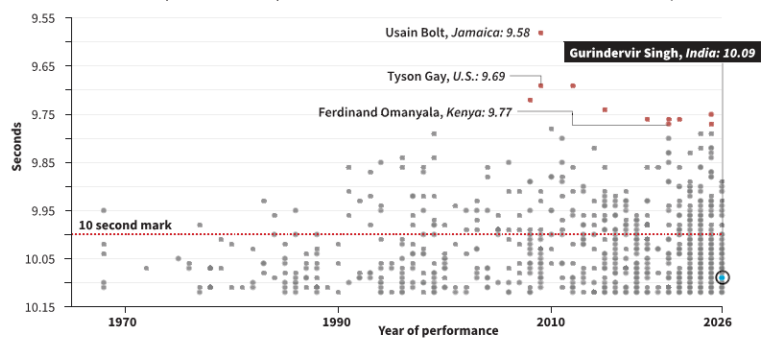


CHART 2: Fastest men's 100m performances of each country, grouped by continent and whether the 10-second barrier has been broken

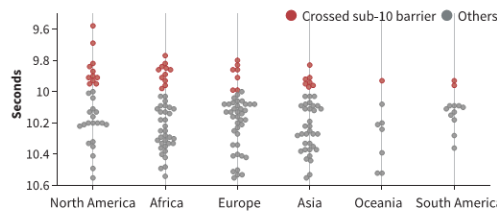
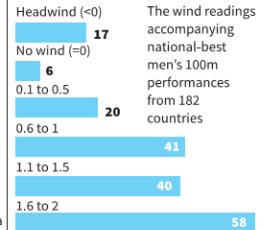


CHART 3: The wind readings accompanying national-best men's 100m performances from 182 countries



03J6. The finish line is still far for Indian sprinting

भारतीय स्प्रिंट दौड़ के लिए फिनिश लाइन अभी भी बहुत दूर है

- Gurindervir Singh's national-record, 10.09s, ranks 524th on the all-time list; only 39 countries have broken the 10-second barrier.

गुरिंदरवीर सिंह का राष्ट्रीय रिकॉर्ड, 10.09 सेकंड, सर्वकालिक सूची में 524वें स्थान पर है; केवल 39 देशों ने 10-सेकंड की बाधा को पार किया है।

- By the time the men's 100m final began at the Federation Cup in Ranchi on May 23, 2026, India's national record had already changed hands twice within that tournament — a first in Indian sprinting.

23 मई 2026 को रांची में आयोजित फेडरेशन कप में पुरुषों की 100 मीटर फाइनल दौड़ शुरू होने तक भारत का राष्ट्रीय रिकॉर्ड उसी प्रतियोगिता के भीतर दो बार बदल चुका था — जो भारतीय स्प्रिंट इतिहास में पहली बार हुआ।



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- A day earlier, **Gurindervir Singh** had lowered the national record to **10.17 seconds** in the first semifinals.
एक दिन पहले **गुरिंदरवीर सिंह** ने पहले सेमीफाइनल में राष्ट्रीय रिकॉर्ड को घटाकर **10.17 सेकंड** कर दिया था।
- His time of **10.09 seconds** not only restored the record to his name but also made him the first Indian to break the **10.1-second barrier**.
उनका **10.09 सेकंड** का समय न केवल राष्ट्रीय रिकॉर्ड को पुनः उनके नाम कर गया, बल्कि उन्हें **10.1 सेकंड की बाधा** तोड़ने वाला पहला भारतीय भी बना दिया।
- **Anil Kumar's** national record of **10.21 seconds** had remained unbeaten since **2000**.
अनिल कुमार का **10.21 सेकंड** का राष्ट्रीय रिकॉर्ड **2000** से अटूट बना हुआ था।
- By clocking **10.18 seconds**, Animesh not only broke that in **July 2025**, but became the first Indian to cross the **10.2-second barrier**.
10.18 सेकंड का समय निकालकर अनिमेश ने **जुलाई 2025** में न केवल वह रिकॉर्ड तोड़ा, बल्कि **10.2 सेकंड की बाधा** पार करने वाले पहले भारतीय भी बने।
- On the global all-time list, Gurindervir's record ranks only **524th**.
वैश्विक सर्वकालिक सूची में गुरिंदरवीर का रिकॉर्ड केवल **524वें** स्थान पर है।
- At the very top, the sport remains remarkably concentrated.
शीर्ष स्तर पर यह खेल अब भी कुछ सीमित देशों के प्रभुत्व में केंद्रित है।
- Ten of the top 11 performances belong to sprinters from just two countries — **Jamaica** and the **U.S**.
शीर्ष 11 प्रदर्शनों में से 10 केवल दो देशों — **जमैका** और **अमेरिका** — के धावकों के नाम हैं।
- Jamaica's **Usain Bolt** holds the world record at **9.58 seconds**.
जमैका के **उसैन बोल्ट** के नाम **9.58 सेकंड** का विश्व रिकॉर्ड दर्ज है।
- American **Tyson Gay** shares the second-fastest time in history at **9.69 seconds**.
अमेरिका के **टायसन गे** के नाम इतिहास का दूसरा सबसे तेज़ समय **9.69 सेकंड** दर्ज है।

Questions and Answers to the previous day's daily quiz:

1. Apart from Royal Challengers Bengaluru, these two teams have defended their crowns. **Ans: Chennai Super Kings and Mumbai Indians**
 2. The only batter to have scored two tons. **Ans: CSK's Sanju Samson**
 3. The Shaheed Veer Narayan Singh International Cricket Stadium and Rajiv Gandhi International Stadium are located in these State capitals. **Ans: Raipur and Hyderabad**
 4. A unique factor about Match 38 played on April 26. **Ans: It was the only one to be decided by a Super Over where KKR prevailed over the host LSG**
 5. The first player to win back-to-titles with two different teams. **Ans: Krunal Pandya (MI in 2019 & 20) and RCB (25 & 26)**
 6. Teenage sensation Vaibhav Sooryavanshi won these official awards. **Ans: Most Valuable Player (₹15 lakh), Emerging player (₹10 lakh), Super Striker (Tata Sierra SUV) and Super Sixes (₹10 lakh)**
- Visual: Name this bowler who was the only one to take five wickets in a match. **Ans: Mohsin Khan (LSG)**
- Early birds: Elango P. | Amit Saxena

03J6. QUIZ: IPL

1. Teams That Successfully Defended Their IPL Titles

- Chennai Super Kings (CSK) and Mumbai Indians (MI)
- Royal Challengers Bengaluru (RCB) joined a very exclusive group of IPL teams by successfully defending their title in IPL 2026.
- Mumbai Indians defended their title in 2020 after winning in 2019, while Chennai Super Kings retained their crown in 2011 after winning in 2010.

2. The Only Batter to Score Two Centuries

- Sanju Samson emerged as the only batter to score **two centuries in IPL 2026**.
- His second hundred of the season made him the only player to achieve multiple centuries during the tournament.

3. Locations of Two Major IPL Stadiums

- The **Shaheed Veer Narayan Singh International Cricket Stadium** is located in **Raipur**.
- The **Rajiv Gandhi International Cricket Stadium** is situated in **Hyderabad**.

4. Unique Feature of Match 38 Played on April 26

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- The match was decided by a Super Over, with KKR defeating LSG.
- Match 38 of IPL 2026 became memorable because it was the **only match of the season to be decided through a Super Over**.
- The contest between **Kolkata Knight Riders (KKR)** and **Lucknow Super Giants (LSG)** ended in a tie after both teams scored identical totals.

5. First Player to Win Back-to-Back IPL Titles with Two Different Teams

- Krunal Pandya created a unique IPL record by winning consecutive IPL titles with **different franchises**. He was part of **Mumbai Indians'** championship-winning teams in **2019 and 2020**, and later became a member of **Royal Challengers Bengaluru's** title-winning squads in **2025 and 2026**.

6. Awards Won by Vaibhav Sooryavanshi

- Teenage sensation **Vaibhav Sooryavanshi** enjoyed a breakthrough IPL 2026 season and received multiple official awards. He won the **Most Valuable Player (MVP)** award for his overall impact on matches.
- He was also named the **Emerging Player of the Season**, recognizing his exceptional performances at a young age.
- Additionally, he secured the **Super Striker Award** for maintaining an outstanding strike rate and the **Super Sixes Award** for hitting the highest number of sixes.
- His record-breaking performances established him as one of the brightest young talents in Indian cricket.

Pope picks first lay woman to head communications dept. at Vatican



PCS REUTERS
Pope Leo XIV on Tuesday named a Mexico-born news executive to head up the Vatican's powerful communications department — the first lay woman to hold a post in the Roman Curia. Maria Montserrat Alvarado, currently president of the Catholic media outlet EWTN News, will take up her post on November 1. AFP

पादरी महिला हैं।

- **Maria Montserrat Alvarado**, currently president of the Catholic media outlet **EWTN News**, will take up her post in November.
कैथोलिक मीडिया संस्थान **EWTN News** की वर्तमान अध्यक्ष **मारिया मॉन्टसेराट अल्वाराडो** नवंबर में अपना पदभार ग्रहण करेंगी।

03J6. Pope picks first lay woman to head communications dept. at Vatican

पोप ने वेटिकन के संचार विभाग की प्रमुख के रूप में पहली गैर-पादरी महिला को चुना

- **Pope Leo XIV** on Tuesday named a **Mexico-born** news executive to head up the Vatican's powerful communications department.
पोप लियो XIV ने मंगलवार को मेक्सिको में जन्मी एक समाचार अधिकारी को वेटिकन के शक्तिशाली संचार विभाग का प्रमुख नियुक्त किया।

- The **first lay woman** to hold a post in the **Roman Curia**.

वह रोमन क्यूरिया में इस पद पर नियुक्त होने वाली पहली गैर-

NEW CHALLENGE

Bahutule is India's spin-bowling coach ahead of Afghanistan Test



PCS FILE PHOTO
Sairaj Bahutule has joined the Indian team as spin-bowling coach ahead of the Test against Afghanistan. The former India leggie will oversee the national team's spin department across formats. He joins the Indian camp after a stint with Punjab Kings in IPL 2026. He was part of the India u-19 and India-A set-up.

03J6. Bahutule is India's spin-bowling coach ahead of Afghanistan Test

अफगानिस्तान टेस्ट से पहले बहुतुले बने भारत के स्पिन गेंदबाजी कोच



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

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

CONTACT: 9971932488



- **Sairaj Bahutule** has joined the Indian team as **spin-bowling coach** ahead of the Test against **Afghanistan**.
सैराज बहुतुले ने अफगानिस्तान के खिलाफ टेस्ट मैच से पहले भारतीय टीम के स्पिन गेंदबाजी कोच के रूप में टीम से जुड़ गए हैं।
- The former India leggie will oversee the national team's spin department across formats.
पूर्व भारतीय लेग स्पिनर सभी प्रारूपों में राष्ट्रीय टीम के स्पिन विभाग की देखरेख करेंगे।

03J6.India men rout Korea in under-18 Asia Cup

अंडर-18 एशिया कप में भारत ने कोरिया को करारी शिकस्त दी

- The **Indian men** produced a dominant **4-1 victory** against **Korea** in their third **under-18 Asia Cup 2026 Pool A** match here.
भारतीय पुरुष टीम ने यहां खेले गए अपने तीसरे अंडर-18 एशिया कप 2026 पूल ए मुकाबले में कोरिया के खिलाफ शानदार 4-1 की जीत दर्ज की।
- India faces **Taiwan** on Wednesday.
भारत का अगला मुकाबला बुधवार को ताइवान से होगा।

India men rout Korea in under-18 Asia Cup

FCS
ANI
KAKAMIGAHARA [JAPAN]

The Indian men produced a dominant 4-1 victory against Korea in their third under-18 Asia Cup 2026 Pool A match here. Captain Ketan Kushwaha (3, 36), Varinder Singh (5) and Shahrukh Ali (54) scored

for India while Korean captain Yun Jaehyeok (21) pulled one back.

The win puts India level on six points with Korea and Japan.

The top two from each pool will qualify for the semifinals.

India faces Taiwan on Wednesday.

PATRIOTIC



I know I am not far away from the top

After quietly climbing to World No. 40, Chotrani has his eyes fixed on the **Asian Games singles gold**; the 24-year-old, who is the **second highest-ranked men's player** in the country, feels he can improve further by working on the mental and physical aspects of his game

INTERVIEW

Veer Chotrani

PCS
K. Keerthivasan

After taking up squash full-time following his graduation from Cornell University in the USA two years ago, Veer Chotrani has emerged as one of the players to watch out for on the PSA Tour.

The 24-year-old from Mumbai has quietly climbed the PSA rankings ladder to a career-high World No. 40, registering notable wins over top players. Chotrani has now set his sights on winning the Asian Games gold medal in singles, which offers direct qualification for the 2028 Los Angeles Olympics.

"If I win the Asian Games singles gold, I will clinch an Olympics berth. Nobody knows who will play in the individual events (at the Asian Games) because you have the mixed doubles event as well. But if I get a chance to play singles, it will be a pretty good opportunity," Chotrani told *The Hindu*.

He also spoke about competing full-time on the PSA Tour, the challenges a professional player faces, and his desire to perform better in Platinum events in the new season.

You are ranked 40th in the world. Are you satisfied with your season?

Yes, it was good. I've seen progress in every department of my game. I had some good wins. There were also a few matches where I didn't get the result, but I feel that my performances against some of the top players were really good. Overall, it was a positive season.

You registered some impressive wins over Abhay Singh and other higher-ranked players this season. Which performances would you consider the highlights?

I beat France's Baptiste Masotti, who was in the top 20, at the Squash on Fire Open in Washington. That was probably my biggest win... my first victory over a top-20 player. I beat Abhay twice (in the Indian Tour in Mumbai and the World championships in Giza) out of the three times we played each other. I played one of my best matches when I pushed top-10 player Joel Makin

(Wales) to five games at the New Zealand Open in Christchurch. Reaching the quarterfinals of the Hamburg Open was great.

These kinds of performances have given me a lot of confidence and motivation to keep pushing. I know that I have the potential to get up there very soon. It's just a matter of time before I put together a consistent run of good results. Hopefully, that happens next season.

Which are the areas you think you need to work on?

My game has definitely improved, but I still think there is plenty of work to do, especially on the mental and physical aspects. That is what really separates players like me from the top guys. At this level, almost every player has the squash ability to compete at a very high standard. But who is willing to push themselves physically and mentally to the absolute limit to get over the line? That is what separates the top-10 players from those ranked in the 30s and 40s.

That is something I'm working on. The more exposure I got against the top-10 and top-20 players this season, the more I learnt. It gave me a much better understanding of what it takes to compete at the highest level, something I didn't fully have before this season. Being able to step on court with someone like Makin, who is among the top players in the world and one of the fittest on the Tour, and being able to stay with him and compete was a huge positive for me. In today's game, the physical and mental sides are everything, so those are areas I really want to focus on.

Do you take advice from your father Manish Chotrani, who is a former National champion?

We only talk squash; we love the sport way too much. It's our common language. He only wants me to get better every time I'm training or playing a tournament. All the time we're just discussing what the next step should be. It's good to have someone at home who keeps a check on me. He is someone who understands me very well. It's very good to have that kind of sporting, squash

mind... someone who can analyse my game very well. He talks to my coach David Palmer and gets feedback from him. Whenever I'm in Mumbai, I'm with my dad on the court. He's the one who hits with me all the time.

All eight of your PSA titles have come at the Challenger class. Do you think you need to win Copper, Bronze and bigger World Tour events to improve your ranking further, especially with the Asian Games coming up in September-October?

Yes, all of them have been at the Challenger level, but I also made two finals (St. James Expression Open in Springfield, the USA, and the Indian Open, Mumbai) at the World Tour level this season. Obviously, the goal is to start winning World Tour titles, beginning with Copper events. I don't think that I'm too far away from that level.

There is intense competition for places in the Indian team for the Asian Games. You are the second highest-ranked men's player behind Abhay. With the rankings

getting updated every week, how difficult is it to maintain your position on the tour?

Honestly, I'm not really thinking about the rankings. I just want to focus on my preparation and game. Ramit Tandon (47) and Velavan Senthilkumar (53) and I are extremely close in the standings, while Abhay (24) is ahead of us. But I believe that on any given day, all four of us are capable of beating each other. So, I'm not really thinking too much about all of that.

India now has four men in the world's top 60...

To be honest, even before COVID-19, we had a few players in the top 50. Saurav Ghosal was obviously far ahead of everyone at that point. We also had players like Ramit in the top 50. Harinderpal Singh Sandhu, Vikram Malhotra and Mahesh Mangaonkar... all of whom broke into the top 50 at different points of their careers. Maybe it wasn't as consistent then, but Indian squash has definitely had players capable of reaching that level. Right now, we have a very healthy rivalry among the four of us. Going into the Asian Games, there is a huge opportunity for us to defend our team gold. I genuinely think we have a much stronger team and a much better chance than last time.

Who could be India's toughest opponents at the Asian Games?

Traditionally, it has been Pakistan, Hong Kong and Malaysia. That has been the case for many years, and I don't think it will change this year either. Based on world rankings, I think we have the most consistent and solid team. That makes a huge difference in terms of depth. Hopefully, we go into the Games as the No. 1 seeded team. After that, it's all about delivering on the big stage at the right moment.

In the past, you had balanced playing on the PSA Tour with college squash. How has the

transition to professional squash been?

It's been great. I've been playing full-time since September 2024. I've been competing regularly and performing well on the PSA Tour, which is the reason for my rise in the rankings. I don't think there was much pressure on me when I started playing full-time. I planned my schedule well so that I had enough flexibility to train and recover. Physically, it wasn't too taxing, but mentally, it was tougher because of all the travelling – constantly moving from one country to another, flights, hotels and adapting to different conditions.

But honestly, I had zero pressure because I felt I had nothing to lose. It was my first full season, and my only goal was to play good squash and climb as high as possible in the rankings, especially since I hadn't played many PSA events before. I also wanted to enjoy the experience – travelling to different countries, competing at different venues, in different atmospheres and in front of different crowds. It was a lovely experience, and the exposure I gained in my first season is something I'll always cherish.

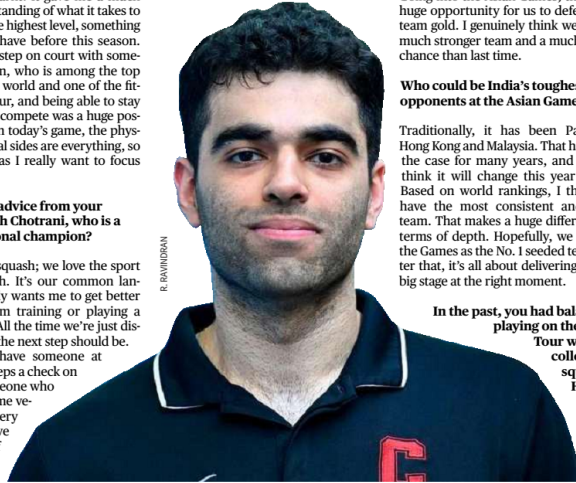
Of course, there were a lot of learnings as well. Last summer, I worked extremely hard on my physical conditioning, and I could clearly see the improvements this season. I know I need to keep doing that consistently every year, and that's going to remain a major focus for me going forward.

