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THE HINDU NEWSPAPER

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PCS Special:	16 July
16J7	Pat Oliphant, Pulitzer-winning political cartoonist, dies at 90 पुलित्जर पुरस्कार विजेता राजनीतिक कार्टूनिस्ट पैट ओलिफैंट का 90 वर्ष की आयु में निधन
16J7	France adopts landmark Bill on right to assisted-dying फ्रांस ने सहायता प्राप्त मृत्यु (Assisted-Dying) के अधिकार पर ऐतिहासिक विधेयक पारित किया

Pat Oliphant, Pulitzer-winning political cartoonist, dies at 90



AP

Pat Oliphant, an influential political cartoonist known for creating caricatures of U.S. and world leaders, died on Monday. He was 90. Oliphant died at his home from age-related issues, said his son, Grant Oliphant. During the 1980s, his political cartoons appeared in more than 500 publications in the country and around the world. AP

16J7. Pat Oliphant, Pulitzer-winning political cartoonist, dies at 90

पुलित्जर पुरस्कार विजेता राजनीतिक कार्टूनिस्ट पैट ओलिफैंट का 90 वर्ष की आयु में निधन

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पैट ओलिफैंट, जो अमेरिका और विश्व नेताओं के व्यंग्यचित्र (Caricatures) बनाने के लिए प्रसिद्ध और प्रभावशाली राजनीतिक



कार्टूनिस्ट थे, का सोमवार को निधन हो गया। उनकी आयु 90 वर्ष थी।

- Almost every Pat Oliphant cartoon contained a tiny penguin named "Punk."
- Punk usually stood in a corner and made a sarcastic one-line comment about the main cartoon.
- Pat Oliphant won the **Pulitzer Prize for Editorial Cartooning in 1967**, when he was only 32 years old.
- The Pulitzer Prize is often called the "Nobel Prize of Journalism."

France adopts landmark Bill on right to assisted-dying

PCS
Reuters
PARIS

French lawmakers on Wednesday adopted a Bill that will create a legal right to assisted dying for adults with incurable illnesses, capping an intense ethical and political debate.

The legislation will, under strict conditions, allow a person who requests it to receive a lethal substance. Access to assisted dying will be restricted to adults who are French citizens or legal residents in France, and who suffer from a serious and incurable illness that is life-threatening. The lower house of Parliament, in a final vote, adopted the text by 291 votes to 241.

16J7. France adopts landmark Bill on right to assisted-dying फ्रांस ने सहायता प्राप्त मृत्यु (Assisted-Dying) के अधिकार पर ऐतिहासिक विधेयक पारित किया

- **French lawmakers on Wednesday** adopted a **Bill** that will create a legal right to **assisted-dying** for adults with **incurable illnesses**, capping an intense **ethical** and **political** debate.

फ्रांस के सांसदों ने बुधवार को एक विधेयक पारित किया, जो असाध्य बीमारियों से पीड़ित वयस्कों को सहायता प्राप्त मृत्यु (Assisted-Dying) का कानूनी अधिकार प्रदान करेगा। इसके साथ ही लंबे समय से चल रही नैतिक और राजनीतिक बहस का एक महत्वपूर्ण चरण समाप्त हुआ।

- **The legislation will, under strict conditions**, allow a person who requests it to receive a **lethal substance**.

यह कानून कड़ी शर्तों के तहत अनुरोध करने वाले व्यक्ति को घातक पदार्थ (Lethal Substance) प्राप्त करने की अनुमति देगा।

- **Access to assisted-dying will be restricted to adults who are French citizens or legal residents in France**, and who suffer from a **serious and incurable illness that is life-threatening**.

सहायता प्राप्त मृत्यु की सुविधा केवल उन वयस्कों तक सीमित होगी जो फ्रांस के नागरिक या कानूनी निवासी हैं और गंभीर एवं असाध्य बीमारी से पीड़ित हैं, जो जीवन के लिए खतरा बन चुकी हो।

GS Paper 1: Geography

16 July 2026

TOPICS COVERED

- 16J7** Concerns rise in border districts over low storage in Mullaperiyar
मुल्लापेरियार में जल भंडारण कम होने से सीमावर्ती जिलों में चिंता बढ़ी

Concerns rise in border districts over low storage in Mullaperiyar

GS 1: Geography

Sandeep Vellaram
IDUKKI

The Mullaperiyar Dam recorded alarmingly low water storage in July, dropping to 112.9 ft on Wednesday compared to 131.4 ft on the same day last year. This 18.5-ft deficit has been severely affecting farming activities in the bordering districts of Tamil Nadu.

It may also soon pose a threat to tourism in the Periyar Tiger Reserve (PTR) in Thekkady, as well as drinking water distribution in the Kumily and Chakkupallom panchayats.

PTR Assistant Field Director R. Lakshmi stated that boating and other tourism activities in Thekkady are currently running smoothly. "If this situation continues and the water level drops further, tourism will face disruptions," Ms. Lakshmi said.

The low storage impacts not only Kerala but also the neighbouring districts in Tamil Nadu. Nearly 1.5 lakh acres of farmland rely on Mullaperiyar water, including 14,700 hectares in the Theni district alone. Due to the lack of water, these farmlands currently remain dry.

16J7. Concerns rise in border districts over low storage in Mullaperiyar

मुल्लापेरियार में जल भंडारण कम होने से सीमावर्ती जिलों में चिंता बढ़ी

- The **Mullaperiyar Dam** recorded alarmingly low **water storage** in **July**, dropping to **112.9 ft** on **Wednesday** compared to **131.4 ft** on the same day last year.

मुल्लापेरियार बाँध में जुलाई के दौरान जल भंडारण



चिंताजनक रूप से कम दर्ज किया गया, जो बुधवार को पिछले वर्ष के इसी दिन के 131.4 फीट की तुलना में घटकर 112.9 फीट रह गया।

- This 18.5-ft deficit has been severely affecting farming activities in the bordering districts of Tamil Nadu.

यह 18.5 फीट की कमी तमिलनाडु के सीमावर्ती जिलों में कृषि गतिविधियों को गंभीर रूप से प्रभावित कर रही है।

- It may also soon pose a threat to tourism in the Periyar Tiger Reserve (PTR) in Thekkady, as well as drinking water distribution in the Kumily and Chakkupallom panchayats.

यह स्थिति शीघ्र ही थेक्कडी स्थित पेरियार टाइगर रिजर्व (पीटीआर) में पर्यटन के साथ-साथ कुमिली और चक्कुपल्लोम पंचायतों में पेयजल वितरण के लिए भी खतरा उत्पन्न कर सकती है।

Periyar River

- The Periyar River is the longest river in Kerala, flowing for about 244 kilometres.
- It originates from the Sivagiri Hills of the Western Ghats in the Periyar Tiger Reserve at an elevation of approximately 1,830 metres above sea level.
- The river flows westward and finally empties into the Arabian Sea near Kochi.
- Major dams built across the river include the Mullaperiyar Dam, Idukki Dam, Cheruthoni Dam and Idamalayar Dam.
- The Idukki Hydroelectric Project, one of India's largest hydroelectric projects, depends on the Periyar River system.
- The river supports the ecologically rich Periyar Tiger Reserve, home to elephants, tigers, gaur, Nilgiri langurs.
- The Periyar is also at the centre of the long-standing Mullaperiyar Dam dispute between Kerala and Tamil Nadu.
- Kerala has raised concerns regarding the safety of the ageing dam, whereas Tamil Nadu relies on its waters for irrigation, drinking water and power generation.

GS Paper II: Governance		16 July 2026
TOPICS COVERED		
16J7	AI crash 'draft final report' will be ready by October: AAIB एयर इंडिया दुर्घटना की 'प्रारूप अंतिम रिपोर्ट' अक्टूबर तक तैयार होगी: एएआईबी	



GS II: Governance

AI crash 'draft final report' will be ready by October: AAIB

More than a year after an Air India Boeing 787 Dreamliner crashed in Ahmedabad on June 12, 2025, killing 229 passengers and 12 crew members on board, the Aircraft Accident Investigation Bureau has informed the Supreme Court that it expects to complete its investigation within six weeks, with a "draft final report" likely to be ready by October. It informed the court that the investigation team has interviewed several witnesses, including Air India and Boeing 787 pilots, crew members who had previously flown with the pilots of the accident aircraft, air traffic control personnel, and specialists in human factors and crew resource management.

16J7. AI crash 'draft final report' will be ready by October: AAIB

एयर इंडिया दुर्घटना की 'प्रारूप अंतिम रिपोर्ट' अक्टूबर तक तैयार होगी: एएआईबी

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12 जून 2025 को अहमदाबाद में एयर इंडिया बोइंग 787 ड्रीमलाइनर के दुर्घटनाग्रस्त होने, जिसमें विमान में सवार 229 यात्रियों तथा 12 चालक दल के सदस्यों की मृत्यु हो गई थी, के एक वर्ष से अधिक समय बाद विमान दुर्घटना अन्वेषण ब्यूरो (एएआईबी) ने उच्चतम न्यायालय को सूचित किया है कि वह अपनी जाँच अगले छह सप्ताह के भीतर पूरी करने की अपेक्षा करता है तथा "प्रारूप अंतिम रिपोर्ट" के अक्टूबर तक तैयार हो जाने की संभावना है।

Aircraft Accident Investigation Bureau (AAIB)

विमान दुर्घटना जांच ब्यूरो (AAIB)

- The Aircraft Accident Investigation Bureau (AAIB) is a division of the Ministry of Civil Aviation, Government of India which investigates aircraft accidents and incidents in India.
- विमान दुर्घटना जांच ब्यूरो (AAIB), भारत सरकार के नागरिक उड्डयन मंत्रालय का एक प्रभाग है, जो भारत में विमान दुर्घटनाओं और घटनाओं की जांच करता है।

- The head office is in Udaan Bhawan, an office building on the property of Safdarjung Airport in New Delhi.

