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CONTACT: 9971932488



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13J7	New world record attendance set for single day at women's Test महिला टेस्ट के एक दिन में दर्शकों की उपस्थिति का नया विश्व रिकॉर्ड बना
13J7	Knight to bid adieu to intl. cricket after the Lord's Test लॉर्ड्स टेस्ट के बाद नाइट अंतरराष्ट्रीय क्रिकेट को कहेंगी अलविदा
13J7	Argentina football legend Rattin passes away at 89 अर्जेंटीना के फुटबॉल दिग्गज रैटिन का 89 वर्ष की आयु में निधन



13J7 **Anand claims javelin gold with a personal best; women's 4x400m relay team wins**
आनंद ने व्यक्तिगत सर्वश्रेष्ठ प्रदर्शन के साथ भाला फेंक में स्वर्ण जीता; महिला 4x400 मीटर रिले टीम भी विजेता बनी

Music legend Janaki cremated with state honours in Mysuru

PCS
The Hindu Bureau
MYSURU

Legendary singer S. Janaki was cremated with state honours at a farmhouse in Kaniyanahundi near Mysuru on Sunday evening.

Janaki's granddaughter Apsara Vidyula performed the last rites as per Telugu Brahmin traditions in the presence of her close relatives, people's representatives, friends, and a large number of admirers and the general public.

Earlier, Janaki's mortal remains were brought in a vehicle with police escort to the farmhouse in H.D. Kote taluk of Mysuru district from Maharaja's College grounds, where it was kept for the public to pay homage. The last rites were held at the farmhouse belonging to Janaki's admirer and caretaker Naveen as per the singer's wishes. Janaki's late husband Ramprasada was from Mysuru and the singer had chosen to make Mysuru her home in the past few

years. Janaki's husband and their only son Murali Krishna had predeceased her.

'Unique soul'

Ms. Apsara thanked the government for the state honours and public homage. On Janaki, Ms. Apsara said her grandmother was one of a kind with remarkable talent. "I will remember her more as a grandmother. She was full of love and laughter with a child-like spirit. She was a unique soul," Ms. Apsara said.

Several personalities from the Kannada film industry, including chairperson of the Karnataka Film Chamber of Commerce S. Jaimala, veteran actor Bharathi Vishnuvardhan, and noted music composer Hamsalekha, attended the cremation.

Earlier, Prime Minister Narendra Modi condoled the passing of the veteran singer and said her songs gave voice to every emotion with unparalleled grace as well as versatility.

13J7. Music legend Janaki cremated with state honours in Mysuru

संगीत जगत की दिग्गज एस. जानकी का मैसूरु में राजकीय सम्मान के साथ अंतिम संस्कार

- **Legendary singer S. Janaki** was cremated with state honours at a farmhouse in Kaniyanahundi near Mysuru on Sunday evening.

प्रख्यात गायिका एस. जानकी का रविवार शाम मैसूरु के निकट कनियानहुंडी स्थित एक फार्महाउस में राजकीय सम्मान के साथ अंतिम संस्कार किया गया।

'Unique soul'

‘एक अद्वितीय आत्मा’

- Ms. Apsara thanked the government for the state honours and public homage.

सुश्री अप्सरा ने राजकीय सम्मान तथा सार्वजनिक श्रद्धांजलि के लिए सरकार का आभार व्यक्त किया।

13J7. Hamad bin Khalifa, former leader and key architect of modern Qatar, dies aged 74

आधुनिक क़तर के प्रमुख निर्माता एवं पूर्व शासक हमद बिन

खलीफ़ा का 74 वर्ष की आयु में निधन

- **Qatar's government** on Sunday announced the death of former leader **Sheikh Hamad bin Khalifa Al Thani**, who led the country from 1995 to 2013.

क़तर सरकार ने रविवार को पूर्व शासक शेख हमद बिन खलीफ़ा अल थानी के निधन की घोषणा की, जिन्होंने 1995 से 2013 तक देश का नेतृत्व किया।

- The former leader was seen as one of the key architects of modern Qatar and led the country during a period of rapid economic growth.

पूर्व शासक को आधुनिक क़तर के प्रमुख

निर्माताओं में से एक माना जाता था और उन्होंने देश का नेतृत्व तीव्र आर्थिक विकास के दौर में किया।

- **Sheikh Hamad** took power in 1995, overthrowing his father in a bloodless coup while the latter was abroad.

शेख हमद ने 1995 में अपने पिता को विदेश में रहने के दौरान रक्तहीन तख्तापलट के माध्यम से सत्ता से हटाकर शासन संभाला।

Hamad bin Khalifa, former leader and key architect of modern Qatar, dies aged 74

PCS
Agence France-Presse
DOHA

Qatar's government on Sunday announced the death of former leader Sheikh Hamad bin Khalifa Al Thani, who led the country from 1995 to 2013. He was 74, according to a government website.

"With hearts steadfast in faith in God's decree and destiny, the Bureau of the Emir mourns the great loss to the nation of the late His Highness the Father Amir Sheikh Hamad bin Khalifa Al Thani," read a statement published by the Emir's office on social media.

The former leader was



Hamad bin Khalifa al-Thani

seen as one of the key architects of modern Qatar and led the country during a period of rapid economic growth.

Sheikh Hamad took power in 1995, overthrowing his father in a bloodless

coup while the latter was abroad. He inherited a small, largely marginal emirate with nearly empty coffers and transformed it into a major player on the international stage.

The emirate became a leading producer and exporter of liquefied natural gas. It also rose to become one of the wealthiest countries on the planet in terms of GDP per capita.

During his time in office, Al Jazeera was launched in 1996. Also under his reign, Qatar began paying hundreds of millions of dollars to the Gaza Strip.

In 2013, Sheikh Hamad surprised many by voluntarily

abdicating in favour of his son, Sheikh Tamim bin Hamad Al Thani.

Modi pays condolences

Prime Minister Narendra Modi expressed grief over the passing away of the former Emir, and described him as a visionary leader. India has declared a one-day national mourning as a mark of respect.

"We deeply mourn the passing of HH Sheikh Hamad bin Khalifa Al Thani. A visionary leader who led Qatar to great levels of development and prosperity," Mr. Modi said in a post on X.

(With inputs from PTI)



- He inherited a small, largely marginal emirate with nearly empty coffers and transformed it into a major player on the **international stage**.
उन्होंने लगभग खाली खजाने वाले एक छोटे और सीमित अमीरात को विरासत में पाया और उसे अंतरराष्ट्रीय मंच पर एक प्रमुख शक्ति में बदल दिया।
- The **emirate became a leading producer and exporter of liquefied natural gas**.
यह अमीरात द्रवीकृत प्राकृतिक गैस (LNG) का प्रमुख उत्पादक और निर्यातक बन गया।
- **It also rose to become one of the wealthiest countries on the planet in terms of GDP per capita**.
यह प्रति व्यक्ति GDP के आधार पर दुनिया के सबसे समृद्ध देशों में भी शामिल हो गया।
- **During his time in office, Al Jazeera was launched in 1996**.
उनके कार्यकाल के दौरान अल जज़ीरा की शुरुआत 1996 में हुई।
- Also under his reign, **Qatar began paying hundreds of millions of dollars to the Gaza Strip**.
उनके शासनकाल में क़तर ने गाज़ा पट्टी को सैकड़ों मिलियन डॉलर की सहायता देना भी शुरू किया।
- **In 2013, Sheikh Hamad surprised many by voluntarily abdicating in favour of his son, Sheikh Tamim bin Hamad Al Thani**.
2013 में शेख हमद ने स्वेच्छा से अपने पुत्र शेख तमीम बिन हमद अल थानी के पक्ष में गद्दी छोड़कर अनेक लोगों को आश्चर्यचकित कर दिया।

China's new ethnic unity law deepens push for Mandarin, 'Sinicised' religion

Even as the Chinese government says the law aims to create a 'shared' national identity among the country's ethnic groups, rights groups, including the UN Human Rights Office of the High Commissioner, express concerns that it could threaten minority freedoms and lead to forced assimilation

PCS
NEWS ANALYSIS

Rizmi Lia M.
CHENNAI

A new ethnic unity law, the Law on Promoting Ethnic Unity and Progress, came into effect in China on July 1. The Chinese government said the law aims to create a "shared" national identity among China's ethnic groups by strengthening what is called the "community of the Chinese nation". The law also gives legal backing to policies promoting Mandarin, ideological education and the "Sinicisation" of religion, or aligning religious practices to Chinese laws.

The UN Human Rights Office of the High Commissioner (OHCHR) expressed concerns that the law could threaten freedoms, especially for minorities and lead to forced assimilation.

‘Shared’ identity

Shared Identity
China passed the Law on Promoting Ethnic Unity and Progress on March 12 to create a "shared" national identity among ethnic groups.

The country officially recognises 56 ethnic groups. The majority Han Chinese make up more than 90% of the population. According to the 2020 census, the ethnic minority popula-

tion crossed 125 million, or 8.89% of the national total. This includes around 11 million Uyghurs and 7 million Tibetans.

The legislation is the culmination of a policy trajectory that has been building for over a decade, beginning with the 2014 Central Ethnic Work Conference under President Xi Jinping. Since then, provinces and municipalities, including Xinjiang (2015) and Inner Mongolia (2021), have enacted local “ethnic unity and progress” regulations.

The new law elevates that approach into a nationwide legal framework. According to Article 1, the law was enacted to "promote national unity and progress," strengthen "the sense of community of the Chinese nation," and advance the "great rejuvenation of the Chinese nation." The law, approved by the National People's Congress, the country's ceremonial legislature, is designed to foster "a stronger sense of community among all ethnic groups in the Chinese nation," said Lou Qianjin, a delegate to the NPC who introduced the proposal.

Several provisions have drawn particular attention. According to Article 15 in the new law, Mandarin Chinese is mandated to be taught to all children before kindergarten and throughout the rest of



A big chunk: According to the 2020 census, population of ethnic minorities in China crossed 125 million, or 8.89% of the national total. REUTERS

compulsory education up to the end of high school. Article 46 requires religious organisations, schools and places of worship to promote the "Sinicisation" of religion and strengthen the sense of a shared Chinese national identity.

"Sinicisation" of religion refers to aligning all religious practices within China to local laws and regulations. The law's ambit even extends beyond China's borders. Article 63 states that any organisation or individual outside the territory of China that engages in

acts that undermine national unity or create national division shall be held legally responsible, leading critics of the law to see it as enabling "transnational repression".

Impact on religion

Human rights groups have expressed concerns about the law's impact on religious freedoms. According to the law, it is formulated in accordance with China's Constitution in order to promote national unity and progress.

However, the Chinese Constitution states that

"each ethnicity has the right to use and develop their own language" and "the right to self-rule," while the Law on Regional Ethnic Autonomy promises limited autonomy to those groups, including allowing them to create flexible measures to develop their economies.

Rights groups have pointed to provisions prohibiting acts that "undermine national unity" or "create national division", warning that because these terms are broad and undefined, the law could be used to suppress peaceful

expression, activism or cultural practices.

Sarah Brooks, Amnesty International's Deputy Regional Director, said the law "does the opposite" of protecting minority communities. "Rather than celebrating difference, it is about pushing ethnic groups such as Uyghurs, Tibetans and Mongolians to adopt a single, state-defined national identity dominated by Han Chinese culture," she said.

"'Unity' in this context is not harmony between different communities – it is political and ideological alignment with the Chinese Communist Party."

Critics see the law as a final step in a years-long evolution of Chinese policy to emphasise national identity over ethnic autonomy.

They have viewed that policy shift as being aimed at assimilation.

That shift has accelerated over the past decade under President Xi Jinping.

Authorities have expanded Mandarin-medium education, increased oversight of religious institutions and promoted the "Sinicisation" of religion.

Rights groups have also cited widespread arbitrary detention and restrictions on religious and cultural practices in the Muslim-majority Xinjiang, allegations that the Chinese authorities have denied.

13J7. China's new ethnic unity law deepens push for Mandarin, 'Sinicised' religion

चीन का नया जातीय एकता कानून मंदारिन और 'सिनीकरण' किए गए धर्म को बढ़ावा देने की दिशा में और आगे बढ़ा

- A new **ethnic unity law**, the **Law on Promoting Ethnic Unity and Progress**, came into effect in **China** on **July 1**.

जातीय एकता से संबंधित नया कानून Law on Promoting Ethnic Unity and Progress 1 जुलाई से चीन में लागू हो गया।

- The law also gives legal backing to policies promoting **Mandarin, ideological education** and the **"Sinicisation"** of religion, or aligning religious practices to **Chinese laws**.

यह कानून **मंदारिन, वैचारिक शिक्षा** तथा धर्म के "**सिनीकरण (Sinicisation)**" अर्थात् धार्मिक प्रथाओं को **चीनी काननों** के अनुरूप बनाने वाली नीतियों को भी कानूनी आधार प्रदान करता है।

- The **UN Human Rights Office of the High Commissioner (OHCHR)** expressed concerns that the law could threaten freedoms, especially for **minorities** and lead to **forced assimilation**.

संयुक्त राष्ट्र मानवाधिकार उच्चायुक्त कार्यालय (OHCHR) ने चिंता व्यक्त की कि यह कानून विशेष रूप से अल्पसंख्यकों की स्वतंत्रता को प्रभावित कर सकता है और बलपूर्वक आत्मसातीकरण को बढ़ावा दे सकता है।

‘Shared’ identity

‘साझी’ पहचान

- China passed the **Law on Promoting Ethnic Unity and Progress on March 12** to create a "shared" national identity among ethnic groups.
चीन ने 12 मार्च को Law on Promoting Ethnic Unity and Progress पारित किया ताकि जातीय समूहों के बीच "साझी" राष्ट्रीय पहचान विकसित की जा सके।
- The country officially recognises **56 ethnic groups**.
देश आधिकारिक रूप से 56 जातीय समूहों को मान्यता देता है।
- The majority **Han Chinese** make up more than **90%** of the population.
बहुसंख्यक हान चीनी देश की कुल जनसंख्या का 90% से अधिक हिस्सा हैं।
- According to the **2020 census**, the **ethnic minority** population crossed **125 million**, or **8.89%** of the national total.
2020 की जनगणना के अनुसार जातीय अल्पसंख्यकों की जनसंख्या 125 मिलियन से अधिक, अर्थात् कुल आबादी का 8.89% थी।
- This includes around **11 million Uyghurs** and **7 million Tibetans**.
इसमें लगभग 11 मिलियन उइगर और 7 मिलियन तिब्बती शामिल हैं।
- According to **Article 15** in the new law, **Mandarin Chinese** is mandated to be taught to all children before kindergarten and throughout the rest of compulsory education up to the end of high school.
नए कानून के अनुच्छेद 15 के अनुसार सभी बच्चों को किंडरगार्टन से पहले तथा हाई स्कूल तक की अनिवार्य शिक्षा के दौरान मंदारिन चीनी पढ़ाना अनिवार्य होगा।
- **Article 46** requires **religious organisations**, schools and places of worship to promote the "**Sinicisation**" of religion and strengthen the sense of a shared **Chinese national identity**.
अनुच्छेद 46 के अनुसार धार्मिक संगठनों, विद्यालयों और पूजा स्थलों को धर्म के "सिनीकरण" को बढ़ावा देना होगा तथा साझा चीनी राष्ट्रीय पहचान की भावना को मजबूत करना होगा।
- "**Sinicisation**" of religion refers to aligning all religious practices within **China** to local laws and regulations.
धर्म का "सिनीकरण" का अर्थ चीन के भीतर सभी धार्मिक प्रथाओं को स्थानीय कानूनों और नियमों के अनुरूप बनाना है।
- **Article 63** states that any organisation or individual outside the territory of **China** that engages in acts that undermine national unity or create national division shall be held legally responsible, leading critics of the law to see it as enabling "**transnational repression**".
अनुच्छेद 63 कहता है कि चीन की सीमा के बाहर कोई भी संगठन या व्यक्ति यदि राष्ट्रीय एकता को कमजोर करने या राष्ट्रीय विभाजन पैदा करने वाले कार्यों में शामिल पाया जाता है तो उसे कानूनी रूप से उत्तरदायी ठहराया जाएगा, जिसके कारण आलोचक इसे "सीमापार दमन (Transnational Repression)" को बढ़ावा देने वाला मानते हैं।

Impact on religion

धर्म पर प्रभाव

- However, the **Chinese Constitution** states that "**each ethnicity has the right to use and develop their own language**" and "**the right to self-rule**", while the **Law on Regional Ethnic Autonomy** promises limited autonomy to those groups, including allowing them to create flexible measures to develop their economies.
हालाँकि चीनी संविधान कहता है कि "प्रत्येक जातीय समूह को अपनी भाषा का उपयोग और विकास करने का

अधिकार है" तथा "स्वशासन का अधिकार" प्राप्त है, जबकि Law on Regional Ethnic Autonomy इन समूहों को सीमित स्वायत्तता देने तथा अपनी अर्थव्यवस्था के विकास के लिए लचीले उपाय अपनाने की अनुमति देता है।

- "Rather than celebrating difference, it is about pushing ethnic groups such as Uyghurs, Tibetans and Mongolians to adopt a single, state-defined national identity dominated by Han Chinese culture," she said.
उन्होंने कहा, "विविधता का सम्मान करने के बजाय यह कानून उइगरों, तिब्बतियों और मंगोलों जैसे जातीय समूहों को हान चीनी संस्कृति से प्रभुत्व वाली राज्य-निर्धारित एकल राष्ट्रीय पहचान अपनाने के लिए प्रेरित करता है।"

- **Mandarin is the most widely spoken language in the world and is the official language of China and Taiwan.** It is also one of the four official languages of Singapore.
- The word "**Mandarin**" usually refers to **Standard Mandarin**, which is based on the **Beijing dialect**. In China, it is officially called **Putonghua**, meaning "**Common Speech**."
- In Taiwan, it is known as **Guoyu**, meaning "**National Language**."
- Similarly, China has hundreds of regional languages and dialects, including **Cantonese, Shanghaiese, Hokkien, and Hakka**, but **Mandarin** acts as the common language that enables people from different regions to communicate.

Bhutan fights 'existential' population crisis with cash incentives for births

PCS

Agence France Presse
THIMPHU

Bhutan is offering families cash incentives to have more children as the tiny Himalayan kingdom grapples with a nosediving birthrate and a growing exodus of young people seeking opportunities abroad.

Annual births have dropped by more than a quarter over the past decade, compounding the country's loss of youngsters to migration.

Prime Minister Tshering Tobgay has repeatedly rung the alarm over the population slump, calling it an "existential" crisis, according to the state's Bhutan Broadcasting Service.

"The evidence is unam-



Annual births have dropped by more than a quarter over the past decade, compounding Bhutan's loss of youngsters to migration. AFP

biguous – Bhutan's fertility has declined to near or below replacement level," Mr. Tobgay wrote in the introduction to the government's "Third Child Plus" programme, launched in June.

The scheme provides monthly payments of \$105 for each third or subse-

quent child until they turn three.

Khandu Wangmo, a 35-year-old civil servant, welcomed the incentive but questioned whether cash payments alone would persuade families to have more children.

"It is a good initiative because it encourages fami-

lies to have three or more children," she said. "However, its impact may be limited if the cost of raising children, housing, and childcare remains high."

For the landlocked kingdom of fewer than 8,00,000 people, wedged between India and China, the issue carries particular weight.

Births of third or more children, the focus of the new scheme, have fallen 27% since 2020, according to the report.

Bhutan's fertility rate has fallen to about 1.8 children per woman, below the replacement level, while the share of people aged 65 and over is projected to rise from around six percent to 17% by 2050, according to UN estimates.

13J7. Bhutan fights 'existential' population crisis with cash incentives for births

भूटान जन्म को प्रोत्साहित करने के लिए नकद प्रोत्साहन देकर 'अस्तित्वगत' जनसंख्या संकट से लड़ रहा है

• **Bhutan is offering families cash incentives to have more children as the tiny Himalayan kingdom grapples with a nosediving birthrate and a growing exodus of young**

people seeking opportunities abroad.