What is your next objective?

I would love to play in the individual event (singles) at the Asian Games. It is not just about winning an Asian Games gold; there is qualification for the 2028 Los Angeles Olympics, too. I would love to have a shot at that. I also aim to make it to the Platinum events next season. I need to be in the top 35 in the world to be able to get into those events. I'll be working towards that; I'm not far away.

Is there one eye on the Los Angeles Olympics?

Winning the singles title at the Asian Games is my major goal. If I win gold, I will clinch an Olympics berth. Nobody knows who will play in the individual events (at the Asian Games) because you have the mixed doubles event as well. But if I get a chance to play singles, it will be a pretty good opportunity.



R. DOMINIAN

03J6. I know I am not far away from the top

मुझे पता है कि मैं शीर्ष से ज्यादा दूर नहीं हूँ

- After quietly climbing to **World No. 40**, Chotrani has his eyes fixed on the **Asian Games singles gold**.

शांतिपूर्वक विश्व रैंकिंग 40 तक पहुंचने के बाद चोटरानी की नजर अब एशियन गेम्स एकल स्वर्ण पदक पर है।

- After taking up **squash** full-time following his graduation from **Cornell University** in the USA two years ago, **Veer Chotrani** has emerged as one of the players to watch out for on the **PSA Tour**.

दो वर्ष पहले अमेरिका के कॉर्नेल यूनिवर्सिटी से स्नातक होने के बाद पूर्णकालिक रूप से स्क्वैश अपनाने वाले वीर चोटरानी अब पीएसए टूर के उभरते खिलाड़ियों में शामिल हो गए हैं।

- The **24-year-old** from **Mumbai** has quietly climbed the **PSA rankings ladder** to a career-high **World No. 40**, registering notable wins over top players.



मुंबई के इस 24 वर्षीय खिलाड़ी ने शीर्ष खिलाड़ियों पर उल्लेखनीय जीत दर्ज करते हुए पीएसए रैंकिंग में करियर की सर्वश्रेष्ठ विश्व रैंकिंग 40 हासिल की है।

- **Chotrani** has now set his sights on winning the **Asian Games gold medal** in singles, which offers direct qualification for the **2028 Los Angeles Olympics**.

चोटरानी ने अब एकल वर्ग में एशियन गेम्स स्वर्ण पदक जीतने का लक्ष्य तय किया है, जो 2028 लॉस एंजेलिस ओलंपिक के लिए सीधी योग्यता प्रदान करता है।

GS Paper 1: Geography		03 June 2026
TOPICS COVERED		
03J6	Blue Moon	
03J6	IMD revises its forecast for the onset of monsoon over Kerala to 'around June 4' IMD ने केरल में मानसून के आगमन का पूर्वानुमान संशोधित कर 'लगभग 4 जून' किया	
03J6	India losing ability to build its own instruments: climate science report भारत अपनी वैज्ञानिक उपकरण निर्माण क्षमता खो रहा है: जलवायु विज्ञान रिपोर्ट	
03J6	Bolides: fireballs going boom बोलाइड्स: विस्फोट करते अग्नि-पिंड	
03J6	Benin president visits Niger, a first since 2023 coup sparked tensions बेनिन के राष्ट्रपति ने नाइजर का दौरा किया, 2023 के तख्तापलट के बाद यह पहली यात्रा	

Blue Moon

- A blue moon, the second full moon in a calendar month, rises behind the ancient Greek temple of Poseidon at Cape Sounion south of Athens, on May 31.
- A **Blue Moon** is a special term used for an unusually timed full moon. Despite its name, the Moon does **not actually appear blue** in most cases.

BIG SHOT



A blue moon, the second full moon in a calendar month, rises behind the ancient Greek temple of Poseidon at Cape Sounion south of Athens, on May 31, 2023.

Monthly Blue Moon

- When **two full moons occur in the same calendar month**, the second full moon is called a Blue Moon.
- This happens because:
 - A full moon occurs roughly every **29.5 days**.
 - Some months are **31 days long**.
 - Therefore, occasionally a month can contain two full moons.
- Example: If a full moon occurs on **1st August and another on 31st August**, the second one is called a Blue Moon.
- This type of Blue Moon occurs roughly once every: **2.5 to 3 years**.



India losing ability to build its own instruments: climate science report

Use of imported equipment that remains uncalibrated leads to incorrect data being reported, marring credibility of Indian science; researchers also aim to study long-term impact of uncontrolled tapping of natural resources for renewable energy

GS I: Geography

GS III: S&T

Jacob Koshy
NEW DELHI

A group of India's leading climate scientists has warned that the country has almost lost the ability to build its own scientific instruments, leaving its climate observations dependent on imported equipment that is often run uncalibrated for years. This has led to "incorrect data being reported in national and international journals, often leading to questions on the credibility of Indian science", they said.

The researchers also called for long-term studies to evaluate the climate consequences of the "uncontrolled" growth of renewable energy installations, warning that the effects of large solar and wind plants on the climate remain "poorly understood".

The warning appeared in the Mega Science Vision-2035 (MSV) report on Climate Research, a road map prepared by the Indian climate research community with the Indian In-



Heat is on: The warning lands at a time when India is already facing the harmful effects of the warming climate. SHIV KUMAR PUSHPAKAR

stitute of Science, Bengaluru, as the nodal institution, and submitted to the Office of the Principal Scientific Adviser (PSA) to the Union government.

The report was made public earlier this week.

Atmanirbhar challenges

The warning on instruments sits awkwardly with the government's drive for "atmanirbhar" or self-reliance. To boost domestic manufacturing, the Government e-Marketplace (GeM) portal was made mandatory for public

scientific institutions, requiring procurement from the lowest-bidding India-registered vendor.

As *The Hindu* has reported, scientists found this a stumbling block when they needed customised equipment built to high-quality standards, with GeM vendors often unable to meet such specifications and the alternative – a global tender – entailing long bureaucratic delays.

In June 2025, the Finance Ministry rolled back some of the rules amid

complaints over sub-standard materials.

The warning also lands at a time when India is already facing the harmful effects of the warming climate, from intensifying heatwaves and erratic monsoons to accelerating Himalayan glacier melt – the very trends that reliable, well-calibrated observations are meant to track.

The MSV exercise, historically used to plan large, long-horizon projects in fields such as nuclear and high-energy physics, was for the first time extended to climate research, ecology and astronomy, and was facilitated by the PSA's office under Professor Ajay K. Sood.

On the energy transition, the report recommended devising "scientific methods to estimate the social cost of carbon [i.e., the cost of damages from an extra ton of CO₂]" and a mechanism to implement the "polluter pays" principle to stop the atmosphere being used as "a dumping ground" for emissions, while seeking ways to "offset the effects of the carbon tax on the poor."

The scientists' justification for studying "uncontrolled" renewables is cautionary rather than sceptical. The report said that while "renewable energy seems to be the right solution to replace polluting energy sources, studies are needed to understand the long-term consequences of the uncontrolled tapping of natural resources."

India has pledged 500 GW of non-fossil capacity by 2030, and crossed the halfway mark on installed electricity capacity from non-fossil sources in 2025.

Mega projects

The report called for an indigenous Earth System Model built "from first principles", distinct from existing Indian models which have been "adapted from the U.S. or Europe."

It also proposed eight "mega projects" – spanning observatories, satellites, in-situ networks, field campaigns, indigenous sensors, carbon-neutrality research and adaptation science – phased across three roughly five-year blocks until 2035.

03J6. India losing ability to build its own instruments: climate science report

भारत अपनी वैज्ञानिक उपकरण निर्माण क्षमता खो रहा है: जलवायु विज्ञान रिपोर्ट

- The warning appeared in the **Mega Science Vision-2035 (MSV) report on Climate Research**.
यह चेतावनी मेगा साइंस विजन-2035 (MSV) जलवायु अनुसंधान रिपोर्ट में दी गई है।
- A road map prepared by the Indian climate research community with the **Indian Institute of Science (IISc), Bengaluru**, as the nodal institution.
यह रोडमैप भारतीय जलवायु अनुसंधान समुदाय द्वारा भारतीय विज्ञान संस्थान (IISc), बंगलुरु को नोडल संस्था बनाकर तैयार किया गया।
- To boost domestic manufacturing, the **Government e-Marketplace (GeM) portal** was made mandatory for public scientific institutions.



घरेलू विनिर्माण को बढ़ावा देने के लिए सार्वजनिक वैज्ञानिक संस्थानों हेतु गवर्नमेंट ई-मार्केटप्लेस (GeM) पोर्टल अनिवार्य बनाया गया।

- India has pledged **500 GW of non-fossil capacity by 2030**.
भारत ने 2030 तक 500 GW गैर-जीवाश्म ऊर्जा क्षमता हासिल करने का संकल्प लिया है।
- **And crossed the halfway mark on installed electricity capacity from non-fossil sources in 2025.**
और 2025 में गैर-जीवाश्म स्रोतों से स्थापित विद्युत क्षमता में आधे से अधिक लक्ष्य हासिल कर लिया।

Mega projects मेगा परियोजनाएँ

- The report called for an indigenous **Earth System Model** built "from first principles". रिपोर्ट में "प्रथम सिद्धांतों" पर आधारित स्वदेशी अर्थ सिस्टम मॉडल विकसित करने की मांग की गई।
- **Spanning observatories, satellites, in-situ networks, field campaigns, indigenous sensors, carbon-neutrality research and adaptation science.**
इनमें वेधशालाएँ, उपग्रह, स्थल-आधारित नेटवर्क, फील्ड अभियान, स्वदेशी सेंसर, कार्बन-न्यूट्रलिटी अनुसंधान और अनुकूलन विज्ञान शामिल हैं।

Bolides: fireballs going boom

GS I: Geography

Vasudevan Mukunth

On May 30, a meteor exploded over northeastern U.S. while producing loud booming noises. NASA scientists said the object broke apart around 64 km above the ground as it was falling at more than 1,20,000 km/hr. The energy the explosion released was estimated to be equivalent to around 300 tonnes of TNT.

Experts often call these objects bolides. A bolide is an exceptionally bright meteor that breaks apart or explodes in the earth's atmosphere. These objects are originally small pieces of rock or metal in space that, after a close encounter with the earth, enter the atmosphere as meteors. As such a meteor falls, the air in front becomes compressed and heated, causing it to glow and produce a bright streak of light across the sky.

Most meteors are very small and burn up completely before reaching the ground. However, larger ones can survive for longer. If they become bright enough, they become fireballs. And if they fragment violently and release a large amount of energy, astronomers often call them bolides.

The rock or metal is usually some small fragment left behind by asteroids or, less often, comets. They orbit the sun until their paths intersect with that of the earth. When they enter the atmosphere, they can travel tens of kilometres every



A frame grab of a video recorded by a dashboard camera shows the Chelyabinsk meteorite descending in February 2013. AP

second. The loud booms are the resulting shockwaves.

A famous example is the Chelyabinsk bolide, which exploded over Russia in 2013, generating a powerful shockwave that damaged buildings and injured more than a thousand people.

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

03J6. Bolides: fireballs going boom बोलाइड्स: विस्फोट करते अग्नि-पिंड

- On May 30, a meteor exploded over northeastern U.S. while producing loud booming noises.

30 मई को उत्तर-पूर्वी संयुक्त राज्य अमेरिका के ऊपर एक उल्का विस्फोटित हुआ, जिससे तेज़ गूँजने वाली ध्वनियाँ उत्पन्न हुईं।

- NASA scientists said the object broke apart around 64 km above the ground as it was falling at more than 1,20,000 km/hr.

नासा के वैज्ञानिकों ने कहा कि यह वस्तु पृथ्वी से लगभग 64 किलोमीटर ऊपर टूट गई, जबकि यह 1,20,000 किमी/घंटा से अधिक की गति से गिर रही थी।

- The energy the explosion released was estimated to be equivalent to around 300 tonnes of TNT.

इस विस्फोट से निकलने वाली ऊर्जा का अनुमान लगभग 300 टन टीएनटी के बराबर लगाया गया।

- Experts often call these objects bolides.

विशेषज्ञ इन वस्तुओं को प्रायः बोलाइड कहते हैं।

- A bolide is an exceptionally bright meteor that breaks apart or explodes in the earth's atmosphere.

बोलाइड एक अत्यंत चमकीला उल्का होता है, जो पृथ्वी के वायुमंडल में टूट जाता है या विस्फोटित हो जाता है।

- These objects are originally small pieces of rock or metal in space that, after a close encounter with the earth, enter the atmosphere as meteors.

ये वस्तुएँ मूल रूप से अंतरिक्ष में मौजूद चट्टान या धातु के छोटे टुकड़े होती हैं, जो पृथ्वी के निकट आने के बाद उल्का के रूप में वायुमंडल में प्रवेश करती हैं।



- As such a meteor falls, the air in front becomes compressed and heated, causing it to glow and produce a bright streak of light across the sky.
जब ऐसा उल्का गिरता है, तो उसके सामने की वायु संकुचित और गर्म हो जाती है, जिससे वह चमकने लगता है और आकाश में प्रकाश की एक चमकीली रेखा उत्पन्न करता है।
- Most meteors are very small and burn up completely before reaching the ground.
अधिकांश उल्काएँ बहुत छोटी होती हैं और पृथ्वी की सतह तक पहुँचने से पहले ही पूरी तरह जल जाती हैं।
- If they become bright enough, they become **fireballs**.
यदि वे अत्यधिक चमकीली हो जाएँ, तो उन्हें **फायरबॉल** कहा जाता है।
- And if they fragment violently and release a large amount of energy, astronomers often call them **bolides**.
और यदि वे तीव्रता से टूटकर अत्यधिक मात्रा में ऊर्जा छोड़ें, तो खगोलविद उन्हें प्रायः **बोलाइड** कहते हैं।
- The rock or metal is usually some small fragment left behind by **asteroids** or, less often, **comets**.
यह चट्टान या धातु प्रायः **क्षुद्रग्रहों** अथवा कम मामलों में **धूमकेतुओं** के पीछे छोटे छोटे टुकड़े होते हैं।
- They orbit the sun until their paths intersect with that of the earth.
वे सूर्य की परिक्रमा करते रहते हैं, जब तक कि उनका मार्ग पृथ्वी के मार्ग से न टकरा जाए।
- When they enter the atmosphere, they can travel tens of kilometres every second.
जब वे वायुमंडल में प्रवेश करते हैं, तो वे प्रत्येक सेकंड में कई किलोमीटर की दूरी तय कर सकते हैं।
- The loud booms are the resulting shockwaves.
तेज़ गूँजने वाली ध्वनियाँ उसी से उत्पन्न आघात तरंगें होती हैं।
- A famous example is the **Chelyabinsk bolide**, which exploded over **Russia** in **2013**, generating a powerful shockwave that damaged buildings and injured more than a thousand people.
एक प्रसिद्ध उदाहरण **चेल्याबिंस्क बोलाइड** है, जो **2013** में **रूस** के ऊपर विस्फोटित हुआ था, जिससे उत्पन्न शक्तिशाली आघात तरंगों ने इमारतों को क्षतिग्रस्त कर दिया और एक हजार से अधिक लोग घायल हो गए।

Benin president visits Niger, a first since 2023 coup sparked tensions

GS I: Geography

Agence France-Presse
ABIDJAN

Benin's new leader was in Niger on Tuesday, state TV showed, the first such presidential visit to Niamey since a 2023 coup, in a sign of easing tensions between the neighbours.

Niger's military leaders, who broke off ties with traditional ally France, closed the border with Benin after accusing the country of harbouring "French bases" bent on destabilising Niger.

Junta chief Abdourahmane Tiani greeted Benin President Romuald Wadagni, who took over on May 24, Tele Sahel showed in its live coverage.

The two leaders are expected to discuss relaunching security cooperation between the countries, which are both battling jihadist violence.



Benin's newly elected President Romuald Wadagni during his inauguration ceremony in Cotonou on May 24. REUTERS

The visit "is part of the active neighbourhood diplomacy that President Wadagni intends to pursue with all the states bordering Benin", the Beninese presidency said in a statement.

In an initial sign of improving relations, Niger's Prime Minister Ali Lamine Zeine had attended Mr. Wadagni's inauguration in

Cotonou where he spoke of "a new path".

Late on Monday, Niger state TV had broadcast reports praising "the age-old relations" between the "brotherly peoples of Niger and Benin" as well as a "desire to ease regional diplomatic tensions".

Main roads in Niamey on Tuesday were decorated with flags of the two

countries and hundreds of Beninese gathered to greet the presidential convoy.

Niger is Mr. Wadagni's second foreign trip after he visited Nigeria on Monday.

Mr. Wadagni, the former Finance Minister and chosen successor of ex-President Patrice Talon, won the election with 94% of the vote.

A few days after his victory, Nigerien Interior Minister Mohamed Toumba said he was waiting for "goodwill gestures" from the new President, "for Benin to come out and say that it has nothing to do with France's interests, that Benin is not facilitating France's presence on its territory in order to attack its neighbours".

Niger regularly accuses Benin of harbouring French military bases which it says are training jihadists.

03J6. Benin president visits Niger, a first since 2023 coup sparked tensions

बेनिन के राष्ट्रपति ने नाइजर का दौरा किया, 2023 के तख्तापलट के बाद यह पहली यात्रा

• Benin's new leader was in Niger on Tuesday, state TV showed.

राज्य टीवी के अनुसार, बेनिन के नए नेता मंगलवार को नाइजर पहुंचे।

• Niger's military leaders, who broke off ties with traditional ally France, closed the border with Benin.

नाइजर के सैन्य नेताओं ने, जिन्होंने पारंपरिक सहयोगी फ्रांस



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>
YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>
CONTACT: 9971932488



से संबंध तोड़ लिए थे, बेनिन के साथ सीमा बंद कर दी थी।

- After accusing the country of harbouring “French bases” bent on destabilising Niger. उन्होंने बेनिन पर नाइजर को अस्थिर करने के उद्देश्य से “फ्रांसीसी सैन्य ठिकानों” को शरण देने का आरोप लगाया था।
- “For Benin to come out and say that it has nothing to do with France’s interests.” “ताकि बेनिन स्पष्ट करे कि उसका फ्रांस के हितों से कोई संबंध नहीं है।”
- “That Benin is not facilitating France’s presence on its territory in order to attack its neighbours.” “और बेनिन अपने क्षेत्र में फ्रांस की मौजूदगी को अपने पड़ोसी देशों पर हमला करने के लिए सुविधा नहीं दे रहा है।”
- Niger regularly accuses Benin of harbouring French military bases. नाइजर नियमित रूप से बेनिन पर फ्रांसीसी सैन्य अड्डों को शरण देने का आरोप लगाता है।
- Which it says are training jihadists. नाइजर का कहना है कि ये अड्डे जिहादियों को प्रशिक्षण दे रहे हैं।

GS Paper II: Governance	03 June 2026
TOPICS COVERED	
03J6	Can CBSE’s marking system be reformed for transparency and credibility? क्या पारदर्शिता और विश्वसनीयता के लिए CBSE की मूल्यांकन प्रणाली में सुधार किया जा सकता है?

PATRIOTIC IAS



Can CBSE's marking system be reformed for transparency and credibility?