- इसका मुख्यालय नई दिल्ली के सफदरजंग हवाई अड्डे की संपत्ति पर स्थित एक कार्यालय भवन उड़ान भवन में है।

- Previously the head office was elsewhere on the airport property.

- पहले मुख्यालय हवाई अड्डे की संपत्ति पर किसी अन्य स्थान पर था।

Statutory Backing

कानूनी आधार

- Earlier, the Directorate General of Civil Aviation (DGCA) conducted investigations and gave information to the investigations established by the Court of Inquiry and the Committee Inquiry.



• पहले, नागरिक उड्डयन महानिदेशालय (DGCA) जांच करता था और जांच न्यायालय तथा समिति जांच द्वारा स्थापित जांचों को जानकारी प्रदान करता था।

• A separate investigative agency was established to comply with the **Standards And Recommended Practices (SARPs)** of the **International Civil Aviation Organisation (ICAO)**.

• अंतर्राष्ट्रीय नागरिक उड्डयन संगठन (ICAO) के मानक और अनुशंसित प्रथाओं (SARPs) का पालन सुनिश्चित करने के लिए एक अलग जांच एजेंसी की स्थापना की गई।

• The agency was established by **Order No. AV-15029/002/2008-CG dated 26 May 2011**.

• यह एजेंसी आदेश संख्या AV-15029/002/2008-CG दिनांक 26 मई 2011 द्वारा स्थापित की गई थी।

• The **Aircraft (Investigation of Accidents and Incidents) Rules, 2012** came into effect on **5 July 2012**.

• विमान (दुर्घटनाओं और घटनाओं की जांच) नियम, 2012 5 जुलाई 2012 को प्रभाव में आए।

• It provides for setting up of an **Aircraft Accident Investigation Bureau**.

• यह विमान दुर्घटना जांच ब्यूरो की स्थापना का प्रावधान करता है।

GS Paper II: International Relations		16 July 2026
TOPICS COVERED		
16J7	The crisis at the heart of non-proliferation अप्रसार व्यवस्था के केंद्र में विद्यमान संकट	



The crisis at the heart of non-proliferation

GS II: IR

The present impasse over Iran's nuclear future lays bare the enduring hypocrisy at the heart of the global non-proliferation order. As talks in Doha stumble through disputes over frozen assets and verification mechanisms, Tehran is being pressed to accept full dismantlement of its enriched uranium stockpile in exchange for economic compensation for decades of sanctions, even as President Masoud Pezeshkian insists Iran will not relinquish its sovereign right to enrich uranium. The demand is unambiguous. Yet the five recognised weapons powers, and Israel, undeclared but widely known to possess the bomb, face no comparable ultimatum to disarm.

The current confrontation raises an unavoidable question: on what grounds should Iran relinquish a capability that nine nuclear states retain for themselves? The claim that Iran is uniquely dangerous, unstable, or aggressive is a conclusion in search of evidence, and cloaked in language by states whose own commitment to international law is selective at best.

Unequal rules

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) institutionalised a hierarchy rather than dismantling it. It divided the world into nuclear "haves" and "have-nots," and enjoined the latter to restraint while the former continue to modernise their nuclear arsenals.

Against this backdrop, the treatment of Iran is not an anomaly. India and Pakistan, both outside the NPT, possess substantial nuclear arsenals and are welcomed as strategic partners by the very powers that patrol the non-proliferation order. Israel, whose nuclear programme is an open secret, has never submitted to inspection and is never named in the discourse of proliferation risk. Iran, by contrast, pursued enrichment within a legal



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The Treaty on the Non-Proliferation of Nuclear Weapons institutionalised a hierarchy rather than dismantling it

framework, submitted to the most intrusive inspection regime in the history of arms control under the Joint Comprehensive Plan of Action (JCPOA), and was "rewarded" with unilateral American withdrawal, the reimposition of sanctions, and the renewed threat of military destruction. Iran complied and got punished anyway.

There is a deeper historical contradiction that the current discourse labours to suppress. The global nuclear order is, in a fundamental sense, anchored in an act of unparalleled destruction of Hiroshima and Nagasaki in August 1945. These remain the only instances in history of nuclear weapons being deployed in conflict. They established the catastrophic potential of such arms as well as the precedent that their use could be justified, and absorbed into the language of strategic necessity by the state that employed them. The U.S. survived this act morally, emerging successfully as the designated guardian of nuclear order.

This precedent complicates every subsequent moral claim. A state that has demonstrated the willingness to use nuclear weapons against civilian populations occupies a singular position when it seeks to regulate the ambitions of others. The authority it claims is derived from the fact of prior use, and from the geopolitical dominance that use helped to consolidate. Albert Einstein warned with characteristic precision that humanity must choose between abolishing war and facing annihilation. That choice stands only deferred, and most effectively by those with the largest arsenals.

The unravelling of the JCPOA remains one of the most instructive episodes in recent diplomatic history, precisely because it was so revealing. Negotiated painstakingly under the Barack Obama administration, the agreement represented a genuinely achieved instance of multilateral diplomacy. Its

abandonment by the Donald Trump administration in 2018 sent a message that resonated far beyond Tehran. For any state observing this trajectory, the conclusion inescapably underscores that future arms agreements with the U.S. carry no guarantee of American compliance. It must be kept in mind that if the Iran nuclear crisis deepens further, the JCPOA's destruction will stand as its proximate cause.

An enduring paradox

The question, in the end, is not whether Iran should or should not enrich uranium. It is whether the framework within which that question is posed is coherent, consistent, or just. By any honest reckoning, it is none of these things. Until that framework is confronted directly, and not obscured by the language of non-proliferation, the contradictions at the heart of the nuclear age will continue to compound. The answer to that question has been available since 1955, when Einstein and Bertrand Russell unambiguously asserted that nuclear weapons must be abolished altogether, by all states, without exception, or the logic of deterrence will produce the catastrophe it claims to prevent. Seven decades later, that conclusion remains as sound as ever.

We stand at a crossroads in a world that has grown accustomed to the gun on the table, until the day it goes off. Selective enforcement of non-proliferation, punishing Iran for compliance while rewarding others for defiance, and the indefinite deferral of the NPT's disarmament obligation do not constitute a rules-based order. They constitute a system that has chosen, knowingly, to tolerate the most destructive weapons in history rather than eliminate them. That choice carries a cost. The only question is whether we confront it through policy or through catastrophe.

16J7. . The crisis at the heart of non-proliferation

अप्रसार व्यवस्था के केंद्र में विद्यमान संकट

- Against this backdrop, the treatment of **Iran** is not an anomaly. इस पृष्ठभूमि में **ईरान** के साथ किया जा रहा व्यवहार कोई अपवाद नहीं है।
- India** and **Pakistan**, both outside the **NPT**, possess substantial **nuclear arsenals** and are welcomed as **strategic partners** by the very powers that patrol the **non-proliferation** order.



भारत और पाकिस्तान, जो दोनों एनपीटी से बाहर हैं, पर्याप्त परमाणु शस्त्रागार रखते हैं और उन्हें वही शक्तियाँ रणनीतिक साझेदार के रूप में स्वीकार करती हैं, जो अप्रसार व्यवस्था की निगरानी करती हैं।

- Iran, by contrast, pursued **enrichment** within a **legal framework**, submitted to the most **intrusive inspection regime** in the history of **arms control** under the **Joint Comprehensive Plan of Action (JCPOA)**, and was “**rewarded**” with unilateral **American withdrawal**, the reimposition of **sanctions**, and the renewed threat of **military destruction**.

इसके विपरीत, ईरान ने यूरेनियम संवर्धन को एक वैधानिक ढाँचे के भीतर आगे बढ़ाया, संयुक्त व्यापक कार्य योजना (JCPOA) के अंतर्गत शस्त्र नियंत्रण के इतिहास की सबसे व्यापक निरीक्षण व्यवस्था को स्वीकार किया, और इसके बदले उसे एकतरफा अमेरिकी वापसी, प्रतिबंधों की पुनर्स्थापना तथा सैन्य विनाश की नई धमकी का सामना करना पड़ा।

- **Albert Einstein** warned with characteristic precision that **humanity must choose between abolishing war and facing annihilation**.

अल्बर्ट आइंस्टीन ने स्पष्ट रूप से चेतावनी दी थी कि मानवता को युद्ध के उन्मूलन और पूर्ण विनाश के बीच एक विकल्प चुनना होगा।

An enduring paradox

एक स्थायी विरोधाभास

- The **question, in the end, is not whether Iran should or should not enrich uranium**.
अंततः प्रश्न यह नहीं है कि ईरान को यूरेनियम का संवर्धन करना चाहिए या नहीं।
- The answer to that question has been available since **1955**, when **Einstein and Bertrand Russell** unambiguously asserted that **nuclear weapons** must be abolished altogether, by all states, without exception, or the logic of **deterrence** will produce the catastrophe it claims to prevent.