भूटान अधिक बच्चों के जन्म को प्रोत्साहित करने के लिए परिवारों को नकद प्रोत्साहन दे रहा है, क्योंकि यह छोटा हिमालयी साम्राज्य तेजी से गिरती जन्म दर और विदेशों में अवसरों की तलाश में युवाओं के बढ़ते पलायन का सामना कर रहा है।

- Annual births have dropped by more than a quarter over the past decade, compounding the country's loss of youngsters to migration.
पिछले एक दशक में वार्षिक जन्मों की संख्या एक-चौथाई से अधिक घट गई है, जिससे प्रवास (Migration) के कारण देश से युवाओं के पलायन की समस्या और बढ़ गई है।

- "The evidence is unambiguous — **Bhutan's fertility** has declined to near or below **replacement level**," Mr. Tobgay wrote in the introduction to the government's '**Third Child Plus**' programme, launched in **June**.
श्री टोबगे ने जून में शुरू किए गए सरकार के 'थर्ड चाइल्ड प्लस' कार्यक्रम की प्रस्तावना में लिखा, "साक्ष्य स्पष्ट हैं — भूटान की प्रजनन दर प्रतिस्थापन स्तर (Replacement Level) के आसपास या उससे नीचे पहुँच गई है।"
- The **scheme** provides monthly payments of **\$105** for each **third or subsequent child** until they turn **three**.
इस योजना के तहत प्रत्येक तीसरे या उसके बाद जन्मे बच्चे के लिए तीन वर्ष की आयु तक प्रति माह **105 डॉलर** की राशि दी जाएगी।
- For the **landlocked kingdom** of fewer than **8,00,000 people**, wedged between **India and China**, the issue carries particular weight.
भारत और चीन के बीच स्थित **8,00,000 से कम आबादी** वाले इस स्थलरुद्ध (Landlocked) साम्राज्य के लिए यह मुद्दा विशेष महत्व रखता है।

New world record attendance set for single day at women's Test



PCS
A world record attendance (15,243) for a single day at a women's Test was set on the second day of the one-off match between England and India at Lord's on Saturday. It surpassed the previous single-day attendance of 11,918 during the women's Ashes game at the Melbourne Cricket Ground in 2025.

13J7. New world record attendance set for single day at women's Test

महिला टेस्ट के एक दिन में दर्शकों की उपस्थिति का नया विश्व रिकॉर्ड बना

- A **world record attendance (15,243)** for a single day at a **women's Test** was set on the **second day** of the **one-off match** between **England and India** at **Lord's** on **Saturday**.
शनिवार को लॉर्ड्स में इंग्लैंड और भारत के बीच खेले गए एकमात्र टेस्ट मैच के दूसरे दिन महिला टेस्ट के एक दिन में **15,243 दर्शकों** की उपस्थिति के साथ विश्व रिकॉर्ड बना।

Knight to bid adieu to intl. cricket after the Lord's Test



PCS
Heather Knight, the first woman to hit centuries in all the three formats, will not play for England after the Lord's Test against India. "I am extremely grateful and privileged to have gone on the journey that I have been on as an England cricketer," said Knight, who scored over 8,000 international runs.

13J7. Knight to bid adieu to intl. cricket after the Lord's Test

लॉर्ड्स टेस्ट के बाद नाइट अंतरराष्ट्रीय क्रिकेट को कहेंगी अलविदा

- **Heather Knight**, the first woman to hit **centuries in all the three formats**, will not play for **England** after the **Lord's Test** against **India**.
हीदर नाइट, जो तीनों प्रारूपों में शतक लगाने वाली पहली महिला हैं, भारत के विरुद्ध लॉर्ड्स टेस्ट के बाद इंग्लैंड के लिए अंतरराष्ट्रीय क्रिकेट नहीं खेलेंगी।



Argentina football legend Rattin passes away at 89

PCS
Former Argentina international Antonio Rattin, regarded as one of the country's finest midfielders and a Boca Juniors legend, passed away on Saturday at the age of 89. Rattin represented Argentina at the 1962 and 1966 FIFA World Cups. Rattin made 382 appearances for Boca Juniors between 1956 and 1970, scoring 28 goals and helping the club win four Argentine league titles.

13J7. Argentina football legend Rattin passes away at 89 **अर्जेंटीना के फुटबॉल दिग्गज रैटिन का 89 वर्ष की आयु में निधन**

- **Former Argentina international Antonio Rattin**, regarded as one of

the country's **finest midfielders** and a **Boca Juniors** legend, passed away on **Saturday** at the age of **89**.

पूर्व अर्जेंटीना अंतरराष्ट्रीय खिलाड़ी एंटोनियो रैटिन, जिन्हें देश के सर्वश्रेष्ठ मिडफील्डरों में से एक और बोका जूनियर्स का दिग्गज माना जाता है, का शनिवार को 89 वर्ष की आयु में निधन हो गया।

- **Rattin represented Argentina at the 1962 and 1966 FIFA World Cups.**
रैटिन ने 1962 और 1966 फीफा विश्व कप में अर्जेंटीना का प्रतिनिधित्व किया।

Anand claims javelin gold with a personal best; women's 4x400m relay team wins

ATHLETICS

Press Trust of India
ORDOS (CHINA)

Javelin thrower Anand Singh and the women's 4x400m relay team clinched a gold medal each as India ended its campaign on a strong note at the inaugural Asian under-23 athletics championships here on Sunday.

Fine show

Overall, the Indian team won 16 medals – three gold, four silver and nine bronze – in the championships.

On his way to winning the gold medal, Anand



On top: The quartet of Sandramol, Pravallika, Nofisa and Shrivani.

joined the 80m club. His gold winning throw of 80.57m, a personal best, was achieved in his last attempt.

Shivam Lohakare won

the bronze with 77.70m.

The gold winning quartet of Shrivani Sachin Sangle, Sandramol Sabu, Pravallika Narimalla and Nofisa Khatun clocked



Anand cleared 80.57m.

3:33.62s in the women's 4x400m relay.

India also won a silver in the women's 4x100m relay in 44.68s, with Sanjana, Akshaya Saravanan, Sudheeksha V. and Shreeya Rajesh being the runners.

The men's 4x400m relay team – Astik Pradhan, Sharan Megavarnam, Setu Mishra and Aman Choudhary – also won silver in 3:04.24 secs.

13J7. Anand claims javelin gold with a personal best; women's 4x400m relay team wins

आनंद ने व्यक्तिगत सर्वश्रेष्ठ प्रदर्शन के साथ भाला फेंक में स्वर्ण जीता; महिला 4x400 मीटर रिले टीम भी विजेता बनी

- **Javelin thrower Anand Singh and the women's 4x400m relay team clinched a gold medal each as India ended its campaign on a strong note at the inaugural Asian under-23 athletics championships here**

on Sunday.

भाला फेंक खिलाड़ी आनंद सिंह और महिला 4x400 मीटर रिले टीम ने एक-एक स्वर्ण पदक जीतकर भारत के अभियान का समापन रविवार को उद्घाटन एशियाई अंडर-23 एथलेटिक्स चैंपियनशिप में शानदार ढंग से किया।

- Overall, the **Indian team won 16 medals — three gold, four silver and nine bronze — in the championships.**
कुल मिलाकर भारतीय टीम ने इस चैंपियनशिप में 16 पदक जीते — तीन स्वर्ण, चार रजत और नौ कांस्य।
- The **gold winning quartet of Shrivani Sachin Sangle, Sandramol Sabu, Pravallika Narimalla and Nofisa Khatun clocked 3:33.62s in the women's 4x400m relay.**
श्रावणी सचिन सांगले, सैंड्रामोल साबू, प्रवल्लिका नरिमल्ला और नोफिसा खातून की स्वर्ण पदक विजेता चौकड़ी ने महिला 4x400 मीटर रिले में 3:33.62 सेकंड का समय दर्ज किया।
- **India also won a silver in the women's 4x100m relay in 44.68s, with Sanjana, Akshaya Saravanan, Sudheeksha V. and Shreeya Rajesh being the runners.**
भारत ने महिला 4x100 मीटर रिले में 44.68 सेकंड के समय के साथ रजत पदक भी जीता, जिसमें संजना, अक्षया सरवनन, सुधीक्षा वी. और श्रेया राजेश शामिल थीं।
- The **men's 4x400m relay team — Astik Pradhan, Sharan Megavarnam, Setu Mishra and Aman Choudhary — also won silver in 3:04.24 secs.**
पुरुष 4x400 मीटर रिले टीम — अस्तिक प्रधान, शरण मेघवर्णम, सेतु मिश्रा और अमन चौधरी — ने भी 3:04.24 सेकंड के समय के साथ रजत पदक जीता।

GS Paper 1: History	13 July 2026
TOPICS COVERED	
13J7	Road rage in Bengal बंगाल में सड़क के नाम को लेकर राजनीतिक विवाद



13J7 Bengal BJP chief calls Forward Bloc members goons; party seeks apology बंगाल भाजपा अध्यक्ष ने फॉरवर्ड ब्लॉक के सदस्यों को गुंडा कहा; पार्टी ने माफी की मांग की

SPOTLIGHT

Senjuti Sengupta
Shiv Sahay Singh

A blue and white metal pole, about 2.5 metres tall, with a freshly painted green coloured signboard stands at the edge of the street leading eastward from Park Circus 7 Point Crossing in Kolkata.

Not more than a dozen houses stand on the left side of the street. On the right side is the Park Circus Maidan, which was the epicentre of the anti-Citizenship (Amendment) Act, protests a few years ago.

A lush growth of the green grass now covers the protest site while the hurriedly erected signboard reads 'Gopal Mukherjee Road', in Bengali and English. Before June 20, this road was called Suhrawardy Avenue. However, within six weeks of coming to power, the Bharatiya Janata Party (BJP) government in West Bengal named it after Gopal Mukherjee, who ran a goat meat shop in north Kolkata and is considered to have "saved Hindus during the Great Calcutta Killings in 1946".

Calling the decision historic, Chief Minister Suven-
dra Minister said, "Finally restoration of historical justice will be achieved by honouring a true guardian and saviour." Adhikari, the first BJP Chief Minister of West Bengal, also added in a social media message that "for decades a major artery of our city bore the name of someone who willfully misused state power as a weapon, orchestrating the massacre of innocent citizens for sheer political gain".

The Chief Minister was referring to Huseyn Suhrawardy whom the BJP and its allies blame for the communal riots of 1946. But then the road wasn't named after him.

of the State.

In the years leading to the 2026 West Bengal Assembly poll, the State witnessed a massive campaign mounted by the BJP and its allies glorifying Gopal Mukherjee. At the same time, they also invoked the legacy of Huseyn Shaheed Suhrawardy - a prominent Bengali politician who served as the last Prime Minister of undivided Bengal and later as the Prime Minister of Pakistan - and blamed him for the "massacre of innocent citizens".

However, the road in question was not named after Huseyn Suhrawardy. Instead, it was named after his uncle Sir Hassan Suhrawardy.

Mistaken identity?
"Kolkata Municipal Corporation has decided that the road known as Suhrawardy Avenue in KMC area will be named and henceforth be known as Gopal Mukherjee Road," read a single-line notification published by the civic body on June 20.

PT. Nair, known as the 'Barefoot Historian of Calcutta', in his book, *A History of Calcutta's Streets*, explains how the street got its name. According to the book, "The new road constructed by the Calcutta Improvement Trust from Park Circus Junction of Kasai Para Lane on which stands the house of Sir Hassan Suhrawardy, Vice-

Chancellor of the University of Calcutta, will be known as Suhrawardy Avenue." The name was notified on April 20, 1933.

Road rage in Bengal

SENJUTI SENGUPTA
Soon after the BJP govt. renamed Kolkata's Suhrawardy Avenue as Gopal Mukherjee Road, public outcry and historical evidence started pouring out that the street was not named after the man whom it blames for killings, but the first Muslim V-C of Calcutta University. Here's why the renaming of the street marks a crucial moment in Bengal politics



An elderly resident near a signboard pointing towards the Gopal Mukherjee Road. SENJUTI SENGUPTA

Chancellor of the University of Calcutta, will be known as Suhrawardy Avenue." The name was notified on April 20, 1933.

The real account

Nair gave a detailed account of the accomplishments of Hassan Suhrawardy, describing him as two-time Vice-Chancellor of University of Calcutta, distinguished Muslim medic from the point of academic attainments, a prominent member of the

Bengal Legislative Council and its first Muslim to be elected Deputy President.

The historian also gave a description as to how Hassan got his knighthood: "It was during the days of his vice-chancellorship that Sir Stanley Jackson, the Chancellor of the Calcutta University and the Governor of Bengal, was attacked by a girl student during the convocation and it was Dr. Hassan Suhrawardy's courageous and timely action that saved

the Governor's life. His Knighthood was a reward for this and was granted by a special communique by the King and not during the usual New Year and Birthday Honours 'Lists'.

The student referred to here was freedom fighter Bina Das, who made an assassination attempt at the Bengal Governor on February 6, 1932.

When it became clear in the political circles that the BJP leadership had renamed the street linking it to the wrong Suhrawardy, leaders from the Opposition parties criticised the name change. The Congress's media and publicity department chairman Pawan Khara cited Prime Minister Narendra Modi's message in the book, *Dr. Syama Prasad Mookerjee: The Great Educationist*, to argue that the Hindutva ideologue and Jana Sangh founder had been a supporter of Hassan Suhrawardy, after whom the road was named.

"Typical of the BJP's abysmal ignorance to remove the name of Dr. Hassan Suhrawardy, first Muslim Vice-chancellor of Calcutta [University] when they targeted his nephew Huseyn Suhrawardy. Why don't they read history sometime?" retired bureaucrat and former Rajya Sabha MP Jawhar Sircar said in a post on X.

After the criticism, BJP's IT Cell in-charge Amit Malviya said West Bengal will have nothing to do with the Suhrawardys. Malviya criticised both the Suhrawardys, calling the uncle closely associated with the British and his nephew as one of the most controver-

sial political figures of the pre-Partition era.

Almost 11 years ago, the West Bengal government declassified secret Cabinet papers relating to Subhas Chandra Bose. In the papers that were declassified, the role of Huseyn Shaheed Suhrawardy also became more pronounced. The papers revealed that Huseyn Suhrawardy claimed it was the withdrawal of the police during the riots that led the situation to acquire such grim proportions. However, he also claimed that there was no delay in calling the military.

The house of Gopal Mukherjee is located less than 5 km away in Kolkata's Bowbazar area, where his descendants live. The family members said the film *Bengal Files* released in 2025 has added to his popularity but they are not very happy that he was shown as a butcher or meat shop owner. Despite the opposition from the then Trinamool Congress government, film director Vivek Ranjan Agnihotri and a few BJP leaders, including current Finance Minister Swapna Dasgupta, held a private screening of the film in Kolkata.

The family members said while the film focussed on the role of Mukherjee, neither the director nor anyone from his team spoke to them. They said they were not invited for the private screening. However, they are now happy that now a road is named after their forefather.

"Despite his contribution to save the Hindu community during the Great Calcutta Killings in 1946, the previous governments

were silent about Gopal Mukherjee. We are happy that they took the initiative to name the road after him instead of Hassan Suhrawardy," his grandson Shantanu Mukherjee said.

While there is much enthusiasm among the family members about the renaming of the road, the people who have lived on the avenue for almost nine decades do not think much of the development. "Will this change of name make our lives any better? I have been living here for over 55 years," said Sheikh Ismail, who runs a street laundry shop on the avenue.

In their defence

Defending the decision to rename the avenue to Gopal Mukherjee Road, Adhikari said, "In Kolkata the names of Mughal, Pathans and oppressive foreign rulers will not remain."

He said Sister Nivedita, a disciple of Swami Vivekananda, remains the only exception in this regard. Adhikari on June 23 announced setting up of a panel that will evaluate renaming proposals related to roads and streets.

Former Vice-Chancellor of North Bengal University Professor Om Prakash Mishra said politics of name or nomenclature change has been practised everywhere and by varieties of political regimes.

The re-christening of Suhrawardy Avenue, he added, may just be the beginning of a renaming exercise in Bengal.

senjuti.sengupta
@thehindu.co.in
shivshahay.s
@thehindu.co.in

13J7. Road rage in Bengal

बंगाल में सड़क के नाम को लेकर राजनीतिक विवाद

- However, within **six weeks** of coming to power, the **Bharatiya Janata Party (BJP)** government in **West Bengal** named it after **Gopal Mukherjee**, who ran a **goat meat shop in north Kolkata** and is considered to have "**saved Hindus during the Great Calcutta Killings in 1946**".

किन्तु पश्चिम बंगाल में सत्ता में आने के छह सप्ताह के भीतर भारतीय जनता पार्टी (भाजपा) सरकार ने इसका नाम गोपाल मुखर्जी के नाम पर रख दिया, जो उत्तर कोलकाता में बकरे के मांस की दुकान चलाते थे और जिन्हें "1946 के ग्रेट कलकत्ता किलिंग्स के दौरान हिंदुओं को बचाने वाला" माना जाता है।

- At the same time, they also invoked the legacy of **Huseyn Shaheed Suhrawardy** – a prominent **Bengali politician** who served as the last **Prime Minister of undivided Bengal** and later as the **Prime Minister of Pakistan** – and blamed him for the "**massacre of innocent citizens**".

इसी दौरान उन्होंने हुसैन शहीद सुहरावर्दी की विरासत का भी उल्लेख किया—जो एक प्रमुख बंगाली राजनेता थे, जिन्होंने अविभाजित बंगाल के अंतिम प्रधानमंत्री तथा बाद में पाकिस्तान के प्रधानमंत्री के रूप में कार्य किया—और उन्हें "निर्दोष नागरिकों के नरसंहार" के लिए दोषी ठहराया।

Mistaken identity?

क्या यह गलत पहचान का मामला है?

- **Assan Suhrawardy**, describing him as **two-time Vice-Chancellor of University of Calcutta**, distinguished **Muslim medico** from the point of academic attainments, a prominent member of the **Bengal Legislative Council** and its first **Muslim** to be elected **Deputy President**.
नायर ने हसन सुहरावर्दी की उपलब्धियों का विस्तृत विवरण प्रस्तुत करते हुए उन्हें कलकत्ता विश्वविद्यालय के दो बार कुलपति, शैक्षणिक उपलब्धियों की दृष्टि से प्रतिष्ठित मुस्लिम चिकित्सक, बंगाल विधान परिषद के प्रमुख सदस्य तथा उसके पहले मुस्लिम उपाध्यक्ष के रूप में वर्णित किया।
- **His Knighthood** was a reward for this and was granted by a special **communique** by the **King** and not during the usual **New Year** and **Birthday Honours' Lists**.
"उनकी नाइटहुड इसी कार्य के पुरस्कारस्वरूप राजा द्वारा एक विशेष आधिकारिक संदेश के माध्यम से प्रदान की गई थी, न कि सामान्य नववर्ष अथवा जन्मदिवस सम्मान सूची के अंतर्गत।"
- The student referred to here was **freedom fighter Bina Das**, who made an **assassination attempt at the Bengal Governor on February 6, 1932**.
यहाँ जिस छात्रा का उल्लेख किया गया है, वह स्वतंत्रता सेनानी बीना दास थीं, जिन्होंने 6 फ़रवरी 1932 को बंगाल के गवर्नर की हत्या का प्रयास किया था।
- The **papers revealed** that **Huseyn Suhrawardy** claimed it was the **withdrawal of the police during the riots** that led the situation to acquire such grim proportions.
दस्तावेजों से पता चला कि हुसैन सुहरावर्दी का दावा था कि दंगों के दौरान पुलिस की वापसी के कारण ही स्थिति इतनी गंभीर हो गई।
- However, he also claimed that **there was no delay in calling the military**.
हालाँकि, उन्होंने यह भी दावा किया कि सेना को बुलाने में कोई विलंब नहीं हुआ था।
- He said **Sister Nivedita**, a disciple of **Swami Vivekananda**, remains the only exception in this regard.
उन्होंने कहा कि स्वामी विवेकानंद की शिष्या सिस्टर निवेदिता इस संदर्भ में एकमात्र अपवाद हैं।

Bengal BJP chief calls Forward Bloc members goons; party seeks apology

GS I: History

Shiv Sahay Singh
KOLKATA

While lauding the contributions of Bharatiya Jana Sangh founder Syama Prasad Mookerjee, West Bengal BJP president Samik Bhattacharya recently hit out at the All India Forward Bloc (AIFB), a party founded by Netaji Subhas Chandra Bose, calling its members "goons".