Portal glitches, blurred scans, and evaluation anomalies exposed weaknesses in the rollout of the OSM system. Robust SOPs, secure digital infrastructure, and free access to answer scripts can help restore accountability and public trust in the evaluation process

GS II: Governance

Rajeev Kumar

The Central Board of Secondary Education (CBSE), responding to long-standing demands for greater transparency in evaluation, introduced the on-screen marking (OSM) system to standardise answer-script assessment through digital technology. Under this framework, answer books are scanned into secure digital files and evaluated online through a cyber-secure platform enabling digital monitoring, random allocation of scripts, centralised moderation, and automated verification checks.

The initiative sought to improve transparency, accuracy, confidentiality, and uniformity in marking. However, it soon faced controversies over server failures, portal glitches, blurred or incomplete scanned scripts, unchecked responses, inconsistent step-marking, evaluation discrepancies, payment gateway issues, and concerns about the reliability and verifiability of the digital evaluation process.

Ironically, a system introduced to eliminate evaluation irregularities itself came under scrutiny for procedural, academic, and technological lapses. It also raises a fundamental question: why should students be charged to access and verify answer scripts that are largely their own intellectual work and have already been digitised as part of the evaluation process?

The evaluation system

Evaluation remains the most consequential component of the Teaching-Learning-Evaluation (TLE) framework because it directly influences students' academic progression, college admissions, scholarships, and career opportunities, particularly for Class XII students. After years of preparation and intense competition, students have a legitimate right to know how their answers were assessed, how step-marking was applied, and where marks were deducted.

Unlike multiple-choice-question (MCQ)-based examinations, where evaluation through optical mark recognition (OMR) sheets and answer keys is objective and machine-verifiable, descriptive examinations involve subjective assessment across multiple steps, methods, and interpretations. Different evaluators may award different marks for the same answer depending on reasoning, presentation, or methodology.

Given the massive scale of Board examinations involving millions of answer scripts, maintaining consistency in descriptive evaluation remains a major academic and technological challenge.

OSM rollout and challenges

CBSE's OSM system marked a significant shift from the conventional pen-and-paper (PnP) evaluation to digital assessment of scanned answer scripts. The system was expected to improve transparency, enable standardisation and centralised monitoring, and reduce manual evaluation errors. However, the rollout reportedly suffered from hurried implementation, weak digital infrastructure, poor-quality scanning systems, limited examiner training, and inadequate operational protocols.



Evaluation is a crucial component of the Teaching-Learning-Evaluation framework since it directly influences students' academic progression. PTI

Complaints soon emerged.

The experience highlighted that digital evaluation is not merely a software transition but a complex academic and technological ecosystem that requires robust SOPs, secure infrastructure, examiner preparedness, audit mechanisms, and strong cybersecurity safeguards to ensure transparency, consistency, and accountability.

Scope for reforms in the OSM system

The Digital OSM framework should provide scanned answer books to all students free of cost, since scripts are already digitised before evaluation. CBSE should securely deliver encrypted digital copies within a fixed timeline through authenticated portals, email, or secure mobile platforms. Such a framework would make evaluation more transparent, traceable, scalable, and verifiable while reducing server congestion, manual intervention, and access-related disputes. The proposed system would, however, require a set of clearly defined standard operating procedures (SOP).

The CBSE should establish high-resolution scanning systems, encrypted archival and backup facilities, high-capacity cloud servers, and strong cybersecurity safeguards against unauthorised access or data manipulation. The complete workflow – including scanning, indexing, storage, evaluator access, digital delivery, and audit logging – should undergo repeated pilot testing and full-load simulations through local and pre-board examinations before nationwide rollout.

Evaluators, moderators, scanning staff, and administrators should undergo structured training in digital evaluation procedures, screen-based moderation, stepwise marking, and handling of scanned scripts. Students should use only black pens and standardised answer-writing formats to ensure clear

scanning and readability of answer books and supplementary sheets.

Detailed subject-wise marking schemes, including step-marks and acceptable alternative methods, should be released within a week after the examinations. A short expert feedback window should be provided before Chief Examiners finalise marking schemes. This would help reduce ambiguities, improve standardisation, and minimise arbitrary variations in marking.

Additionally, within two to three weeks after examinations, encrypted digital answer scripts should be securely delivered to students and parents through authenticated portals, email, or registered mobile applications integrated with secure cloud and messaging APIs. Students or parents should confirm within 24 hours of receipt that the scripts are complete, readable, correctly indexed, and genuinely their own, including all supplementary sheets.

The evaluation should begin only after script verification is completed. Examiners must assess scripts strictly in accordance with approved stepwise marking schemes. Additional digital oversight tools, such as audit trails, online moderation, automated totaling checks, anomaly-detection systems, and random quality audits, should continuously monitor consistency, completeness, and adherence to SOPs.

Since students and parents would already possess both their answer scripts and official marking schemes, they can independently estimate their likely scores before the declaration of results. Significant deviations between self-estimated and officially awarded marks would help identify possible evaluation anomalies and enable targeted review or moderation.

Finally, re-checking and re-evaluation should continue as a safeguard mechanism with defined timelines and

digital tracking. However, with the proposed SOPs already ensuring verified scripts and standardised marking schemes, grievances are expected to reduce substantially.

Such a framework would significantly strengthen transparency, accountability, and public trust in the evaluation process.

The way forward

A reliable Digital OSM system requires robust scanning infrastructure, secure archival systems, high-capacity servers, and strong cybersecurity safeguards. Given the scale of the CBSE examinations, repeated full-load testing and pilot runs are essential before nationwide implementation.

Structured training for examiners and scanning staff, along with standardised, stepwise marking schemes and disciplined digital evaluation protocols, are necessary to avoid blurred scans, unchecked answers, and inconsistent marking. With well-defined SOPs and secure implementation, digital OSM can improve the credibility, consistency, and accountability of large-scale examination evaluation in India.

Importantly, the same framework can be implemented even now, making the current crisis largely reversible within a few weeks at most. By proactively sharing scanned answer scripts with all students, enabling verification of script completeness and authenticity, ensuring transparent matching of awarded marks against approved marking schemes, and correcting evaluations where the prescribed marking scheme has not been properly followed, the CBSE can quickly restore confidence in the OSM process and regain much of the credibility lost during the rollout.

(Rajeev Kumar is a former Computer Science Professor at IIT Kharagpur, IIT Kanpur, BITS Pilani, and JNU, and a former scientist at DRDO and DST.)



03J6. Can CBSE's marking system be reformed for transparency and credibility?

क्या पारदर्शिता और विश्वसनीयता के लिए CBSE की मूल्यांकन प्रणाली में सुधार किया जा सकता है?

- Portal glitches, blurred scans, and evaluation anomalies** exposed weaknesses in the rollout of the **OSM system**.

पोर्टल संबंधी त्रुटियों, धुंधली स्कैन प्रतियों और मूल्यांकन संबंधी विसंगतियों ने ओएसएम प्रणाली के कार्यान्वयन में कमजोरियों को उजागर किया।
- The **Central Board of Secondary Education (CBSE)**, responding to long-standing demands for greater transparency in evaluation, introduced the **on-screen marking (OSM) system** to standardise answer-script assessment through digital technology.

केंद्रीय माध्यमिक शिक्षा बोर्ड (CBSE) ने मूल्यांकन में अधिक पारदर्शिता की लंबे समय से चली आ रही मांगों के प्रत्युत्तर में डिजिटल प्रौद्योगिकी के माध्यम से उत्तरपुस्तिकाओं के मूल्यांकन को मानकीकृत करने हेतु ऑन-स्क्रीन मार्किंग (OSM) प्रणाली प्रारंभ की।
- Under this framework, answer books are scanned into secure digital files and evaluated online through a cyber-secure platform enabling digital monitoring, random allocation of scripts, centralised moderation, and automated verification checks.

इस व्यवस्था के अंतर्गत उत्तरपुस्तिकाओं को सुरक्षित डिजिटल फाइलों में स्कैन किया जाता है तथा साइबर-सुरक्षित प्लेटफॉर्म के माध्यम से ऑनलाइन मूल्यांकन किया जाता है, जिसमें डिजिटल निगरानी, उत्तरपुस्तिकाओं का यादृच्छिक आवंटन, केंद्रीकृत मॉडरेशन तथा स्वचालित सत्यापन जाँच जैसी सुविधाएँ शामिल हैं।
- The initiative sought to improve transparency, accuracy, confidentiality, and uniformity in marking.

इस पहल का उद्देश्य मूल्यांकन में पारदर्शिता, शुद्धता, गोपनीयता और एकरूपता में सुधार करना था।
- However, it soon faced controversies over server failures, portal glitches, blurred or incomplete scanned scripts, unchecked responses, inconsistent step-marking, evaluation discrepancies, payment gateway issues, and concerns about the reliability and verifiability of the digital evaluation process.

हालाँकि, शीघ्र ही इसे सर्वर विफलता, पोर्टल त्रुटियों, धुंधली अथवा अधूरी स्कैन की गई उत्तरपुस्तिकाओं, बिना जाँचे गए उत्तरों, असंगत चरणवार अंकन, मूल्यांकन विसंगतियों, भुगतान गेटवे संबंधी समस्याओं तथा डिजिटल मूल्यांकन प्रक्रिया की विश्वसनीयता और सत्यापन क्षमता को लेकर विवादों का सामना करना पड़ा।
- It also raises a fundamental question: why should students be charged to access and verify answer scripts that are largely their own intellectual work and have already been digitised as part of the evaluation process?

यह एक मूलभूत प्रश्न भी उठाता है कि छात्रों से उन उत्तरपुस्तिकाओं तक पहुँच और सत्यापन के लिए शुल्क क्यों लिया जाए, जो मुख्यतः उनकी स्वयं की बौद्धिक संपत्ति हैं और जिन्हें मूल्यांकन प्रक्रिया के अंतर्गत पहले ही डिजिटिकृत किया जा चुका है?

The evaluation system मूल्यांकन प्रणाली

- Evaluation remains the most consequential component of the **Teaching–Learning–Evaluation (TLE)** framework because it directly influences students' academic progression, college admissions, scholarships, and career opportunities, particularly for **Class XII** students.

मूल्यांकन शिक्षण–अधिगम–मूल्यांकन (TLE) ढाँचे का सबसे महत्वपूर्ण घटक बना हुआ है, क्योंकि यह सीधे छात्रों की शैक्षणिक प्रगति, महाविद्यालय प्रवेश, छात्रवृत्तियों और करियर अवसरों को प्रभावित करता है, विशेषकर कक्षा 12 के विद्यार्थियों के लिए।



- After years of preparation and intense competition, students have a legitimate right to know how their answers were assessed, how step-marking was applied, and where marks were deducted.
वर्षों की तैयारी और तीव्र प्रतिस्पर्धा के बाद छात्रों को यह जानने का वैध अधिकार है कि उनके उत्तरों का मूल्यांकन कैसे किया गया, चरणवार अंकन कैसे लागू किया गया तथा अंक कहाँ काटे गए।
- Unlike multiple-choice-question (MCQ)-based examinations, where evaluation through optical mark recognition (OMR) sheets and answer keys is objective and machine-verifiable, descriptive examinations involve subjective assessment across multiple steps, methods, and interpretations.
बहुविकल्पीय प्रश्न (MCQ) आधारित परीक्षाओं के विपरीत, जहाँ ऑप्टिकल मार्क रिकग्निशन (OMR) शीट और उत्तर कुंजी के माध्यम से मूल्यांकन वस्तुनिष्ठ तथा मशीन द्वारा सत्यापित होता है, वर्णनात्मक परीक्षाओं में विभिन्न चरणों, विधियों और व्याख्याओं पर आधारित व्यक्तिपरक मूल्यांकन शामिल होता है।

OSM rollout and challenges

OSM का क्रियान्वयन और चुनौतियाँ

- However, the rollout reportedly suffered from hurried implementation, weak digital infrastructure, poor-quality scanning systems, limited examiner training, and inadequate operational protocols.
हालाँकि, रिपोर्टों के अनुसार इसका क्रियान्वयन जल्दबाजी में किया गया, जिसमें कमजोर डिजिटल अवसंरचना, निम्न गुणवत्ता वाली स्कैनिंग प्रणाली, सीमित परीक्षक प्रशिक्षण तथा अपर्याप्त संचालन प्रोटोकॉल जैसी समस्याएँ रहीं।
- The experience highlighted that digital evaluation is not merely a software transition but a complex academic and technological ecosystem that requires robust SOPs, secure infrastructure, examiner preparedness, audit mechanisms, and strong cybersecurity safeguards to ensure transparency, consistency, and accountability.
इस अनुभव ने स्पष्ट किया कि डिजिटल मूल्यांकन केवल सॉफ्टवेयर परिवर्तन नहीं है, बल्कि एक जटिल शैक्षणिक और तकनीकी तंत्र है, जिसके लिए पारदर्शिता, एकरूपता और जवाबदेही सुनिश्चित करने हेतु मजबूत SOPs, सुरक्षित अवसंरचना, परीक्षकों की तैयारी, ऑडिट तंत्र और सशक्त साइबर सुरक्षा उपायों की आवश्यकता होती है।

Scope for reforms in the OSM system

OSM प्रणाली में सुधार की संभावनाएँ

- CBSE should securely deliver encrypted digital copies within a fixed timeline through authenticated portals, email, or secure mobile platforms.
CBSE को प्रमाणीकृत पोर्टलों, ईमेल अथवा सुरक्षित मोबाइल प्लेटफॉर्म के माध्यम से निर्धारित समयसीमा के भीतर एन्क्रिप्टेड डिजिटल प्रतियाँ सुरक्षित रूप से उपलब्ध करानी चाहिए।
- Such a framework would make evaluation more transparent, traceable, scalable, and verifiable while reducing server congestion, manual intervention, and access-related disputes.
ऐसा ढाँचा मूल्यांकन को अधिक पारदर्शी, अनुरेखणीय, विस्तार योग्य और सत्यापन योग्य बनाएगा, साथ ही सर्वर पर दबाव, मैनुअल हस्तक्षेप और पहुँच संबंधी विवादों को कम करेगा।
- The CBSE should establish high-resolution scanning systems, encrypted archival and backup facilities, high-capacity cloud servers, and strong cybersecurity safeguards against unauthorised access or data manipulation.
CBSE को उच्च-रिज़ॉल्यूशन स्कैनिंग प्रणालियाँ, एन्क्रिप्टेड अभिलेखन और बैकअप सुविधाएँ, उच्च क्षमता वाले क्लाउड सर्वर तथा अनधिकृत पहुँच और डेटा में हेरफेर के विरुद्ध मजबूत साइबर सुरक्षा उपाय स्थापित करने चाहिए।
- The complete workflow — including scanning, indexing, storage, evaluator access, digital delivery, and audit logging — should undergo repeated pilot testing and full-load simulations



through local and pre-board examinations before nationwide rollout.

संपूर्ण कार्यप्रवाह — जिसमें स्कैनिंग, इंडेक्सिंग, भंडारण, परीक्षक पहुँच, डिजिटल वितरण और ऑडिट लॉगिंग शामिल हैं — को देशव्यापी क्रियान्वयन से पहले स्थानीय तथा प्री-बोर्ड परीक्षाओं के माध्यम से बार-बार पायलट परीक्षण और पूर्ण-लोड सिमुलेशन से गुजरना चाहिए।

- Evaluators, moderators, scanning staff, and administrators should undergo structured training in digital evaluation procedures, screen-based moderation, stepwise marking, and handling of scanned scripts.

मूल्यांकनकर्ताओं, मॉडरेटर्स, स्कैनिंग कर्मचारियों और प्रशासकों को डिजिटल मूल्यांकन प्रक्रियाओं, स्क्रीन-आधारित मॉडरेशन, चरणवार अंकन तथा स्कैन की गई उत्तरपुस्तिकाओं के प्रबंधन में संरचित प्रशिक्षण दिया जाना चाहिए।

- Students should use only black pens and standardised answer-writing formats to ensure clear scanning and readability of answer books and supplementary sheets.

छात्रों को केवल काले पेन और मानकीकृत उत्तर-लेखन प्रारूप का उपयोग करना चाहिए, ताकि उत्तरपुस्तिकाओं और पूरक पृष्ठों की स्पष्ट स्कैनिंग तथा पठनीयता सुनिश्चित की जा सके।

- Detailed subject-wise marking schemes, including step-marks and acceptable alternative methods, should be released within a week after the examinations.

चरणवार अंकन और स्वीकार्य वैकल्पिक विधियों सहित विस्तृत विषयवार मूल्यांकन योजनाएँ परीक्षा के एक सप्ताह के भीतर जारी की जानी चाहिए।

- Additionally, within two to three weeks after examinations, encrypted digital answer scripts should be securely delivered to students and parents through authenticated portals, email, or registered mobile applications integrated with secure cloud and messaging APIs.

इसके अतिरिक्त, परीक्षाओं के दो से तीन सप्ताह के भीतर एन्क्रिप्टेड डिजिटल उत्तरपुस्तिकाएँ प्रमाणीकृत पोर्टलों, ईमेल अथवा सुरक्षित क्लाउड और मैसेजिंग APIs से एकीकृत पंजीकृत मोबाइल अनुप्रयोगों के माध्यम से छात्रों और अभिभावकों को सुरक्षित रूप से उपलब्ध कराई जानी चाहिए।

- Students or parents should confirm within 24 hours of receipt that the scripts are complete, readable, correctly indexed, and genuinely their own, including all supplementary sheets.

छात्रों अथवा अभिभावकों को प्राप्त के 24 घंटे के भीतर यह पुष्टि करनी चाहिए कि उत्तरपुस्तिकाएँ पूर्ण, पठनीय, सही प्रकार से अनुक्रमित तथा वास्तव में उनकी अपनी हैं, जिनमें सभी पूरक पृष्ठ शामिल हों।

- The evaluation should begin only after script verification is completed.

उत्तरपुस्तिका सत्यापन पूर्ण होने के बाद ही मूल्यांकन प्रारंभ होना चाहिए।

- Examiners must assess scripts strictly in accordance with approved stepwise marking schemes.

परीक्षकों को स्वीकृत चरणवार मूल्यांकन योजनाओं के अनुसार ही उत्तरपुस्तिकाओं का मूल्यांकन करना चाहिए।

- Additional digital oversight tools, such as audit trails, online moderation, automated totaling checks, anomaly-detection systems, and random quality audits, should continuously monitor consistency, completeness, and adherence to SOPs.

ऑडिट ट्रेल, ऑनलाइन मॉडरेशन, स्वचालित योग-जाँच, विसंगति पहचान प्रणाली तथा यादृच्छिक गुणवत्ता ऑडिट जैसे अतिरिक्त डिजिटल निगरानी उपकरणों को निरंतर एकरूपता, पूर्णता और SOPs के अनुपालन की निगरानी करनी चाहिए।

- Since students and parents would already possess both their answer scripts and official marking schemes, they can independently estimate their likely scores before the declaration of results.