इस प्रश्न का उत्तर 1955 से उपलब्ध है, जब आइंस्टीन और बर्ट्रैंड रसेल ने स्पष्ट रूप से कहा था कि सभी देशों द्वारा बिना किसी अपवाद के परमाणु हथियारों का पूर्ण उन्मूलन किया जाना चाहिए, अन्यथा निरोध (Deterrence) का सिद्धांत उसी विनाश को जन्म देगा जिसे रोकने का वह दावा करता है।

GS Paper III: Economy		16 July 2026
TOPICS COVERED		
16J7	Cabinet okays Semicon 2.0, mobile, urea manufacturing schemes, highways कैबिनेट ने सेमिकॉन 2.0, मोबाइल, यूरिया विनिर्माण योजनाओं और राजमार्ग परियोजनाओं को मंजूरी दी	
16J7	India-U.K. FTA a boost for farmers and small, medium firms, says PM भारत-यू.के. मुक्त व्यापार समझौता किसानों और लघु, मध्यम उद्यमों के लिए बड़ा प्रोत्साहन: प्रधानमंत्री	
16J7	SEBI bans board from new stock, related instruments सेबी ने बोर्ड सदस्यों के नए शेयरों और संबंधित निवेश साधनों में निवेश पर रोक लगाई	
16J7	India-U.K. social security pact is not retrospective भारत-यू.के. सामाजिक सुरक्षा समझौता पूर्वव्यापी (Retrospective) नहीं है	



Cabinet okays Semicon 2.0, mobile, urea manufacturing schemes, highways

Projects cleared by the CCEA include two major highway projects worth ₹25,400 crore to ease congestion in Varanasi; 9 new gas-based urea plants with a production capacity of 10 MT; ₹1.27 lakh crore for the second edition of India Semiconductor Mission; and ₹62,500 crore for MPMS

GS III: Economy

The Hindu Bureau
NEW DELHI

The Cabinet Committee on Economic Affairs (CCEA), chaired by Prime Minister Narendra Modi, has cleared several projects, including ₹1.27 lakh crore for the second edition of India Semiconductor Mission and ₹62,500 crore for the mobile phone manufacturing scheme (MPMS) as part of efforts to localise manufacturing amid global geopolitical uncertainties.

The Cabinet also accorded approval to two major highway projects worth ₹25,400 crore to ease congestion in Varanasi and as many as nine new gas-based urea plants nationwide with a production capacity of 10 million tonnes.

Semicon Mission 2.0

The Cabinet has accorded approval for the ₹1.27 lakh crore for the second edition of India Semiconductor Mission through which the government expects to attract investments of around ₹4 lakh crore and lead to semiconductor production of ₹2 lakh crore during the scheme period.

The new edition of the semiconductor programme – which has provisions to incentivise even suppliers of raw material in the chip manufacturing industry, including minerals and gases – has come at an appropriate time when the

world is reeling under a memory chip shortage, and companies are working on plans to enhance production capacity. It also expects to attract investment from other chip segments to meet chip requirements for artificial intelligence devices.

Highlighting that “Semicon 2.0 will have six pillars. The first pillar will be the design of chips”; Information and Broadcasting (I&B) Minister Ashwini Vaishnaw said the programme will focus on design, development and production of indigenous chips. “We will be self-reliant in the production of indigenous chips by the end of this programme,” the minister said.

The government had allocated ₹76,000 crore for the first edition, under which it had approved 12 projects with cumulative investments of around ₹1.64 lakh crore.

The majority of the investment in the sector has come from technology firm Tata Electronics and its semiconductor arm.

Mobile manufacturing

The Cabinet also approved an outlay of ₹62,500 crore for the MPMS, aimed at building Indian brands to achieve technological sovereignty and scale up local mobile production to capture the significant economic value, and create Indian patents in design and

Big ticket

The Cabinet Committee on Economic Affairs chaired by PM Modi, cleared several projects across sectors

New National Investment Policy for Urea (NIPU-2026) to set up **8-9 new gas-based plants** with a production capacity of 10 MT to make the country self-reliant

₹1.27 lakh crore for Semicon 2.0 through which **₹4 lakh crore** investments, production worth **₹2 lakh crore** are expected

₹62,500 crore for mobile phone manufacturing scheme, aimed at building Indian brands, scaling up local production

NHAI project under Hybrid Annuity Model to include a **43.218-km** corridor linking NH-31 with Varanasi Ring Road for **₹10,998.32 crore**; a **46.039-km** corridor connecting NH-19 with the ring road at **₹14,447.64 crore**

₹1.27 lakh crore for Semicon 2.0 through which **₹4 lakh crore** investments, production worth **₹2 lakh crore** are expected

₹62,500 crore for mobile phone manufacturing scheme, aimed at building Indian brands, scaling up local production

research and development.

“The scheme provides incentive support on eligible sales for manufacturing of mobile phones in India at differentiated rates ranging from 2.25% to 5%. Scheme also provides additional incentive of up to 1.5% linked to domestic sourcing of key components/sub-assemblies. For building Indian brands, an additional incentive at 3% on eligible sales for design and R&D of the product,” an official release said.

During the scheme tenure, the cumulative mobile phone production in the country is expected to reach about ₹39 lakh crore with significant increase in exports of mobile phones. The scheme is also expected to generate around 60,000 direct jobs thereby

contributing to economic growth, the release added.

Highways

The highway projects, to be implemented by the National Highways Authority of India (NHAI) under the Hybrid Annuity Model (HAM), include a 43.218 kilometre (km) corridor linking NH-31 with the Varanasi Ring Road along Varuna River at a total capital cost of ₹10,998.32 crore and a 46.039 km corridor connecting NH-19 with the ring road along the Ganga River at a cost of ₹14,447.64 crore. The NH-19 project will feature a six-lane elevated carriageway, a cable-stayed bridge, an extra-dosed foot over bridge-cum-major bridge, loops, ramps, link roads and service roads. The NH-31 corridor will comprise a pre-

dominantly elevated four and six lane carriageway with flyovers, loops, ramps and service roads.

Designed for operating speeds of 80-100 kmph, the projects are expected to significantly reduce travel times across the city. The NH-19 corridor will cut travel time between NH-19 and Kashi Railway Station from around 50 minutes to 25 minutes, while the NH-31 project will halve the journey between NH-31 and Kashi Railway Station from 40 minutes to 20 minutes. The government said the corridors are part of the Varanasi Decongestion Plan and aligned with the PM Gati Shakti National Master Plan.

Urea demand

The Cabinet also approved the National Investment Policy for Urea (NIPU 2026) to set up “eight-nine” new gas-based plants with a production capacity of 10 million tons to make the country self-reliant in the most widely consumed fertiliser. The new investment framework, which assumes significance as it will encourage new investments in the sector, is an extension of the 2012 New Investment Policy (NIP) with revisions.

Mr. Vaishnaw said the urea demand is rising 5% annually and the policy approved aims to create additional urea capacity of 10 million tonnes.

Key changes compared with NIP 2012 include the separation of fixed and variable costs for greater transparency, the introduction of a viable return on equity (RoE) band with a floor at 12% and a ceiling at 16%, and mitigation of foreign exchange risk through conversion of fixed costs into the rupee after four years based on prevailing exchange rates.

“These measures are estimated to result in savings of over ₹250 crore for each plant established under NIPU-2026 compared with NIP-2012,” the Fertilizers Ministry said.

The minister said the country imports 10 million tons of urea to meet the domestic shortages. The annual domestic production is around 30 million tons against the requirement of 40 million tons.

The objective of the new policy is to become self-reliant in urea amid a rise in demand due to a change in cropping patterns, increased sowing area and record production.

“The incentive under the policy will be the same for private, government and cooperative projects,” Vaishnaw said.

Under the 2012 NIP, which expired in October 2019, six new urea units were set up, including four through joint venture firms of nominated public sector undertaking, and two units by private companies.

16J7. Cabinet okays Semicon 2.0, mobile, urea manufacturing schemes, highways

कैबिनेट ने सेमिकॉन 2.0, मोबाइल, यूरिया विनिर्माण योजनाओं और राजमार्ग परियोजनाओं को मंजूरी दी

- Projects cleared by the CCEA include **two major highway projects worth ₹25,400 crore** to ease congestion in **Varanasi**, **9 new gas-based urea plants** with a production capacity of **10 MT**, **₹1.27 lakh crore** for the second edition of **India Semiconductor Mission**, and **₹62,500 crore** for **MPMS**.

सीसीईए (CCEA) द्वारा स्वीकृत परियोजनाओं में वाराणसी में यातायात जाम कम करने के लिए ₹25,400

करोड़ की दो प्रमुख राजमार्ग परियोजनाएँ, 10 मिलियन टन उत्पादन क्षमता वाले 9 नए गैस आधारित यूरिया

संयंत्र, इंडिया सेमीकंडक्टर मिशन के दूसरे संस्करण के लिए ₹1.27 लाख करोड़ तथा MPMS के लिए ₹62,500 करोड़ शामिल हैं।

- The Cabinet Committee on Economic Affairs (CCEA), chaired by Prime Minister Narendra Modi, has cleared several projects, including ₹1.27 lakh crore for the second edition of India Semiconductor Mission and ₹62,500 crore for the Mobile Phone Manufacturing Scheme (MPMS) as part of efforts to localise manufacturing amid global geopolitical uncertainties.