Mr. Bhattacharya, a Rajya Sabha member, said that when Mookerjee urged Bose and his brother Sarat Chandra to raise their voice against torture of Hindus in Bangladesh, they did not listen. These remarks drew sharp criticism from the followers of Netaji and AIFB leaders.

AIFB general secretary G. Devarajan on July 11



Samik Bhattacharya, on July 6, said Syama Prasad Mookerjee was attacked by AIFB supporters during speech at Md. Ali Park. ANI

wrote to BJP national president Nitin Nabin demanding that he immediately direct Mr. Bhattacharya "to withdraw his derogatory statement unconditionally and issue a public apology to the Forward Bloc and to the people of the country".

"We further urge you to

instruct all BJP leaders in West Bengal to desist from making irresponsible statements against Netaji, to refrain from any attempt to erase or diminish his legacy through symbolic or administrative actions, and to respect the established history of India's freedom

movement," he said.

At a public gathering on July 6, Mr. Bhattacharya said that Mookerjee was attacked by AIFB supporters while giving a speech at Md. Ali Park.

The very next day, Mr. Bhattacharya said, "When Hindus were being tortured in Bangladesh between 1937 and 1939, Syama Prasad approached Subhas Chandra Bose and Sarat Bose, requesting them to raise their voice and issue statements. Neither listened to Mookerjee".

"It is equally well documented that Netaji repeatedly cautioned Mookerjee against delivering speeches that could inflame communal passions and disturb public peace," Mr. Devarajan had written in the letter.

13J7. Bengal BJP chief calls Forward Bloc members goons; party seeks apology

बंगाल भाजपा अध्यक्ष ने फॉरवर्ड ब्लॉक के सदस्यों को गुंडा कहा; पार्टी ने माफी की मांग की

- While lauding the contributions of **Bharatiya Jana Sangh** founder **Syama Prasad Mookerjee**, **West Bengal BJP** president **Samik Bhattacharya** recently hit out at the **All India Forward Bloc (AIFB)**, a party founded by **Netaji Subhas Chandra Bose**, calling its members "goons".
भारतीय जनसंघ के संस्थापक श्यामा प्रसाद मुखर्जी के योगदान की सराहना करते हुए पश्चिम बंगाल भाजपा के अध्यक्ष समीक भट्टाचार्य ने हाल ही में नेताजी सुभाष चंद्र बोस द्वारा स्थापित ऑल इंडिया फॉरवर्ड ब्लॉक (AIFB) पर निशाना साधते हुए उसके सदस्यों को "गुंडा" कहा।
- Mr. **Bhattacharya**, a **Rajya Sabha** member, said that when **Mookerjee** urged **Subhas Chandra Bose** and his brother **Sarat Chandra Bose** to raise their voice against the torture of **Hindus** in **Bangladesh**, they did not listen.
राज्यसभा सदस्य श्री भट्टाचार्य ने कहा कि जब श्यामा प्रसाद मुखर्जी ने सुभाष चंद्र बोस और उनके भाई शरत चंद्र बोस से बांग्लादेश में हिंदुओं पर हो रहे अत्याचारों के विरुद्ध आवाज़ उठाने का आग्रह किया, तब उन्होंने उनकी बात नहीं मानी।
- These remarks drew sharp criticism from the followers of **Netaji** and **AIFB** leaders.
इन टिप्पणियों की नेताजी के अनुयायियों तथा AIFB नेताओं ने कड़ी आलोचना की।
- At a public gathering on **July 6**, Mr. **Bhattacharya** said that **Mookerjee** was attacked by **AIFB** supporters while giving a speech at **Md. Ali Park**.
6 जुलाई को एक सार्वजनिक सभा में श्री भट्टाचार्य ने कहा कि एम.डी. अली पार्क में भाषण देते समय श्यामा प्रसाद मुखर्जी पर AIFB समर्थकों ने हमला किया था।
- The very next day, Mr. **Bhattacharya** said, "When **Hindus** were being tortured in **Bangladesh** between **1937** and **1939**, **Syama Prasad** approached **Subhas Chandra Bose** and **Sarat Bose**, requesting them to raise their voice and issue statements. Neither listened to **Mookerjee**."
अगले ही दिन श्री भट्टाचार्य ने कहा, "जब 1937 से 1939 के बीच बांग्लादेश में हिंदुओं पर अत्याचार हो रहे थे, तब श्यामा प्रसाद मुखर्जी ने सुभाष चंद्र बोस और शरत बोस से आवाज़ उठाने तथा बयान जारी करने का अनुरोध किया, लेकिन दोनों ने मुखर्जी की बात नहीं मानी।"
- "It is equally well documented that **Netaji** repeatedly cautioned **Mookerjee** against delivering speeches that could inflame communal passions and disturb public peace," Mr. **Devarajan** had written in the letter.
श्री देवराजन ने अपने पत्र में लिखा, "यह भी समान रूप से दस्तावेजों में दर्ज है कि नेताजी ने बार-बार मुखर्जी को ऐसे भाषण देने के विरुद्ध चेताया था, जो सांप्रदायिक भावनाओं को भड़का सकते थे और सार्वजनिक शांति को बाधित कर सकते थे।"

GS Paper 1: Geography		13 July 2026
TOPICS COVERED		
13J7	Chinese geologists question the safety of Brahmaputra dam near India. भारत के निकट ब्रह्मपुत्र बाँध की सुरक्षा पर चीनी भूवैज्ञानिकों ने सवाल उठाए।	



Chinese geologists question safety of Brahmaputra dam near India



GS I: Geography
A study by Chinese geologists has found that an active fault line under the world's largest hydropower project on the Brahmaputra River in Tibet could affect its structural stability. Scientists said the Paizhen Fault is located in the reservoir area of the Yarlung Tsangpo station. The project is close to the border in Arunachal Pradesh. PTI

13J7. Chinese geologists question the safety of Brahmaputra dam near India.

भारत के निकट ब्रह्मपुत्र बाँध की सुरक्षा पर चीनी भूवैज्ञानिकों ने सवाल उठाए।

- A study by Chinese geologists has found that an **active fault line** under the world's largest **hydropower project** on the **Brahmaputra River in Tibet** could affect its **structural stability**.

चीनी भूवैज्ञानिकों के एक अध्ययन में पाया गया है कि तिब्बत में ब्रह्मपुत्र नदी पर स्थित विश्व की सबसे बड़ी जलविद्युत परियोजना के नीचे मौजूद एक सक्रिय भंश रेखा (Active Fault Line) उसकी संरचनात्मक स्थिरता को प्रभावित कर सकती है।

- Scientists said the **Paizhen Fault** is located in the **reservoir area of the Yarlung Tsangpo station**.

वैज्ञानिकों ने कहा कि Paizhen Fault (पाइज़ेन भंश) Yarlung Tsangpo (यारलुंग त्सांगपो) स्टेशन के जलाशय क्षेत्र (Reservoir Area) में स्थित है।

- The **project is close to the border in Arunachal Pradesh**.
यह परियोजना अरुणाचल प्रदेश की सीमा के निकट स्थित है।

Comparison between the Yangtze and the Brahmaputra

Feature	Yangtze River	Brahmaputra River
Chinese Name	Chang Jiang (长江)	Yarlung Tsangpo
Origin	Tanggula Mountains, Tibetan Plateau	Angsi Glacier (near Mount Kailash region), Tibetan Plateau
Length	About 6,300 km	About 2,900–3,100 km
Countries	Entirely within China	China (Tibet), India, Bangladesh
Direction of Flow	Mainly eastward	East in Tibet, then south into India, then southwest into Bangladesh
Mouth	East China Sea near Shanghai	Bay of Bengal through the Ganges–Brahmaputra–Meghna Delta
Rank	Longest river in Asia	One of Asia's major transboundary rivers

- The **Yangtze flows east across China**, passing major cities such as **Chongqing, Wuhan, Nanjing, and Shanghai** before entering the East China Sea.
- The **Brahmaputra flows east across southern Tibet** as the **Yarlung Tsangpo**, then makes the dramatic **Great Bend** around the eastern Himalayas near **Namcha Barwa**, enters India through Arunachal Pradesh as the **Siang (Dihang)**, becomes the **Brahmaputra** in Assam, and finally enters Bangladesh as the **Jamuna** before joining the Ganges (Padma) and flowing into the Bay of Bengal.
- The **Three Gorges Dam** is built on the **Yangtze River** in **Hubei Province, China**.
- It is **not** built on the Brahmaputra.
- China's proposed **Yarlung Tsangpo hydropower project**, which has attracted attention in India, is on the **upper Brahmaputra (Yarlung Tsangpo)** in Tibet—not on the Yangtze.

GS Paper II: Polity	13 July 2026
TOPICS COVERED	
13J7	Five crore Indians wait when the courts take a break

	जब न्यायालय अवकाश पर होते हैं, तब पाँच करोड़ भारतीय प्रतीक्षा करते हैं
13J7	How DDCs changed local governance in J&K? जम्मू-कश्मीर में DDCs ने स्थानीय शासन को कैसे बदला?

Five crore Indians wait when the courts take a break

GS II: Polity

MPO

The Supreme Court of India and the major High Courts are on a summer holiday break, i.e., shut down with some vacation Benches functioning to hear urgent matters. However, shops, markets, eating places, government and private offices, hospitals and police stations do not cease to work even though their staff enjoy personal leave. On the other hand, somewhere in an Indian jail tonight, a man who has been convicted of nothing is finishing another year behind bars, his trial still ongoing and perhaps years away from ending. He is one of the roughly three in four prisoners in this country who are undertrials: unconvicted, presumed innocent, yet serving time anyway – often longer than the sentence they would have received had they pleaded guilty. And as you read this, the courts, the public institutions that hold the fate of the poor in their hands, are functioning at only a fraction of their strength.

A three-century backlog

From June 1 to July 12, the Supreme Court is on its summer break, sitting with three or four Benches a week instead of a full court and resuming in earnest on July 13. The doors are not bolted; urgent pleas are still heard. But for six weeks, the most powerful court in the world's most populous democracy idles.

Now hold that against the number it is meant to be fighting. As of the last day of 2025, more than 5.39 crore cases were pending in Indian courts: over 4.76 crore in the district courts, 63.6 lakh in the High Courts, and more than 92,000 in the Supreme Court itself, its heaviest load in over 30 years. A government study once calculated that, at the present pace, clearing the pile could take three centuries.

Three centuries. And the Court takes the summer and winter vacations off.

To be fair, the judges deserve it. The recess is when reserved judgments finally get written, when the brutal daily cause-list eases enough to think.



Vijay L. Kelkar

Vice-Chairman of the Pune International Centre



Pradeep S. Mehta

Secretary-General of CUTS International (Consumer Unity and Trust Society)

When courts rest together for vacations, crores of litigants across the country wait longer for justice

Last year the Chief Justice of India and his four senior-most colleagues worked clean through the first week of the break. Indian judges are among the most overworked in the world. This is not an accusation of laziness; no one who has seen a judge's docket could make one.

Because that is precisely the point. When the people doing the work are exhausted and the backlog is biblical, what conceivable logic shuts the whole shop at once? Not that judges rest – which they should – but that almost all of them rest together, so the institution goes quiet for six-plus weeks every year. And the habit is a colonial hand-me-down: the calendar was built for English judges who could not stand the Indian heat and retreated to cooler climes each summer, then enjoyed long Christmas holidays in the winter.

In 2024, the Court announced a fix: it renamed the "summer vacation" as "partial court working days". That was it. The number of days it actually sits – about 190 days in a year – did not change. You cannot rebrand your way out of a backlog; a litigant whose case is stuck does not care what the recess is called, only whether his matter is heard and disposed of.

Justice needs court continuity

So what would actually help? The first answer is one the judiciary's own watchdogs have urged for years: do not abolish judicial rest; stagger it. A parliamentary standing committee in 2023 objected to "the entire court going on vacation en masse", and proposed the obvious: rotate the leave, keep the Benches full, and never let the court run thin. A hospital does not empty its wards because its doctors are owed time off; it builds a roster. The Law Commission and the Justice Malimath Committee said the same, long ago. They were not enemies of the courts; they were trying to save them from themselves.

The standard objection is that all this is a sideshow: the real disease is vacancies, not vacations. It is true that courts are starved of judges, with up to a third of High Court seats

lying empty. But the objection boomerangs. If the Bench is already running at half strength, thinning it further for six weeks every summer is not a defence of the recess; it is the strongest case against it. And while filling those seats depends on the government and the collegium and will drag on for years, the calendar is the judiciary's to fix. One reform needs permission; the other needs only will.

Beyond courts, towards solutions

Staggering the leave, though, only treats the symptom. The deeper fix is to keep disputes out of the courtroom in the first place; it was never meant to be the first stop for every quarrel, but the last. India already has the tools. Lok Adalats settled more than 2.59 crore cases in a single national sitting last December, and over 23.5 crore in three years. The Mediation Act of 2023 now nudges parties to attempt settlement before going to court, and arbitration can take commercial disputes entirely out of judges' hands; yet these routes remain badly underused. But none of this happens on its own.

The country has a reservoir of experience it scarcely draws on: its retired judges, who spent their careers mastering this very machinery and step down, still in full command of it, at 62 or 65. Their expertise need not retire with them. Albeit many of them do function as heads of quasi-judicial bodies and tribunals. Freed from any daily docket, a dedicated corps of former judges could be invited to take up a single targeted charge: identify where cases pile up, set public targets for their disposal, and account for progress openly. Reform that belongs to everyone belongs to no one.

The judges will keep working through the heat, as they always do. The honest demand is not that they stop resting, but that the courts stop closing ranks and falling silent at the same moment, because justice, for five crore Indians, is not on vacation. It is overdue.

With contributions from Anushka Kewlani of CUTS

13J7. Five crore Indians wait when the courts take a break

जब न्यायालय अवकाश पर होते हैं, तब पाँच करोड़ भारतीय प्रतीक्षा करते हैं

- He is one of the roughly three in four prisoners in this country who are undertrials: unconvicted, presumed innocent, yet serving time anyway – often longer than the sentence they would have received had they pleaded guilty.

वह इस देश के लगभग हर चार में से तीन कैदियों में से एक है, जो विचाराधीन बंदी हैं—अर्थात् दोषसिद्ध नहीं, निर्दोष माने जाने वाले, फिर भी कारावास भुगत रहे हैं; अनेक बार उस अवधि से भी अधिक, जितनी सज़ा उन्हें अपराध स्वीकार करने पर मिलती।

A three-century backlog

तीन शताब्दियों का लंबित बोझ

- From June 1 to July 12, the Supreme Court is on its summer break, sitting with three or four Benches a week instead of a full court and resuming in earnest on July 13.

1 जून से 12 जुलाई तक सर्वोच्च न्यायालय ग्रीष्मकालीन अवकाश पर रहता है, जहाँ पूर्ण न्यायालय के स्थान पर प्रति सप्ताह केवल तीन या चार पीठें कार्य करती हैं और नियमित रूप से 13 जुलाई से पुनः कार्य प्रारंभ होता है।

- As of the last day of 2025, more than 5.39 crore cases were pending in Indian courts: over 4.76 crore in the district courts, 63.6 lakh in the High Courts, and more than 92,000 in the Supreme Court itself, its heaviest load in over 30 years.
2025 के अंतिम दिन तक भारतीय न्यायालयों में 5.39 करोड़ से अधिक मामले लंबित थे: इनमें जिला न्यायालयों में 4.76 करोड़ से अधिक, उच्च न्यायालयों में 63.6 लाख, तथा स्वयं सर्वोच्च न्यायालय में 92,000 से अधिक मामले लंबित थे, जो पिछले 30 वर्षों का सबसे अधिक बोझ है।
- A government study once calculated that, at the present pace, clearing the pile could take three centuries.
एक सरकारी अध्ययन के अनुसार वर्तमान गति से इस लंबित बोझ को समाप्त करने में तीन शताब्दियाँ लग सकती हैं।
- The recess is when reserved judgments finally get written, when the brutal daily cause-list eases enough to think.
अवकाश वह समय होता है जब सुरक्षित निर्णयों को अंततः लिखा जाता है और प्रतिदिन की अत्यधिक व्यस्त वाद-सूची से कुछ राहत मिलती है, जिससे गंभीर विचार संभव हो पाता है।
- Indian judges are among the most overworked in the world.
भारतीय न्यायाधीश विश्व के सबसे अधिक कार्यभार वाले न्यायाधीशों में शामिल हैं।
- And the habit is a colonial hand-me-down: the calendar was built for English judges who could not stand the Indian heat and retreated to cooler climes each summer, then enjoyed long Christmas holidays in the winter.
और यह परंपरा औपनिवेशिक विरासत है: यह कैलेंडर उन अंग्रेज़ न्यायाधीशों के लिए बनाया गया था जो भारतीय गर्मी सहन नहीं कर पाते थे और प्रत्येक ग्रीष्म ऋतु में ठंडे स्थानों पर चले जाते थे, फिर शीतकाल में लंबी क्रिसमस छुट्टियाँ मनाते थे।
- In 2024, the Court announced a fix: it renamed the "summer vacation" as "partial court working days".
2024 में न्यायालय ने एक समाधान की घोषणा की: उसने "समर वेकेशन" का नाम बदलकर "आंशिक न्यायालय कार्य दिवस" कर दिया।
- A parliamentary standing committee in 2023 objected to "the entire court going on vacation en masse", and proposed the obvious: rotate the leave, keep the Benches full, and never let the court run thin.
2023 में एक संसदीय स्थायी समिति ने "पूरे न्यायालय के एक साथ अवकाश पर जाने" पर आपत्ति व्यक्त की और स्पष्ट सुझाव दिया कि अवकाश को क्रमवार दिया जाए, पीठों को पूर्ण रूप से कार्यरत रखा जाए और न्यायालय को कभी भी न्यूनतम क्षमता पर न चलने दिया जाए।
- The Law Commission and the Justice Malimath Committee said the same, long ago.
विधि आयोग और न्यायमूर्ति मलीमथ समिति ने भी बहुत पहले यही बात कही थी।
- Lok Adalats settled more than 2.59 crore cases in a single national sitting last December, and over 23.5 crore in three years.
लोक अदालतों ने पिछले दिसंबर में आयोजित एक राष्ट्रीय बैठक में 2.59 करोड़ से अधिक मामलों का निपटारा किया, तथा तीन वर्षों में 23.5 करोड़ से अधिक मामलों का समाधान किया।
- The Mediation Act of 2023 now nudges parties to attempt settlement before going to court, and arbitration can take commercial disputes entirely out of judges' hands; yet these routes remain badly underused.
मध्यस्थता अधिनियम, 2023 अब पक्षकारों को न्यायालय जाने से पहले समझौते का प्रयास करने के लिए प्रोत्साहित करता है, और पंचाट (अर्बिट्रेशन) वाणिज्यिक विवादों को पूरी तरह न्यायाधीशों के दायरे से बाहर ले जा सकता है; फिर भी इन विकल्पों का पर्याप्त उपयोग नहीं हो रहा है।

13J7. How DDCs changed local governance in J&K?

जम्मू-कश्मीर में DDCs ने स्थानीय शासन को कैसे बदला?



How DDCs changed local governance in J&K?

What is at stake in the debate over local democracy in Jammu and Kashmir?