चूँकि छात्रों और अभिभावकों के पास उनकी उत्तरपुस्तिकाएँ तथा आधिकारिक मूल्यांकन योजनाएँ पहले से उपलब्ध होंगी, वे परिणाम घोषित होने से पहले अपने संभावित अंकों का स्वतंत्र रूप से अनुमान लगा सकेंगे।

The way forward

आगे की राह



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

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

CONTACT: 9971932488



- A reliable **Digital OSM system** requires robust scanning infrastructure, secure archival systems, high-capacity servers, and strong cybersecurity safeguards.
एक विश्वसनीय डिजिटल OSM प्रणाली के लिए मजबूत स्कैनिंग अवसंरचना, सुरक्षित अभिलेखन प्रणाली, उच्च क्षमता वाले सर्वर तथा सशक्त साइबर सुरक्षा उपाय आवश्यक हैं।
- By proactively sharing scanned answer scripts with all students, enabling verification of script completeness and authenticity, ensuring transparent matching of awarded marks against approved marking schemes, and correcting evaluations where the prescribed marking scheme has not been properly followed, the CBSE can quickly restore confidence in the OSM process and regain much of the credibility lost during the rollout.
सभी छात्रों के साथ स्कैन की गई उत्तरपुस्तिकाओं को सक्रिय रूप से साझा करके, उत्तरपुस्तिकाओं की पूर्णता और प्रामाणिकता का सत्यापन सुनिश्चित करके, दिए गए अंकों का स्वीकृत मूल्यांकन योजनाओं के साथ पारदर्शी मिलान सुनिश्चित करके तथा जहाँ निर्धारित मूल्यांकन योजना का सही पालन नहीं हुआ है वहाँ सुधार करके, CBSE शीघ्र ही OSM प्रक्रिया में विश्वास बहाल कर सकता है और क्रियान्वयन के दौरान खोई हुई विश्वसनीयता का बड़ा हिस्सा पुनः प्राप्त कर सकता है।

GS Paper II: International Relations		03 June 2026
TOPICS COVERED		
03J6	The 'harvest' China wants is one India cannot afford चीन जिस 'फसल' की अपेक्षा करता है, वह ऐसी है जिसे भारत वहन नहीं कर सकता	
03J6	Euro zone inflation jump reinforces rate hike case यूरो क्षेत्र में मुद्रास्फीति बढ़ने से ब्याज दर वृद्धि की संभावना मजबूत हुई	
03J6	Bangladeshi FM Rahman elected president of UN General Assembly बांग्लादेश के विदेश मंत्री रहमान संयुक्त राष्ट्र महासभा के अध्यक्ष निर्वाचित	
03J6	EU moves policy for deportations and detention centres in third countries EU ने तीसरे देशों में निर्वासन और निरोध केंद्रों की नीति को आगे बढ़ाया	
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The 'harvest' China wants is one India cannot afford

GS II: IR

MOB

When Luo Zhaohui, then China's Ambassador to India, revived the idea of an "early harvest" in India-China boundary negotiations in 2017, India responded with scepticism. The proposal – to settle the Sikkim boundary in isolation from the three other sectors – was an asymmetric concession dressed up in the language of progress. India has resisted it. There is now a gnawing doubt as to whether it can hold that position. The trigger for this piece is a former border negotiator's concern that India might "stumble" into a damaging course of action under Chinese pressure and driven by the temptation to project contrived progress. Diplomacy that trades long-term strategic interests for short-term optics is self-defeating.

New Delhi must be cautious

The readout issued by the Ministry of External Affairs (MEA) on the 24th round of the Special Representatives' Dialogue on the Boundary Question between India and China (on August 19, 2025) between National Security Adviser Ajit Doval and Chinese Foreign Minister Wang Yi recorded India's agreement to "set up an Expert Group ... to explore an early harvest in boundary delimitation in the India-China border areas". China's own readout was more pointed: it used the term "demarcation" rather than "delimitation" and spoke of "launching boundary demarcation negotiations in sectors where conditions are ripe."

The MEA press release on the 35th Meeting of the Working Mechanism for Consultation and Coordination on India-China Border Affairs, held in Beijing on May 27, 2026, mentions that the two sides "discussed issues pertaining to delimitation, border management, mechanism building and cross-border cooperation" and "agreed to work together to make substantive preparation" for the next SRs' meeting. The reference to 'delimitation' is significant as it suggests follow-up discussions on the understanding "to explore Early Harvest in boundary delimitation".

The cornerstone of Special Representative negotiations is the Agreement on Political Parameters and Guiding Principles, signed on April 11, 2005. Article III explicitly envisages "a package settlement" covering all sectors of the India-China boundary. It establishes a three-step process: first political parameters, then a framework for a final settlement, then delineation and demarcation. Demarcation – placing physical markers on the ground – comes last, not first. China's proposal to begin demarcation in a single "ripe" sector inverts this sequence and, in effect, asks India to abandon the package architecture in exchange for the appearance of progress. India should decline.

Why does the package settlement matter so much? Because the four sectors of the



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Diplomatic optics must not dictate India's boundary negotiations with China

India-China boundary are strategically interlinked, requiring give and take across sectors. It also guards against China extracting concessions sector by sector. An early harvest in Sikkim, where India holds comparative geographical advantage, would let Beijing bank a settlement on its preferred terms while leaving the other three sectors unresolved.

The Sikkim stakes

The Sikkim Sector boundary is not, as sometimes claimed, a simple matter. Clashes at Nathu La and Cho La in 1967, with heavy casualties, showed how sharp these differences are. Article I of the 1890 Great Britain-China Convention identifies "Mount Gipmochi on the Bhutan frontier" as the starting point of the Sikkim-Tibet boundary, but is preceded by an assertion that the boundary "shall be the crest of the mountain range separating the waters flowing into the Sikkim Teesta and its affluents from the waters flowing into the Tibetan Mochu". China reads the article as placing the trijunction at Gipmochi. India and Bhutan hold that the trijunction lies at Batang La, some 6.5 kilometres to the north, on the watershed – which is the operative geographical principle in Article I.

Zompelri (or Jampheri) Ridge adjoining Geymochen commands a direct view of the Siliguri Corridor, the narrow strip connecting mainland India to its northeastern States. Any settlement implicitly endorsing the Gipmochi trijunction would hand China a legal instrument to press its claim to the very edge of the Himalayas, exposing the Corridor. The Chinese objective is to deepen and widen its Chumbi Valley and increase pressure on India's most acute territorial vulnerability.

The Doklam dimension reinforces this concern. Since 2017, China has systematically consolidated its position in western Bhutan – building roads and military facilities, constructing villages including Pangda on the Amo Chu river, and developing routes to the Jampheri Ridge that bypass the 2017 Doklam standoff site. A Sikkim settlement would immediately be leveraged by Beijing to step up pressure on a vulnerable Bhutan to settle its boundary with China. India and China have agreed that trijunction points must be finalised in trilateral consultation with all countries concerned. Even if the trijunction point is left out, China could force Bhutan to settle the rest of the disputed boundary on its own terms and present India with a *fait accompli* in Doklam.

Since the Eastern Ladakh transgressions of 2020, China has pursued multiple pressure tracks simultaneously: military consolidation along the Line of Actual Control (LAC), steady resurrection of the "Zangnan" (South Tibet) narrative to describe Arunachal Pradesh, renaming of places in Arunachal Pradesh, and expansion of "border defence villages" close to India-China LAC.

The resumption of Special Representative talks is welcome, but dialogue must be conducted with strategic clarity, not under diplomatic pressure or for the optics of progress. Three principles should guide India's approach.

First, hold the 2005 Agreement's framework firm. The Expert Group agreed upon in August 2025 must not become a vehicle for an early harvest in Sikkim. Agreeing to "explore" is not a commitment to accept. India should reject a standalone Sikkim delimitation or demarcation exercise.

Second, make peace and tranquillity on the LAC the non-negotiable condition of progress. China has periodically attempted to delink border management from the broader relationship; India has resisted this, and should continue to do so. Unilateral alterations to the LAC cannot be normalised. Indeed, the so-called "buffer zones" in Eastern Ladakh must not be allowed to persist.

Third, press for genuine political engagement on a comprehensive settlement. Decades of talks have shown that the respective narratives cannot be reconciled through legal arguments. The 2005 Agreement recognised this: it called for a political settlement that would "safeguard the vital interests of both countries" and set out principles such as the two sides "safeguard(ing) due interests of their settled populations in the border areas". Any breakthrough requires political will on both sides. India should press for meaningful boundary negotiations, not paper over the lack of progress with working groups. The test of China's seriousness will be whether it is prepared to engage on the framework for a comprehensive settlement – and whether it is prepared to hold the LAC stable while that engagement proceeds. Absent those conditions, the Special Representative process risks becoming what it has sometimes been before: a forum for managing appearances while China improves its position on the ground.

Stay the course

In boundary talks, China has a track-record of cherry-picking and resiling from formal commitments, as it did in the case of an explicit agreement to arrive at a common understanding of the LAC after exchanging maps showing the entire alignment. India must prevent the Agreement on the Political Parameters and Guiding Principles for the Settlement of the India-China Boundary Question from meeting a similar fate. If peace and tranquillity on the LAC is the foundation for rebuilding India-China relations, the 2005 Agreement is the road map for resolving the boundary question. India has nothing to gain from an early harvest limited to Sikkim and must maintain its negotiating space through a comprehensive negotiation. India cannot afford a shortcut to a destination that suits China.

03J6. The 'harvest' China wants is one India cannot afford

चीन जिस 'फसल' की अपेक्षा करता है, वह ऐसी है जिसे भारत वहन नहीं कर सकता

- Diplomacy that trades long-term strategic interests for short-term optics is self-defeating. ऐसी कूटनीति, जो अल्पकालिक दिखावे के लिए दीर्घकालिक रणनीतिक हितों का त्याग करती है, अंततः आत्मघाती सिद्ध होती है।

New Delhi must be cautious

नई दिल्ली को सतर्क रहना चाहिए

- The readout issued by the **Ministry of External Affairs (MEA)** on the **24th round of the Special Representatives' Dialogue on the Boundary Question** between India and China (on **August 19, 2025**) between **National Security Adviser Ajit Doval** and Chinese Foreign Minister **Wang Yi** recorded India's agreement to "set up an Expert Group ... to explore an



early harvest in boundary delimitation in the India-China border areas”.

विदेश मंत्रालय (MEA) द्वारा 19 अगस्त 2025 को भारत और चीन के बीच सीमा प्रश्न पर विशेष प्रतिनिधियों की वार्ता के 24वें दौर के संबंध में जारी विवरण में, राष्ट्रीय सुरक्षा सलाहकार अजीत डोभाल और चीन के विदेश मंत्री वांग यी के बीच हुई चर्चा के दौरान भारत की इस सहमति को दर्ज किया गया कि “भारत-चीन सीमा क्षेत्रों में सीमा निर्धारण में अर्ली हार्वेस्ट की संभावनाओं का पता लगाने के लिए एक विशेषज्ञ समूह का गठन किया जाए।”

- China’s own readout was more pointed: it used the term “demarcation” rather than “delimitation” and spoke of “launching boundary demarcation negotiations in sectors where conditions are ripe.”

चीन द्वारा जारी विवरण अधिक स्पष्ट था: उसमें “delimitation” के स्थान पर “demarcation” शब्द का उपयोग किया गया तथा “उन क्षेत्रों में सीमा चिहनांकन वार्ताएँ प्रारंभ करने” की बात कही गई, जहाँ परिस्थितियाँ अनुकूल हैं।

- The MEA press release on the **35th Meeting of the Working Mechanism for Consultation and Coordination on India-China Border Affairs**, held in **Beijing** on **May 27, 2026**, mentions that the **two sides** “discussed issues pertaining to delimitation, border management, mechanism building and cross-border cooperation” and “agreed to work together to make substantive preparation” for the next SRs’ meeting.

27 मई 2026 को बीजिंग में आयोजित भारत-चीन सीमा मामलों पर परामर्श एवं समन्वय कार्य तंत्र की 35वीं बैठक पर जारी MEA प्रेस विज्ञप्ति में उल्लेख किया गया कि दोनों पक्षों ने “सीमा निर्धारण, सीमा प्रबंधन, तंत्र निर्माण तथा सीमा-पार सहयोग” से संबंधित मुद्दों पर चर्चा की तथा अगली विशेष प्रतिनिधि बैठक की “ठोस तैयारी के लिए साथ मिलकर कार्य करने” पर सहमति व्यक्त की।

- The **cornerstone of Special Representative negotiations is the Agreement on Political Parameters and Guiding Principles**, signed on **April 11, 2005**.

विशेष प्रतिनिधि वार्ताओं की आधारशिला 11 अप्रैल 2005 को हस्ताक्षरित राजनीतिक मानदंडों और मार्गदर्शक सिद्धांतों पर समझौता है।

- **Article III explicitly envisages “a package settlement” covering all sectors of the India-China boundary.**

अनुच्छेद III स्पष्ट रूप से भारत-चीन सीमा के सभी क्षेत्रों को सम्मिलित करने वाले “समग्र पैकेज समाधान” की परिकल्पना करता है।

- **It establishes a three-step process: first political parameters, then a framework for a final settlement, then delineation and demarcation.**

यह तीन-चरणीय प्रक्रिया स्थापित करता है: पहले राजनीतिक मानदंड, फिर अंतिम समाधान के लिए ढाँचा, और उसके बाद सीमांकन तथा चिहनांकन।

- **Demarcation — placing physical markers on the ground — comes last, not first.**

चिहनांकन — अर्थात् भूमि पर भौतिक संकेतक स्थापित करना — अंतिम चरण है, प्रारंभिक नहीं।

- **China’s proposal to begin demarcation in a single “ripe” sector inverts this sequence and, in effect, asks India to abandon the package architecture in exchange for the appearance of progress.**

किसी एक “अनुकूल” क्षेत्र में चिहनांकन प्रारंभ करने का चीन का प्रस्ताव इस क्रम को उलट देता है और वस्तुतः भारत से प्रगति के दिखावे के बदले समग्र समाधान की संरचना छोड़ने की अपेक्षा करता है।

- **Because the four sectors of the India-China boundary are strategically interlinked, requiring give and take across sectors.**

क्योंकि भारत-चीन सीमा के चारों क्षेत्र रणनीतिक रूप से परस्पर जुड़े हुए हैं, जिनमें विभिन्न क्षेत्रों के बीच संतुलित समझौते की आवश्यकता होती है।

- **It also guards against China extracting concessions sector by sector.**

यह चीन को क्षेत्र-दर-क्षेत्र रियायतें प्राप्त करने से भी रोकता है।

- **An early harvest in Sikkim, where India holds comparative geographical advantage, would let Beijing bank a settlement on its preferred terms while leaving the other three sectors unresolved.**



सिक्किम में अर्ली हार्वेस्ट, जहाँ भारत को तुलनात्मक भौगोलिक लाभ प्राप्त है, बीजिंग को अपनी पसंदीदा शर्तों पर समाधान प्राप्त करने का अवसर देगा, जबकि अन्य तीन क्षेत्रों को अनसुलझा छोड़ दिया जाएगा।

The Sikkim stakes

सिक्किम से जुड़े दांव

- The **Sikkim Sector boundary** is not, as sometimes claimed, a simple matter.
सिक्किम सेक्टर सीमा उतनी सरल नहीं है, जैसा कभी-कभी दावा किया जाता है।
- **Clashes at Nathu La and Cho La in 1967, with heavy casualties, showed how sharp these differences are.**
1967 में नाथू ला और चो ला में हुए संघर्षों, जिनमें भारी जनहानि हुई थी, ने यह दिखाया कि ये मतभेद कितने गंभीर हैं।
- **Article I of the 1890 Great Britain-China Convention** identifies “Mount Gipmochi on the Bhutan frontier” as the starting point of the Sikkim-Tibet boundary, but it is preceded by an assertion that the boundary “shall be the crest of the mountain range separating the waters flowing into the Sikkim Teesta and its affluents from the waters flowing into the Tibetan Mochu”.
1890 के ग्रेट ब्रिटेन-चीन सम्मेलन का अनुच्छेद। “भूटान सीमा पर स्थित माउंट गिपमोची” को सिक्किम-तिब्बत सीमा का प्रारंभिक बिंदु मानता है, किन्तु उससे पहले यह उल्लेख किया गया है कि सीमा “उस पर्वत श्रृंखला की चोटी होगी जो सिक्किम की तीस्ता और उसकी सहायक नदियों में बहने वाले जल को तिब्बती मोचू में बहने वाले जल से अलग करती है।”
- China reads the article as placing the **trijunction at Gipmochi**.
चीन इस अनुच्छेद की व्याख्या त्रि-जंक्शन को गिपमोची पर स्थित मानकर करता है।
- **India and Bhutan hold that the trijunction lies at Batang La, some 6.5 kilometres to the north, on the watershed — which is the operative geographical principle in Article I.**
भारत और भूटान का मत है कि त्रि-जंक्शन उत्तर में लगभग 6.5 किलोमीटर दूर स्थित बाटांग ला पर है, जो जल-विभाजक रेखा पर स्थित है — और यही अनुच्छेद I का वास्तविक भौगोलिक सिद्धांत है।
- **Zompelri (or Jampheri) Ridge adjoining Geymochen commands a direct view of the Siliguri Corridor, the narrow strip connecting mainland India to its northeastern States.**
गेयमोचेन से सटी हुई जाम्पेलरी (या जामफेरी) रिज से सिलीगुड़ी कॉरिडोर का सीधा दृश्य प्राप्त होता है, जो मुख्य भारत को उसके उत्तर-पूर्वी राज्यों से जोड़ने वाली संकीर्ण पट्टी है।
- **Any settlement implicitly endorsing the Gipmochi trijunction would hand China a legal instrument to press its claim to the very edge of the Himalayas, exposing the Corridor.**
ऐसा कोई भी समाधान जो अप्रत्यक्ष रूप से गिपमोची त्रि-जंक्शन को स्वीकार करता हो, चीन को हिमालय की सीमा तक अपने दावे को आगे बढ़ाने का कानूनी आधार प्रदान करेगा और इस प्रकार कॉरिडोर को असुरक्षित बना देगा।
- The Chinese objective is to deepen and widen its **Chumbi Valley** and increase pressure on India’s most acute territorial vulnerability.
चीन का उद्देश्य अपनी चुम्बी घाटी को अधिक गहरा और विस्तृत बनाना तथा भारत की सबसे संवेदनशील क्षेत्रीय कमजोरी पर दबाव बढ़ाना है।
- The **Doklam** dimension reinforces this concern.
डोकलाम से जुड़ा आयाम इस चिंता को और अधिक मजबूत करता है।
- **Since 2017, China has systematically consolidated its position in western Bhutan — building roads and military facilities, constructing villages including Pangda on the Amo Chu river, and developing routes to the Jampheri Ridge that bypass the 2017 Doklam standoff site.**
2017 से चीन ने पश्चिमी भूटान में व्यवस्थित रूप से अपनी स्थिति मजबूत की है — सड़कों और सैन्य सुविधाओं का निर्माण किया है, आमो चू नदी पर स्थित पांगदा सहित गाँव बसाए हैं, तथा जामफेरी रिज तक ऐसे मार्ग विकसित किए हैं जो 2017 के डोकलाम गतिरोध स्थल को दरकिनार करते हैं।



- A Sikkim settlement would immediately be leveraged by Beijing to step up pressure on a vulnerable Bhutan to settle its boundary with China. सिक्किम संबंधी किसी समाधान का उपयोग बीजिंग तुरंत भूटान पर चीन के साथ सीमा समझौता करने के लिए दबाव बढ़ाने हेतु करेगा।
- India and China have agreed that trijunction points must be finalised in trilateral consultation with all countries concerned. भारत और चीन इस बात पर सहमत हैं कि त्रि-जंक्शन बिंदुओं को सभी संबंधित देशों के साथ त्रिपक्षीय परामर्श द्वारा अंतिम रूप दिया जाना चाहिए।
- Since the Eastern Ladakh transgressions of 2020, China has pursued multiple pressure tracks simultaneously: military consolidation along the Line of Actual Control (LAC), steady resurrection of the “Zangnan” (South Tibet) narrative to describe Arunachal Pradesh, renaming of places in Arunachal Pradesh, and expansion of “border defence villages” close to India-China LAC. 2020 में हुए पूर्वी लद्दाख अतिक्रमणों के बाद से चीन ने एक साथ कई प्रकार के दबाव के उपाय अपनाए हैं: वास्तविक नियंत्रण रेखा (LAC) के साथ सैन्य सुदृढीकरण, अरुणाचल प्रदेश को “जांगनान” (दक्षिण तिब्बत) कहने की कथा को पुनर्जीवित करना, अरुणाचल प्रदेश में स्थानों के नाम बदलना, तथा भारत-चीन LAC के निकट “सीमा रक्षा गाँवों” का विस्तार करना।
- The 2005 Agreement recognised this: it called for a political settlement that would “safeguard the vital interests of both countries” and set out principles such as the two sides “safeguard(ing) due interests of their settled populations in the border areas”. 2005 के समझौते ने इसे स्वीकार किया था: इसमें ऐसे राजनीतिक समाधान की बात कही गई थी जो “दोनों देशों के महत्वपूर्ण हितों की रक्षा” करे तथा यह सिद्धांत निर्धारित किया गया था कि दोनों पक्ष “सीमावर्ती क्षेत्रों में बसे लोगों के उचित हितों की रक्षा” करेंगे।

Euro zone inflation jump reinforces rate hike case

GS II: IR

NEWS ANALYSIS

Reuters
FRANKFURT

Euro zone inflation accelerated further last month, driven by energy and services, bolstering the already strong case for a small European Central Bank interest rate hike later this month, Eurostat data showed on Tuesday.