प्रधानमंत्री नरेंद्र मोदी की अध्यक्षता वाली आर्थिक मामलों की मंत्रिमंडलीय समिति (CCEA) ने कई परियोजनाओं को मंजूरी दी है, जिनमें इंडिया सेमीकंडक्टर मिशन के दूसरे संस्करण के लिए ₹1.27 लाख करोड़ तथा मोबाइल फोन विनिर्माण योजना (MPMS) के लिए ₹62,500 करोड़ शामिल हैं। इनका उद्देश्य वैश्विक भू-राजनीतिक अनिश्चितताओं के बीच विनिर्माण का स्थानीयकरण करना है।

- The Cabinet also accorded approval to two major highway projects worth ₹25,400 crore to ease congestion in Varanasi and as many as nine new gas-based urea plants nationwide with a production capacity of 10 million tonnes.

कैबिनेट ने वाराणसी में यातायात जाम कम करने के लिए ₹25,400 करोड़ की दो प्रमुख राजमार्ग परियोजनाओं तथा देशभर में 10 मिलियन टन उत्पादन क्षमता वाले 9 नए गैस आधारित यूरिया संयंत्रों को भी मंजूरी दी।

Semicon Mission 2.0 सेमिकॉन मिशन 2.0

- The Cabinet has accorded approval for ₹1.27 lakh crore for the second edition of India Semiconductor Mission through which the government expects to attract investments of around ₹4 lakh crore and lead to semiconductor production of ₹2 lakh crore during the scheme period.

कैबिनेट ने इंडिया सेमीकंडक्टर मिशन के दूसरे संस्करण के लिए ₹1.27 लाख करोड़ की मंजूरी दी है, जिसके माध्यम से सरकार लगभग ₹4 लाख करोड़ के निवेश आकर्षित करने तथा योजना अवधि में ₹2 लाख करोड़ के सेमीकंडक्टर उत्पादन का लक्ष्य रखती है।

- The new edition of the semiconductor programme — which has provisions to incentivise even suppliers of raw material in the chip manufacturing industry, including minerals and gases — has come at an appropriate time when the world is reeling under a memory chip shortage, and companies are working on plans to enhance production capacity.

सेमीकंडक्टर कार्यक्रम के नए संस्करण में चिप निर्माण उद्योग के कच्चे माल, जैसे खनिज और गैसों के आपूर्तिकर्ताओं को भी प्रोत्साहन देने का प्रावधान है। यह ऐसे समय में आया है जब दुनिया मेमोरी चिप की कमी का सामना कर रही है और कंपनियाँ उत्पादन क्षमता बढ़ाने की योजनाओं पर काम कर रही हैं।

- It also expects to attract investment from other chip segments to meet chip requirements for artificial intelligence devices.

इससे कृत्रिम बुद्धिमत्ता (Artificial Intelligence) आधारित उपकरणों की चिप आवश्यकताओं को पूरा करने के लिए अन्य चिप क्षेत्रों से भी निवेश आने की उम्मीद है।

- Highlighting that "Semicon 2.0 will have six pillars. The first pillar will be the design of chips"; Information and Broadcasting Minister Ashwini Vaishnaw said the programme will focus on design, development and production of indigenous chips.

यह बताते हुए कि "सेमिकॉन 2.0 के छह स्तंभ होंगे और पहला स्तंभ चिप डिज़ाइन होगा", सूचना एवं प्रसारण मंत्री अश्विनी वैष्णव ने कहा कि यह कार्यक्रम स्वदेशी चिपों के डिज़ाइन, विकास और उत्पादन पर केंद्रित होगा।

- "We will be self-reliant in the production of indigenous chips by the end of this programme," the minister said.

मंत्री ने कहा, "इस कार्यक्रम के अंत तक हम स्वदेशी चिपों के उत्पादन में आत्मनिर्भर हो जाएंगे।"

- The highway projects, to be implemented by the National Highways Authority of India (NHAI) under the Hybrid Annuity Model (HAM), include a 43.218 kilometre corridor linking



NH-31 with the Varanasi Ring Road along the Varuna River at a total capital cost of ₹10,998.32 crore.

राष्ट्रीय राजमार्ग प्राधिकरण (NHAI) द्वारा हाइब्रिड एन्युटी मॉडल (HAM) के तहत लागू की जाने वाली इन राजमार्ग परियोजनाओं में वरुणा नदी के किनारे NH-31 को वाराणसी रिंग रोड से जोड़ने वाला 43.218 किलोमीटर लंबा कॉरिडोर शामिल है, जिसकी कुल पूंजीगत लागत ₹10,998.32 करोड़ होगी।

- The projects also include a 46.039 km corridor connecting NH-19 with the ring road along the Ganga River at a cost of ₹14,447.64 crore.
इन परियोजनाओं में गंगा नदी के किनारे NH-19 को रिंग रोड से जोड़ने वाला 46.039 किलोमीटर लंबा कॉरिडोर भी शामिल है, जिसकी लागत ₹14,447.64 करोड़ होगी।

Urea demand यूरिया की मांग

- The Cabinet also approved the **National Investment Policy for Urea (NIPU 2026)** to set up "eight-nine" new gas-based plants with a production capacity of 10 million tons to make the country self-reliant in the most widely consumed fertiliser.
कैबिनेट ने सबसे अधिक उपयोग किए जाने वाले उर्वरक में देश को आत्मनिर्भर बनाने के लिए 10 मिलियन टन उत्पादन क्षमता वाले "आठ-नौ" नए गैस आधारित संयंत्रों की स्थापना हेतु यूरिया के लिए राष्ट्रीय निवेश नीति (NIPU 2026) को भी मंजूरी दी।
- The new investment framework, which assumes significance as it will encourage new investments in the sector, is an extension of the **2012 New Investment Policy (NIP)** with revisions.
यह नया निवेश ढांचा, जो इस क्षेत्र में नए निवेश को प्रोत्साहित करेगा, संशोधनों के साथ 2012 की नई निवेश नीति (NIP) का विस्तारित रूप है।
- "These measures are estimated to result in savings of over ₹250 crore for each plant established under NIPU-2026 compared with NIP-2012," the Fertilizers Ministry said.
उर्वरक मंत्रालय ने कहा, "इन उपायों से NIP-2012 की तुलना में NIPU-2026 के तहत स्थापित प्रत्येक संयंत्र में ₹250 करोड़ से अधिक की बचत होने का अनुमान है।"

India-U.K. FTA a boost for farmers and small, medium firms, says PM

GS III: Economy

The Hindu Bureau
NEW DELHI/MUMBAI

PM Narendra Modi said the India-U.K. Comprehensive Economic and Trade Agreement (CETA), taking effect Wednesday, will boost Indian farmers' incomes, entrepreneurs and micro, small and medium enterprises (MSMEs).

"The CETA will give fresh momentum to farmers, entrepreneurs and MSMEs," he posted on X.

"Several vibrant sectors will gain stronger access to U.K. market. It will deepen cooperation in technology, professional services and innovation, while supporting greater mobility for skilled Indian talent."

He said the Double Contribution Convention will



Narendra Modi

provide "invaluable support to Indian professionals" working temporarily in the U.K. and boost 'our firms' competitiveness.'

"All the U.K. cities are looking at India with great excitement," Harjinder Kang, the U.K.'s Trade Commissioner for South Asia and British Deputy High Commissioner for Western India and one of

the lead negotiators of the trade pact, said, adding the bilateral trade between the two countries stood at £45 billion in 2024 and rose to £48 billion in 2026 even in the absence of a deal.

Commerce Minister Piyush Goyal said, "It [the deal] opens new frontiers for IT, professional, financial, education and business services sectors while expanding mobility for Indian talent."

Meanwhile, Maharashtra CM symbolically flagged off the first consignment of goods from India to the U.K. under CETA.

Rajeev Singh, DG, Indian Chamber of Commerce said, "Securing duty-free access for 99% of exports is no small achievement. Textiles

stand out in particular. Our exporters in Tiruppur and Surat have long operated at a duty disadvantage against Bangladesh and Cambodia in the U.K. and that gap now closes, giving an entire manufacturing ecosystem room to grow."

Services also to gain
Chandrajit Banerjee, DG, Confederation of Indian Industry (CII), said, "Enhanced market access across IT, financial, professional, education and healthcare services with improved mobility provisions and Double Contribution Convention, will boost global competitiveness of Indian firms and professionals in the U.K."

(With inputs from Vinaya Deshpande)

16J7. India-U.K. FTA a boost for farmers and small, medium firms, says PM

भारत-यू.के. मुक्त व्यापार समझौता किसानों और लघु, मध्यम उद्यमों के लिए बड़ा प्रोत्साहन: प्रधानमंत्री

• Prime Minister Narendra Modi said the India-U.K. Comprehensive Economic and Trade Agreement (CETA),

taking effect **Wednesday**, will boost **Indian farmers' incomes**, entrepreneurs and micro, small and medium enterprises (MSMEs).