GS II: Polity

Tikender Singh Panwar

The story so far:

The restructuring of Jammu and Kashmir's political and administrative framework through the constitution of District Development Councils (DDCs) has remained the subject of legal and constitutional debate. Formed in 2021, the DDCs completed their five-year term on February 24, 2026. With no fresh elections held and local government institutions remaining largely inactive in recent years, questions have resurfaced about the relevance of the DDC model. Introduced as a mechanism for direct local democracy, the DDCs are viewed by supporters as a step towards grassroots governance, while critics argue they have impeded rather than strengthened democratic decentralisation in the region.

What do the 73rd and 74th Amendments provide for?

One of the core arguments presented for

the abrogation of Article 370 was the need to fully integrate J&K with the constitutional framework applicable to the rest of India.

A central element of this argument was the introduction of the 73rd and 74th Constitutional Amendment Acts, which provide for elected rural and urban bodies. This integration was intended to ensure regular, mandatory elections and empower grassroots democracy.

How is local governance structured?
The standard constitutional framework operates on a clearly defined multi-tier electoral system where citizens directly elect their local representatives:

Urban areas: Municipal Corporations, Municipal Councils, and Nagar Panchayats.

Rural areas: A three-tier structure comprising Gram Panchayats (Village Pradhans), Block Development Councils (BDCs), and District-level bodies (Zila Parishads).

Mandated under Article 243ZD of the

Constitution, the District Planning Committee (DPC) is envisaged as a coordinating body that brings together development plans prepared by panchayats and municipalities and integrates them into a comprehensive district-level plan.

Unlike an independent executive authority, the DPC is intended to function as an institutional mechanism that reflects priorities generated by elected local bodies and facilitates bottom-up planning. In this sense, it is designed to strengthen democratic decentralisation by aggregating local mandates rather than exercising authority over them.

However, while the constitutional framework assigns a key role to DPCs in district-level planning, their functioning has been uneven across the country, with many remaining largely inactive, barring a few exceptions such as Kerala.

How do DDCs differ from DPCs?

The DDCs were established in J&K through an executive order rather than a

legislative process. While the government presents DDCs as directly elected bodies that strengthen grassroots democracy, it is contended that the model contains major contradictions within the governance framework.

Critics argue that the DDC structure bypasses existing institutions such as Zila Panchayats and urban local bodies. Unlike the DPC, which is intended to aggregate development priorities emerging from lower tiers of government, the DDC functions as a parallel administrative authority with executive and developmental powers. This blurs the relationship between the electorate and the actual exercise of power.

The key distinction is that the DPC seeks to strengthen local democracy by consolidating mandates generated from the ground up, whereas the DDC operates from above, competing with lower tiers of governance and functioning as an instrument of centralised bureaucratic control rather than democratic decentralisation.

The DDC structure raises concerns about unequal representation. The allocation of seats across districts does not adequately reflect variations in population, thereby diluting the principle of uniform political weight.

For instance, Srinagar, with a population of roughly 12 lakh, and Kishtwar, with around 2.5 lakh residents, are allocated the same number of DDC members. This creates an imbalance where the political voice per capita is drastically skewed.

The DDCs are being compared to the "special purpose vehicles" used in Smart City projects. They create an illusion of decentralisation, but act as capital-driven, bureaucratically managed structures. Since DDCs can easily jettison legislatively approved local initiatives, they function as a governance substitute rather than a governance supplement.

The creation of 280 DDC members across J&K has established a form of parallel 'parliament' in disguise. Historically, in politically fragile regions, central authorities have often sought to weaken provincial or State-level assemblies by backing district-level entities.

With the J&K State Assembly absent or weakened for years, the DDC framework has allowed key functions and financial powers that would ordinarily rest with elected legislators and local panchayats to remain concentrated under Union administration control.

What is the way forward for local democracy in J&K?

Genuine local democracy cannot be reduced to an administrative or legal exercise; it is fundamentally a political question. True decentralisation requires the restoration of the DPC model envisaged under the 73rd and 74th Constitutional Amendments, ensuring financially empowered and grounded local governments accountable to the State's electorate, rather than an administrative architecture serving centralised union control.

- The restructuring of Jammu and Kashmir's political and administrative framework through the constitution of **District Development Councils (DDCs)** has remained the subject of legal and constitutional debate.
जम्मू-कश्मीर के राजनीतिक और प्रशासनिक ढाँचे का जिला विकास परिषदों (DDCs) के गठन के माध्यम से पुनर्गठन, कानूनी और संवैधानिक बहस का विषय बना हुआ है।
- With no fresh elections held and local government institutions remaining largely inactive in recent years, questions have resurfaced about the relevance of the **DDC model**.
नए चुनाव न होने तथा स्थानीय स्वशासन संस्थाओं के पिछले कुछ वर्षों से अधिकांशतः निष्क्रिय रहने के कारण **DDC मॉडल** की प्रासंगिकता पर पुनः प्रश्न उठने लगे हैं।
- Introduced as a mechanism for direct local democracy, the **DDCs** are viewed by supporters as a step towards **grassroots governance**, while critics argue they have impeded rather than strengthened **democratic decentralisation** in the region.
प्रत्यक्ष स्थानीय लोकतंत्र के एक तंत्र के रूप में स्थापित **DDCs** को समर्थक जमीनी स्तर के शासन की दिशा में एक महत्वपूर्ण कदम मानते हैं, जबकि आलोचकों का तर्क है कि उन्होंने क्षेत्र में लोकतांत्रिक विकेंद्रीकरण को सुदृढ़ करने के बजाय बाधित किया है।

What do the 73rd and 74th Amendments provide for?

73वें और 74वें संविधान संशोधन क्या प्रावधान करते हैं?

- One of the core arguments presented for the **abrogation of Article 370** was the need to fully integrate J&K with the **constitutional framework** applicable to the rest of India.
अनुच्छेद 370 के निरसन के पक्ष में प्रस्तुत प्रमुख तर्कों में से एक यह था कि जम्मू-कश्मीर को भारत के शेष भाग पर लागू संवैधानिक ढाँचे के साथ पूर्णतः एकीकृत किया जाए।
- This integration was intended to ensure regular, mandatory elections and empower **grassroots democracy**.
इस एकीकरण का उद्देश्य नियमित और अनिवार्य चुनाव सुनिश्चित करना तथा जमीनी लोकतंत्र को सशक्त बनाना था।

How is local governance structured?

स्थानीय शासन की संरचना कैसी है?

- **Urban areas: Municipal Corporations, Municipal Councils, and Nagar Panchayats.**
शहरी क्षेत्र: नगर निगम, नगर परिषदें, तथा नगर पंचायतें।
- **Rural areas: A three-tier structure comprising Gram Panchayats (Village Pradhans), Block Development Councils (BDCs), and District-level bodies (Zila Parishads).**
ग्रामीण क्षेत्र: त्रि-स्तरीय संरचना, जिसमें ग्राम पंचायतें (ग्राम प्रधान), ब्लॉक विकास परिषदें (BDCs) तथा जिला स्तरीय निकाय (जिला परिषदें) शामिल हैं।
- Mandated under **Article 243ZD of the Constitution**, the **District Planning Committee (DPC)** is envisaged as a coordinating body that brings together **development plans** prepared by **panchayats and municipalities** and integrates them into a comprehensive **district-level plan**.
संविधान के अनुच्छेद 243ZD के अंतर्गत प्रावधानित जिला योजना समिति (DPC) की परिकल्पना एक ऐसे समन्वयकारी निकाय के रूप में की गई है, जो पंचायतों और नगर निकायों द्वारा तैयार विकास योजनाओं को एकत्रित कर उन्हें एक समग्र जिला स्तरीय योजना में समाहित करती है।
- Unlike an independent **executive authority**, the **DPC** is intended to function as an institutional mechanism that reflects priorities generated by elected **local bodies** and facilitates **bottom-up planning**.
एक स्वतंत्र कार्यपालिका के विपरीत, **DPC** का उद्देश्य एक ऐसे संस्थागत तंत्र के रूप में कार्य करना है, जो निर्वाचित स्थानीय निकायों द्वारा निर्धारित प्राथमिकताओं को प्रतिबिंबित करे तथा निचले स्तर से ऊपर की ओर योजना निर्माण को सुगम बनाए।
- In this sense, it is designed to strengthen **democratic decentralisation** by aggregating **local mandates** rather than exercising authority over them.
इस दृष्टि से, इसे स्थानीय जनादेशों को समेकित करके लोकतांत्रिक विकेंद्रीकरण को सुदृढ़ करने के लिए तैयार किया गया है, न कि उन पर प्रत्यक्ष अधिकार लागू करने के लिए।
- However, while the **constitutional framework** assigns a key role to **DPCs in district-level planning**, their functioning has been uneven across the country, with many remaining largely inactive, barring a few exceptions such as **Kerala**.
हालाँकि, संवैधानिक ढाँचा जिला स्तरीय योजना निर्माण में **DPCs** को महत्वपूर्ण भूमिका प्रदान करता है, लेकिन देशभर में उनका कार्यान्वयन असमान रहा है और केरल जैसे कुछ अपवादों को छोड़कर अधिकांश **DPCs** काफी हद तक निष्क्रिय रही हैं।

How do DDCs differ from DPCs?

DDCs और DPCs में क्या अंतर है?

- The **DDCs** were established in **Jammu and Kashmir (J&K)** through an **executive order** rather than a **legislative process**.
जिला विकास परिषदों (DDCs) की स्थापना जम्मू और कश्मीर (J&K) में विधायी प्रक्रिया के बजाय एक कार्यपालिका आदेश के माध्यम से की गई।
- Critics argue that the **DDC structure** bypasses existing institutions such as **Zila Panchayats and urban local bodies**.
आलोचकों का तर्क है कि **DDC संरचना** जिला पंचायतों तथा शहरी स्थानीय निकायों जैसी मौजूदा संस्थाओं की उपेक्षा करती है।
- Unlike the **DPC**, which is intended to aggregate **development priorities** emerging from lower tiers of government, the **DDC** functions as a parallel **administrative authority** with **executive and developmental powers**.
जिला योजना समिति (DPC) के विपरीत, जिसका उद्देश्य शासन के निचले स्तरों से प्राप्त विकास संबंधी प्राथमिकताओं का समेकन करना है, **DDC** एक समानांतर प्रशासनिक प्राधिकरण के रूप में कार्य करती है, जिसके पास कार्यपालिका तथा विकास संबंधी शक्तियाँ होती हैं।



- This blurs the relationship between the **electorate** and the actual exercise of **power**.
इससे मतदाताओं और वास्तविक शक्ति के प्रयोग के बीच का संबंध अस्पष्ट हो जाता है।
- The key distinction is that the **DPC** seeks to strengthen **local democracy** by consolidating **mandates** generated from the ground up, whereas the **DDC** operates from above, competing with lower tiers of governance and functioning as an instrument of **centralised bureaucratic control** rather than **democratic decentralisation**.
मुख्य अंतर यह है कि **DPC** नीचे से प्राप्त **जनादेशों** का समेकन करके **स्थानीय लोकतंत्र** को सुदृढ़ करने का प्रयास करती है, जबकि **DDC** ऊपर से संचालित होती है, शासन के निचले स्तरों से प्रतिस्पर्धा करती है तथा **लोकतांत्रिक विकेंद्रीकरण** के बजाय **केंद्रीकृत नौकरशाही नियंत्रण** के साधन के रूप में कार्य करती है।
- The allocation of **seats** across districts does not adequately reflect variations in **population**, thereby diluting the principle of **uniform political weight**.
जिलों के बीच **सीटों** का आवंटन **जनसंख्या** में अंतर को पर्याप्त रूप से प्रतिबिंबित नहीं करता, जिससे **समान राजनीतिक प्रतिनिधित्व** का सिद्धांत कमजोर पड़ जाता है।
- For instance, **Srinagar**, with a population of roughly **12 lakh**, and **Kishtwar**, with around **2.5 lakh** residents, are allocated the same number of **DDC members**.
उदाहरण के लिए, लगभग **12 लाख** की जनसंख्या वाले **श्रीनगर** और लगभग **2.5 लाख** की जनसंख्या वाले **किश्तवाड़** को समान संख्या में **DDC सदस्य** आवंटित किए गए हैं।
- The **DDCs** are being compared to the "**special purpose vehicles**" used in **Smart City projects**.
DDCs की तुलना **स्मार्ट सिटी परियोजनाओं** में प्रयुक्त "**विशेष प्रयोजन वाहनों** (Special Purpose Vehicles)" से की जा रही है।

GS Paper II: Governance		13 July 2026
TOPICS COVERED		
13J7	T.N. hasn't drawn full quota of rice in Central scheme in 5 of last 7 years तमिलनाडु ने पिछले 7 वर्षों में से 5 वर्षों में केंद्रीय योजना के अंतर्गत चावल का पूरा कोटा नहीं उठाया	

T.N. hasn't drawn full quota of rice in Central scheme in 5 of last 7 years

GS II: Governance
T. Ramakrishnan
CHENNAI

Tamil Nadu drew a lower quantity of rice than the quota allocated for Antyodaya Anna Yojana (AAY) cardholders in five of the last seven years under the public distribution system. In this context, Chief Minister C. Joseph Vijay's request to Prime Minister Narendra Modi not to disturb the existing provision assumes significance.

Of the five years (from 2019-20 to 2025-26), it was during the COVID-19 pandemic year (2020-21) that the drawal was almost close to the allocated figure of around 6.99 lakh tonnes, with the off-take being about 98%.

In the remaining four years, it varied from around 73% during 2022-23 and 2023-24 to 79% during 2024-25. Only in two years (2019-20 and 2025-26) did the utilisation exceed the allocated quantity, close to 108%.

Between 2020 and 2023, the Union government implemented the Pradhan Mantri Garib Ka-

Foodgrain quota

Allocation and drawal under Antyodaya Anna Yojana in Tamil Nadu over the years

Year	Allocation	Offtake (drawal)	Offtake %
2019-20	6,89,246	7,50,046	108.82
2020-21	6,99,628	6,86,052	98.06
2021-22	7,04,819	5,42,877	77.02
2022-23	7,43,975	5,50,171	73.95
2023-24	7,51,547	5,52,537	73.52
2024-25	7,38,492	5,85,126	79.23
2025-26	7,39,718	8,01,574	108.36

(IN TONNES)



*AAY caters to the poorest of the poor, providing them with 35 kg of foodgrains per family per month, free of cost.

SOURCE: FOODGRAIN BULLETINS ISSUED BY THE DEPARTMENT OF FOOD AND PUBLIC DISTRIBUTION OF THE UNION GOVERNMENT.

lian Anna Yojana (PMGKAY) to provide free foodgrains in addition to the regular allocation in view of the pandemic.

In those years, Tamil Nadu came under criticism of the Union government that it had made more use of the free foodgrains than its regular allocation as rice was then supplied to the State at ₹3 per kg for AAY and priority household (PHH) cards. Since January 1, 2023, the Union government has not been charging any amount for rice meant for the two categories of cards. It has extended, for five years effective January 1, 2024, the period of distribution of free foodgrains, the arrangement of which is named as the PMGKAY.

In a recent letter to the Prime Minister, Mr. Vijay urged the Centre to retain the present entitlement of 35 kg of foodgrains per month for every household under the Antyodaya Anna Yojana (AAY), irrespective of the size of family. The amendment, proposed by the Centre, seeks to provide 7 kg per person

per month, subject to an overall ceiling of 35 kg per household. Mr. Vijay apprehended that the move, if implemented, would "diminish the food security" of nearly 70 lakh of the most vulnerable people of the State and result in the reduction of the monthly quota from 65,261 tonnes to approximately 42,040 tonnes.

Enquiries with field officials reveal that many undeserving persons have been added to the list of AAY beneficiaries over the years. They have to be weeded out, and a drive is in progress. As of now, there are 18,64,600 AAY ration cards, covering 69,26,983 beneficiaries. Of them, the number of AAY cardholders, having the family size of below 5, is 15.75 lakh, with 58.51 lakh beneficiaries.

A former policymaker, who handled the subject of food for long, feels that the Centre's move is well meaning, as the present entitlement of 35 kg for an AAY ration card has been giving enormous scope for misuse.

13J7. T.N. hasn't drawn full quota of rice in Central scheme in 5 of last 7 years
तमिलनाडु ने पिछले 7 वर्षों में से 5 वर्षों में केंद्रीय योजना के अंतर्गत चावल का पूरा कोटा नहीं उठाया

- **Tamil Nadu** drew a lower quantity of rice than the quota allocated for **Antyodaya Anna Yojana (AAY)** cardholders in **five** of the last **seven** years under the **Public Distribution System (PDS)**.
तमिलनाडु ने सार्वजनिक वितरण प्रणाली (PDS) के अंतर्गत पिछले सात वर्षों में से पाँच वर्षों में अंत्योदय अन्न योजना (AAY) के कार्डधारकों के लिए आवंटित चावल का पूरा कोटा नहीं उठाया।

- **Between 2020 and 2023**, the **Union government** implemented the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** to provide **free**

foodgrains in addition to the regular allocation in view of the **pandemic**.

2020 से 2023 के बीच केंद्र सरकार ने महामारी को देखते हुए नियमित आवंटन के अतिरिक्त निःशुल्क खाद्यान्न उपलब्ध कराने के लिए प्रधानमंत्री गरीब कल्याण अन्न योजना (PMGKAY) लागू की।

- In those years, **Tamil Nadu** came under criticism from the **Union government** that it had made more use of the **free foodgrains** than its regular allocation as **rice** was then supplied to the State at **₹3 per kg for AAY and Priority Household (PHH) cards**.

उन वर्षों में तमिलनाडु की केंद्र सरकार ने आलोचना की कि उसने अपने नियमित आवंटन की तुलना में निःशुल्क खाद्यान्न का अधिक उपयोग किया, जबकि उस समय AAY तथा प्राथमिकता परिवार (PHH) कार्डों के लिए चावल राज्य को ₹3 प्रति किलोग्राम की दर से उपलब्ध कराया जाता था।

- Since **January 1, 2023**, the **Union government** has not been charging any amount for **rice** meant for the two categories of cards.

1 जनवरी 2023 से केंद्र सरकार इन दोनों श्रेणियों के कार्डों के लिए दिए जाने वाले चावल पर कोई शुल्क नहीं ले रही है।

- It has extended, for **five years** effective **January 1, 2024**, the period of distribution of **free foodgrains**, the arrangement of which is named as the **PMGKAY**.

1 जनवरी 2024 से प्रभावी पाँच वर्षों के लिए निःशुल्क खाद्यान्न वितरण की अवधि बढ़ा दी गई है, जिसे PMGKAY के नाम से संचालित किया जा रहा है।

- In a recent **letter** to the **Prime Minister**, **Mr. Vijay** urged the **Centre** to retain the present entitlement of **35 kg of foodgrains** per month for every household under the **Antyodaya Anna Yojana (AAY)**, irrespective of the size of the family.

हाल ही में प्रधानमंत्री को लिखे एक पत्र में श्री विजय ने केंद्र से अनुरोध किया कि अंत्योदय अन्न योजना (AAY) के अंतर्गत परिवार के आकार की परवाह किए बिना प्रत्येक परिवार को प्रति माह 35 किलोग्राम खाद्यान्न देने की वर्तमान व्यवस्था को बनाए रखा जाए।

- The **amendment**, proposed by the **Centre**, seeks to provide **7 kg** per person per month, subject to an overall ceiling of **35 kg** per household.

केंद्र द्वारा प्रस्तावित संशोधन के अनुसार प्रति व्यक्ति प्रति माह 7 किलोग्राम खाद्यान्न दिया जाएगा, किंतु प्रति परिवार अधिकतम सीमा 35 किलोग्राम रहेगी।

GS Paper II: International Relations		13 July 2026
TOPICS COVERED		
13J7	EU and 14 countries reaffirm ruling on South China Sea दक्षिण चीन सागर पर फैसले की EU और 14 देशों ने पुनः पुष्टि की	



EU and 14 countries reaffirm ruling on South China Sea

GS II: IR

Associated Press
MANILA

The United States, the United Kingdom and a dozen other Western and Asian countries reasserted on Sunday that China's expansive claims in the South China Sea are illegal based on a 2016 arbitration ruling.