Consumer prices in the 21 nations sharing the euro accelerated to 3.2% in May from 3.0% a month earlier, well above the ECB's 2% target but in line with a Reuters poll.

The increase was driven by a 10.9% rise in energy costs and an unexpectedly large pickup in services inflation to 3.5% from 3.0%.

In a development likely



More expensive: A shopper pays with a ten Euro bank note at a local market in Aix-en-Provence, France. REUTERS

to worry policymakers, underlying inflation - which excludes volatile energy and food prices - accelerated more than expected to 2.5% from 2.2% on services and a small pickup in industrial goods inflation.

“The further increase in headline and particularly services inflation in May

reinforces the case for the ECB to raise interest rates next week and suggests that upside risks to underlying inflation may be higher than we had anticipated,” Andrew Kenningham at Capital Economics said.

While the figures are closely watched by the ECB, they are unlikely to

shift near-term policy expectations. Policymakers have already made clear higher inflation justifies a rise in borrowing costs.

Fully priced in

Financial markets have fully priced in a 25-basis-point rate hike on June 11, with one or two more expected in the autumn. Elevated energy prices risk seeping into the broader economy and triggering more persistent inflation pressures.

“While inflation risks have increased, a rate increase in June would be an insurance one, but not due to entrenched inflationary pressures,” Finnish central bank chief Olli Rehn, a dovish voice on the ECB's Governing Council, said.

Even if the Iran war were to end soon, the argument goes, damage to ener-

gy infrastructure and corporate supply chains has already been done, making normalisation slow and keeping prices high well in to second half of the year.

Far less aggressive

Still, any tightening is expected to be modest - far less aggressive than the record series of rate hikes in 2022 - as weaker underlying growth limits firms' ability to pass on costs.

Indicators from PMI surveys to the ECB's own data point to growing pressure on the real economy, and further downgrades to already subdued growth forecasts look likely as the Iran war drags on and high energy prices weigh.

Europe is a net energy importer and its industrial sector - already hit by the loss of cheap Russian gas

following Russia's invasion of Ukraine and by higher U.S. tariffs - is reeling.

Households are sitting on ample savings and could sustain spending, but past experience suggests consumers are quick to turn cautious when the news flow darkens.

Unlike during the 2022 inflation surge, the labour market is also softer, reinforcing that caution, economists say.

That suggests high energy prices may generate fewer second-round effects on inflation than four years ago, easing some pressure on the ECB to act aggressively. “Interest hike is becoming inevitable for the ECB,” Commerzbank economist Vincent Stamer said. “Another rate hike in the third quarter is also likely to follow.”

03J6. Euro zone inflation jump reinforces rate hike case

यूरो क्षेत्र में मुद्रास्फीति बढ़ने से ब्याज दर वृद्धि की संभावना मजबूत हुई

- Euro zone inflation accelerated further last month, driven by energy and services, bolstering the already strong case for a small European Central Bank (ECB) interest rate hike later this month, Eurostat data showed on Tuesday. मंगलवार को जारी Eurostat के आंकड़ों के अनुसार, ऊर्जा और सेवाओं की कीमतों में वृद्धि के कारण पिछले



महीने यूरो क्षेत्र में मुद्रास्फीति और तेज हुई, जिससे इस महीने के अंत में यूरोपीय केंद्रीय बैंक (ECB) द्वारा ब्याज दर बढ़ाने की संभावना और मजबूत हो गई।

Bangladeshi FM Rahman elected president of UN General Assembly



GS II: IR

ANI

Bangladesh's Foreign Minister was elected president of the 81st UN General Assembly on Tuesday in a vote that, unusually, featured more than one candidate. Khalilur Rahman won 99 votes in the secret ballot compared to 91 for Cypriot diplomat Andreas Kakouris. He will succeed the outgoing president in September. AFP

- He will succeed the outgoing president in September.

वह सितंबर में निवर्तमान अध्यक्ष का स्थान ग्रहण करेंगे।

03J6. Bangladeshi FM Rahman elected president of UN General Assembly

बांग्लादेश के विदेश मंत्री रहमान संयुक्त राष्ट्र महासभा के अध्यक्ष निर्वाचित

- Bangladesh's Foreign Minister was elected president of the 81st UN General Assembly on Tuesday in a vote that, unusually, featured more than one candidate.

बांग्लादेश के विदेश मंत्री मंगलवार को 81वीं संयुक्त राष्ट्र महासभा के अध्यक्ष निर्वाचित हुए, जिसमें असामान्य रूप से एक से अधिक उम्मीदवार शामिल थे।

- Khalilur Rahman won 99 votes in the secret ballot compared to 91 for Cypriot diplomat Andreas Kakouris.

गुप्त मतदान में खलीलुर रहमान को 99 वोट मिले, जबकि साइप्रस के राजनयिक एंड्रियास काकौरिस को 91 वोट प्राप्त हुए।

EU moves policy for deportations and detention centres in third countries

This will enable member nations to strike deal with countries outside EU to build deportation centres; the agreement struck by three institutions of the bloc will now head to EU lawmakers and heads of state for approval; activists decry the 'ICE-inspired' move over potential harm to human rights

GS II: IR

Associated Press
BRUSSELS

The European Union has moved forward with a vast overhaul of its migration policy, aiming to ramp up deportations and ink controversial deals to build detention centres abroad, in what rights groups compare to President Donald Trump administration's aggressive immigration policies in the U.S.

"The new regulation will speed up the return process and increase returns of persons who have no legal right to stay in the EU," said Nicholas Ioannides, Deputy Migration Minister for Cyprus, which holds the rotating presidency of the 27-nation bloc.

The deal was struck between the EU's three main institutions – the European Commission, the European Council, and the European Parliament – during a so-called "trilogue" on Monday.

Critics compared the regulation to the immigration strategy of the Trump administration, which has



Seeking asylum: A file photo of refugees being temporarily taken to various emergency shelters in Ter Apel, Netherlands, in August 2022. REUTERS

struck a series of secretive agreements with nations around the world to deport thousands of people to countries that are not their own. The United Kingdom also planned to deport migrants to Rwanda, but the plan was bogged down in legal red tape and the new government dropped the plan as soon as it came to power.

"The Regulation is going to create a draconian de-

tention and deportation machine," said Silvia Carter, spokesperson for the Brussels-based Platform for International Cooperation on Undocumented Migrants.

'Violence by ICE'

"Across the Atlantic, we see the violence and fear created by ICE's brutal immigration enforcement. Europe should be learning from the harms of that mo-

del, not building its own version of it."

The provisional agreement will now head to the EU lawmakers and heads of state, where approval will likely be swift.

EU member nations will soon be able to set up bilateral deals with countries outside the bloc to build deportation centres. At least five EU nations – Germany, Austria, the Netherlands, Denmark, and

Greece – are already in talks with third countries, mostly in Africa, to host "return hubs" on the model of Italy's detention deal with Albania.

The EU has continually tightened migration policies after right-wing parties took power in some countries in 2024. European Commission President Ursula von der Leyen, from the centre-right European People's Party coalition, has said that the new measures will prevent a repeat of the 2015 crisis caused by Syria's civil war, when about one million people arrived to seek asylum.

Fueled by people fleeing conflict and poverty across Africa and West Asia, the 2015 refugee crisis and successive years of irregular migration to Europe have driven a rightward shift in the bloc's politics not unlike the anti-immigrant sentiment that buoyed a "red wave" in the 2024 election in the U.S.

Centre-right political groups allied with the far-right to overcome opposition from centrist and left-wing parties, said Mélissa Camara, a French lawmak-

er and member of the Greens who called the deal "a historic setback" for human rights in the bloc.

"The legalization of return hubs outside the European Union, the green light for the detention of minors, home visits inspired by ICE practices: the legal arsenal serving a xenophobic ideology is now complete," she said.

Setback to human rights

Activist groups warned the legislation would cut deep into the protections granted by the EU fundamental charter on human rights and expose people to risks outside the bloc.

"This deal will give governments much broader powers to detain and deport people," said Marta Welander, a spokesperson for the International Rescue Committee. "It looks set to normalize immigration raids, expand the use of detention in prison-like facilities outside EU territory that are essentially legal black holes, and increase the risk of people being deported to countries where they could face persecution, torture or worse."



03J6. EU moves policy for deportations and detention centres in third countries

EU ने तीसरे देशों में निर्वासन और निरोध केंद्रों की नीति को आगे बढ़ाया

- Activists decry the “ICE-inspired” move over potential harm to human rights.
कार्यकर्ताओं ने मानवाधिकारों को संभावित नुकसान को लेकर इस “ICE-प्रेरित” कदम की आलोचना की है।
- The deal was struck between the EU’s three main institutions — the **European Commission**, the **European Council**, and the **European Parliament**.
यह समझौता EU की तीन प्रमुख संस्थाओं — यूरोपीय आयोग, यूरोपीय परिषद और यूरोपीय संसद — के बीच हुआ।
- The **United Kingdom** also planned to deport migrants to **Rwanda**.
यूनाइटेड किंगडम ने भी प्रवासियों को रवांडा भेजने की योजना बनाई थी।
- But the plan was bogged down in legal red tape and the new government dropped the plan as soon as it came to power.
लेकिन यह योजना कानूनी अड़चनों में फंस गई और नई सरकार ने सत्ता में आते ही इसे समाप्त कर दिया।
- At least five EU nations — **Germany, Austria, the Netherlands, Denmark, and Greece** — are already in talks with third countries.
कम-से-कम पाँच EU देश — जर्मनी, ऑस्ट्रिया, नीदरलैंड, डेनमार्क और ग्रीस — पहले से ही तीसरे देशों के साथ बातचीत कर रहे हैं।
- **Mostly in Africa**, to host “return hubs” on the model of **Italy’s** detention deal with **Albania**.
मुख्यतः अफ्रीका के देशों के साथ, ताकि इटली और अल्बानिया के निरोध समझौते के मॉडल पर “रिटर्न हब” बनाए जा सकें।
- The EU has continually tightened migration policies after right-wing parties took power in some countries in **2024**.
2024 में कुछ देशों में दक्षिणपंथी दलों के सत्ता में आने के बाद EU ने लगातार प्रवासन नीतियों को सख्त किया है।
- **European Commission President Ursula von der Leyen** has said that the new measures will prevent a repeat of the **2015 crisis** caused by Syria’s civil war.
यूरोपीय आयोग की अध्यक्ष उर्सुला वॉन डेर लेयेन ने कहा कि नए कदम 2015 के संकट की पुनरावृत्ति को रोकेंगे, जो सीरिया के गृहयुद्ध के कारण उत्पन्न हुआ था।
- When about **one million people** arrived to seek asylum.
जब लगभग दस लाख लोग शरण लेने यूरोप पहुंचे थे।
- Fueled by people fleeing conflict and poverty across **Africa and West Asia**, the **2015 refugee crisis** and successive years of irregular migration to Europe have driven a rightward shift in the bloc’s politics.
अफ्रीका और पश्चिम एशिया में संघर्ष और गरीबी से भाग रहे लोगों के कारण उत्पन्न 2015 शरणार्थी संकट और लगातार अवैध प्रवासन ने यूरोप की राजनीति को दक्षिणपंथ की ओर मोड़ दिया है।
- Not unlike the anti-immigrant sentiment that buoyed a “red wave” in the **2024 U.S. election**.
यह स्थिति 2024 के अमेरिकी चुनाव में “रेड वेव” को समर्थन देने वाली प्रवासी-विरोधी भावना जैसी है।

GS Paper III: Economy		03 June 2026
TOPICS COVERED		
03J6	How land pooling solves acquisition woes भूमि समेकन किस प्रकार अधिग्रहण संबंधी समस्याओं का समाधान करता है	
03J6	The future of India’s chip industry भारत के चिप उद्योग का भविष्य	
03J6	The need for strengthening India’s EV supply chains	



	भारत की ईवी आपूर्ति शृंखलाओं को सुदृढ़ करने की आवश्यकता
03J6	Govt. to replace WPI with Producer Price Index, new series from June 15 सरकार WPI की जगह प्रोड्यूसर प्राइस इंडेक्स लाएगी, नई शृंखला 15 जून से
03J6	Extreme heat tests India's record milk production भीषण गर्मी ने भारत के रिकॉर्ड दुग्ध उत्पादन की परीक्षा ली
03J6	'Formalising supply chain integrity a huge challenge for circularity' 'आपूर्ति शृंखला की अखंडता को औपचारिक बनाना परिपत्र अर्थव्यवस्था के लिए बड़ी चुनौती'

How land pooling solves acquisition woes

GS III: Economy

Rajasthan has recently announced the State's first land pooling scheme. The government is optimistic that the scheme will help with land acquisition and deliver the land needed for roads, infrastructure, and development activities. Other States, too, are either actively thinking of implementing land pooling schemes. While States such as Gujarat and Maharashtra have found success, much will depend on localised innovation and institutional flexibility.

Urban infrastructure projects in India have historically relied on land acquisitions. This process has become increasingly complex and financially burdensome, particularly after the enactment of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. The limitations of land acquisition are both structural and procedural. Even before the 2013 Act, acquisition processes were time-consuming and often contested. Post-2013, the inclusion of rehabilitation and resettlement provisions have further increased financial obligations, making large-scale acquisitions for urban infrastructure increasingly unviable. This has resulted in a growing gap between planned infrastructure and its implementation. Plans are often under-executed due to the inability to mobilise land.

On pooling land

While States have tried different solutions, land pooling mechanisms, especially Town Planning (TP) schemes, have emerged as a viable alternative. In a land pooling model, landowners voluntarily contribute land for infrastructure development and receive a portion of the serviced land in return. This method reduces the need for compulsory acquisition and distributes development benefits among stakeholders.

The TP scheme, widely



Amit Gotecha

An urban planner advising various State governments on town planning schemes

Compared with land acquisitions, town planning schemes reduce displacement, ensure equitable benefit-sharing, and enable faster urban development

implemented in Gujarat and Maharashtra, is among the most successful land-pooling models in India. Under this model, landowners voluntarily contribute about 25-40% of their land to provide infrastructure such as roads, parks, public amenities, and housing for economically weaker sections. The remaining land (60-75%) is returned to them as reconstituted plots that are better shaped, serviced, and more valuable. This method integrates land assembly, infrastructure provisions, and cost recovery.

A key strength of the TP scheme is its participatory, people-centric approach. It is also financially self-sustaining, as incremental charges from landowners are recovered during development rather than up front. Compared with land acquisitions, TP schemes reduce displacement, ensure equitable benefit-sharing, and enable faster urban development while preserving environmentally sensitive areas. Recognising its potential, the Government of India has promoted TP schemes since 2019.

Land pooling is, however, not a new idea. For instance, in Gujarat, it was introduced almost 100 years back and formalised under the Gujarat Town Planning and Urban Development Act, 1976. And over time, in Gujarat, more than 1,000 sq. km across Ahmedabad, Surat, Rajkot, Vadodara, and Gandhinagar have been planned through TP schemes.

But unlike Gujarat, Maharashtra failed to update its statutory provisions for enabling TP schemes over time. However, Pune and the Mumbai Metropolitan Region Development Authority have recently adopted this model again to provide infrastructure and serviced land in the city's peripheral areas.

Exemplary model

While other States have tried to implement the model, it has not been easy. For example, in Guwahati, even though the Guwahati Metropolitan

Development Authority Act, 1985 included provisions for the preparation and implementation of development schemes, it lacked clarity on critical aspects, including the percentages for land appropriation and institutional roles. An equally significant challenge was the absence of digitised land records; land records in Guwahati were maintained manually. Additionally, discrepancies were observed between revenue records and ground conditions.

To address this, rather than conducting time-consuming joint measurement surveys, the existing map was retained as is, and final plot allocations were based on the land areas specified in the revenue records. This significantly reduced the time required to prepare the scheme. Reducing landowners' contribution was another key decision to make the scheme more acceptable. Private landowners were asked to contribute only 12-15% of their land, compared with the usual 35-45%. This was primarily used for road infrastructure.

In Rajasthan, land pooling had already been recognised in statutory provisions since 2016. However, they were handicapped by a lack of experience. Now, modifications are being made to the land-value calculations in the State to ensure that the financial burden on landowners remains manageable. The government has absorbed a portion of the cost, making the scheme more equitable and attractive.

States that are just about to venture into land pooling, such as Tamil Nadu, Madhya Pradesh, and Delhi, also have to go beyond conventional approaches. Their challenge is to first convince landholders, communicate the benefits, and contextualise the approaches. Particularly, factors such as legislation on land-pooling requirements, adjusted land-contribution mechanisms, and equitable financial models will collectively determine the success of TP schemes.