प्रधानमंत्री नरेंद्र मोदी ने कहा कि भारत-यू.के. व्यापक आर्थिक एवं व्यापार समझौता (CETA), जो बुधवार से प्रभावी हुआ, भारतीय किसानों की आय, उद्यमियों तथा सूक्ष्म, लघु और मध्यम उद्यमों (MSMEs) को बढ़ावा देगा।

- "The **CETA** will give fresh momentum to **farmers, entrepreneurs and MSMEs**," he posted on X.
उन्होंने X पर लिखा, "CETA किसानों, उद्यमियों और MSMEs को नई गति प्रदान करेगा।"
- "Several vibrant sectors will gain stronger access to **U.K. market**.
"कई उभरते हुए क्षेत्रों को यू.के. के बाजार तक बेहतर पहुँच मिलेगी।"
- It will deepen cooperation in **technology, professional services and innovation**, while supporting greater **mobility for skilled Indian talent**.
यह प्रौद्योगिकी, पेशेवर सेवाओं और नवाचार में सहयोग को और गहरा करेगा तथा कुशल भारतीय प्रतिभाओं की अधिक आवागमन (Mobility) को भी समर्थन देगा।"
- He said the **Double Contribution Convention** will provide "invaluable support to **Indian professionals**" working temporarily in the **U.K.** and boost "our firms' competitiveness."
उन्होंने कहा कि डबल कंट्रीब्यूशन कन्वेंशन यू.के. में अस्थायी रूप से कार्यरत भारतीय पेशेवरों को "अमूल्य समर्थन" देगा और हमारी कंपनियों की प्रतिस्पर्धात्मकता बढ़ाएगा।
- "All the **U.K. cities** are looking at **India** with great excitement," **Harjinder Kang**, the **U.K.'s Trade Commissioner for South Asia** and **British Deputy High Commissioner for Western India** and one of the lead negotiators of the trade pact, said.
यू.के. के दक्षिण एशिया के व्यापार आयुक्त तथा पश्चिम भारत के ब्रिटिश उप उच्चायुक्त और व्यापार समझौते के प्रमुख वार्ताकारों में से एक हरजिंदर कांग ने कहा, "यू.के. के सभी शहर भारत को बड़े उत्साह के साथ देख रहे हैं।"
- He added the **bilateral trade** between the two countries stood at **£45 billion** in **2024** and rose to **£48 billion** in **2026** even in the absence of a deal.
उन्होंने कहा कि दोनों देशों के बीच द्विपक्षीय व्यापार 2024 में 45 अरब पाउंड था, जो किसी समझौते के बिना भी 2026 में बढ़कर 48 अरब पाउंड हो गया।
- **Commerce Minister Piyush Goyal** said, "It [the deal] opens new frontiers for **IT, professional, financial, education and business services sectors** while expanding **mobility for Indian talent**."
वाणिज्य मंत्री पीयूष गोयल ने कहा, "यह समझौता आईटी, पेशेवर, वित्तीय, शिक्षा और व्यावसायिक सेवा क्षेत्रों के लिए नए अवसर खोलता है तथा भारतीय प्रतिभाओं की आवागमन (Mobility) का विस्तार करता है।"
- Meanwhile, **Maharashtra Chief Minister** symbolically **flagged off** the first consignment of goods from **India** to the **U.K.** under **CETA**.
इस बीच, महाराष्ट्र के मुख्यमंत्री ने CETA के तहत भारत से यू.के. जाने वाले सामान की पहली खेप को प्रतीकात्मक रूप से रवाना किया।
- **Rajeev Singh**, **Director General, Indian Chamber of Commerce**, said, "Securing **duty-free access for 99% of exports** is no small achievement."
इंडियन चैंबर ऑफ कॉमर्स के महानिदेशक राजीव सिंह ने कहा, "99% निर्यात के लिए शुल्क-मुक्त पहुँच सुनिश्चित करना कोई छोटी उपलब्धि नहीं है।"
- **Textiles** stand out in particular.
विशेष रूप से कपड़ा उद्योग को इसका बड़ा लाभ मिलेगा।
- Our exporters in **Tiruppur** and **Surat** have long operated at a **duty disadvantage** against **Bangladesh** and **Cambodia** in the **U.K.** and that gap now closes, giving an entire manufacturing ecosystem room to grow."
तिरुपुर और सूरत के हमारे निर्यातक लंबे समय से यू.के. में बांग्लादेश और कंबोडिया की तुलना में शुल्क संबंधी



नुकसान का सामना कर रहे थे, लेकिन अब यह अंतर समाप्त हो जाएगा, जिससे पूरे विनिर्माण तंत्र को आगे बढ़ने का अवसर मिलेगा।"

**Services also to gain
सेवा क्षेत्र को भी मिलेगा लाभ**

- Chandrajit Banerjee, Director General, Confederation of Indian Industry (CII), said, "Enhanced market access across IT, financial, professional, education and healthcare services with improved mobility provisions and Double Contribution Convention, will boost global competitiveness of Indian firms and professionals in the U.K."
भारतीय उद्योग परिसंघ (CII) के महानिदेशक चंद्रजीत बनर्जी ने कहा, "आईटी, वित्तीय, पेशेवर, शिक्षा और स्वास्थ्य सेवाओं में बेहतर बाज़ार पहुँच, उन्नत मोबिलिटी प्रावधानों तथा डबल कंट्रीब्यूशन कन्वेंशन के साथ यू.के. में भारतीय कंपनियों और पेशेवरों की वैश्विक प्रतिस्पर्धात्मकता को बढ़ावा मिलेगा।"

India-U.K. social security pact is not retrospective

16J7. India-U.K. social security pact is not retrospective

भारत-यू.के. सामाजिक सुरक्षा समझौता पूर्वव्यापी (Retrospective) नहीं है

GS III: Economy
Sriram Lakshman
LONDON

The India-U.K. Double Contributions Convention (DCC), allowing temporary Indian and British workers an exemption from paying social security contributions in their host countries for 60 months, is not retrospective, i.e., it will not apply to Indians already working in the U.K. and Britons working in India before July 15.

The DCC came into effect on Wednesday alongside the India-U.K. Comprehensive Economic and Trade Agreement (CETA). Normally, temporary foreign workers – called “detached workers” in the U.K. – are exempt from U.K. social security contributions known as National Insurance (NI) for the first 12 months. The India-U.K. DCC has increased this exemption from 12 to 60 months for detached workers.

Double Contributions Convention applies only to employees arriving in U.K. on or after Wednesday

However, guidance issued by the U.K. clarifies that individuals already working in the U.K. immediately before Wednesday are not considered “detached workers” under the DCC and are hence subject to U.K. law on social security contributions.

National Insurance contributions

tribution is paid by both the employee and employer, normally. The employee could pay up to 8% of gross salary generally and the employer up to 15% of gross salary as NI contributions.

The DCC applies only to employees arriving in the U.K. on or after Wednesday and who are not expected to remain in the U.K. for more than 60 months.

His Majesty's Revenue and Customs (HMRC) adds that in these cases those seeking an exemption should get a “certificate of coverage” from India's Employees' Provident Fund Organisation (EPFO) as evidence that they are making social security contributions in India and are exempt from U.K. NIC.

- The India-U.K. Double Contributions Convention (DCC), allowing temporary Indian and British workers an exemption from paying social security contributions in their host countries for 60 months, is not retrospective, i.e., it will not apply to Indians already working in the U.K. and Britons working in India before July 15.

भारत-यू.के. डबल कंट्रीब्यूशन कन्वेंशन (DCC), जो अस्थायी भारतीय और ब्रिटिश कर्मचारियों को मेजबान देश में 60 महीनों तक सामाजिक सुरक्षा अंशदान से छूट देता है, पूर्वव्यापी (Retrospective) नहीं है। अर्थात यह 15 जुलाई से पहले

यू.के. में कार्यरत भारतीयों और भारत में कार्यरत ब्रिटिश नागरिकों पर लागू नहीं होगा।

- The DCC came into effect on Wednesday alongside the India-U.K. Comprehensive Economic and Trade Agreement (CETA).
DCC बुधवार से भारत-यू.के. व्यापक आर्थिक एवं व्यापार समझौते (CETA) के साथ लागू हुआ।
- Normally, temporary foreign workers — called “detached workers” in the U.K. — are exempt from U.K. social security contributions known as National Insurance (NI) for the first 12 months.
सामान्यतः अस्थायी विदेशी कर्मचारी, जिन्हें यू.के. में “डिटैचड वर्कर्स” कहा जाता है, पहले 12 महीनों तक यू.के. के नेशनल इंश्योरेंस (NI) नामक सामाजिक सुरक्षा अंशदान से मुक्त रहते हैं।