A joint statement issued by the 14 nations said they rejected "destabilising" actions in the disputed waters that threaten regional stability. The 27-nation European Union released a separate statement, reaffirming the ruling as a "landmark decision in the peaceful settlement of disputes."

The other countries listed in Sunday's statement include Japan, Australia, New Zealand and Canada.

The 2016 ruling invalidates China's claim in the region; verdict is null and void, says Beijing

The statements commemorated a July 12, 2016, arbitration ruling by a tribunal established in The Hague under the United Nations Convention on the Law of the Sea, saying the landmark decision is "final and legally binding."

China reiterated on Sunday that the ruling was "null and void and has no binding force" and Beijing "neither accepts nor recognises it".

China refused to join the arbitration initiated by the Philippines in 2013 after a tense stand-off in the contested waters a year earlier

that ended with Beijing effectively seizing a disputed shoal.

The tribunal largely decided in favour of the Philippines

Beijing rejected the 2016 ruling and continues to defend its claims to virtually the entire sea passage, a key global trade route.

"We reiterate our strong opposition to any destabilising or unilateral actions including by force or coercion that threaten peace and stability in the region," they said.

"China opposes and will never accept any claim or action based on those awards," the Chinese Foreign Ministry said, adding that Beijing "does not accept any means of third-party dispute settlement or any solution imposed on China."

13J7. EU and 14 countries reaffirm ruling on South China Sea

दक्षिण चीन सागर पर फैसले की EU

और 14 देशों ने पुनः पुष्टि की

• The United States, the United Kingdom and a dozen other Western and Asian countries reasserted on Sunday that China's expansive claims in the South China Sea are illegal based on a 2016 arbitration ruling.

संयुक्त राज्य अमेरिका, यूनाइटेड किंगडम तथा एक दर्जन अन्य पश्चिमी और एशियाई देशों ने रविवार को दोहराया कि दक्षिण चीन सागर में चीन के व्यापक दावे 2016 के मध्यस्थता निर्णय के आधार पर अवैध हैं।

• The statements commemorated a July 12, 2016, arbitration ruling by a tribunal established in The Hague under the United Nations Convention on the Law of the Sea, saying the landmark

decision is "final and legally binding."

इन वक्तव्यों में संयुक्त राष्ट्र समुद्री कानून अभिसमय के तहत द हेग में स्थापित न्यायाधिकरण द्वारा 12 जुलाई, 2016 को दिए गए मध्यस्थता निर्णय को याद किया गया और कहा गया कि यह ऐतिहासिक निर्णय "अंतिम और कानूनी रूप से बाध्यकारी" है।

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GS III: Economy

Oil conundrum

India's energy imports from Russia seem driven by confusion, not strategy

Union Ministry of Commerce and Industry (MCI) data on India's May crude imports show that receipts from Russia had reached the pre-sanction levels of more than 40%, which is also the highest in two years. Though India has defended this as commercially prudent, its yuan-based payments give China an edge to internationalise its currency at India's expense, even if it has no bearing on the domestic strength of the Indian rupee due to strict capital controls. Oil import concentration from a single source, and paying a premium, is risky for India, which has long pursued a diversified energy strategy. Moreover, sourcing fuel from the Gulf spot market amid evolving sanctions has its own risks. Secondary sanctions could hit trade channels, exposing Indian refiners to severe supply shocks. India's crude imports from Russia surged in June, while UAE shipments were at record levels as refiners sought to secure supplies after the Strait of Hormuz reopened. However, renewed Iran-U.S. hostilities have put those flows at risk. And even as Venezuela has emerged as a key supplier, increasing and unsustainably high one-country concentration could weaken India's bargaining power, reduce flexibility, and erode its credibility as an independent balancing power.

MCI data highlight the price impact: Russian imports carried a \$46-per-ton premium. Import value surged 83% amid a 2% fall in volume, likely diminishing Indian refiners' margins on refined products using Russian crude. While spot purchases have enabled refiners to capture discounts of up to \$10 per barrel on Russian Urals crude relative to Brent during some periods, after February this year, narrowing discounts, weaker product cracks, and geopolitical risks have moderated gross refining margins. India must strike a balance between having long-term stable contracts with multiple producers, and selectively using the spot-market to mitigate the procurement risks. Until the Russia-Ukraine conflict, nearly 70% of India's crude imports came through long-term contracts, particularly from West Asia. True, India cannot overlook the diplomatic costs as Russian energy dependence risks sanctions. When Russian crude was cheap because of discounts on account of the Ukraine war, India reduced imports under U.S. pressure; now when it is being sold at a premium because of the Iran war, India is moving back to Russian crude. India must expand its strategic petroleum reserves to cushion temporary disruptions. Whether it increases or cuts down Russian oil imports, India seems to make decisions that are far removed from any sense of strategic autonomy.

13J7. Oil conundrum

तेल की दुविधा

- Union Ministry of Commerce and Industry (MCI) data on India's May crude imports show that receipts from Russia had reached the pre-sanction levels of more than 40%, which is also the highest in two years.

वाणिज्य एवं उद्योग मंत्रालय (MCI) के भारत के मई माह के कच्चे तेल आयात संबंधी आँकड़े दर्शाते हैं कि रूस से आयात प्रतिबंध-पूर्व स्तर अर्थात 40% से अधिक तक पहुँच गया, जो दो वर्षों में सर्वाधिक है।

- Though India has defended this as commercially prudent, its yuan-based payments give China an edge to internationalise its currency at India's expense, even if it has no bearing on the domestic strength of the Indian rupee due to strict capital controls.

यद्यपि भारत ने इसे व्यावसायिक दृष्टि से विवेकपूर्ण बताया है, फिर भी युआन-आधारित भुगतान चीन को अपनी मुद्रा का अंतरराष्ट्रीयकरण करने में भारत की कीमत पर बढ़त प्रदान करते हैं, भले ही कड़े पूंजी नियंत्रणों के कारण इसका भारतीय रुपये की घरेलू मजबूती पर कोई प्रभाव न पड़ता हो।

- Oil import concentration from a single source, and paying a premium, is risky for India, which has long pursued a diversified energy strategy.

एक ही स्रोत से तेल आयात का अत्यधिक केंद्रीकरण तथा प्रीमियम मूल्य का भुगतान भारत के लिए जोखिमपूर्ण है, क्योंकि वह लंबे समय से विविधीकृत ऊर्जा रणनीति का अनुसरण करता रहा है।

- Secondary sanctions could hit trade channels, exposing Indian refiners to severe supply shocks.

द्वितीयक प्रतिबंध व्यापारिक माध्यमों को प्रभावित कर सकते हैं, जिससे भारतीय रिफाइनरियों को गंभीर आपूर्ति झटकों का सामना करना पड़ सकता है।

- India's crude imports from Russia surged in June, while UAE shipments were at record levels as refiners sought to secure supplies after the Strait of Hormuz reopened.

जून में रूस से भारत के कच्चे तेल आयात में तीव्र वृद्धि हुई, जबकि यूएई से आपूर्ति रिकॉर्ड स्तर पर पहुँच गई क्योंकि रिफाइनरियाँ हॉर्मुज़ जलडमरूमध्य के पुनः खुलने के बाद आपूर्ति सुनिश्चित करने का प्रयास कर रही थीं।



GS III: Economy

Insular incentive

Ethanol-blended fuel should not be forced on consumers irrationally

The Indian government's policy to continue producing E20 petrol at a cost higher than that of pure petrol when oil prices dip under \$70 a barrel to "compensate farmers adequately" is a deceptively well-formulated proposition. Most feedstock for the fuel-blending programme is from sugarcane, one of India's most water- and fertilizer-intensive crops, mainly grown in water-stressed Maharashtra and Karnataka. Whether the policy's net economic benefit remains positive will depend on the gains from lower crude imports, environmental improvements, and higher rural incomes outweighing these additional costs. Efficiency also remains a concern. Consumers – including people who are poorer than sugarcane farmers – pay more at the pump, oil marketing companies procure ethanol at the administered price, distilleries buy feedstock, and only then do farmers receive higher prices. Higher feedstock prices also do not address most reasons farmers have lower incomes, such as post-harvest losses and limited market access. Crucially, if the government rewards every unit of ethanol irrespective of feedstock, the policy will favour whichever feedstock has the largest installed base: sugarcane. Instead, the objectives should include resource efficiency and food security. The state could invest in irrigation and logistics and institute revenue-sharing arrangements with ethanol producers and cooperatives.

India has encouraged maize and grain-based distillation capacity has expanded rapidly, periodically allowed ethanol to be produced from the Food Corporation's surplus or damaged rice holdings, and has supported commercial plants using agricultural residues such as rice straw under Ministry of Petroleum and Natural Gas schemes. Maize and millets are less thirsty but maize still demands significant fertilizer inputs while millets produce less fermentable starch per hectare. Sweet sorghum is less water-intensive and has a shorter growing season than sugarcane. Lignocellulosic biomass such as rice and wheat straw, maize stover and groundnut shells can also support second-generation (2G) ethanol. 2G ethanol from agricultural residues can avoid using cropland for fuel, reducing competition with food crops and addressing stubble burning. It is more expensive and technologically demanding but that is a better problem to solve, with proactive policymaking. The government could pay a premium for ethanol produced from residues, subsidise equipment and infrastructure to collect and store crop residue, facilitate contracts between aggregators and distilleries, and provide viability-gap funding and offtake agreements. Ultimately, ethanol policy should not be independent of agricultural policy. And import substitution is no excuse for consumers being forced to pay more for lower-mileage fuel than pure petrol.

viability-gap funding and offtake agreements.

सरकार कृषि अवशेषों से उत्पादित एथेनॉल पर अतिरिक्त प्रोत्साहन राशि दे सकती है, फसल अवशेषों के संग्रहण और भंडारण हेतु उपकरण एवं अवसंरचना पर अनुदान प्रदान कर सकती है, एग्रीगेटर्स और डिस्टिलरियों के बीच अनुबंधों को सुगम बना सकती है तथा व्यवहार्यता-अंतर वित्तपोषण (Viability Gap Funding) और ऑफटेक समझौतों की व्यवस्था कर सकती है।

13J7. Insular incentive

संकीर्ण प्रोत्साहन

• Ethanol-blended fuel should not be forced on consumers irrationally.

एथेनॉल-मिश्रित ईंधन को उपभोक्ताओं पर अविवेकपूर्ण ढंग से नहीं थोपा जाना चाहिए।

• The Indian government's policy to continue producing E20 petrol at a cost higher than that of pure petrol when oil prices dip under \$70 a barrel to "compensate farmers adequately" is a deceptively well-formulated proposition.

भारतीय सरकार की यह नीति कि तेल की कीमतें 70 डॉलर प्रति बैरल से नीचे आने पर भी शुद्ध पेट्रोल की तुलना में अधिक लागत पर E20 पेट्रोल का उत्पादन जारी रखा जाए ताकि "किसानों को पर्याप्त मुआवजा दिया जा सके", देखने में सुविचारित प्रतीत होती है, किंतु वास्तव में भ्रामक है।

• Most feedstock for the fuel-blending programme is from sugarcane, one of India's most water- and fertilizer-intensive crops, mainly grown in water-stressed Maharashtra and Karnataka.

ईंधन-मिश्रण कार्यक्रम के लिए अधिकांश फीडस्टॉक गन्ने से प्राप्त होता है, जो भारत की सबसे अधिक जल एवं उर्वरक-आधारित फसलों में से एक है और मुख्यतः जल-संकटग्रस्त महाराष्ट्र तथा कर्नाटक में उगाया जाता है।

• Lignocellulosic biomass such as rice and wheat straw, maize stover and groundnut shells can also support second-generation (2G) ethanol.

लिनोसेल्यूलोसिक बायोमास, जैसे धान और गेहूँ का पुआल, मक्का का अवशेष तथा मूंगफली के छिलके, द्वितीय पीढ़ी (2G) एथेनॉल के उत्पादन में भी उपयोगी हो सकते हैं।

• 2G ethanol from agricultural residues can avoid using cropland for fuel, reducing competition with food crops and addressing stubble burning.

कृषि अवशेषों से निर्मित 2G एथेनॉल ईंधन के लिए कृषि भूमि के उपयोग से बचाता है, खाद्य फसलों के साथ प्रतिस्पर्धा को कम करता है तथा पराली जलाने की समस्या के समाधान में सहायक हो सकता है।

• The government could pay a premium for ethanol produced from residues, subsidise equipment and infrastructure to collect and store crop residue, facilitate contracts between aggregators and distilleries, and provide

'Vizhinjam is no rival to Cochin Port'

Cochin Port Authority, together with DP World, is preparing an expansion plan to make the International Container Transshipment Terminal at Vallarpadam future-ready by deepening the channel draft and augmenting terminal infrastructure to tap growing opportunities in container traffic

GS II: Economy
NEWS ANALYSIS

V. Sajeew Kumar

Cochin Port Authority (CoPA) is unfazed by the rapid rise of Vizhinjam Port as a transshipment hub and is instead focusing on expanding the International Container Transshipment Terminal (ICTT) at Vallarpadam to strengthen its position as a gateway terminal.

M. Angamuthu, Chairperson-in-charge of CoPA, said the port, together with DP World, is preparing an expansion plan to make the ICTT future-ready by deepening the channel draft and augmenting terminal infrastructure to tap the growing opportunities in container traffic, particularly transshipment.

"The expansion plans are aimed at transforming ICTT into a vibrant gateway terminal and transshipment hub," he said in an interaction.

Mr. Angamuthu said he does not see Vizhinjam as a direct competitor to Cochin at present, noting that the two ports serve different markets.

"Vizhinjam is primarily a transshipment terminal, whereas Cochin is essentially a gateway terminal, although it also handles a significant volume of transshipment cargo. ICTT has a much larger demand potential as it serves central Kerala, including Kochi, which has major commercial and industrial



Space crunch: Draft limitations remain a major challenge for ICTT in attracting larger container vessels as shipping lines increasingly deploy bigger ships to achieve economies of scale. THULASI KAKKAT

centres," he said.

However, he acknowledged that draft limitations remain a major challenge for ICTT in attracting larger container vessels as shipping lines increasingly deploy bigger ships to achieve economies of scale. While Vizhinjam has an 18-m draft, ICTT has 14.5 m. The terminal would need a draft of around 16 m to efficiently handle the next generation of container ships.

The Cochin Port Authority and DP World have jointly proposed to deepen the draft to 16 m as part of the terminal's expansion programme.

Mr. Angamuthu highlighted Kochi's strategic advantages, including its proximity to major international shipping routes and strong road, rail and inland waterway connectivity, which offer signifi-



ICTT has a much larger demand potential as it serves central Kerala, including Kochi, which has major commercial and industrial centres

M. ANGAMUTHU,
Chairperson-in-charge of CoPA

cant scope for developing integrated port-based industrial zones, logistics parks, and warehousing and value-added distribution facilities.

The advantages position Cochin Port as both a major container gateway and a transshipment hub while complementing the rapid growth of India's maritime sector, he said.

On the flip side, the limited industrialisation in the hinterland poses a major challenge for the port

due to the restricted growth in cargo.

The rising operational cost, especially the high annual maintenance dredging cost, is another factor eroding the competitiveness of the port.

The proximity of the Southern Naval Command imposes restrictions on crane heights and certain waterfront developments. Legacy labour issues, higher manpower costs and productivity constraints are some of the other factors affecting the service quality and overall competitiveness of the port.

Mr. Angamuthu said Cochin Port has the task of maintaining the channel, so the high annual dredging cost is a severe drain on its resources. The channel is extensively used by the Indian Navy, Coast Guard and Cochin Shipyard without any cost sharing.

The port has raised the issue with the government, he said. To help rationalise the cost, Cochin Port undertakes need-based dredging as the profile of the ships calling in at the port varies significantly in terms of draft.

Rail links

Asked about the idling railway line to ICTT, he replied that Container Corporation of India (CONCOR) had launched a rail service between Coimbatore and ICTT in 2016 but halted it after about 10 months due to viability issues. The rail service could not compete effectively with road transport on the short 190 km stretch between Coimbatore and Kochi.

The GST rollout in July 2017, the consequent shutdown of interstate check posts, and significant improvements in road connectivity between Cochin and Coimbatore (NH-544) also favoured road service. Today, the rail service between Coimbatore and ICTT can be revitalised only through significant cost reduction.

DP World is exploring the idea of establishing a rail service between Bengaluru and ICTT. The nearly 500 km distance augurs well for rail service vis-à-vis a road link, subject to demand potential.

He said the Kerala government's proposed Mission Samudra is in sync with the port's development objectives, as defined by the Centre's Sagarmala Programme, especially in

terms of multimodal infrastructure connectivity, port-led industrialisation, green shipping and shipbuilding, and blue economy and tourism.

The Cochin-Vizhinjam cluster has the potential to become a dual-hub model for South India, reducing dependency on foreign transshipment ports and offering more options to global shipping lines, he pointed out.

He acknowledged that a few small shipping services that had earlier connected ICTT with the non-major ports of Kollam, Beypore and Azhikkal between 2014 and 2019 were irregular and were soon discontinued due to lack of viability.

The redevelopment of Willingdon Island, he said, hinges on capitalising Kochi's growing potential in heritage and cultural tourism, cruise tourism, leisure and coastal tourism, and medical and wellness tourism.

Berth upgradation

The port plans to upgrade the Q7 berth into a dry cargo terminal, especially steel. In addition, the Q6 berth and the boat train pier will remain fully mechanised cement terminals apart from handling other dry cargo.

The port sees a major growth opportunity in handling petroleum, oil, and lubricants (POL) cargo, containers and monetisation of land.

(The writer is with The Hindu businessline)

13J7. 'Vizhinjam is no rival to Cochin Port'

'विज़िंजम, कोचीन पोर्ट का प्रतिद्वंद्वी नहीं है'

- **Cochin Port Authority**, together with **DP World**, is preparing an **expansion plan** to make the **International Container Transshipment Terminal at Vallarpadam** future-ready by deepening the **channel draft** and augmenting **terminal infrastructure** to tap growing opportunities in **container traffic**.

कोचीन पोर्ट प्राधिकरण, डीपी वर्ल्ड के साथ मिलकर वल्लारपदम स्थित अंतरराष्ट्रीय कंटेनर ट्रांसशिपमेंट

टर्मिनल को भविष्य के लिए तैयार बनाने हेतु विस्तार योजना तैयार कर रहा है। इसके अंतर्गत चैनल की ड्राफ्ट

गहराई बढ़ाई जाएगी तथा टर्मिनल अवसंरचना का विस्तार किया जाएगा, ताकि बढ़ते हुए कंटेनर यातायात के

अवसरों का लाभ उठाया जा सके।

- **Cochin Port Authority (CoPA)** is unfazed by the rapid rise of **Vizhinjam Port** as a **transshipment hub** and is instead focusing on expanding the **International Container Transshipment Terminal (ICTT)** at **Vallarpadam** to strengthen its position as a **gateway terminal**.