03J6. ' How land pooling solves acquisition woes

भूमि समेकन किस प्रकार अधिग्रहण संबंधी समस्याओं का समाधान करता है

- **Rajasthan** has recently announced the State's first **land pooling scheme**.
राजस्थान ने हाल ही में राज्य की पहली भूमि पूलिंग योजना की घोषणा की है।
- The government is optimistic that the scheme will help with land acquisition and deliver the land needed for roads, infrastructure, and development activities.
सरकार को आशा है कि यह योजना भूमि अधिग्रहण में सहायता करेगी तथा सड़कों, अवसंरचना और विकास गतिविधियों के लिए आवश्यक भूमि उपलब्ध कराएगी।
- This process has become increasingly complex and financially burdensome, particularly after the enactment of the **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013**.
यह प्रक्रिया विशेष रूप से भूमि अधिग्रहण, पुनर्वास एवं पुनर्स्थापन में उचित प्रतिकर और पारदर्शिता अधिकार अधिनियम, 2013 के लागू होने के बाद अधिक जटिल और आर्थिक रूप से बोझिल हो गई है।
- The limitations of land acquisition are both structural and procedural.
भूमि अधिग्रहण की सीमाएँ संरचनात्मक और प्रक्रियात्मक दोनों प्रकार की हैं।
- Even before the 2013 Act, acquisition processes were time-consuming and often contested.
2013 के अधिनियम से पहले भी भूमि अधिग्रहण की प्रक्रियाएँ समय लेने वाली और अक्सर विवादित होती थीं।
- Post-2013, the inclusion of rehabilitation and resettlement provisions have further increased financial obligations, making large-scale acquisitions for urban infrastructure increasingly unviable.
2013 के बाद पुनर्वास और पुनर्स्थापन प्रावधानों के शामिल होने से आर्थिक दायित्व और बढ़ गए, जिससे शहरी अवसंरचना के लिए बड़े पैमाने पर भूमि अधिग्रहण कम व्यवहार्य हो गया।

On pooling land

भूमि पूलिंग पर

- While States have tried different solutions, land pooling mechanisms, especially **Town Planning (TP) schemes**, have emerged as a viable alternative.
यद्यपि राज्यों ने विभिन्न समाधान अपनाने का प्रयास किया है, फिर भी भूमि पूलिंग तंत्र, विशेषकर टाउन प्लानिंग (TP) योजनाएँ, एक व्यवहारिक विकल्प के रूप में उभरी हैं।
- The **TP scheme**, widely implemented in Gujarat and Maharashtra, is among the most successful land-pooling models in India.
TP योजना, जिसे गुजरात और महाराष्ट्र में व्यापक रूप से लागू किया गया है, भारत के सबसे सफल भूमि पूलिंग मॉडलों में से एक है।
- Under this model, landowners voluntarily contribute about **25-40%** of their land to provide infrastructure such as roads, parks, public amenities, and housing for economically weaker sections.
इस मॉडल के अंतर्गत भू-स्वामी स्वेच्छा से अपनी लगभग 25-40% भूमि सड़कों, पार्कों, सार्वजनिक सुविधाओं तथा आर्थिक रूप से कमजोर वर्गों के लिए आवास जैसी अवसंरचना उपलब्ध कराने हेतु देते हैं।
- The remaining land (**60-75%**) is returned to them as reconstituted plots that are better shaped, serviced, and more valuable.
शेष भूमि (60-75%) उन्हें पुनर्गठित भूखंडों के रूप में वापस दी जाती है, जो बेहतर आकार वाले, सुविधायुक्त तथा अधिक मूल्यवान होते हैं।
- This method integrates land assembly, infrastructure provisions, and cost recovery.
यह पद्धति भूमि एकत्रीकरण, अवसंरचना प्रावधान और लागत वसूली को एकीकृत करती है।
- A key strength of the **TP scheme** is its participatory, people-centric approach.
TP योजना की एक प्रमुख विशेषता इसका सहभागी और जन-केंद्रित दृष्टिकोण है।



- It is also financially self-sustaining, as incremental charges from landowners are recovered during development rather than up front.
यह आर्थिक रूप से आत्मनिर्भर भी है, क्योंकि भू-स्वामियों से अतिरिक्त शुल्क विकास प्रक्रिया के दौरान वसूले जाते हैं, न कि प्रारंभ में।
- In Rajasthan, land pooling had already been recognised in statutory provisions since 2016. राजस्थान में भूमि पूलिंग को 2016 से ही वैधानिक प्रावधानों में मान्यता प्राप्त थी।
- However, they were handicapped by a lack of experience.
हालाँकि, अनुभव की कमी के कारण इन प्रावधानों के प्रभावी क्रियान्वयन में बाधाएँ थीं।
- Now, modifications are being made to the land-value calculations in the State to ensure that the financial burden on landowners remains manageable.
अब राज्य में भूमि मूल्यांकन की गणनाओं में संशोधन किए जा रहे हैं ताकि भूमि स्वामियों पर आर्थिक बोझ प्रबंधनीय बना रहे।

The future of India's chip industry

A new NITI Aayog report says India's semiconductor ecosystem is not yet equipped to fully meet domestic demand, while stressing the need to strengthen local manufacturing, as geopolitical pressures could potentially disrupt the electronics supply chain

ISSUE ECONOMY

EXPLAINER

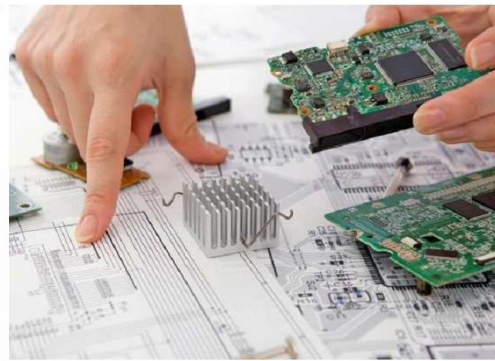
Aroon Deep

NITI Aayog's Frontier Tech Hub released a report last week that had two main messages: first, that India faces steep challenges in developing world-class semiconductor manufacturing capabilities, and second, that national interest necessitated pursuing this field doggedly regardless of those difficulties.

The Union government has made chipmaking a priority, since semiconductors are a part of nearly all electronics, from consumer gadgets to defence gear. Yet, India does not have a single fabrication unit, with the first expected to open in Dholera, Gujarat by 2028, with a total of ten in various stages of development. Multiple semiconductor packaging and testing facilities have been generously subsidised and supported by the Union government (as well as some State governments), through initiatives like the India Semiconductor Mission (ISM).

The ISM is a ₹76,000 crore corpus, and it is almost fully earmarked to projects across semiconductor fabs, incentives for component manufacturing, and bulk subscriptions to industry-grade semiconductor design applications for students and academia. While the most cutting edge and ambitious projects – fabs – have received capital subsidies of upwards of 50%, other projects have received production- or output-linked incentives.

The report, titled 'Future of India's Semiconductor Industry', reiterates that these are yet early days for the semiconductor industry, since even chips used in domestic electronics assembly operations are largely sourced from outside the country. "India's local ecosystem is not ready to fully meet domestic demand for semiconductors," the report said. But it insisted that there



GETTY IMAGES

was still a need to manufacture locally, as geopolitical pressures like a disaster in Taiwan could massively disrupt the electronics supply chain. "As many semiconductor parts used in defence systems are produced outside India, deploying them in our aerospace and defence programmes is increasing threats to national security," the report adds. The sector "requires sustained, mission-mode commitment over a decade or more," the report said.

Fab gestation

The report points to several challenges in this indigenisation process, not least of which is the time involved. "Typically, fab units require four to five years before commencing production," the report points out. "During the gestation phase, these units need to invest in purchasing more than 50 specialised equipment from global players. Even after the production is over, processes like yield optimisation and reliability test take several quarters

before chips reach the market." Developing talent to work in these fabs is also, as a result, time consuming, the report says.

The report urges the government to work on "building sovereign design and research capabilities, R&D excellence and harnessing agentic AI for semiconductor engineering," since "building deep capabilities" in materials sciences and silicon designing will "move India from a services-led design base to a creator of differentiated IP, architectures and integration technologies that define next generation systems."

Capital investment

While the details on the second phase of the India Semiconductor Mission are yet to be revealed, the report pegs the necessary capital expenditure from the state at \$45-60 billion over a period of ten years. This amount should, however, be spent on projects where the risk is less and "bankability" can assure returns to

investors, the report warns. This translates to a shift away from directing public funds towards frontier chips, whose transistors are the smallest – 3 to 7 nanometres – and towards "mature, advanced – aligned with strategic relevance – as well as compound nodes," the report says.

The report is key in understanding the potential scope of ISM 2.0, since its ambition is defined and largely stays out of big-ticket frontier fab projects. It advocates, for instance, "selective depth, capital efficiency and system-level differentiation, rather than attempting to replicate the full global manufacturing spectrum."

For instance, packaging, which is among the last steps of a chipmaking process, and less expensive and complex than fabrication, is identified as a "core production pillar, not a downstream activity" in the report. The report calls for "[r]apid import substitution in high volume domestic segments".

Trusted partners

The report implies that China is an adversary in chipmaking in spite of the recent thaw in relations. In a list of "priority partners," the report highlights the U.S., Japan, the European Union, and South Korea as partners with whom to work to get "access to critical tools, equipment servicing and lifecycle support," and to take advantage of "India's market scale, talent base and packaging capacity." "With sustained commitment and strategic clarity, India can build a competitive semiconductor ecosystem that strengthens economic resilience and positions the nation as a key player in the future of advanced technology," the report concludes. IT Secretary S. Krishnan welcomed the report as a "structured, actionable framework," and said in a foreword that, "India is well positioned to convert its semiconductor ambition into enduring industrial and strategic reality".

THE GIST

▼ The Union government has made semiconductor manufacturing a priority, but India does not yet have a fabrication unit. A recent report by NITI Aayog's Frontier Tech Hub underscores the need to bolster local manufacturing.

▼ The report urges the government to work on "building sovereign design and research capabilities, R&D excellence and harnessing agentic AI for semiconductor engineering".

03J6. 'The future of India's chip industry

भारत के चिप उद्योग का भविष्य

- A new NITI Aayog report says India's semiconductor ecosystem is not yet equipped to fully meet domestic demand, while stressing the need to strengthen local manufacturing, as geopolitical pressures could potentially disrupt the electronics supply chain.

नीति आयोग की एक नई रिपोर्ट के अनुसार भारत का सेमीकंडक्टर पारितंत्र अभी घरेलू मांग को पूरी तरह पूरा करने के लिए सक्षम नहीं है, साथ ही स्थानीय विनिर्माण को सुदृढ़ करने की आवश्यकता पर बल दिया गया है, क्योंकि भूराजनैतिक दबाव संभावित रूप से इलेक्ट्रॉनिक्स आपूर्ति श्रृंखला को बाधित कर सकते हैं।



- **NITI Aayog's Frontier Tech Hub** released a report last week that had two main messages: first, that **India faces steep challenges in developing world-class semiconductor manufacturing capabilities**, and second, that **national interest necessitated pursuing this field doggedly regardless of those difficulties**.

नीति आयोग के फ्रंटियर टेक हब ने पिछले सप्ताह एक रिपोर्ट जारी की, जिसमें दो मुख्य संदेश दिए गए: पहला, कि भारत को विश्वस्तरीय सेमीकंडक्टर विनिर्माण क्षमताएँ विकसित करने में गंभीर चुनौतियों का सामना करना पड़ रहा है, और दूसरा, कि राष्ट्रीय हित इन कठिनाइयों के बावजूद इस क्षेत्र में निरंतर प्रयास करने की मांग करता है।

- Yet, **India does not have a single fabrication unit, with the first expected to open in Dholera, Gujarat by 2028, with a total of ten in various stages of development.**

फिर भी भारत में अभी तक एक भी फैब्रिकेशन यूनिट नहीं है, जबकि पहली इकाई **गुजरात के धोलेरा में 2028** तक शुरू होने की संभावना है, और कुल दस परियोजनाएँ विभिन्न विकास चरणों में हैं।

- Multiple semiconductor packaging and testing facilities have been generously subsidised and supported by the Union government (as well as some State governments), through initiatives like the **India Semiconductor Mission (ISM)**.

इंडिया सेमीकंडक्टर मिशन (ISM) जैसी पहलों के माध्यम से कई सेमीकंडक्टर पैकेजिंग और परीक्षण सुविधाओं को केंद्र सरकार तथा कुछ राज्य सरकारों द्वारा उदारतापूर्वक अनुदान और समर्थन प्रदान किया गया है।

- The **ISM is a ₹76,000 crore corpus**, and it is almost fully earmarked to projects across **semiconductor fabs, incentives for component manufacturing, and bulk subscriptions to industry-grade semiconductor design applications for students and academia.**

ISM एक ₹76,000 करोड़ का कोष है, जिसे लगभग पूर्ण रूप से सेमीकंडक्टर फैब परियोजनाओं, घटक निर्माण के लिए प्रोत्साहनों तथा छात्रों और शैक्षणिक संस्थानों के लिए उद्योग-स्तरीय सेमीकंडक्टर डिजाइन अनुप्रयोगों की सामूहिक सदस्यताओं हेतु निर्धारित किया गया है।

- **While the most cutting edge and ambitious projects — fabs — have received capital subsidies of upwards of 50%, other projects have received production- or output-linked incentives.**

जहाँ सबसे उन्नत और महत्वाकांक्षी परियोजनाओं — फैब्स — को **50%** से अधिक की पूंजीगत सब्सिडी प्राप्त हुई है, वहीं अन्य परियोजनाओं को उत्पादन अथवा आउटपुट-आधारित प्रोत्साहन दिए गए हैं।

- **"India's local ecosystem is not ready to fully meet domestic demand for semiconductors,"** the report said.

रिपोर्ट में कहा गया है, "भारत का स्थानीय तंत्र अभी सेमीकंडक्टर की घरेलू मांग को पूरी तरह पूरा करने के लिए तैयार नहीं है।"

- But it insisted that there was still a need to manufacture locally, as **geopolitical pressures like a disaster in Taiwan could massively disrupt the electronics supply chain.**

किन्तु रिपोर्ट ने इस बात पर बल दिया कि स्थानीय स्तर पर निर्माण आवश्यक है, क्योंकि **ताइवान** जैसी जगह पर किसी आपदा के कारण भू-राजनीतिक दबाव इलेक्ट्रॉनिक्स आपूर्ति श्रृंखला को गंभीर रूप से बाधित कर सकते हैं।

- **"As many semiconductor parts used in defence systems are produced outside India, deploying them in our aerospace and defence programmes is increasing threats to national security,"** the report adds.

रिपोर्ट में आगे कहा गया है, "चूँकि रक्षा प्रणालियों में प्रयुक्त अनेक सेमीकंडक्टर घटक भारत के बाहर निर्मित होते हैं, इसलिए उन्हें हमारे एयरोस्पेस और रक्षा कार्यक्रमों में उपयोग करना राष्ट्रीय सुरक्षा के लिए बढ़ते खतरे उत्पन्न कर रहा है।"

Fab gestation

फैब की विकास अवधि

- **"Typically, fab units require four to five years before commencing production,"** the report points out.



रिपोर्ट में कहा गया है, “सामान्यतः फैब इकाइयों को उत्पादन प्रारंभ करने से पहले चार से पाँच वर्ष का समय लगता है।”

- “During the gestation phase, these units need to invest in purchasing more than 50 specialised equipment from global players. Even after the production is over, processes like yield optimisation and reliability test take several quarters before chips reach the market.”
“विकास अवधि के दौरान इन इकाइयों को वैश्विक कंपनियों से 50 से अधिक विशेष उपकरण खरीदने में निवेश करना पड़ता है। उत्पादन शुरू होने के बाद भी, यील्ड अनुकूलन और विश्वसनीयता परीक्षण जैसी प्रक्रियाओं में कई तिमाहियाँ लगती हैं, तब जाकर चिप्स बाजार तक पहुँचते हैं।”
- The report urges the government to work on “building sovereign design and research capabilities, R&D excellence and harnessing agentic AI for semiconductor engineering,” since “building deep capabilities” in materials sciences and silicon designing will “move India from a services-led design base to a creator of differentiated IP, architectures and integration technologies that define next generation systems.”

रिपोर्ट सरकार से “स्वायत्त डिजाइन और अनुसंधान क्षमताओं, अनुसंधान एवं विकास उत्कृष्टता तथा सेमीकंडक्टर इंजीनियरिंग हेतु एजेंटिक AI के उपयोग” पर कार्य करने का आग्रह करती है, क्योंकि पदार्थ विज्ञान और सिलिकॉन डिजाइनिंग में “गहरी क्षमताओं” का निर्माण भारत को “सेवाओं-आधारित डिजाइन केंद्र से विशिष्ट बौद्धिक संपदा, आर्किटेक्चर और एकीकरण प्रौद्योगिकियों के निर्माता” में परिवर्तित करेगा, जो अगली पीढ़ी की प्रणालियों को परिभाषित करेंगे

Capital investment

पूंजी निवेश

- While the details on the second phase of the **India Semiconductor Mission** are yet to be revealed, the report pegs the necessary capital expenditure from the state at **\$45-60 billion** over a period of ten years.

यद्यपि **इंडिया सेमीकंडक्टर मिशन** के दूसरे चरण का विवरण अभी सामने नहीं आया है, रिपोर्ट के अनुसार अगले दस वर्षों में सरकार को लगभग **45-60 अरब डॉलर** का पूंजीगत व्यय करना होगा।

- This amount should, however, be spent on projects where the risk is less and “bankability” can assure returns to investors, the report warns.
हालाँकि, रिपोर्ट चेतावनी देती है कि यह राशि केवल उन परियोजनाओं पर खर्च की जानी चाहिए जहाँ जोखिम कम हो तथा “बैंकबिलिटी” निवेशकों को प्रतिफल सुनिश्चित कर सके।
- This translates to a shift away from directing public funds towards frontier chips, whose transistors are the smallest — **3 to 7 nanometres** — and towards “mature, advanced—aligned with strategic relevance—as well as compound nodes,” the report says.
रिपोर्ट के अनुसार इसका अर्थ यह है कि सार्वजनिक धन को अत्याधुनिक चिप्स, जिनके ट्रांजिस्टर आकार **3 से 7 नैनोमीटर** तक होते हैं, से हटाकर “परिपक्व, उन्नत—रणनीतिक महत्व के अनुरूप—तथा कंपाउंड नोड्स” की ओर केंद्रित किया जाए।
- It advocates, for instance, “selective depth, capital efficiency and system-level differentiation, rather than attempting to replicate the full global manufacturing spectrum.”
उदाहरण के लिए, यह “पूर्ण वैश्विक विनिर्माण ढाँचे की नकल करने के बजाय चयनात्मक गहराई, पूंजी दक्षता और प्रणाली-स्तरीय भिन्नता” का समर्थन करती है।
- For instance, packaging, which is among the last steps of a chipmaking process, and less expensive and complex than fabrication, is identified as a “core production pillar, not a downstream activity” in the report.

उदाहरणस्वरूप, पैकेजिंग, जो चिप निर्माण प्रक्रिया के अंतिम चरणों में से एक है तथा फैब्रिकेशन की तुलना में कम महंगी और कम जटिल है, रिपोर्ट में “मुख्य उत्पादन स्तंभ, न कि केवल डाउनस्ट्रीम गतिविधि” के रूप में पहचानी गई है।



Trusted partners

विश्वसनीय साझेदार

- In a list of “priority partners,” the report highlights the **U.S., Japan, the European Union, and South Korea** as partners with whom to work to get “access to critical tools, equipment servicing and lifecycle support,” and to take advantage of “India’s market scale, talent base and packaging capacity.”