- The India-U.K. DCC has increased this exemption from **12 to 60 months** for **detached workers**.
भारत-यू.के. DCC ने डिटेचड वर्कर्स के लिए इस छूट की अवधि **12 महीने से बढ़ाकर 60 महीने** कर दी है।
- However, guidance issued by the **U.K.** clarifies that individuals already working in the **U.K.** immediately before **Wednesday** are not considered "**detached workers**" under the **DCC** and are hence subject to **U.K. law on social security contributions**.
हालाँकि, यू.के. द्वारा जारी दिशा-निर्देशों में स्पष्ट किया गया है कि बुधवार से ठीक पहले यू.के. में पहले से कार्यरत व्यक्ति DCC के अंतर्गत "**डिटेचड वर्कर्स**" नहीं माने जाएंगे और इसलिए उन पर यू.के. के सामाजिक सुरक्षा अंशदान संबंधी कानून लागू होंगे।
- National Insurance contribution** is paid by both the **employee** and **employer**, normally. सामान्यतः **नेशनल इश्योरेंस अंशदान** का भुगतान **कर्मचारी और नियोक्ता** दोनों द्वारा किया जाता है।
- The **employee** could pay up to **8% of gross salary** generally and the **employer** up to **15% of gross salary** as **NI contributions**.
सामान्यतः **कर्मचारी** अपनी **सकल वेतन (Gross Salary)** का **8% तक** तथा **नियोक्ता 15% तक नेशनल इश्योरेंस (NI) अंशदान** के रूप में भुगतान कर सकता है।
- The **DCC** applies only to **employees** arriving in the **U.K.** on or after **Wednesday** and who are not expected to remain in the **U.K.** for more than **60 months**.
DCC केवल उन **कर्मचारियों** पर लागू होगा जो **बुधवार** या उसके बाद यू.के. पहुँचेंगे और जिनके **60 महीनों** से अधिक समय तक यू.के. में रहने की संभावना नहीं है।
- His Majesty's Revenue and Customs (HMRC)** adds that in these cases those seeking an exemption should get a "**certificate of coverage**" from **India's Employees' Provident Fund Organisation (EPFO)** as evidence that they are making **social security contributions** in **India** and are exempt from **U.K. NIC**.
हिज़ मैजैस्टीज़ रेवेन्यू एंड कस्टम्स (HMRC) ने कहा है कि ऐसे मामलों में छूट चाहने वाले व्यक्तियों को भारत के कर्मचारी भविष्य निधि संगठन (EPFO) से "**सर्टिफिकेट ऑफ कवरेज**" प्राप्त करना होगा, जो इस बात का प्रमाण होगा कि वे भारत में सामाजिक सुरक्षा अंशदान कर रहे हैं और उन्हें यू.के. नेशनल इश्योरेंस कंट्रीब्यूशन (NIC) से छूट प्राप्त है।

GS Paper III: Science and Technology		16 July 2026
TOPICS COVERED		
16J7	Leak of Kudankulam nuclear plant data sparks 'commotion'	कुडनकुलम परमाणु संयंत्र के डेटा लीक से 'हलचल' मच गई
16J7	Sun Pharma gets nod for generic semaglutide injection	सन फार्मा को जेनेरिक सेमाग्लूटाइड इंजेक्शन के लिए मंजूरी मिली
16J7	Global bids invited under PLI for 10 GWh ACC batteries	PLI के तहत 10 GWh ACC बैटरियों के लिए वैश्विक बोलियाँ आमंत्रित
16J7	Semaglutide: inflection point for Indian generics?	सेमाग्लूटाइड: क्या यह भारतीय जेनेरिक दवा उद्योग के लिए निर्णायक मोड़ है?
16J7	Brought in for civilian use, Starlink is now integral to Ukraine's war effort	नागरिक उपयोग के लिए लाया गया स्टारलिंग अब यूक्रेन के युद्ध प्रयास का अभिन्न हिस्सा बन चुका है



Leak of Kudankulam nuclear plant data sparks 'commotion'

GS III: S&T

P. Sudhakar
TIRUNELVELI

The leak of highly sensitive files of Kudankulam Nuclear Power Plant (KKNPP), reportedly accessed by a ransomware group from a contractor's server, has triggered "absolute commotion" in the plant, KKNPP sources said on Wednesday.

After commissioning two 1,000 Mwe VVER reactors, KKNPP is building four more such units with Russian collaboration.

Sources said the top brass of the upcoming nuclear park is "completely clueless" about the development that poses security threat as it may let an adversary map the support system and identify vulnerabilities.

According to Reuters, more than 19,000 files dating between 2016 and mid-2025, and linked to KKNPP's engineering blueprints on control, cooling and ventilation systems, list of vendors and suppliers, etc. had been accessed by World Leaks.

Nuclear Power Corporation of India Limited said the information claimed to be available in public domain pertains to "conventional balance of plant common service facilities" and does not relate to any nuclear safety or nuclear

security-related systems.

The leak originated from a server hosted by third party provider Yotta. The plant's contractor, Anil Ambani's Reliance Group, has admitted that a "partial breach" had happened and the government had been informed.

"Suspicious activity on Yotta's server was noted on May 29 last and it was reported in June-end. Investigations by Nuclear Power Corporation of India Limited (NPCIL), the project proponent, and Computer Emergency Response Team are on," the sources said.

When the KKNPP encountered a similar incident in 2019, wherein a North Korean malware infection on its administrative network exposed the plant's vulnerability, NPCIL had dismissed it saying their "unbreachable standalone network" was intact and no data could be accessed by any dark web.

Neither KKNPP's site director Ashok Bhatiya nor V.P. Sunil, Station Director (1 and 2), could be reached for their comments on this sensitive issue.

Senior manager of human resources and public relations Kannan, who usually keeps in touch with the media for occasional press statements, also did not pick up repeated calls.

16J7. Leak of Kudankulam nuclear plant data sparks 'commotion'

कुडनकुलम परमाणु संयंत्र के डेटा लीक से 'हलचल' मच गई

The leak of highly sensitive files of Kudankulam Nuclear Power Plant (KKNPP), reportedly accessed by a ransomware group from a contractor's server, has triggered "absolute commotion" in the plant, KKNPP sources said on Wednesday.

कुडनकुलम परमाणु ऊर्जा संयंत्र (केकेएनपीपी) की अत्यंत संवेदनशील फ़ाइलों के एक रैनसमवेयर समूह द्वारा ठेकेदार के सर्वर से कथित रूप से प्राप्त किए जाने के बाद संयंत्र में "पूर्ण हलचल" मच गई है, ऐसा केकेएनपीपी के स्रोतों ने बुधवार को बताया।

After commissioning two 1,000 MWe VVER reactors, KKNPP is building four more such units with Russian collaboration.

दो 1,000 मेगावाट क्षमता वाले वीवीईआर रिएक्टरों के चालू होने के बाद केकेएनपीपी रूस के सहयोग से ऐसे ही चार और रिएक्टरों का निर्माण कर रहा है।

Sources said the top brass of the upcoming nuclear park is "completely clueless" about the development that poses a security threat as it may let an adversary map the support system and identify vulnerabilities.

स्रोतों के अनुसार, आगामी परमाणु पार्क का शीर्ष प्रबंधन इस घटनाक्रम से "पूरी तरह अनभिज्ञ" है, जबकि यह एक गंभीर सुरक्षा खतरा उत्पन्न करता है, क्योंकि इससे कोई विरोधी पक्ष सहायक प्रणालियों का मानचित्र तैयार कर उनकी कमज़ोरियों की पहचान कर सकता है।

According to Reuters, more than 19,000 files dating between 2016 and mid-2025, and linked to KKNPP's engineering blueprints on control, cooling and ventilation systems, list of vendors and suppliers, etc. had been accessed by World Leaks.

रॉयटर्स के अनुसार, 2016 से 2025 के मध्य तक की अवधि से संबंधित 19,000 से अधिक फ़ाइलें, जिनमें केकेएनपीपी की नियंत्रण, शीतलन तथा वेंटिलेशन प्रणालियों की इंजीनियरिंग रूपरेखाएँ, विक्रेताओं और आपूर्तिकर्ताओं की सूची आदि

सम्मिलित हैं, वर्ल्ड लीक्स द्वारा प्राप्त कर ली गई।

- Nuclear Power Corporation of India Limited said the information claimed to be available in the public domain pertains to "conventional balance of plant common service facilities" and does not relate to any nuclear safety or nuclear security-related systems.

न्यूक्लियर पावर कॉरपोरेशन ऑफ इंडिया लिमिटेड (एनपीसीआईएल) ने कहा कि सार्वजनिक क्षेत्र में उपलब्ध



होने का दावा की गई जानकारी “संयंत्र की पारंपरिक साझा सेवा सुविधाओं” से संबंधित है और इसका परमाणु सुरक्षा अथवा परमाणु संरक्षा संबंधी प्रणालियों से कोई संबंध नहीं है।