कोचीन पोर्ट प्राधिकरण (CoPA) विजिंजम पोर्ट के ट्रांसशिपमेंट हब के रूप में तेज़ी से बढ़ते विकास से अप्रभावित है और इसके बजाय वल्लारपदम स्थित इंटरनेशनल कंटेनर ट्रांसशिपमेंट टर्मिनल (ICTT) के विस्तार पर ध्यान केंद्रित कर रहा है ताकि गेटवे टर्मिनल के रूप में अपनी स्थिति को मजबूत कर सके।

- **“Vizhinjam is primarily a transshipment terminal, whereas Cochin is essentially a gateway terminal, although it also handles a significant volume of transshipment cargo.”**

“विजिंजम मुख्यतः एक ट्रांसशिपमेंट टर्मिनल है, जबकि कोचीन मूल रूप से एक गेटवे टर्मिनल है, हालांकि यह ट्रांसशिपमेंट कार्गो की भी उल्लेखनीय मात्रा संभालता है।

- Mr. Angamuthu highlighted **Kochi’s strategic advantages**, including its proximity to major international shipping routes and strong road, rail and inland waterway connectivity, which offer significant scope for developing integrated **port-based industrial zones, logistics parks, and warehousing and value-added distribution facilities.**

श्री अंगमुथु ने कोच्चि के रणनीतिक लाभों पर प्रकाश डाला, जिनमें प्रमुख अंतरराष्ट्रीय शिपिंग मार्गों के निकट होना तथा मजबूत सड़क, रेल और अंतर्देशीय जलमार्ग संपर्क शामिल हैं, जो एकीकृत बंदरगाह-आधारित औद्योगिक क्षेत्रों, लॉजिस्टिक्स पार्कों, तथा वेयरहाउसिंग और मूल्यवर्धित वितरण सुविधाओं के विकास की व्यापक संभावनाएँ प्रदान करते हैं।

- The **advantages position Cochin Port as both a major container gateway and a transshipment hub** while complementing the rapid growth of India’s maritime sector, he said.

उन्होंने कहा कि ये लाभ कोचीन पोर्ट को एक प्रमुख कंटेनर गेटवे और ट्रांसशिपमेंट हब दोनों के रूप में स्थापित करते हैं तथा भारत के समुद्री क्षेत्र की तीव्र वृद्धि को भी पूरक बनाते हैं।

- On the flip side, the limited industrialisation in the hinterland poses a major challenge for the port due to the restricted growth in cargo.

दूसरी ओर, पृष्ठभूमि क्षेत्र में सीमित औद्योगीकरण के कारण कार्गो की सीमित वृद्धि बंदरगाह के लिए एक बड़ी चुनौती प्रस्तुत करती है।

- The **rising operational cost, especially the high annual maintenance dredging cost, is another factor eroding the competitiveness of the port.**

बढ़ती हुई परिचालन लागत, विशेषकर वार्षिक रखरखाव ड्रेजिंग लागत, बंदरगाह की प्रतिस्पर्धात्मकता को कम करने वाला एक अन्य प्रमुख कारक है।

- The **proximity of the Southern Naval Command imposes restrictions on crane heights and certain waterfront developments.**

सदर्न नेवल कमांड की निकटता के कारण क्रेन की ऊँचाई तथा कुछ जलतटीय विकास कार्यों पर प्रतिबंध लगाए जाते हैं।

- **Legacy labour issues, higher manpower costs and productivity constraints are some of the other factors affecting the service quality and overall competitiveness of the port.**

पुरानी श्रम संबंधी समस्याएँ, अधिक मानव संसाधन लागत तथा उत्पादकता संबंधी बाधाएँ भी बंदरगाह की सेवा गुणवत्ता और समग्र प्रतिस्पर्धात्मकता को प्रभावित करने वाले प्रमुख कारक हैं।

- Mr. Angamuthu said **Cochin Port has the task of maintaining the channel, so the high annual dredging cost is a severe drain on its resources.**

श्री अंगमुथु ने कहा कि कोचीन पोर्ट को चैनल का रखरखाव करना पड़ता है, इसलिए वार्षिक ड्रेजिंग लागत उसके संसाधनों पर भारी बोझ डालती है।

- The **channel is extensively used by the Indian Navy, Coast Guard and Cochin Shipyard without any cost sharing.**

इस चैनल का व्यापक उपयोग भारतीय नौसेना, कोस्ट गार्ड और कोचीन शिपयार्ड द्वारा बिना किसी लागत साझेदारी के किया जाता है।

- Asked about the idling railway line to ICTT, he replied that **Container Corporation of India (CONCOR)** had launched a rail service between Coimbatore and ICTT in 2016 but halted it after about 10 months due to viability issues.

आईसीटीटी तक निष्क्रिय रेलवे लाइन के बारे में पूछे जाने पर उन्होंने कहा कि कंटेनर कॉर्पोरेशन ऑफ इंडिया



(कॉनकॉर) ने 2016 में कोयंबटूर और आईसीटीटी के बीच रेल सेवा शुरू की थी, लेकिन व्यवहार्यता संबंधी समस्याओं के कारण लगभग 10 महीने बाद इसे बंद कर दिया गया।

- The rail service could not compete effectively with road transport on the short 190 km stretch between Coimbatore and Kochi.

कोयंबटूर और कोच्चि के बीच केवल 190 किमी की दूरी पर यह रेल सेवा सड़क परिवहन से प्रभावी प्रतिस्पर्धा नहीं कर सकी।

- The GST rollout in July 2017, the consequent shutdown of interstate check posts, and significant improvements in road connectivity between Cochin and Coimbatore (NH-544) also favoured road service.

जुलाई 2017 में जीएसटी लागू होने, अंतरराज्यीय चेकपोस्टों के बंद होने तथा कोच्चि और कोयंबटूर (एनएच-544) के बीच सड़क संपर्क में महत्वपूर्ण सुधार ने भी सड़क परिवहन को बढ़ावा दिया।

- He said the Kerala government's Mission Samudra is in sync with the port's development objectives, as defined by the Centre's Sagarmala Programme, especially in terms of multimodal infrastructure connectivity, port-led industrialisation, green shipping and shipbuilding, and blue economy and tourism.

उन्होंने कहा कि केरल सरकार का मिशन समुद्र केंद्र के सागरमाला कार्यक्रम के अंतर्गत निर्धारित बंदरगाह विकास उद्देश्यों के अनुरूप है, विशेषकर बहु-माध्यम अवसंरचना संपर्क, बंदरगाह-आधारित औद्योगीकरण, हरित शिपिंग, जहाज निर्माण, तथा ब्लू इकोनॉमी और पर्यटन के संदर्भ में।

- The Cochin-Vizhinjam cluster has the potential to become a dual-hub model for South India, reducing dependency on foreign transshipment ports and offering more options to global shipping lines, he pointed out.

उन्होंने बताया कि कोच्चि-विज़िंजम क्लस्टर में दक्षिण भारत के लिए इयूल-हब मॉडल बनने की क्षमता है, जिससे विदेशी ट्रांसशिपमेंट बंदरगाहों पर निर्भरता कम होगी और वैश्विक शिपिंग लाइनों को अधिक विकल्प मिलेंगे।

- The redevelopment of Willingdon Island, he said, hinges on capitalising Kochi's growing potential in heritage and cultural tourism, cruise tourism, leisure and coastal tourism, and medical and wellness tourism.

उन्होंने कहा कि विलिंगडन द्वीप का पुनर्विकास कोच्चि की बढ़ती संभावनाओं—विरासत एवं सांस्कृतिक पर्यटन, क्रूज पर्यटन, मनोरंजन एवं तटीय पर्यटन, तथा चिकित्सा एवं वेलनेस पर्यटन—का लाभ उठाने पर निर्भर करेगा।

Indian aircraft repair ecosystem needs an overhaul

GS III: Economy
Saravanan Rajarajan

India is one of the fastest-growing aviation markets in the world and the numbers tell a story of extraordinary scale. Indian carriers have collectively placed orders for over 1,500 new commercial aircraft. The carriers generated over 800 commercial engine shop visits in 2024.

That number will approach 2,000 by 2030 as the narrow-body fleet powered by LEAP (leading edge aviation propulsion) and GTF (geared turbofan) engines matures into its first heavy maintenance cycles, and could reach 4,000 annually by 2040 as the full order book enters service, according to Aviation Week's AWIN MRO Forecast.

Today, nearly 100% of that work and revenue

flows overseas. Indian engines travel abroad for overhauls. But the gap is not simply about engine shops. It is about the entire repair ecosystem behind each shop. In the world's most mature MRO (maintenance, repair and operations) ecosystems, 80% or more of engine component repairs, including in airfoils, combustor liners, fuel nozzles and non-destructive testing (NDT) are resolved locally. In India, that figure is close to zero.

Every specialised repair that cannot be done domestically entails transit time, logistics cost, and foreign exchange outflow, even when the engine itself is being processed in an Indian shop.

Cluster approach

India needs an integrated industrial cluster anchored



India needs an integrated industrial cluster anchored by engine MRO joint ventures.

by engine MRO joint ventures as concentration creates compound value.

When an engine shop, a blade coating facility, an NDT lab, a precision machining shop, and an MRO training school occupy the same industrial zone, the effect is multiplicative, with faster turnaround, lower logistics cost, shared utilities and infrastructure,

and a deep talent pool.

The cluster strategy requires a deliberate sequencing of investment: first anchor the zone with an engine shop partnered with an original equipment manufacturer (OEM), then use the anchor to widen the web of OEM-licensed joint ventures, each targeting a specific layer of the component repair chain.

Skill set

Workforce constraint is a factor that no amount of capital can bypass. An engine overhaul shop runs on certified technicians with specific type of ratings, which are OEM-approved and built over years of supervised practice. India needs these at scale, through OEM-operated training schools, OEM-MRO partnerships with local polytechnics offering fi-

nal immersion at engine shops, and reskilling engineers from adjacent industries like defence and automotive. The talent pipeline is also the retention pipeline: an engineer trained, type-rated, employed, and competitively paid within India is far less likely to emigrate.

Indian MRO facilities face duplicated approval costs and are structurally limited in their ability to service foreign-registered and leased aircraft. India's lessor landscape adds a further challenge, as nearly 80% of India's civil fleet is on sale-and-leaseback.

Flight path

A bilateral agreement with the European Union Aviation Safety Agency is the logical and next step that would open India's MRO facilities to the global

maintenance market, not just the domestic one.

India's booming aviation market is generating more engine repair work than it can handle today and demand is increasing.

The fleet scale is here and growing faster than any comparable market, the engineering talent base is deep, and the policy direction is positive.

French multinational aerospace corporation Safran's LEAP facility, anchored alongside co-located training, is the catalyst. Every OEM conversation and policy decision that follows should answer one question: Does it keep 80% of engine repair value on Indian soil?

(The writer is the Global Head of Presales and Solution Consulting - Aviation, Aerospace and Defence at Ramco Systems)

13J7. Indian aircraft repair ecosystem needs an overhaul भारतीय विमान मरम्मत पारिस्थितिकी तंत्र में व्यापक सुधार की आवश्यकता

- India is one of the **fastest-growing aviation markets** in the world and the numbers tell a story of extraordinary scale.
भारत विश्व के सबसे तेज़ी से बढ़ते विमानन बाज़ारों में से एक है और आँकड़े इसके असाधारण विस्तार की कहानी बताते हैं।
- Indian carriers have collectively placed orders for over **1,500 new commercial aircraft**.
भारतीय एयरलाइनों ने सामूहिक रूप से **1,500 से अधिक नए वाणिज्यिक विमानों** का ऑर्डर दिया है।
- The carriers generated over **800 commercial engine shop visits** in 2024.
इन एयरलाइनों ने 2024 में **800 से अधिक वाणिज्यिक इंजन शॉप** विज़िट उत्पन्न कीं।
- That number will approach **2,000 by 2030** as the **narrow-body fleet** powered by **LEAP (leading edge aviation propulsion)** and **GTF (geared turbofan)** engines matures into its first **heavy maintenance cycles**, and could reach **4,000 annually by 2040** as the full order book enters service, according to **Aviation Week's AWIN MRO Forecast**.
Aviation Week's AWIN MRO Forecast के अनुसार, **LEAP (Leading Edge Aviation Propulsion)** और **GTF (Geared Turbofan)** इंजनों से संचालित **नैरो-बॉडी बेड़ा** अपने पहले भारी रखरखाव चक्रों में प्रवेश करेगा, जिससे यह संख्या **2030 तक लगभग 2,000** हो जाएगी, और पूरा ऑर्डर सेवा में आने पर **2040 तक प्रतिवर्ष 4,000 तक** पहुँच सकती है।
- Today, nearly **100%** of that work and revenue flows overseas.
आज उस कार्य और उससे होने वाली आय का लगभग **100%** विदेश चला जाता है।
- Indian engines travel abroad for **overhauls**.
भारतीय इंजन **ओवरहॉल** के लिए विदेश भेजे जाते हैं।
- But the gap is not simply about **engine shops**.
लेकिन यह कमी केवल **इंजन शॉप्स** तक सीमित नहीं है।
- It is about the entire **repair ecosystem** behind each shop.
यह प्रत्येक शॉप के पीछे मौजूद पूरे **मरम्मत पारिस्थितिकी तंत्र** से जुड़ा हुआ विषय है।
- In the world's most mature **MRO (maintenance, repair and operations) ecosystems**, **80% or more** of engine component repairs, including in **airfoils, combustor liners, fuel nozzles** and **non-destructive testing (NDT)** are resolved locally.
विश्व के सबसे विकसित **MRO (Maintenance, Repair and Operations)** पारिस्थितिकी तंत्रों में **80% या उससे अधिक** इंजन घटकों की मरम्मत, जैसे **एयरफॉइल, कंबस्टर लाइनर, फ्यूल नोज़ल और नॉन-डिस्ट्रक्टिव टेस्टिंग (NDT)**, स्थानीय स्तर पर ही की जाती है।
- In India, that figure is close to zero.
भारत में यह आँकड़ा लगभग **शून्य** के बराबर है।
- Every specialised repair that cannot be done domestically entails **transit time, logistics cost, and foreign exchange outflow**, even when the engine itself is being processed in an Indian shop.
हर वह विशेष मरम्मत जो भारत में नहीं हो सकती, **परिवहन समय, लॉजिस्टिक्स लागत और विदेशी मुद्रा के बहिर्गमन** का कारण बनती है, भले ही इंजन की प्रोसेसिंग किसी भारतीय शॉप में हो रही हो।
- Cluster approach**
- क्लस्टर दृष्टिकोण**
- India needs an **integrated industrial cluster** anchored by **engine MRO joint ventures** as concentration creates compound value.
भारत को **इंजन MRO संयुक्त उपक्रमों** पर आधारित एक **एकीकृत औद्योगिक क्लस्टर** की आवश्यकता है क्योंकि एकाग्रता से संयुक्त मूल्य उत्पन्न होता है।

- When an **engine shop**, a **blade coating facility**, an **NDT lab**, a **precision machining shop**, and an **MRO training school** occupy the same industrial zone, the effect is multiplicative, with **faster turnaround**, **lower logistics cost**, **shared utilities and infrastructure**, and a **deep talent pool**.

जब एक इंजन शॉप, ब्लेड कोटिंग सुविधा, NDT लैब, प्रिंसीजन मशीनिंग शॉप और MRO प्रशिक्षण संस्थान एक ही औद्योगिक क्षेत्र में स्थित हों, तो इसका प्रभाव कई गुना बढ़ जाता है, जिससे तेज़ कार्य निष्पादन, कम लॉजिस्टिक्स लागत, साझा उपयोगिताएँ एवं अवसंरचना तथा कुशल प्रतिभा का बड़ा आधार विकसित होता है।

- The cluster strategy requires a deliberate sequencing of investment: first anchor the zone with an **engine shop** partnered with an **original equipment manufacturer (OEM)**, then use the anchor to widen the web of **OEM-licensed joint ventures**, each targeting a specific layer of the **component repair chain**.

इस क्लस्टर रणनीति के लिए निवेश का सुनियोजित क्रम आवश्यक है: पहले क्षेत्र में **Original Equipment Manufacturer (OEM)** के साथ साझेदारी वाली एक इंजन शॉप स्थापित की जाए, फिर उसी आधार पर **OEM-लाइसेंस प्राप्त संयुक्त उपक्रमों** का विस्तार किया जाए, जिनमें प्रत्येक कंपोनेंट मरम्मत श्रृंखला के एक विशेष स्तर पर कार्य करे।

- Skill set**
- कौशल विकास**
- Workforce constraint** is a factor that no amount of capital can bypass.
कार्यबल की कमी ऐसा कारक है जिसे कोई भी पूँजी दूर नहीं कर सकती।
- An **engine overhaul shop** runs on **certified technicians** with specific **type ratings**, which are **OEM-approved** and built over years of supervised practice.
एक इंजन ओवरहॉल शॉप प्रमाणित तकनीशियनों पर निर्भर करती है जिनके पास विशेष टाइप रेटिंग्स होती हैं, जिन्हें **OEM** द्वारा स्वीकृत किया जाता है और जो वर्षों के पर्यवेक्षित प्रशिक्षण से विकसित होती हैं।
- India needs these at scale, through **OEM-operated training schools**, **OEM-MRO partnerships** with local polytechnics offering final immersion at engine shops, and **reskilling engineers** from adjacent industries like **defence** and **automotive**.
भारत को बड़े पैमाने पर ऐसे विशेषज्ञों की आवश्यकता है, जिसके लिए **OEM संचालित प्रशिक्षण संस्थान**, स्थानीय पॉलिटेक्निक के साथ **OEM-MRO साझेदारी**, तथा रक्षा और ऑटोमोबाइल जैसे क्षेत्रों के इंजीनियरों का **पुनः कौशल विकास (Reskilling)** आवश्यक है।
- The talent pipeline is also the retention pipeline: an engineer trained, type-rated, employed, and competitively paid within India is far less likely to emigrate.
प्रतिभा विकास ही प्रतिभा संरक्षण का माध्यम भी है: भारत में प्रशिक्षित, टाइप-रेटेड, नियोजित और प्रतिस्पर्धी वेतन पाने वाला इंजीनियर विदेश जाने की संभावना कम रखता है।
- Indian **MRO facilities** face duplicated approval costs and are structurally limited in their ability to service **foreign-registered** and **leased aircraft**.
भारतीय **MRO सुविधाएँ** दोहराई गई स्वीकृति लागत का सामना करती हैं और विदेश में पंजीकृत तथा लीज़ पर लिए गए विमानों की सेवा देने की उनकी क्षमता संरचनात्मक रूप से सीमित है।
- India's **lessor landscape** adds a further challenge, as nearly **80%** of India's civil fleet is on **sale-and-leaseback**.
भारत का **लेसर तंत्र** एक अतिरिक्त चुनौती प्रस्तुत करता है क्योंकि भारत के लगभग **80%** नागरिक विमान बेड़े **Sale-and-Leaseback** व्यवस्था पर आधारित हैं।

- Flight path**

- आगे की दिशा**

- A bilateral agreement with the **European Union Aviation Safety Agency** is the logical and next step that would open India's **MRO facilities** to the global maintenance market, not just the domestic one.

European Union Aviation Safety Agency के साथ द्विपक्षीय समझौता अगला तार्किक कदम होगा, जिससे भारत की **MRO सुविधाएँ** केवल घरेलू ही नहीं बल्कि वैश्विक रखरखाव बाज़ार के लिए भी खुल जाएँगी।



- India's booming **aviation market** is generating more **engine repair work** than it can handle today and demand is increasing.
भारत का तेजी से बढ़ता **विमानन बाज़ार** आज उसकी क्षमता से अधिक **इंजन मरम्मत कार्य** उत्पन्न कर रहा है और इसकी माँग लगातार बढ़ रही है।
- The **fleet scale** is here and growing faster than any comparable market, the **engineering talent base** is deep, and the **policy direction** is positive.
भारत का **विमान बेड़ा** किसी भी समान बाज़ार की तुलना में अधिक तेज़ी से बढ़ रहा है, **इंजीनियरिंग प्रतिभा आधार** मजबूत है और **नीतिगत दिशा** भी सकारात्मक है।
- French multinational aerospace corporation **Safran's LEAP facility**, anchored alongside co-located training, is the catalyst.
फ्रांस की बहुराष्ट्रीय एयरोस्पेस कंपनी **Safran** की **LEAP सुविधा**, जो सह-स्थित प्रशिक्षण के साथ स्थापित है, इस परिवर्तन की प्रेरक शक्ति है।
- Every **OEM conversation** and **policy decision** that follows should answer one question: Does it keep **80% of engine repair value** on **Indian soil**?
आगे होने वाली प्रत्येक **OEM वार्ता** और **नीतिगत निर्णय** को एक प्रश्न का उत्तर देना चाहिए: क्या इससे **इंजन मरम्मत के 80% मूल्य** को भारत में ही बनाए रखा जा सकता है?
- India needs an **integrated industrial cluster** anchored by **engine MRO joint ventures**.
भारत को **इंजन MRO संयुक्त उपक्रमों** पर आधारित एक **एकीकृत औद्योगिक क्लस्टर** की आवश्यकता है।

GS Paper III: Science and Technology		13 July 2026
TOPICS COVERED		
13J7	Drones move TB samples, cut diagnosis costs from ₹9,451 to ₹91 in new ICMR trial नई ICMR परीक्षण परियोजना में ड्रोन से टीबी नमूनों का परिवहन, निदान लागत ₹9,451 से घटकर ₹91 हुई	
13J7	ISRO successfully carries out tests of Gaganyaan systems इसरो ने गगनयान प्रणालियों के परीक्षण सफलतापूर्वक संपन्न किए	
13J7	Earendil-1: bright or bright? ईअरेंडिल-1: उजाला या अभिशाप?	
13J7	Why has China banned helium exports? चीन ने हीलियम के निर्यात पर प्रतिबंध क्यों लगाया है?	
13J7	Has OpenAI's GPT-5.6 class beaten Anthropic's Fable-class models? क्या OpenAI की GPT-5.6 शृंखला ने Anthropic के Fable-श्रेणी मॉडल्स को पीछे छोड़ दिया है?	