“प्राथमिक साझेदारों” की सूची में रिपोर्ट ने अमेरिका, जापान, यूरोपीय संघ और दक्षिण कोरिया को ऐसे भागीदारों के रूप में चिह्नित किया है, जिनके साथ मिलकर “महत्वपूर्ण उपकरणों, उपकरण सेवाओं और जीवनचक्र समर्थन तक पहुँच” प्राप्त की जा सकती है तथा “भारत के विशाल बाजार, प्रतिभा आधार और पैकेजिंग क्षमता” का लाभ उठाया जा सकता है।

The need for strengthening India’s EV supply chains

As EV adoption gathers pace, there is a greater need to focus on reducing vulnerability to external shocks

ISS III: Economy
Jaideep Saraswat
Akanksha Golchha

India’s electrification of road transport has entered a decisive growth phase. Around 2.5 million vehicles were sold in FY26, a significant increase from FY25. This momentum reflects the effectiveness of policy support from both the Centre and the States, including upfront purchase incentives, road tax exemptions and other demand-side interventions. These measures helped create the initial market, reduce consumer hesitation, and establish electric vehicles (EVs) as a credible and tested technology.

Import dependence
The next phase of EV adoption demands a different policy and industrial logic. As the sector scales, India is moving away from imported fossil fuels, only to find itself becoming increasingly dependent

on imported lithium-ion batteries. The challenge is no longer how quickly India can electrify transport, but how it can do so without creating a new strategic vulnerability. EV growth must now be judged by three additional metrics: supply chain resilience, strategic autonomy, and long-term sustainability. India’s domestic cell manufacturing is still far below the scale needed to alter import dependence meaningfully. Under the ACC Battery Production Linked Incentive scheme, 40 GWh of capacity has been awarded, but only about 1 GWh has been installed so far. Meanwhile, passenger EVs sold in India are sourcing batteries from 14 global manufacturers, with 7,987 MWh imported in 2025. Of this, a significant share came from Chinese manufacturers, highlighting that increasing EV sales are tightly correlated with increasing imports from China. This concentration creates a structural risk for Indian EV OEMs (original

equipment manufacturers). Battery supply is increasingly exposed to a single-country ecosystem that is shaped by policy, geopolitics, and industrial strategy outside India’s control. Several developments in China are influencing pricing and availability, like tighter technology restrictions, prioritisation of domestic demand, withdrawal of VAT exemptions on battery exports, and more. Additionally, the West Asia conflict has compounded the pressure through higher raw material costs, elevated manufacturing expenses in China, and rising transport and risk premiums. The consequences extend beyond OEM balance sheets. Battery inflation delays price parity with internal combustion engine (ICE) vehicles and slows the shift from early adopters to mass-market buyers. In a market as price-sensitive as India’s, rising cell costs can confine EVs to premium segments and place national adoption targets at risk if the situation

persists and OEMs are forced to pass on higher costs to consumers. This requires a holistic situational assessment and identifying key interventions in the short to medium term. The near-term response must be pragmatic. Many OEMs already talk of a “China + 1” sourcing strategy, but actual supplier diversity varies widely by segment. Higher-end EVs are increasingly paired with non-Chinese NMC batteries, while cost-sensitive mass-market models continue to rely on cheaper Chinese LFP cells. True diversification, across suppliers, chemistries, and geographies, may raise costs initially; but it significantly lowers the risk of strategic disruption over time.

Product modifications
The cost shock should also drive product-level discipline. OEMs need to design EVs around efficiency, lighter architectures, more effective drivetrains, smarter software calibration, and battery right-sizing aligned with actual usage rather than aspirational range. India’s market may ultimately reward lean, purpose-built electrification over oversized vehicles designed around imported battery economics. Software-defined battery platforms that support multiple chemistries without hardware redesign would further improve flexibility as the cell market evolves. Moreover, Indian manufacturers should

begin type-testing vehicles across emerging chemistries, including sodium-ion batteries. Sodium-ion is not yet a full substitute for lithium-ion across all use cases, but it could serve as a meaningful hedge as production scales domestically, broadening the technology base and reducing dependence on any single chemistry or supplier. Further, India’s path forward lies in building a structured “EV supply chain alliance” with trusted partners, one that spans minerals, manufacturing, technology, and standards. Such an alliance would distribute risk across geographies, deepen domestic capability over time, and ensure that no single external disruption can stall India’s electrification agenda.

The EV transition is no longer straightforward and the recent disruptions underscore the need for a more resilient approach. India has already demonstrated that it can create demand for clean mobility. The next test is whether it can build the industrial depth to sustain that demand without becoming dependent on a single external bottleneck. (Jaideep Saraswat is the Associate Director of the Clean Power, Electric Mobility & Emerging Technologies vertical at Visuddha Foundation. Akanksha Golchha is Senior Associate (non-resident) with the Chair on India & Emerging Asia Economics at Center for Strategic and International Studies.)

03J6. ‘ The need for strengthening India’s EV supply chains

भारत की ईवी आपूर्ति श्रृंखलाओं को सुदृढ़ करने की आवश्यकता

- Around **2.5 million vehicles** were sold in **FY26**, a significant increase from **FY25**.
वित्तीय वर्ष 2026 में लगभग **25 लाख वाहन** बेचे गए, जो वित्तीय वर्ष 2025 की तुलना में उल्लेखनीय वृद्धि है।
- As the sector scales, India is moving away from imported fossil fuels, only to find itself becoming increasingly dependent on imported lithium-ion batteries.
जैसे-जैसे यह क्षेत्र विस्तृत हो रहा है, भारत आयातित जीवाश्म ईंधनों से दूर जा रहा है, किन्तु साथ ही आयातित लिथियम-आयन बैटरियों पर उसकी निर्भरता बढ़ती जा रही है।
- EV growth must now be judged by three additional metrics: supply chain resilience, strategic autonomy, and long-term sustainability.

अब EV क्षेत्र की वृद्धि का आकलन तीन अतिरिक्त मानकों — आपूर्ति श्रृंखला की स्थिरता, रणनीतिक स्वायत्तता और दीर्घकालिक स्थिरता — के आधार पर किया जाना चाहिए।

- Under the **ACC Battery Production Linked Incentive scheme**, **40 GWh** of capacity has been awarded, but only about **1 GWh** has been installed so far.
ACC बैटरी प्रोडक्शन लिंकड इंसेंटिव योजना के अंतर्गत **40 GWh** क्षमता आवंटित की गई है, किन्तु अब तक केवल लगभग **1 GWh** क्षमता ही स्थापित हो पाई है।



Product modifications

उत्पाद संशोधन

- Further, India's path forward lies in building a structured 'EV supply chain alliance' with trusted partners, one that spans minerals, manufacturing, technology, and standards. इसके अतिरिक्त, भारत का भविष्य विश्वसनीय साझेदारों के साथ एक संगठित 'EV सप्लाई चेन गठबंधन' बनाने में निहित है, जो खनिज, विनिर्माण, प्रौद्योगिकी और मानकों तक विस्तृत हो।

Govt. to replace WPI with Producer Price Index, new series from June 15

GS III: Economy

Press Trust of India
NEW DELHI

The Centre will phase out the Wholesale Price Index (WPI) over the next five years while simultaneously introducing a more detailed Producer Price Index (PPI), covering output, input and services prices, in a bid to offer a more realistic assessment of inflationary trends in the economy.

Speaking with reporters, Praveen Mahto, Principal Economic Adviser in the Commerce and Industry Ministry, said that the Department for Promotion of Industry and Internal Trade (DPIIT) will release the revised series of WPI with new base year 2022-23 on June 15, which would replace the existing series with base year 2011-12.

In addition, the department would release a new series of PPI from June 15. It will have three indices – Output PPI, Trial Input PPI and Services PPI.

Initially, services PPI will have seven services – Banking, Securities Transaction, Insurance, Management of Pension Funds, Railways, Air (Passenger), and Telecom.

“Considering the wide usage of WPI in price escalation clauses, this index will be released for five years from the date of release of the revised series along with PPI and will be discontinued thereafter,” the ministry said in a statement. The five-year period

DPIIT will release a new series with three indices – Output PPI, Trial Input PPI, Services PPI

would give users sufficient time to switch from WPI to PPI. Mr. Mahto said that after five years, the PPI is expected to replace WPI.

The transition from WPI to PPI aligns with global best practices adopted by advanced economies and the recommendations of the International Monetary Fund (IMF).

The availability of both Output PPI and Input PPI provides a better understanding of the price movements of output items vis-à-vis the input items used in an industry.

It also explains how inflation experienced by producers of input items is passed through to the output they produce.

Mr. Mahto said that the Service PPIs for seven services have been compiled in the first phase based on the availability of data from administrative sources/agencies. More services are planned to be added to the PPI basket of services in subsequent phases, subject to data availability.

The DPIIT informed that WPI and Output PPI are being compiled on a monthly basis and will be available for May 2026 (Provisional) along with the back series from April 2023 to April 2026 on June 15.

03J6. ' Govt. to replace WPI with Producer Price Index, new series from June 15

सरकार WPI की जगह प्रोड्यूसर प्राइस इंडेक्स लाएगी, नई श्रृंखला 15 जून से

- The Centre will phase out the **Wholesale Price Index (WPI)** over the next five years.

केंद्र सरकार अगले पाँच वर्षों में थोक मूल्य सूचकांक (WPI) को चरणबद्ध तरीके से समाप्त करेगी।

- While simultaneously introducing a more detailed **Producer Price Index (PPI)**, covering output, input and services prices.

साथ ही अधिक विस्तृत प्रोड्यूसर प्राइस इंडेक्स (PPI) लागू करेगी, जिसमें उत्पादन, इनपुट और सेवाओं की कीमतें शामिल होंगी।

- In a bid to offer a more realistic assessment of inflationary trends in the economy.

इसका उद्देश्य अर्थव्यवस्था में मुद्रास्फीति के रुझानों का अधिक यथार्थवादी आकलन प्रदान करना है।

- Speaking with reporters, **Praveen Mahto**, Principal Economic Adviser in the **Commerce and Industry Ministry**, said that the **Department for Promotion of Industry and Internal Trade (DPIIT)** will release the revised series of WPI with new base year **2022-23 on June 15**.

वाणिज्य एवं उद्योग मंत्रालय के प्रधान आर्थिक सलाहकार प्रवीण महतो ने पत्रकारों से बातचीत में कहा कि उद्योग और आंतरिक व्यापार संवर्धन विभाग (DPIIT) 15 जून को 2022-23 को नया आधार वर्ष बनाकर WPI की संशोधित श्रृंखला जारी करेगा।

- Which would replace the existing series with base year **2011-12**.

यह वर्तमान 2011-12 आधार वर्ष वाली श्रृंखला का स्थान लेगी।

- In addition, the department would release a new series of **PPI from June 15**.

इसके अतिरिक्त विभाग 15 जून से PPI की नई श्रृंखला भी जारी करेगा।

- It will have three indices — **Output PPI, Trial Input PPI and Services PPI**.

इसमें तीन सूचकांक होंगे — आउटपुट PPI, ट्रायल इनपुट PPI और सर्विसेज PPI।

- Initially, **Services PPI** will have seven services — **Banking, Securities Transaction, Insurance,**



Management of Pension Funds, Railways, Air (Passenger), and Telecom.

प्रारंभ में सर्विसेज PPI में सात सेवाएँ शामिल होंगी — बैंकिंग, सिक्योरिटीज ट्रांज़ेक्शन, बीमा, पेंशन फंड प्रबंधन, रेलवे, हवाई यात्री सेवा और दूरसंचार।

- “Considering the wide usage of WPI in price escalation clauses, this index will be released for five years from the date of release of the revised series along with PPI and will be discontinued thereafter,” the ministry said in a statement.
मंत्रालय ने बयान में कहा, “मूल्य वृद्धि संबंधी प्रावधानों में WPI के व्यापक उपयोग को देखते हुए, संशोधित श्रृंखला जारी होने की तिथि से अगले पाँच वर्षों तक इसे PPI के साथ जारी रखा जाएगा और उसके बाद इसे बंद कर दिया जाएगा।”
- The transition from WPI to PPI aligns with global best practices adopted by advanced economies and the recommendations of the International Monetary Fund (IMF).
WPI से PPI की ओर यह बदलाव विकसित अर्थव्यवस्थाओं द्वारा अपनाई गई वैश्विक सर्वोत्तम प्रथाओं और अंतरराष्ट्रीय मुद्रा कोष (IMF) की सिफारिशों के अनुरूप है।
- The availability of both Output PPI and Input PPI provides a better understanding of the price movements of output items vis-à-vis the input items used in an industry.
आउटपुट PPI और इनपुट PPI दोनों की उपलब्धता उद्योगों में उपयोग होने वाले इनपुट और उत्पादित वस्तुओं की कीमतों में बदलाव को बेहतर ढंग से समझने में मदद करेगी।
- It also explains how inflation experienced by producers of input items is passed through to the output they produce.
यह यह भी स्पष्ट करेगा कि इनपुट उत्पादकों द्वारा अनुभव की गई मुद्रास्फीति अंतिम उत्पादों की कीमतों में कैसे स्थानांतरित होती है।
- Mr. Mahto said that the Service PPIs for seven services have been compiled in the first phase based on the availability of data from administrative sources/agencies.
श्री महतो ने कहा कि पहले चरण में सात सेवाओं के लिए सर्विस PPI प्रशासनिक स्रोतों और एजेंसियों से उपलब्ध आंकड़ों के आधार पर तैयार किए गए हैं।
- More services are planned to be added to the PPI basket of services in subsequent phases, subject to data availability.
आंकड़ों की उपलब्धता के अनुसार आगे के चरणों में PPI सेवा बास्केट में और सेवाएँ जोड़ी जाएँगी।
- The DPIIT informed that WPI and Output PPI are being compiled on a monthly basis.
DPIIT ने जानकारी दी कि WPI और आउटपुट PPI को मासिक आधार पर संकलित किया जा रहा है।

Extreme heat tests India's record milk production

CS III: Economy

NEWS ANALYSIS

Reuters
NEW DELHI

During a summer of extreme heat with temperature topping 40 degrees Celsius last year, much like northern India is currently experiencing, dairy farmer Neeraj Bharadwaj watched one of his cows deliver a calf months early.

The newborn was tiny and almost hairless. People said it would not survive, but Bharadwaj bottle fed it milk until it slowly recovered.

Scientists say such pre-



Heat stress reduces feed intake and diverts cows' energy.

mature births are part of a wider pattern of increasingly intense summers linked to climate change.

Bharadwaj's small farm of six cows near Delhi is typical of millions in India, the world's biggest dairy

producer responsible for almost a quarter of global supply where most milk comes from farms with between 2-5 animals.

5% of GDP

Dairy sector accounts for about 5% of India's GDP and supports more than 80 million farmers. Rising incomes and population level mean demand for dairy is set to grow - the government estimates it could almost double by 2050.

But extreme heat means cows eat less, make less milk, struggle to conceive and produce fewer live offspring, experts say, while farmers spend more

trying to keep animals cool and fertile. “Milk production falls by nearly 30% during extreme heat,” Bharadwaj said.

Record output

India's milk production reached a record 239 million tonne in the 2023-24 fiscal year, up nearly 64% in a decade, according to government data.

But researchers, dairy experts and farmers say rising heat is quietly exposing the vulnerabilities of that model. Scientists at the National Dairy Research Institute said heat stress reduces feed intake and diverts cows' energy

away from milk production and reproduction.

Bharadwaj spent some ₹2 lakh modifying cattle sheds with tarpaulin covers and ventilation systems to cut heat stress while yearly maintenance added another ₹50,000.

Pankaj Navani, a dairy entrepreneur, said larger organised dairy operators adapted more quickly because they treat dairy as a commercial business, investing in cooling systems, ventilation and feed management. But such investment is hard for most dairy farmers operating with only a handful of cattle and limited capital.



03J6. 'Extreme heat tests India's record milk production

भीषण गर्मी ने भारत के रिकॉर्ड दुग्ध उत्पादन की परीक्षा ली

- The dairy sector accounts for about **5% of India's GDP** and supports more than **80 million farmers**.
डेयरी क्षेत्र भारत के GDP का लगभग 5% योगदान देता है और 8 करोड़ से अधिक किसानों को सहारा प्रदान करता है।
- Rising incomes and population level mean demand for dairy is set to grow.
बढ़ती आय और जनसंख्या के कारण डेयरी उत्पादों की मांग बढ़ने वाली है।
- The government estimates it could almost double by **2050**.
सरकार का अनुमान है कि यह मांग 2050 तक लगभग दोगुनी हो सकती है।
- But extreme heat means cows eat less, make less milk, struggle to conceive and produce fewer live offspring, experts say.
लेकिन विशेषज्ञों के अनुसार अत्यधिक गर्मी के कारण गायें कम खाती हैं, कम दूध देती हैं, गर्भधारण में कठिनाई होती है और जीवित बछड़ों की संख्या भी घट जाती है।
- India's milk production reached a record **239 million tonne** in the **2023-24** fiscal year.
भारत का दुग्ध उत्पादन 2023-24 वित्तीय वर्ष में रिकॉर्ड 239 मिलियन टन तक पहुँच गया।
- Investing in cooling systems, ventilation and feed management.
वे कूलिंग सिस्टम, वेंटिलेशन और चारा प्रबंधन में निवेश करते हैं।

'Formalising supply chain integrity a huge challenge for circularity'

GS III. Economy

Vinaya Deshpande Pandit
MUMBAI

Formalising supply chain integrity in manufacturing is a challenge for circular economy in India, industry leaders opined. At the Maharashtra Circular Economy Conclave held here, large Indian firms spoke about the efforts being taken towards circular economy, the regulatory framework and the push and pull factors towards circularity.

"There are two challenges at present. We need to have supply chain integrity. In India, we have an informal way of managing circularity. How to formalise it is a challenge. The second challenge is transparency and traceability in the system that the material is really good and is going to get recycled back into the system," said Prabodha Acharya, CSO of JSW Steel.



Prabodha Acharya, CSO of JSW Steel, said JSW Steel was able to use 99.99% of its waste as byproduct. REPRESENTATIONAL PHOTO

A panel discussion with the representatives of firms such as Mahindra Group, Tata Group, Aditya Birla Group and JSW Steel explored three broad themes on why circular economy mattered to large businesses, how conglomerates can shape systems beyond own operations to suppliers and what the next phase of circular business transformation in Maharashtra and India could look like. They also discussed the significance

of resource security at a time of geopolitical instability, which has become a major factor leading to circularity.

Push and pull factors

Deeksha Vats, chief sustainability officer of Aditya Birla Group, emphasised on the impact of push and pull factors in creating circularity. "The regulations are the push factors. The pull factor is when the customers ask for greener products. Currently, the need

for resource security is what is leading to bigger strides in circular economy," she said.

Mr. Acharya said JSW Steel was able to use 99.99% of its waste as byproduct. "We created JSW cement to create another business. It is one of the most low-carbon businesses. Everything which comes out must be reused. Every energy which comes out, we trap and use. We do waste-gas recycling. [As much as] 40-50% of our energy needs are met out of it. We use everything that comes out of it," he said.

The event organised by the Consulate General of Finland in Mumbai, Embassy of Finland in India, MMRDA, Finnish Innovation Fund Sitra and FICCI was the official side event of World Circular Economy Forum 2026, to be hosted in Asia for the first time this year in September.