- The leak originated from a server hosted by third-party provider Yotta.
यह डेटा लीक तृतीय-पक्ष सेवा प्रदाता योटा द्वारा होस्ट किए गए सर्वर से उत्पन्न हुआ।
- The plant's contractor, **Anil Ambani's Reliance Group**, has admitted that a “partial breach” had happened and the government had been informed.
संयंत्र के ठेकेदार अनिल अंबानी के रिलायंस समूह ने स्वीकार किया है कि “आंशिक सुरक्षा उल्लंघन” हुआ था और इसकी सूचना सरकार को दे दी गई थी।
- “Suspicious activity on Yotta's server was noted on May 29 last and it was reported in June-end. Investigations by **Nuclear Power Corporation of India Limited (NPCIL)**, the project proponent, and Computer Emergency Response Team are on,” the sources said.
सूत्रों ने बताया, “योटा के सर्वर पर 29 मई को संदिग्ध गतिविधि देखी गई थी और इसकी सूचना जून के अंत में दी गई। न्यूक्लियर पावर कॉर्पोरेशन ऑफ इंडिया लिमिटेड (एनपीसीआईएल), जो परियोजना प्रवर्तक है, तथा कंप्यूटर इमरजेंसी रिस्पॉन्स टीम द्वारा जांच जारी है।”
- When the KKNPP encountered a similar incident in 2019, wherein a North Korean malware infection on its administrative network exposed the plant's vulnerability, NPCIL had dismissed it saying their “unbreachable standalone network” was intact and no data could be accessed by any dark web.
जब 2019 में केकेएनपीपी में इसी प्रकार की घटना हुई थी, जिसमें उत्तर कोरियाई मैलवेयर ने उसके प्रशासनिक नेटवर्क को संक्रमित कर संयंत्र की कमज़ोरियों को उजागर किया था, तब एनपीसीआईएल ने यह कहते हुए मामले को खारिज कर दिया था कि उनका “अभेद्य स्वतंत्र नेटवर्क” सुरक्षित है और किसी डार्क वेब के माध्यम से कोई डेटा प्राप्त नहीं किया जा सकता।
- Neither KKNPP's Site Director Ashok Bhatiya nor V.P. Sunil, Station Director (1 and 2), could be reached for their comments on this sensitive issue.
इस संवेदनशील विषय पर प्रतिक्रिया के लिए न तो केकेएनपीपी के साइट निदेशक अशोक भाटिया और न ही स्टेशन निदेशक (1 एवं 2) वी.पी. सुनील से संपर्क हो सका।
- Senior Manager of Human Resources and Public Relations Kannan, who usually keeps in touch with the media for occasional press statements, also did not pick up repeated calls.
मानव संसाधन एवं जनसंपर्क के वरिष्ठ प्रबंधक कन्नन, जो समय-समय पर मीडिया को प्रेस वक्तव्य जारी करते रहते हैं, उन्होंने भी बार-बार किए गए फ़ोन कॉल का उत्तर नहीं दिया।

GS III: S&T

Sun Pharma gets nod for generic semaglutide injection

Sun Pharmaceutical Industries Ltd. on Wednesday said it has received approval from the South African Health Products Regulatory Authority (SAHPRA) to manufacture and market the generic version of semaglutide injection in South Africa for the treatment of adults with inadequately controlled type 2 diabetes mellitus as an adjunct to diet and exercise. In a regulatory filing, the company said it plans to launch the product in the market in the coming days. PTI

16J7. Sun Pharma gets nod for generic semaglutide injection

सन फार्मा को जेनेरिक सेमाग्लूटाइड इंजेक्शन के लिए मंजूरी मिली

- Sun Pharmaceutical Industries Ltd. on Wednesday said it has received approval from the South African Health Products Regulatory Authority (SAHPRA) to manufacture and market the generic version of **semaglutide injection** in South Africa for the treatment of adults with inadequately controlled **type 2 diabetes mellitus** as an adjunct to diet and exercise.
सन फार्मास्यूटिकल इंडस्ट्रीज़ लिमिटेड ने बुधवार को कहा कि उसे दक्षिण अफ्रीकी स्वास्थ्य उत्पाद नियामक प्राधिकरण (SAHPRA)

से दक्षिण अफ्रीका में जेनेरिक सेमाग्लूटाइड इंजेक्शन के निर्माण और विपणन की मंजूरी मिल गई है। इसका उपयोग टाइप 2 डायबिटीज मेलिटस से पीड़ित उन वयस्कों के उपचार में किया जाएगा, जिनका मधुमेह केवल आहार और व्यायाम से पर्याप्त रूप से नियंत्रित नहीं हो पा रहा है।



Global bids invited under PLI for 10 GWh ACC batteries

GS III: S&T
The Hindu Bureau
NEW DELHI

The Ministry of Heavy Industries has invited global bids to set up advanced battery manufacturing plants with a total capacity of 10 gigawatt-hours (GWh) in India under the government's Production Linked Incentive (PLI) scheme for Advanced Chemistry Cell (ACC) batteries.

These batteries will be used for grid-scale energy storage, helping store electricity generated from renewable sources such as solar and wind.

In 2021, the Centre approved an ₹18,100-crore PLI scheme to build 50 GWh of battery manufacturing capacity in India. Of

The objective is to cut dependence on imported ACCs by strengthening local manufacturing

this, 40 GWh has already been allocated to domestic manufacturers, with the remaining 10 GWh now open for bidding.

The objective of the scheme is to reduce India's dependence on imported ACCs by strengthening domestic manufacturing capabilities and incentivising large domestic and international players to establish a globally competitive ACC battery-manufacturing ecosystem in the country.

• In a **regulatory filing**, the company said it plans to launch the product in the market in the **coming days**.

एक **नियामकीय फाइलिंग** में कंपनी ने कहा कि वह **आने वाले दिनों** में इस उत्पाद को बाजार में लॉन्च करने की योजना बना रही है।

16J7. Global bids invited under PLI for 10 GWh ACC batteries

PLI के तहत 10 GWh ACC बैटरियों के लिए वैश्विक बोलियाँ आमंत्रित

• The **Ministry of Heavy Industries** has invited **global bids** to set up **advanced battery manufacturing plants** with a total capacity of **10 gigawatt-hours (GWh)** in **India** under the government's **Production Linked Incentive (PLI)** scheme for **Advanced Chemistry Cell (ACC) batteries**.

भारी उद्योग मंत्रालय ने **भारत** में **10 गीगावाट-घंटे (GWh)** की कुल क्षमता वाले **उन्नत बैटरी निर्माण** संयंत्र स्थापित करने के लिए **एडवांस्ड केमिस्ट्री सेल (ACC) बैटरियों** हेतु सरकार की **उत्पादन आधारित प्रोत्साहन (PLI)** योजना के अंतर्गत **वैश्विक बोलियाँ आमंत्रित** की हैं।

- **Advanced Chemistry Cell (ACC) batteries** are high-performance rechargeable batteries that store electrical energy using advanced electrochemical technologies. They are far more efficient, energy-dense and durable than conventional lead-acid batteries, making them essential for **electric vehicles (EVs), renewable energy storage systems, consumer electronics and grid-scale energy storage**.
- Unlike traditional batteries, ACC batteries can store more electricity in a smaller and lighter package, enabling EVs to travel longer distances on a single charge. The most common ACC technologies include **Lithium-ion (Li-ion), Lithium Iron Phosphate (LFP), Nickel Manganese Cobalt (NMC)** and emerging **solid-state batteries**. Future technologies may also include sodium-ion batteries.

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A new era of Indian ecology looks to its horizons, and to the ground

The second Indian Wildlife Ecology Conference in Haryana became a forum where researchers from universities, government agencies, NGOs, and field stations got together to figure out where the discipline is heading – using insights into evolutionary history, long-term monitoring, public policy

ANKITA RATHORE
SONEPAT

Wildlife ecology in India looks different today than it did a decade ago. Climate change, habitat fragmentation, invasive species, and rapid development are all reshaping ecosystems faster than scholars can document them. Thus, ecologists are interested in how biodiversity has changed as well as how it is likely to change next.

Just these questions shaped the second Indian Wildlife Ecology Conference (IWECC), at Ashoka University in Sonapat, Haryana, on July 10-12, where researchers from across India came together to discuss the future of wildlife ecology in the country. Conceived by the late wildlife biologist Ajith Kumar as a national platform for India's wildlife ecologists to exchange ideas, IWECC has grown into a forum where researchers from universities, government agencies, NGOs, and field stations together figure out where the discipline is heading – using insights into evolutionary history, long-term monitoring, public policy, technology, and public health.

The inaugural conference, held in 2024, demonstrated the breadth of this community. At the second conference, this year, the participants repeatedly returned to the same question: how can ecologists anticipate ecological change? As Indian ecology reaches towards prediction across biological scales, disciplines, and even the divide between science and policy, much of that ambition still depends on staying close to the ground, to fieldwork and local institutions.

Biodiversity at scale
The conference's three paired plenary sessions showed how wildlife ecology is expanding across biological scales, taking in evolutionary history, ecosystem change, bird conservation, landscape science, and animal physiology. The throughline was that predicting the future requires evidence spanning both the deep past and the decisions animals every day make to survive.

The opening plenary traced biodiversity through deep evolutionary time. Jahnvi Joshi (CSIR Centre for Cellular and Molecular Biology, Hyderabad) spoke of how geological history and climate gradients shaped the diversity of woody plants in the Western Ghats. Using phylogenetic analyses, she examined whether different parts of the mountain range function as evolutionary 'cradles', where new species originate, or 'museums', where ancient lineages persist. She argued that both patterns can help predict which species will respond to future environmental change.

Mahesh Sankaran (National Centre for Biological Sciences, Bengaluru) turned to the future of India's montane grasslands under climate change, drawing on projections from the UN Intergovernmental Panel on Climate Change to show how rising temperature, increasingly variable rainfall, and extreme weather will reshape these already vulnerable ecosystems, alongside other human-driven pressures such as altered nutrient cycles and land-use change.

Evolutionary history has set the stage and long-term monitoring is today tracking how biodiversity is changing. Ashwin Viswanathan (Nature Conservation Foundation, Mysuru) spoke of citizen-science platforms such as eBird India generating observations at scales impossible in conventional field studies, helping researchers track migration and species distributions. His example of choice was the rusty-tailed flycatcher, whose migration across Uttarakhand and eastern India researchers reconstructed using citizen-science data.