A red blanket: An aircraft drops fire retardant above wildfires in the **Almeria province of Spain**. After strong winds eased on Saturday, firefighters continued to beat back the flames that have forced 1,400 people to evacuate their homes as they spread through the mountains in the southeast. REUTERS

A red blanket: An aircraft drops fire retardant above wildfires in the **Almeria province of Spain**. After strong winds eased on Saturday, firefighters continued to beat back the flames that have forced 1,400 people to evacuate their homes as they spread through the mountains in the southeast.

Drones move TB samples, cut diagnosis costs from ₹9,451 to ₹91 in new ICMR trial

GS III: S&T

Siddharth Kumar Singh
HYDERABAD

A drone flight costing patients almost nothing could replace journeys that once left suspected tuberculosis (TB) patients spending an average of ₹9,451 out of their own pockets. A study by the All India Institute of Medical Sciences, Bibinagar, in Telangana has found that transporting sputum samples by drone reduced patients' average expenditure to just ₹91 while cutting diagnosis time from 15 days to five days.

The study, published in the *International Journal of Tuberculosis and Lung Disease* evaluated the impact of using drones to transport sputum samples



The drone programme aims to streamline the transport of sputum samples from PHCs in remote areas to testing facilities. FILE PHOTO

from remote villages to TB testing centres in Yadadri Bhuvanagiri district under the Indian Council of Medical Research's (ICMR) i-DRONE initiative. The study analysed data from 840 participants.

Before the intervention,

suspected TB patients from remote villages, often located 10 km to 30 km from the nearest diagnostic centre, had to travel over poor roads with limited public transport to access testing facilities. During the drone phase, patients

only needed to visit their nearest PHC or subcentre, where trained healthcare workers collected and securely packaged sputum samples before drones transported them to the designated TB facilities.

The average out-of-pocket expenditure for patients, including medical expenses, travel, food and wage loss for both patients and attendants, dropped from ₹9,451 to ₹90.9. The intervention also improved reporting times. Before drones were introduced, over 92% of patients waited more than two days to receive their test results.

During the drone phase, 76.3% received results the next day, while only 16.3% experienced delays beyond two days.

13J7. Drones move TB samples, cut diagnosis costs from ₹9,451 to ₹91 in new ICMR trial

नई ICMR परीक्षण परियोजना में ड्रोन से टीबी नमूनों का परिवहन, निदान लागत ₹9,451 से घटकर ₹91 हुई

- A study by the All India Institute of Medical Sciences (AIIMS), Bibinagar, in Telangana has found that transporting sputum samples by drone reduced patients' average expenditure to just ₹91 while cutting diagnosis time from 15 days to five days. तेलंगाना स्थित अखिल भारतीय आयुर्विज्ञान संस्थान (AIIMS), बिबीनगर के एक अध्ययन में पाया गया कि ड्रोन के माध्यम से थूक (स्पुटम) के नमूनों का परिवहन करने से रोगियों का औसत खर्च घटकर केवल ₹91 रह गया तथा निदान का समय 15 दिनों से घटकर पाँच दिन हो गया।
- The study, published in the *International Journal of Tuberculosis and Lung Disease*, evaluated the impact of using drones to transport sputum samples from remote villages to TB testing centres in Yadadri Bhuvanagiri district under the Indian Council of Medical Research's (ICMR) i-DRONE initiative.

International Journal of Tuberculosis and Lung Disease में प्रकाशित इस अध्ययन में भारतीय आयुर्विज्ञान अनुसंधान परिषद (ICMR) की i-DRONE पहल के अंतर्गत यादाद्री भुवनगिरि जिले के दूरस्थ गाँवों से टीबी परीक्षण केंद्रों तक थूक के नमूनों को ड्रोन द्वारा पहुँचाने के प्रभाव का मूल्यांकन किया गया।

ISRO successfully carries out tests of Gaganyaan systems

One of the tests involved separation of the 'umbilical mechanism' that serves as a link between the crew module, where astronauts live, and the service module that provides propulsion, agency says

CS III: S&T

Press Trust of India
NEW DELHI

The Indian Space Research Organisation on Sunday said it had successfully carried out three major tests of the Gaganyaan crew module systems.

The first test pertained to ensuring an upright position of the crew module after splashdown in the sea, considered one of the most important crew safety requirements. To do this, a stored cold-gas-based uprighting system was developed and tested.

"A system-level qualification test set-up consisting of all the elements of CMUS (crew module uprighting system) was realised," the ISRO said, adding it successfully conducted inflation tests "for the primary inflation module wherein stored gas in the high-pressure gas bottle was made to inflate the floatation by operating the control valves."

The second test involved examining the separation of the umbilical mechanism that serves as a link between the crew module, where astronauts live, and the service module, which provides power and propulsion. The mechanism consists of two parts, each located at the crew module side, called CSU-1, and the service module side, called CSU-2.



Step-by-step: (Clockwise from left) The crew module uprighting system, the service module connect-disconnect system, and the apex cover that underwent testing. ISRO

Clean separation
During the crew module's earth re-entry stage, the service module first separates from the crew module after the CSU-1 disconnects. Subsequently, just before re-entry, the CSU-2 is also separated.

"Separation test of CSU-2 from simulated crew module was carried out. The test demonstrated the clean separation of CSU-2 as well as structural stability of the crew module panel and their interfaces,"

the space agency said. The third test validated the structural integrity of the crew module during the apex cover separation event. The apex cover protects the parachutes and associated subsystems during the mission. It is separated before parachutes are deployed to decelerate the crew module.

13J7. ISRO successfully carries out tests of Gaganyaan systems

इसरो ने गगनयान प्रणालियों के परीक्षण सफलतापूर्वक संपन्न किए

- The **first test** pertained to ensuring an **upright position** of the **crew module** after **splashdown** in the sea, considered one of the most important **crew safety** requirements. पहला परीक्षण, समुद्र में स्प्लैशडाउन के बाद क्रू मॉड्यूल को सीधी स्थिति में बनाए रखने से संबंधित था, जिसे क्रू सुरक्षा की सबसे महत्वपूर्ण आवश्यकताओं में से एक माना जाता है।
- To do this, a stored **cold-gas-based uprighting system** was developed and tested. इसके लिए संग्रहीत शीत-गैस आधारित अपराइटिंग प्रणाली का विकास किया गया और उसका परीक्षण किया गया।
- "A **system-level qualification test** set-up consisting of all the elements of **CMUS (Crew Module Uprighting System)** was realised," the **ISRO** said, adding it **successfully conducted inflation tests** "for the **primary inflation module** wherein stored gas in the **high-pressure gas bottle** was made to inflate the **floatation** by operating the **control valves**." इसरो ने कहा, "CMUS (क्रू मॉड्यूल अपराइटिंग सिस्टम) के सभी घटकों से युक्त सिस्टम-स्तरीय योग्यता परीक्षण व्यवस्था विकसित की गई।" इसरो ने यह भी बताया कि प्राथमिक इन्फ्लेशन मॉड्यूल के फुलाव



परीक्षण सफलतापूर्वक किए गए, जिनमें उच्च-दाब गैस सिलेंडर में संग्रहीत गैस को नियंत्रण वाल्वों के संचालन द्वारा तैरन प्रणाली (फ्लोटेशन) को फुलाने के लिए उपयोग किया गया।

- The **second test** involved examining the separation of the **umbilical mechanism** that serves as a link between the **crew module**, where astronauts live, and the **service module**, which provides **power and propulsion**.

दूसरे परीक्षण में अम्बिलिकल तंत्र के पृथक्करण की जाँच की गई, जो क्रू मॉड्यूल, जहाँ अंतरिक्ष यात्री रहते हैं, और सर्विस मॉड्यूल, जो विद्युत शक्ति तथा प्रणोदन प्रदान करता है, के बीच संपर्क स्थापित करता है।

- The **mechanism consists of two parts**, each located at the **crew module side**, called **CSU-1**, and the **service module side**, called **CSU-2**.

यह तंत्र दो भागों से मिलकर बना है, जिनमें क्रू मॉड्यूल की ओर स्थित भाग को CSU-1 तथा सर्विस मॉड्यूल की ओर स्थित भाग को CSU-2 कहा जाता है।

Clean separation

सफल पृथक्करण

- During the **crew module's Earth re-entry stage**, the **service module** first separates from the **crew module** after the **CSU-1** disconnects.

क्रू मॉड्यूल के पृथ्वी के वायुमंडल में पुनः प्रवेश चरण के दौरान, CSU-1 के अलग होने के बाद सर्विस मॉड्यूल सबसे पहले क्रू मॉड्यूल से पृथक् होता है।

- The **third test** validated the **structural integrity** of the **crew module** during the **apex cover separation event**.

तीसरे परीक्षण में एपेक्स कवर पृथक्करण के दौरान क्रू मॉड्यूल की संरचनात्मक अखंडता का सत्यापन किया गया।

Eärendil-1: bright or blight?

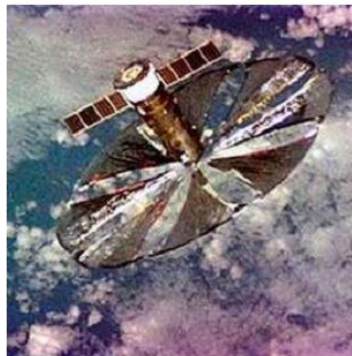
GS III: S&T

Vasudevan Mukunth

On July 9, the U.S. Federal Communications Commission (FCC) authorised a company named **Reflect Orbital** to launch and operate a test satellite designed to **deploy a large mirror in orbit around the earth**, despite the controversy and debate surrounding its aims. Eärendil-1 — named for a character in the Tolkien fantasy epic *The Silmarillion* — will be a single satellite in a non-geostationary orbit fit with a “deployable, highly specular thin-film reflector”.

The reflector will be motorised and can be steered to different orientations. Its purpose is to reflect sunlight towards specific spots on the earth at nighttime. Reflect Orbital has said it intends to use this technology to extend the usable hours for solar panels and provide light during “critical operations” like emergency or humanitarian missions. The satellite will operate at an altitude of around 625 km with a high inclination of 88°. The FCC has granted a limited two-year license for the test. The approval itself followed significant debate.

Organisations like the American Astronomical Society (AAS) raised concerns regarding background skyglow and the mission's potential to disrupt optical astronomy. In its order (DA 26-706), the FCC ruled while it regulates radiofrequency interference and orbital debris, the visual impact of reflected sunlight is



Eärendil-1 won't be the first mirror in orbit. Shown here is Znamya-2, which Russia deployed as part of a series of orbital space mirror experiments in the 1990s. RSC ENERGIA

outside its statutory authority. Nonetheless, the FCC has also imposed some conditions. Reflect Orbital has to coordinate with NASA, the U.S. National Science Foundation, and the National Telecommunications and Information Administration to protect astronomy, and Eärendil-1 has to abide by specific duty cycles and conjunction angles to avoid interfering with other missions.

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

13J7. Eärendil-1: bright or blight?

ईअरेंडिल-1: उजाला या अभिशाप?

- On **July 9**, the **U.S. Federal Communications Commission (FCC)** authorised a company named **Reflect Orbital** to launch and operate a **test satellite** designed to **deploy a large mirror in orbit around the Earth**, despite the controversy and debate surrounding its aims.

9 जुलाई को संयुक्त राज्य अमेरिका के संघीय संचार आयोग (FCC) ने रिफ्लेक्ट ऑर्बिटल नामक कंपनी को परीक्षण उपग्रह के प्रक्षेपण और संचालन की अनुमति दी, जिसे पृथ्वी की कक्षा में एक बड़े दर्पण को स्थापित करने के लिए डिज़ाइन किया गया है, जबकि इसके उद्देश्यों को लेकर व्यापक विवाद और बहस जारी है।

- Eärendil-1** — named for a character in the Tolkien fantasy epic *The Silmarillion* — **will be a single satellite in a non-geostationary orbit** fit



with a “**deployable, highly specular thin-film reflector**”.

ईअरेंडिल-1 — जिसका नाम टॉल्किन की काल्पनिक महाकाव्य कृति **द सिल्मारिलियन** के एक पात्र के नाम पर रखा गया है — एक **अभूस्थिर (नॉन-जियोस्टेशनरी) कक्षा** में स्थापित एकल उपग्रह होगा, जिसमें एक “**तैनात किया जा सकने वाला, अत्यधिक परावर्तक पतली-फिल्म परावर्तक**” लगाया जाएगा।

- The **reflector will be motorised and can be steered to different orientations**.
यह परावर्तक मोटरयुक्त होगा और इसे विभिन्न दिशाओं में नियंत्रित किया जा सकेगा।
- Its purpose is to reflect **sunlight** towards specific spots on the **Earth at nighttime**.
इसका उद्देश्य रात्रि के समय पृथ्वी के विशिष्ट स्थानों की ओर **सूर्य के प्रकाश** को परावर्तित करना है।
- **Reflect Orbital** has said it intends to use this technology to extend the usable hours for **solar panels** and provide light during “**critical operations**” like **emergency** or **humanitarian missions**.
रिफ्लेक्ट ऑर्बिटल ने कहा है कि वह इस तकनीक का उपयोग **सौर पैनलों** के उपयोगी समय को बढ़ाने तथा **आपातकालीन** अथवा **मानवीय मिशनों** जैसे “**महत्वपूर्ण अभियानों**” के दौरान प्रकाश उपलब्ध कराने के लिए करना चाहता है।
- The **satellite will operate at an altitude** of around **625 km** with a **high inclination** of **88°**.
यह उपग्रह लगभग **625 किलोमीटर** की ऊँचाई पर **88°** के उच्च झुकाव (**इन्क्लनेशन**) के साथ कार्य करेगा।
- **Reflect Orbital** has to coordinate with **NASA**, the **U.S. National Science Foundation**, and the **National Telecommunications and Information Administration** to protect **astronomy**, and **Eärendil-1** has to abide by **specific duty cycles** and **conjunction angles** to avoid interfering with other missions.

Why has China banned helium exports?

Why is helium emerging as a strategic resource? How vulnerable is the world to a helium supply shock? Why is it considered a critical input for future technologies? Why is storing and transporting helium so expensive? What makes it so hard to replace?

SS III: S&T

EXPLAINER

Vasudevan Mukunth

The story so far:
On July 10, the Ministry of Commerce and General Administration of Customs, China, has temporarily but immediately banned helium exports from the country. As of 4.30 pm IST on July 10, Beijing had not published any other information as to why it took this step now or its scope.

Is China a major helium producer?
China imports more than 80% of its helium needs but produces only around 1.6% of the world's helium. The export ban follows an extended period of supply strained by Russia's export restrictions — where the Prime Minister needs to sign off on shipments through 2027 — and supply risks tied to heightened tensions in West Asia.

The world's major helium producers are the U.S. (meeting 43% of total supply), followed by Qatar, Russia, Canada, and Algeria. In 2024, the U.S. privatised its Federal Helium Reserve and, selling its assets to the Messer Group and no longer buffering shocks such as those due to the U.S.-Iran conflict.

The next year, the U.S. House Committee on Oversight and Government Reform launched an investigation into Messer's Chinese interests, stoking the risk of tit-for-tat measures. Which China's latest export ban could be.

After the U.S., Qatar has been meeting 33% of the demand, especially in Asia. After the conflict with Iran escalated, as medical chemist and *Science* columnist Derek Lowe put it, “one-third of global helium production is now literally bottled up behind the Strait of Hormuz, a much higher percentage than world oil production [where the situation is bad enough already].”

In this light, China's new export restriction could preserve the country's helium supply for its domestic chip



Helium can only be transported in vacuum-jacketed stainless steel vessels that are manufactured only by a few companies worldwide. GETTY IMAGES

manufacturers and its medical sector.

How is helium obtained?

Helium is the second-lightest element, after hydrogen, and is not manufactured. It is a non-renewable resource generated deep in the earth's crust, where the radioactive decay of uranium and thorium atoms emits alpha particles, which capture electrons to form helium atoms.

Over millions of years, this helium migrates into the same reservoirs of natural gas, and they are extracted together. This said, natural gas is not processed to isolate the helium from it until the latter makes up at least 0.3% by volume.

But once it does, the gas is isolated using the fact that it has a different boiling point.

Some operators also recover helium from LNG plants and from the air but these quantities are too low to matter to the global demand. Helium for commercial use is usually at least 99.997% pure.

What is helium used for?

Helium has an extremely low boiling point — negative 269°C — and does not participate easily in chemical reactions. These are good properties for a coolant that needs to cool the magnets in MRI machines, the silicon wafers in the semiconductor fabricating industry, and, increasingly, some of the devices used in quantum computers. Its small atoms mean the gas escapes easily through gaps that might be too small for oxygen or nitrogen atoms — so engineers use helium as a leak-detector.

Helium is also used in the process of drawing optical fibres to rapidly and uniformly cool molten glass and to displace oxygen or nitrogen from forming bubbles inside the material. Spaceflight organisations like ISRO, NASA, and SpaceX use helium to pressurise fuel tanks in rockets. Research and the tourism sector in many parts of the world also use helium to inflate balloons and airships.

According to the U.S. Geological Survey, laboratory use-cases account for

22% of the demand for helium, followed by controlled atmospheres and semiconductors (17%), lifting gas (17%), MRI scanners (15%), aerospace (9%), and detecting leaks (5%).

How much does helium cost?

In June 2026, the spot price for highly pure helium in Northeast Asia had reportedly spiked to \$150-205 per thousand cubic feet, almost double what it was in late 2025. At least one major supplier, the U.S.-based industrial supplier Airgas, has invoked force majeure and tacked on surcharges of \$13.50 per hundred cubic feet to existing contracts. Liquid helium is by default expensive to store and transport because helium only liquefies at -269°C.

In fact, the helium supply chain as a whole is cost-intensive because purification, storage, and transport are each expensive and technically sophisticated. A mid- to large-scale purification and liquefaction facility will require more than \$100 million while smaller ones can cost around \$10 million, thanks to the need for corrosion-resistant alloys that can withstand ultra-low temperatures.

The gas can be stored in underground salt caverns, which reduce leaks significantly — but these formations are rare and developing a new one can cost more than \$200 million. It can also be stored as compressed gas or cryogenic liquid. The former typically costs up to \$10 million to build while bulk cryogenic liquid storage systems generally need between \$0.5 million and \$20 million depending on capacity. Then there are the operational expenses.

Finally, helium can only be transported in vacuum-jacketed stainless steel vessels — which are manufactured by relatively few companies worldwide, including several Chinese ones.

Finally, the contractor transporting the containers must also ensure they are delivered before the holding time expires, after which the helium will start boiling off into the atmosphere.

THE GIST

The export ban follows an extended period of supply strained by Russia's export restrictions — where the Prime Minister needs to sign off on shipments through 2027 — and supply risks tied to heightened tensions in West Asia.