J6. 'Formalising supply chain integrity a huge challenge for circularity' 'आपूर्ति श्रृंखला की अखंडता को औपचारिक बनाना परिपत्र अर्थव्यवस्था के लिए बड़ी चुनौती'

- At the **Maharashtra Circular Economy Conclave** held here, large Indian firms spoke about the efforts being taken towards circular economy.
यहाँ आयोजित **महाराष्ट्र सर्कुलर इकोनॉमी कॉन्क्लेव** में बड़ी भारतीय कंपनियों ने परिपत्र अर्थव्यवस्था की दिशा में किए जा रहे प्रयासों पर चर्चा की।
- "The **second challenge is transparency and traceability in the system that the material is really good and is going to get recycled back into the system.**"
"दूसरी चुनौती प्रणाली में पारदर्शिता और ट्रेसबिलिटी सुनिश्चित करना है ताकि यह पता चल सके कि सामग्री वास्तव में अच्छी है और उसे पुनर्चक्रित करके फिर से प्रणाली में शामिल किया जाएगा।"

GS Paper III: Environment		03 June 2026
TOPICS COVERED		
03J6	Tigress Zeenat gives birth to four cubs in Odisha's Similipal ओडिशा के सिमिलिपाल में बाघिन ज़ीनत ने चार शावकों को जन्म दिया	
03J6	India vulnerable to chronic aircraft noise thanks to regulatory gaps नियामकीय कमियों के कारण भारत दीर्घकालिक विमान शोर के प्रति संवेदनशील	



GS III: Environment

Tigress Zeenat gives birth to four cubs in Odisha's Similipal

The translocation effort aimed at enhancing the genetic diversity of tigers in Odisha's Similipal Tiger Reserve has received a major boost, with tigress Zeenat, brought from Maharashtra, giving birth to four cubs. Photographs of Zeenat gently carrying her cubs in her mouth have since gone viral. "Today, a proud chapter has been added to Odisha's natural resources and wildlife conservation efforts," Chief Minister Mohan Majhi said in a post on X on Tuesday. The event assumes significant importance for the State Forest Department, especially after an earlier experiment to introduce tigers in Satkosia Tiger Reserve had failed.

03J6. Tigress Zeenat gives birth to four cubs in Odisha's Similipal ओडिशा के सिमिलिपाल में बाघिन ज़ीनत ने चार शावकों को जन्म दिया

- The translocation effort aimed at enhancing the genetic diversity of tigers in **Odisha's Similipal Tiger Reserve** has received a major boost.
ओडिशा के **सिमिलिपाल टाइगर रिजर्व** में बाघों की आनुवंशिक विविधता बढ़ाने के उद्देश्य से चलाए गए पुनर्स्थापन प्रयास को बड़ी सफलता मिली है।
- Especially after an earlier experiment to introduce tigers in **Satkosia Tiger Reserve** had failed.
विशेष रूप से इसलिए क्योंकि इससे पहले **सतकोसिया टाइगर रिजर्व** में बाघों को बसाने का प्रयास असफल हो गया था।



India vulnerable to chronic aircraft noise thanks to regulatory gaps

Researchers have said the health effects of noise depend on how loud it is as well as on how often it occurs, how long it continues for, whether people have enough time to recover before the next exposure — especially as they sleep at night — and cumulative long-term exposure

GS III, Environment

Rohan Singh
Kushagra Rajendra
Argha Kamal Guha

Every few minutes, aircraft descend over densely populated neighbourhoods near India's major airports. For the people here, the noise has been almost constant for years, often even continuing through the night. India's aviation and environmental regulations require airports to map the aircraft noise exposure using decibel contours — maps showing how the air pressure varies around the airport. Official assessments have also identified high-noise zones extending into residential areas.

But even as India's airports monitor sound with increasing technical precision, they have paid far less attention to what years of repeated exposure may be doing to people. Research on the long-term biological effects of chronic aircraft noise in India is also limited. Some emerging research has pointed to inflammation, stress-related changes, and even cognitive effects. The fact remains, however, that the gap between regulatory noise monitoring and understanding biological risk is widening.

Aircraft noise, biological stress

The limited research available, often confined to high-intensity occupational settings such as aviation personnel, nevertheless suggests aircraft noise may have effects far beyond hearing loss alone.

One 2025 study led by Manish Shukla, a scientist at the Defence Institute of Physiology and Allied Sciences, a laboratory under the Defence Research and Development Organisation in New Delhi, checked 621 Air Force personnel who were chronically exposed to aircraft noise. The researchers found elevated levels of systemic inflammation and oxidative stress and lower heart-rate variability.

These personnel also showed subclinical cochlear and neural damage. While their standard hearing tests were normal, they had inner-ear and auditory nerve dysfunction.

Together, the findings suggested aircraft noise may be a chronic biological stressor affecting both auditory and cardiovascular systems. Dr. Shukla noted that even lower urban noise levels, when experienced over long periods, could potentially trigger similar stress-related pathways in the body.

He added that current aircraft noise assessment frameworks may underestimate broader public health risks because they remain largely centered on hearing damage and decibel thresholds. He noted that emerging evidence increasingly links chronic noise exposure to stress-related inflammation and cardiovascular effects, even at lower



The standard metrics designed for steady industrial noise don't capture the intermittent, burst-like nature of the noise from aircraft. PASCAL MEIER/UNSPASH

exposure levels.

The current approaches to monitoring also fall short of addressing cumulative biological stress, Dr. Shukla said.

Unequal risk

The gap between monitoring noise and understanding risk requires technical but also social solutions because of how the options of the people at risk are constrained. Not all people living near airports can afford to move elsewhere or fully proof their homes from the vibrations and noise.

Rajeev Kariya, who has lived near Delhi airport flight paths for decades now, said aircraft noise has become more intense over the years as flights have become larger and more frequent and airports have extended runway operations. He said the continuous noise regularly disrupts sleep and irritates him throughout the day. He installed expensive double-glazed windows but they did little to keep the noise out. His neighbourhood, he said, is suffused with it.

Researchers have said the health effects of noise depend on how loud it is as well as on how often it occurs, how long it continues for, whether people have enough time to recover before the next exposure — especially as they sleep at night — and cumulative long-term exposure.

Both World Health Organization and International Civil Aviation Organization guidelines have acknowledged these factors.

The standard acoustic metrics are designed for steady industrial noise. They do not capture the intermittent, burst-like

nature of the noise from aircraft flying overhead. That is, each takeoff produces sudden sound peaks and that can trigger disproportionate psychological responses.

Markandeya Tiwari, a former faculty member of the Department of Civil Engineering at IIT-Banaras Hindu University, said relying only on averaged indicators, such as L_{eq} and L_{dn} , is insufficient to understand aircraft noise exposure. He added that additional metrics such as L_{eq} , L_{dn} , and L_{90} are required to capture fluctuations, peak exposure periods, and intermittent noise.

L_{eq} is the average acoustic energy. L_{dn} is a variant of L_{eq} over 24 hours plus 10 dB added to all nighttime noise. L_{dn} , L_{dn} , and L_{90} are the sound levels exceeded for 10%, 50%, and 90% of the time.

Activist Anil Sood, who has been involved in legal disputes over airport noise for nearly 17 years, has disputed whether averaged indicators can capture repeated noise peaks, night-time disturbances, and long-term exposure linked to health risks. Using RTI applications and court proceedings, Mr. Sood has questioned official monitoring methodologies and airport-noise assessments.

According to him, while the Central Pollution Control Board (CPCB) is formally responsible for monitoring aviation noise, most of the compliance is handled by airport operators and the Directorate General of Civil Aviation (DGCA).

Former CPCB regional director D.K. Soni said the current regulations do not adequately address the long-term public-health implications of chronic

noise. Cumulative exposure assessment, he said, remains a low regulatory priority.

CSIR-National Environment Engineering Research Institute senior technical officer Satish K. Lokhande said India's aircraft noise monitoring needs substantial improvements.

"Currently, monitoring is largely limited to regulatory compliance rather than long-term health-based assessments," he said, recommending real-time noise monitoring networks around residential and hospital zones with public dashboards.

Beyond decibels

According to Dr. Tiwari, acoustic monitoring that is mindful of fluctuations in sound levels could help identify when peak exposure occurs. That then could allow doctors and hospitals, urban planners, and architects to develop more targeted ways to mitigate noise and health-based standards for affected populations.

Taken together, the challenge now is not that data is unavailable — it exists — but that health-based evidence of harm is linked in a very limited way to aviation regulations. Until that changes, India may continue to measure aircraft noise with great precision even as it knows less and less about the noise's long-term impact.

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THE GIST

Even as India's airports monitor sound with increasing technical precision, they have paid far less attention to what years of repeated exposure may be doing to people

Research on the long-term biological effects of chronic aircraft noise in India is also limited

Some emerging research has pointed to inflammation, stress-related changes, and even cognitive effects

The fact remains, however, that the gap between regulatory noise monitoring and understanding biological risk is widening

03J6. India vulnerable to chronic aircraft noise thanks to regulatory gaps

नियामकीय कमियों के कारण भारत दीर्घकालिक विमान शोर के प्रति संवेदनशील

- India's aviation and environmental regulations require airports to map the aircraft noise exposure using decibel contours — maps showing how the air pressure varies around the airport.

भारत के विमानन तथा पर्यावरणीय नियमों के अनुसार हवाई अड्डों को डेसीबल कंटूर का उपयोग करके विमान शोर के प्रभाव का मानचित्रण करना आवश्यक है — ऐसे मानचित्र जो यह दर्शाते हैं कि हवाई अड्डे के आसपास वायु दाब किस प्रकार बदलता है।



- Some emerging research has pointed to **inflammation, stress-related changes, and even cognitive effects**.
कुछ उभरते हुए शोधों ने सूजन, तनाव-संबंधी परिवर्तनों, तथा यहाँ तक कि संज्ञानात्मक प्रभावों की ओर संकेत किया है।
- These personnel also showed subclinical **cochlear and neural damage**.
इन कर्मियों में उप-नैदानिक कौक्लियर तथा तंत्रिका क्षति के संकेत भी पाए गए।
- Together, the findings suggested **aircraft noise may be a chronic biological stressor affecting both auditory and cardiovascular systems**.
इन निष्कर्षों से यह संकेत मिला कि विमान शोर एक दीर्घकालिक जैविक तनावकारक हो सकता है, जो श्रवण तथा हृदय-वाहिका प्रणालियों दोनों को प्रभावित करता है।
- He added that current aircraft noise assessment frameworks may underestimate broader public health risks because they **remain largely centered on hearing damage and decibel thresholds**.
उन्होंने यह भी कहा कि वर्तमान विमान शोर मूल्यांकन ढाँचे व्यापक जनस्वास्थ्य जोखिमों को कम करके आँक सकते हैं, क्योंकि वे मुख्यतः श्रवण क्षति तथा डेसीबल सीमाओं पर केंद्रित हैं।

Unequal risk असमान जोखिम

- The **gap between monitoring noise and understanding risk requires technical but also social solutions because of how the options of the people at risk are constrained**.
शोर की निगरानी और जोखिम की समझ के बीच का अंतर केवल तकनीकी ही नहीं, बल्कि सामाजिक समाधानों की भी माँग करता है, क्योंकि जोखिमग्रस्त लोगों के विकल्प सीमित होते हैं।
- He installed expensive **double-glazed windows** but they did little to keep the noise out.
उन्होंने महँगी **डबल-ग्लेज़्ड खिड़कियाँ** लगवाईं, किन्तु वे शोर को रोकने में बहुत कम प्रभावी सिद्ध हुईं।
- Both **World Health Organization and International Civil Aviation Organization** guidelines have acknowledged these factors.
विश्व स्वास्थ्य संगठन तथा अंतरराष्ट्रीय नागरिक उड्डयन संगठन दोनों के दिशा-निर्देशों ने इन कारकों को स्वीकार किया है।
- **Markandeya Tiwari**, a former faculty member of the **Department of Civil Engineering at IIT-Banaras Hindu University**, said relying only on **averaged indicators, such as Leq and LDN**, is insufficient to understand aircraft noise exposure.
मार्कण्डेय तिवारी, जो आईआईटी-बनारस हिन्दू विश्वविद्यालय के सिविल इंजीनियरिंग विभाग के पूर्व संकाय सदस्य हैं, ने कहा कि केवल औसत संकेतकों, जैसे **Leq** और **LDN**, पर निर्भर रहना विमान शोर संपर्क को समझने के लिए अपर्याप्त है।
- He added that additional metrics such as **L10, L50, and L90 are required to capture fluctuations, peak exposure periods, and intermittent noise**.
उन्होंने कहा कि उतार-चढ़ाव, अधिकतम संपर्क अवधि तथा रुक-रुक कर होने वाले शोर को समझने के लिए **L10, L50 और L90** जैसे अतिरिक्त मापदंड आवश्यक हैं।
- **Leq is the average acoustic energy**.
Leq औसत ध्वनिक ऊर्जा है।
- **LDN is a variant of Leq over 24 hours plus 10 dB added to all nighttime noise**.
LDN, 24 घंटे की अवधि में Leq का एक रूप है, जिसमें रात्रिकालीन सभी शोर में 10 dB जोड़ा जाता है।
- **L10, L50, and L90 are the sound levels exceeded for 10%, 50%, and 90% of the time**.
L10, L50 और L90 वे ध्वनि स्तर हैं जो क्रमशः 10%, 50% और 90% समय के लिए पार किए जाते हैं।
- According to him, while the **Central Pollution Control Board (CPCB)** is formally responsible for monitoring aviation noise, most of the compliance is handled by airport operators and the **Directorate General of Civil Aviation (DGCA)**.
उनके अनुसार, यद्यपि केंद्रीय प्रदूषण नियंत्रण बोर्ड (CPCB) औपचारिक रूप से विमानन शोर की निगरानी के



लिए उत्तरदायी है, किन्तु अधिकांश अनुपालन कार्य हवाई अड्डा संचालकों तथा नागर विमानन महानिदेशालय (DGCA) द्वारा किया जाता है।

GS Paper III: Internal Security		03 June 2026
TOPICS COVERED		
03J6	Indigenous air-to-surface RudraM-II missile clears flight trials; Rajnath praises team	
	स्वदेशी हवा से सतह पर मार करने वाली रुद्रम-II मिसाइल ने उड़ान परीक्षण सफलतापूर्वक पूरा किया; राजनाथ ने टीम की सराहना की	

Indigenous air-to-surface RudraM-II missile clears flight trials; Rajnath praises team

GS III: Internal Security: Defence

The Hindu Bureau
NEW DELHI

The Defence Research and Development Organisation (DRDO) and the Indian Air Force (IAF) have successfully conducted flight-tests of the indigenous RudraM-II air-to-surface missile, marking a significant milestone in India's efforts to strengthen its precision strike capabilities and advance self-reliance in defence technology.

According to the Defence Ministry, the missile was test-fired from an airborne platform under extreme release conditions, with the trials designed to validate the performance of all critical subsystems and flight parameters.

Data captured through a network of tracking and monitoring instruments deployed by the Integrated Test Range (ITR), Chandipur, confirmed the missile's performance and the



DRDO and the IAF flight-tests RudraM-II missile from an airborne platform on Tuesday. ANI/MINISTRY OF DEFENCE

success of the trials.

RudraM-II was developed by Research Centre Imarat (RCI), Hyderabad, the nodal DRDO laboratory for the programme, in collaboration with other DRDO establishments, including Defence Research and Development Laboratory (DRDL), High Energy Materials Research Laboratory (HEMRL), Armament Research & Development Establishment (ARDE), and ITR.

The programme also re-

ceived significant support from development-cum-production partners, along with agencies such as Hindustan Aeronautics Limited, Regional Centre for Military Airworthiness, Missile System Quality Assurance Agency, and a number of Indian defence industries.

Defence Minister Rajnath Singh congratulated the DRDO, the IAF, defence public sector undertakings (DPSUs), industry partners and all stakeholders.

03J6. Indigenous air-to-surface RudraM-II missile clears flight trials; Rajnath praises team

स्वदेशी हवा से सतह पर मार करने वाली रुद्रम-II मिसाइल ने उड़ान परीक्षण सफलतापूर्वक पूरा किया; राजनाथ ने टीम की सराहना की

- The **Defence Research and Development Organisation (DRDO)** and the **Indian Air Force (IAF)** have successfully conducted flight-tests of the indigenous **RudraM-II** air-to-surface missile.

रक्षा अनुसंधान एवं विकास संगठन (DRDO) और भारतीय वायु सेना (IAF) ने स्वदेशी रुद्रम-II हवा से सतह पर मार करने वाली मिसाइल का सफल उड़ान परीक्षण किया है।

- Data captured through a network of tracking and monitoring instruments deployed by the **Integrated Test Range (ITR), Chandipur**, confirmed the missile's performance and the success of the trials.

इंटीग्रेटेड टेस्ट रेंज (ITR), चांदीपुर द्वारा तैनात ट्रैकिंग और निगरानी उपकरणों के नेटवर्क से प्राप्त आंकड़ों ने मिसाइल के प्रदर्शन और परीक्षणों की

सफलता की पुष्टि की।

- RudraM-II** was developed by **Research Centre Imarat (RCI), Hyderabad**, the nodal DRDO laboratory for the programme.
रुद्रम-II का विकास रिसर्च सेंटर इमारत (RCI), हैदराबाद द्वारा किया गया, जो इस कार्यक्रम के लिए DRDO की प्रमुख प्रयोगशाला है।
- In collaboration with other DRDO establishments, including **Defence Research and Development Laboratory (DRDL)**, **High Energy Materials Research Laboratory (HEMRL)**, **Armament Research & Development Establishment (ARDE)**, and ITR.
यह विकास DRDO की अन्य संस्थाओं जैसे डिफेंस रिसर्च एंड डेवलपमेंट लेबोरेटरी (DRDL), हाई एनर्जी मटेरियल्स रिसर्च लेबोरेटरी (HEMRL), आर्मामेंट रिसर्च एंड डेवलपमेंट एस्टैब्लिशमेंट (ARDE) और ITR के सहयोग से किया गया।



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- The programme also received significant support from development-cum-production partners. इस कार्यक्रम को विकास एवं उत्पादन सहयोगी संस्थाओं से भी महत्वपूर्ण समर्थन मिला।
- Along with agencies such as **Hindustan Aeronautics Limited (HAL)**, **Regional Centre for Military Airworthiness**, **Missile System Quality Assurance Agency**, and a number of Indian defence industries.
इसके अलावा हिंदुस्तान एयरोनॉटिक्स लिमिटेड (HAL), रीजनल सेंटर फॉर मिलिट्री एयरवर्थिनेस, मिसाइल सिस्टम क्वालिटी एश्योरेंस एजेंसी और कई भारतीय रक्षा उद्योगों ने भी सहयोग दिया।
- **Defence Minister Rajnath Singh** congratulated the DRDO, the IAF, defence public sector undertakings (DPSUs), industry partners and all stakeholders.
रक्षा मंत्री राजनाथ सिंह ने DRDO, IAF, रक्षा सार्वजनिक उपक्रमों (DPSUs), उद्योग सहयोगियों और सभी हितधारकों को बधाई दी।

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