Helium is an important coolant in the semiconductor fabricating industry, where it removes heat from silicon wafers.

The helium supply chain as a whole is cost-intensive because purification, storage, and transport are each expensive and technically sophisticated.



13J7. Why has China banned helium exports?

चीन ने हीलियम के निर्यात पर प्रतिबंध क्यों लगाया है?

- On **July 10**, the **Ministry of Commerce** and **General Administration of Customs, China**, has temporarily but immediately banned **helium exports** from the country.
10 जुलाई को चीन के वाणिज्य मंत्रालय तथा सीमा शुल्क सामान्य प्रशासन ने देश से हीलियम के निर्यात पर तत्काल प्रभाव से अस्थायी प्रतिबंध लगा दिया।
- China** imports more than **80%** of its **helium** needs but produces only around **1.6%** of the world's **helium**.
चीन अपनी हीलियम की आवश्यकता का 80% से अधिक आयात करता है, जबकि वह विश्व के कुल हीलियम उत्पादन का केवल लगभग 1.6% ही उत्पादित करता है।
- The world's major **helium producers** are the **U.S.** (meeting **43%** of total supply), followed by **Qatar, Russia, Canada, and Algeria**.
विश्व के प्रमुख हीलियम उत्पादकों में संयुक्त राज्य अमेरिका (कुल आपूर्ति का 43%), इसके बाद कतर, रूस, कनाडा, तथा अल्जीरिया शामिल हैं।
- After the **U.S.**, **Qatar** has been meeting **33%** of the demand, especially in **Asia**.
संयुक्त राज्य अमेरिका के बाद कतर, विशेष रूप से एशिया में, कुल मांग का 33% पूरा कर रहा है।
- After the conflict with **Iran** escalated, as **medical chemist** and **Science** columnist **Derek Lowe** put it, "**one-third of global helium production is now literally bottled up behind the Strait of Hormuz, a much higher percentage than world oil production [where the situation is bad enough already].**"
ईरान के साथ संघर्ष बढ़ने के बाद, चिकित्सा रसायनविद् तथा साइंस पत्रिका के स्तंभकार डेरेक लोवे के अनुसार, "वैश्विक हीलियम उत्पादन का लगभग एक-तिहाई भाग अब वास्तव में होर्मुज़ जलडमरूमध्य के पीछे फँस गया है, जो विश्व तेल उत्पादन की तुलना में कहीं अधिक बड़ा हिस्सा है, जबकि वहाँ की स्थिति पहले से ही गंभीर है।"
- In this light, **China's** new export restriction could preserve the country's **helium supply** for its domestic **chip manufacturers** and its **medical sector**.
इस परिप्रेक्ष्य में, चीन का नया निर्यात प्रतिबंध देश की हीलियम आपूर्ति को उसके घरेलू चिप निर्माताओं तथा चिकित्सा क्षेत्र के लिए सुरक्षित रखने का प्रयास हो सकता है।

How is helium obtained?

हीलियम कैसे प्राप्त किया जाता है?

- Helium** is the **second-lightest element**, after **hydrogen**, and is not manufactured.
हीलियम, हाइड्रोजन के बाद दूसरा सबसे हल्का तत्व है और इसका कृत्रिम निर्माण नहीं किया जाता।
- It is a **non-renewable resource** generated deep in the **earth's crust**, where the **radioactive decay** of **uranium** and **thorium** atoms emits **alpha particles**, which capture **electrons** to form **helium atoms**.
यह एक अनवीकरणीय संसाधन है, जो पृथ्वी की भूपर्पटी के गहरे भाग में बनता है, जहाँ यूरेनियम और थोरियम परमाणुओं के रेडियोधर्मी क्षय से अल्फा कण उत्सर्जित होते हैं, जो इलेक्ट्रॉनों को ग्रहण करके हीलियम परमाणु बनाते हैं।
- Over millions of years, this **helium** migrates into the same reservoirs of **natural gas**, and they are extracted together.
लाखों वर्षों में यह हीलियम प्राकृतिक गैस के उन्हीं भंडारों में पहुँच जाता है और दोनों का एक साथ निष्कर्षण किया जाता है।
- This said, **natural gas** is not processed to isolate the **helium** from it until the latter makes up at least **0.3%** by volume.

हालाँकि, प्राकृतिक गैस से हीलियम को अलग करने की प्रक्रिया तब तक नहीं की जाती, जब तक उसकी मात्रा आयतन के आधार पर कम-से-कम 0.3% न हो जाए।

- **Helium for commercial use is usually at least 99.997% pure.**
व्यावसायिक उपयोग के लिए हीलियम सामान्यतः कम-से-कम 99.997% शुद्ध होता है।

What is helium used for?

हीलियम का उपयोग किस लिए किया जाता है?

- **Helium has an extremely low boiling point — negative 269°C — and does not participate easily in chemical reactions.**
हीलियम का क्वथनांक अत्यंत कम, अर्थात् 269°C, होता है और यह आसानी से रासायनिक अभिक्रियाओं में भाग नहीं लेता।
- These are good properties for a **coolant** that needs to cool the **magnets** in **MRI machines**, the **silicon wafers** in the **semiconductor fabricating industry**, and, increasingly, some of the devices used in **quantum computers**.
ये गुण ऐसे शीतलक के लिए उपयुक्त हैं, जिसका उपयोग एमआरआई मशीनों के चुंबकों, सेमीकंडक्टर निर्माण उद्योग में प्रयुक्त सिलिकॉन वेफरों, तथा बढ़ते हुए क्वांटम कंप्यूटरों के कुछ उपकरणों को ठंडा रखने के लिए किया जाता है।
- Its small **atoms** mean the gas escapes easily through gaps that might be too small for **oxygen** or **nitrogen** atoms — so engineers use **helium** as a **leak-detector**.
इसके छोटे परमाणुओं के कारण यह गैस उन सूक्ष्म दरारों से भी आसानी से निकल जाती है, जो ऑक्सीजन या नाइट्रोजन के परमाणुओं के लिए बहुत छोटी होती हैं; इसलिए अभियंता हीलियम का उपयोग रिसाव पहचानने वाली गैस के रूप में करते हैं।
- **Helium** is also used in the process of drawing **optical fibres** to rapidly and uniformly cool **molten glass** and to displace **oxygen** or **nitrogen** from forming bubbles inside the material.
हीलियम का उपयोग ऑप्टिकल फाइबर निर्माण की प्रक्रिया में पिघले हुए काँच को शीघ्र एवं समान रूप से ठंडा करने तथा सामग्री के भीतर ऑक्सीजन या नाइट्रोजन से बनने वाले बुलबुलों को हटाने के लिए भी किया जाता है।
- **Spaceflight organisations** like **ISRO**, **NASA**, and **SpaceX** use **helium** to pressurise **fuel tanks** in **rockets**.
इसरो, नासा तथा स्पेसएक्स जैसे अंतरिक्ष संगठन रॉकेटों के ईंधन टैंकों में दाब बनाए रखने के लिए हीलियम का उपयोग करते हैं।
- **Research** and the **tourism sector** in many parts of the world also use **helium** to inflate **balloons** and **airships**.
विश्व के अनेक भागों में अनुसंधान तथा पर्यटन क्षेत्र भी गुब्बारों और वायुयानों (एयरशिप) को भरने के लिए हीलियम का उपयोग करते हैं।
- According to the **U.S. Geological Survey**, **laboratory** use-cases account for **22%** of the demand for **helium**, followed by **controlled atmospheres** and **semiconductors** (**17%**), **lifting gas** (**17%**), **MRI scanners** (**15%**), **aerospace** (**9%**), and **detecting leaks** (**5%**).
अमेरिकी भूवैज्ञानिक सर्वेक्षण (U.S. Geological Survey) के अनुसार, हीलियम की कुल मांग में प्रयोगशालाओं का योगदान 22% है, इसके बाद नियंत्रित वातावरण और सेमीकंडक्टर (17%), लिफ्टिंग गैस (17%), एमआरआई स्कैनर (15%), एयरोस्पेस (9%), तथा रिसाव का पता लगाने (5%) का स्थान है।

How much does helium cost?

हीलियम की कीमत कितनी है?

- Liquid **helium** is by default expensive to store and transport because **helium** only liquefies at **-269°C**.

तरल हीलियम का भंडारण और परिवहन स्वाभाविक रूप से महंगा होता है क्योंकि हीलियम केवल -269 डिग्री सेल्सियस पर ही द्रवित होता है।

- In fact, the **helium supply chain** as a whole is cost-intensive because **purification, storage, and transport** are each expensive and technically sophisticated.

वास्तव में, संपूर्ण हीलियम आपूर्ति श्रृंखला अत्यधिक लागत वाली है क्योंकि शुद्धीकरण, भंडारण, और परिवहन—तीनों ही महंगे तथा तकनीकी रूप से अत्यंत जटिल हैं।

- A mid- to large-scale purification and liquefaction facility will require more than \$100 million while smaller ones can cost around \$10 million, thanks to the need for corrosion-resistant alloys that can withstand ultra-low temperatures.

एक मध्यम से बड़े स्तर की शुद्धीकरण एवं द्रवीकरण सुविधा स्थापित करने में 100 मिलियन अमेरिकी डॉलर से अधिक की लागत आती है, जबकि छोटी इकाइयों की लागत लगभग 10 मिलियन अमेरिकी डॉलर हो सकती है, क्योंकि इसके लिए अत्यल्प तापमान सहने वाले संक्षारण-प्रतिरोधी मिश्रधातुओं की आवश्यकता होती है।

- The gas can be stored in underground salt caverns, which reduce leaks significantly — but these formations are rare and developing a new one can cost more than \$200 million.

इस गैस को भूमिगत लवण गुफाओं (सॉल्ट कैवर्न्स) में संग्रहित किया जा सकता है, जिससे रिसाव में उल्लेखनीय कमी आती है, किन्तु ऐसी प्राकृतिक संरचनाएँ दुर्लभ होती हैं और नई संरचना विकसित करने में 200 मिलियन अमेरिकी डॉलर से अधिक की लागत आ सकती है।

- It can also be stored as compressed gas or cryogenic liquid.

इसे संपीड़ित गैस अथवा क्रायोजेनिक द्रव के रूप में भी संग्रहित किया जा सकता है।

- Finally, helium can only be transported in vacuum-jacketed stainless steel vessels — which are manufactured by relatively few companies worldwide, including several Chinese ones.

अंततः, हीलियम का परिवहन केवल वैक्यूम-जैकेटयुक्त स्टेनलेस स्टील पात्रों में ही किया जा सकता है, जिनका निर्माण विश्वभर में अपेक्षाकृत कम कंपनियाँ करती हैं, जिनमें कई चीनी कंपनियाँ भी शामिल हैं।

- Finally, the contractor transporting the containers must also ensure they are delivered before the holding time expires, after which the helium will start boiling off into the atmosphere.

अंततः, इन कंटेनरों का परिवहन करने वाले ठेकेदार को यह भी सुनिश्चित करना होता है कि वे निर्धारित भंडारण अवधि समाप्त होने से पहले गंतव्य तक पहुँच जाएँ, क्योंकि उसके बाद हीलियम उबलकर वायुमंडल में निकलना प्रारंभ कर देगा।



Has OpenAI's GPT-5.6 class beaten Anthropic's Fable-class models?

Just over a week after Fable 5 came back online for all users, OpenAI unveiled its own next-generation family: GPT-5.6 Sol, Terra, and Luna; rather than a single flagship, OpenAI split the release into three capability tiers priced separately with Sol at the top and Luna at the bottom

CS III: S&T

John Xavier

Anthropic and OpenAI are locked in an increasingly tight race for frontier AI supremacy, and the gap between their flagship models are narrowing to a benchmark-by-benchmark contest.

Claude has led on real-world software-engineering tasks with Fable 5 scoring 80.3% on SWE-Bench Pro — a benchmark that evaluates an AI model's software engineering capabilities through complex, realistic programming challenges — at its June launch, well ahead of GPT-5.5's 58.6%. But OpenAI's newly released GPT-5.6 Sol claims the state-of-the-art spot on the Artificial Analysis Coding Agent Index at 80, narrowly ahead of Fable 5, while using less than half the tokens and time.

Since launching Mythos and giving a select group of companies in its Glasswing Alliance early access, Anthropic has positioned itself at the front of the frontier race. It followed up by releasing Fable 5, a version of Mythos with extra safeguards around biology, cybersecurity, and AI research, to a much broader set of users, cementing that lead.

That momentum hit a snag when a dispute with the U.S. government over export controls led Anthropic to be treated as a supply-chain risk, forcing it to suspend access to Fable 5 and Mythos 5 for 19 days — from June 12 to July 1, 2026 — before the Commerce Department lifted the relevant controls and access was restored.

Just over a week after Fable 5 came back online for all users, OpenAI unveiled its own next-generation family: GPT-5.6 Sol, Terra, and Luna. Rather than a single flagship, OpenAI split the release into three capability tiers priced separately

with Sol at the top and Luna at the bottom, arguing this lets each tier advance on its own tempo.

OpenAI has been vocal that Sol edges out Anthropic's flagship on several fronts. On Agents' Last Exam, an evaluation of long-running professional workflows across 55 fields, Sol scored 53.6, which OpenAI says is 13.1 points ahead of Fable 5. On the Artificial Analysis Coding Agent Index, Sol posted a new high of 80, about 2.8 points above Fable 5. It also claims new state-of-the-art marks on BrowseComp (92.2%) and OSWorld 2.0 (62.6%).

Picture isn't one-directional

But the picture isn't one-directional. Anthropic still holds a wide lead on SWE-Bench Pro, where Fable 5's 80.3% sits far above the 64.6% OpenAI reports for Sol — a roughly 15-point gap on one of the most closely watched agentic-coding benchmarks.

Independent observers have pointed out that Terminal-Bench and SWE-Bench Pro reward different kinds of work: terminal automation favours Sol's Codex-style harness, while whole-codebase issue resolution still favours Claude.

To understand why the two companies can each claim a win, it helps to think of the two tests as different kinds of job interviews for the same candidate.

SWE-Bench Pro is like handing someone a half-finished house that a previous contractor left behind, and asking them to find exactly what's wrong and fix only that, without touching anything else or causing a different room to leak.

It rewards a model that can read carefully, navigate something large and unfamiliar, and make a precise, contained

repair — the way a software engineer fixes a specific bug in a codebase they didn't build.

Terminal-Bench 2.1, on the other hand, is less about fixing one specific thing and more about general skilfulness around the whole house. One has to evaluate whether this person can set up the electricity, get the plumbing running, and recover if a step goes wrong midway.

It's a broader test of operating a computer's control panel that includes installing software, configuring servers, running multi-step jobs, and troubleshooting failures along the way.

A model can be a meticulous bug-fixer without being a great all-around operator, and vice versa. This is roughly why Fable 5 leads on the "fix this one thing precisely" test while GPT-5.6 Sol leads on the "handle this whole messy workflow" test.

There's a second wrinkle worth knowing as these scores aren't just testing the AI model itself but they're also testing the toolkit it's given to work with.

OpenAI has evaluated its models using its own in-house "Codex" toolkit, tuned to work well with how its models like to operate, a bit like letting the operator using their own tools versus renting them a standard set of equipment. A contractor will be adept at executing well with the tools he is used to, but may find it difficult to use a different toolkit.

In a normal scenario, this contractor will require some additional time to get used to the new tools before they start working. And even when they work with the new tools, it will take some time to gain tacit knowledge. If one were to factor this into GPT-5.6 Sol's capability, then its lead with Fable 5 will be narrower.

Apart from the GPT-5.6 family of models, the company also announced

ChatGPT Work, an agentic mode built on GPT-5.6 that can read emails, summarise texts, create presentations, and organise inchoate ideas into charts and dashboards through a new "Sites" feature, as well as run scheduled or recurring tasks

Competing strengths, different trade-offs

This product is a direct competitor to Claude Cowork, which can similarly complete multi-step, tool-using tasks for users, though the two differ in their plugin ecosystems and how deeply each is woven into its maker's coding tools — Codex for OpenAI, Claude Code for Anthropic.

So how do the two flagship frontier labs' models compare and contrast? Based on what the benchmark and eval scores show, both are capable and land close to each other overall. Each comes with a different speciality rather than one model being categorically ahead.

The place where OpenAI clearly shows distinction is in token efficiency. On the Artificial Analysis Coding Agent Index, Sol matches or exceeds Fable 5's score while using less than half the output tokens, taking less than half the time, and costing about one-third less. On the broader Artificial Analysis Intelligence Index, Sol comes within a single point of Fable 5 while finishing tasks in 61% less time at roughly half the cost.

For teams weighing cost per completed task rather than raw benchmark scores this efficiency gap may be a deciding factor than which model tops any individual leaderboard. Though, as with the Codex-versus-neutral-harness comparison above, it's worth checking whether that efficiency holds up outside OpenAI's own tuned environment before betting a production workflow on it.

13J7. Has OpenAI's GPT-5.6 class beaten Anthropic's Fable-class models? क्या OpenAI की GPT-5.6 श्रृंखला ने Anthropic के Fable-श्रेणी मॉडल्स को पीछे छोड़ दिया है?

- Just over a week after **Fable 5** came back online for all users, **OpenAI** unveiled its own next-generation family: **GPT-5.6 Sol, Terra, and Luna**. सभी उपयोगकर्ताओं के लिए **Fable 5** के पुनः उपलब्ध होने के केवल एक सप्ताह बाद, **OpenAI** ने अपनी अगली पीढ़ी की श्रृंखला **GPT-5.6 Sol, Terra, और Luna** प्रस्तुत की।
- Rather than a single **flagship**, **OpenAI** split the release into **three capability tiers** priced separately, with **Sol** at the top and **Luna** at the bottom. एकल फ्लैगशिप मॉडल प्रस्तुत करने के बजाय, **OpenAI** ने इसे अलग-अलग मूल्य वाली तीन क्षमता श्रेणियों में जारी किया, जिनमें **Sol** सर्वोच्च तथा **Luna** निम्नतम स्तर पर है।
- Anthropic** and **OpenAI** are locked in an increasingly tight race for **frontier AI supremacy**, and the gap between their **flagship models** is narrowing to a **benchmark-by-benchmark** contest. **Anthropic** और **OpenAI** अग्रणी कृत्रिम बुद्धिमत्ता (**Frontier AI**) में श्रेष्ठता प्राप्त करने की अत्यंत कड़ी प्रतिस्पर्धा में हैं, और उनके प्रमुख मॉडलों के बीच का अंतर अब बेंचमार्क-दर-बेंचमार्क प्रतिस्पर्धा तक सीमित होता जा रहा है।
- Claude** has led on real-world **software-engineering** tasks, with **Fable 5** scoring **80.3%** on **SWE-Bench Pro** — a benchmark that evaluates an **AI model's** software engineering capabilities through complex, realistic programming challenges — at its **June** launch, well ahead of **GPT-5.5's** **58.6%**.



Claude ने वास्तविक सॉफ्टवेयर इंजीनियरिंग कार्यों में बढ़त बनाए रखी है, जहाँ Fable 5 ने अपने जून लॉन्च के समय SWE-Bench Pro पर 80.3% अंक प्राप्त किए। SWE-Bench Pro एक ऐसा मानक है जो जटिल और यथार्थपरक प्रोग्रामिंग चुनौतियों के माध्यम से AI मॉडल की सॉफ्टवेयर इंजीनियरिंग क्षमता का मूल्यांकन करता है। यह GPT-5.5 के 58.6% से काफी आगे था।

- Just over a week after Fable 5 came back online for all users, OpenAI unveiled its own next-generation family: GPT-5.6 Sol, Terra, and Luna.
सभी उपयोगकर्ताओं के लिए Fable 5 के पुनः उपलब्ध होने के केवल एक सप्ताह बाद, OpenAI ने अपनी अगली पीढ़ी की श्रृंखला GPT-5.6 Sol, Terra, और Luna प्रस्तुत की।

PATRIOTIC IAS