Asad Rahmani (Bombay Natural History Society) – who has been surveying the pressures on the country's birds such as habitat loss, infrastructure, and climate change – pointed to the drying of Kashmir's Shalabugh wetland and urged scientists and citizens alike to speak up for wildlife. Anusha Shankar (Tata Institute of Fundamental Research, Hyderabad) described physiology as an underutilised lens connecting processes across biological scales, drawing on energy expenditure and body temperature measurements in hummingbirds.

Maria Thaker (Indian Institute of Science, Bengaluru) likewise drew on studies of the spiny-tailed lizard to show how desert reptiles regulate body temperature and adjust their behavioural requirements across seasons. "Lizards, like other ectothermic vertebrates, can behaviourally thermoregulate, but will



A group photo of the attendees and organisers at IWECC 2026, ANANTA RATHORE

not be able to handle future climate warming," she said. Rather than just record where species occur, researchers are also increasingly trying to understand the mechanisms that determine how organisms and ecosystems respond to environmental change. The emphasis is moving from description towards prediction. Yet every one of these predictive tools, including from physiological measurements to citizen-science records, rests on long, even tedious periods of observation.

Understanding to action
However, scientific understanding alone cannot conserve biodiversity. A special session, called 'Leveraging Global Policies for Local Conservation in India', turned the focus to how ecological knowledge can inform decision-making in India while recognising that conservation everywhere is shaped by the interplay of science, governance, and society. The discussion, moderated by Asmita Kabra (Ashoka University), asked how international biodiversity commitments could be adapted to India's ecological and social realities. Its speakers agreed global frameworks succeed only where local institutions and evidence-based implementation back them up.

In particular, Jagdish Krishnaswamy (Indian Institute for Human Settlements, Bengaluru) called for experts to move beyond species-centred conservation to protect the ecological processes that sustain entire landscapes. Following the success of India's protected areas, he argued that the next frontier is conserving landscapes beyond their boundaries and integrating biodiversity, livelihoods, and climate resilience.

Vivek Menon (Wildlife Trust of India), in turn, said conservation centred on species remains indispensable because "the natural world sustains us, but we are losing the species that sustain it." He added that while conservation cannot

completely halt biodiversity loss, "it significantly reduces how fast it occurs". International agreements can provide a common framework, Menon and Krishnaswamy argued, but lasting conservation depends on effective local institutions and the communities that share these landscapes with wildlife. In other words, predictions and commitments are both only as effective as the institutions and communities that can act on it.

Across disciplines
While the plenary sessions highlighted what wildlife ecologists are studying, the conference's panel discussions noted how the discipline itself was changing. Advances in artificial intelligence, genomics, environmental DNA, and computational tools are transforming ecology research, allowing scientists to ask questions that would have been difficult, or even impossible, just a decade ago. Yet throughout the conference, speakers also cautioned against viewing technology as a replacement for ecological understanding.

In a discussion called 'Extinction of Experience: The Decline of Field-based Ecology', moderated by Robin Vijayan (Indian Institute of Science Education and Research, Trirupat), panelists discussed how ecology is adapting to rapid advances in artificial intelligence and genetics. These tools have expanded the scope of ecological research, the panel noted, but could not substitute for the understanding that comes from directly engaging with nature. "Unless and until we have field logic, we won't be able to analyse our data well," Bilal Habib (Wildlife Institute of India) said.

Another panel examined the complex issue of free-ranging dogs through the intersecting lenses of ecology, public health, animal welfare, and urban governance. And rather than advocate a single approach, the discussion laid out

the scientific and policy challenges of managing free-ranging dog populations in Indian cities and their edges.

Panelists also reflected on how terminology shaped public discourse. Chandrima Horne (Savitri Manipal Institute of Art, Design, and Technology, Bengaluru) argued that the label "free-ranging dogs" captured these populations more accurately than "stray" or "feral", since only a small fraction comes into conflict with wildlife or livestock. Other speakers discussed the role of Animal Birth Control programmes alongside the need to improve waste management and stronger municipal governance, arguing that dog populations track food availability as closely as any carnivore does in the wild. As Anindita Bhadra (ISER Kolkata) put it, "We want our cities to be smart, but we can't manage our garbage." Both, in fact, made the same case from opposite directions: that technology cannot replace field logic and that a problem like free-ranging dogs cannot be solved by ecology alone.

Spider silk on the breeze

The conference's parallel symposia carried this range of inquiry further as researchers also presented work on river ecosystems, disease ecology, bats, insects, behavioural ecology, environmental DNA, wildlife corridors, and conservation technologies, drawing ecology into the conversation through genetics, physiology, epidemiology, and the social sciences. Sara Kanat, a PhD scholar at Bharati Vidyapeeth (Deemed-to-be University), Pune, has used advanced molecular methods to map how seasonal changes in diet shape the gut microbiome of Indian grey wolves, offering insights into how carnivores persist in changing environments. Swapnil Kinn (CSIR-CIMB Hyderabad) spoke about her work on quantifying the economic burden of snakebite mortality and morbidity in rural India using a community-based ecological epidemiology approach. Shashish Sahoo (Amity University, Noida) has documented how Asian elephants change the way they behave in the mining landscapes of Keonjhar, Odisha, to navigate increasingly fragmented habitats, utilising a mix of field-based, spatial, and analytical ecological methods. The three researchers' work was a reminder of how wide ecological methods range today.

Overall, over three days and 197 talks, the throughline described a discipline that has become ambitious – especially more integrative and more willing to speak to policy and public health – even as it remains, at its core, a science of the ground. In a special address, philanthropist and one of the conference's sponsors Rohini Nilekani likened wildlife ecologists to the mining that carries a spider's silk, allowing it to cast a web that would otherwise be impossible to build. Likewise, individual strands of conservation become meaningful only when they connect.

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Attendees at the conference read a poster. ANKITA RATHORE

16J7. A new era of Indian ecology looks to its horizons, and to the ground

भारतीय पारिस्थितिकी का एक नया युग अपने क्षितिजों तथा धरातल की ओर देख रहा है।

• Just these questions shaped the **second Indian Wildlife Ecology Conference (IWECC)**, at **Ashoka University in Sonapat, Haryana, on July 10-12**, where researchers from across India came together to discuss the future of **wildlife ecology** in the country.

इन्हीं प्रश्नों ने **द्वितीय भारतीय वन्यजीव पारिस्थितिकी सम्मेलन (आईडब्ल्यूईसी)** का स्वरूप निर्धारित किया, जो **10-12 जुलाई को हरियाणा के सोनीपत स्थित अशोका विश्वविद्यालय में आयोजित हुआ**, जहाँ भारत भर के शोधकर्ता देश में **वन्यजीव पारिस्थितिकी के भविष्य पर चर्चा करने के लिए एकत्र हुए।**

• His example of choice was the **rusty-tailed flycatcher**, whose migration across **Uttarakhand and eastern India** researchers reconstructed using **citizen-science data**.

उन्होंने उदाहरण के रूप में **रस्टी-टेल्ड फ्लायकैचर** का उल्लेख किया, जिसके **उत्तराखंड तथा पूर्वी भारत में प्रवास का पुनर्निर्माण** शोधकर्ताओं ने **नागरिक विज्ञान आँकड़ों के आधार पर किया।**

• **Asad Rahmani (Bombay Natural History Society)** — who has been surveying the pressures on the country's birds such as **habitat loss, infrastructure, and climate change** — pointed to the drying of **Kashmir's Shalabugh wetland** and urged scientists and citizens alike to speak up for **wildlife**.

असद रहमानी (बॉम्बे नेचुरल हिस्ट्री

सोसायटी) — जो देश के पक्षियों पर **आवास क्षरण, अवसंरचना तथा जलवायु परिवर्तन** जैसे दबावों का अध्ययन कर रहे हैं — ने **कश्मीर की शल्लबुग आद्रभूमि के सूखने की ओर संकेत किया** तथा वैज्ञानिकों और नागरिकों दोनों से **वन्यजीव संरक्षण के पक्ष में आवाज़ उठाने का आग्रह किया।**

• **Anusha Shankar (Tata Institute of Fundamental Research, Hyderabad)** described **physiology** as an underutilised lens connecting processes across biological scales, drawing



on energy expenditure and body temperature measurements in **hummingbirds**.

अनुषा शंकर (टाटा मूलभूत अनुसंधान संस्थान, हैदराबाद) ने शरीर क्रिया विज्ञान को एक ऐसे अल्प-प्रयुक्त दृष्टिकोण के रूप में वर्णित किया जो विभिन्न जैविक स्तरों की प्रक्रियाओं को जोड़ता है, तथा **हमिंगबर्ड** में ऊर्जा व्यय और शरीर के तापमान के मापन का उल्लेख किया।

- Maria Thaker (Indian Institute of Science, Bengaluru) likewise drew on studies of the **spiny-tailed lizard** to show how **desert reptiles** regulate **body temperature** and adjust their **nutritional requirements** across seasons.

मारिया ठाकर (भारतीय विज्ञान संस्थान, बंगलुरु) ने भी **स्पाइनी-टेल्ड लिज़र्ड** पर आधारित अध्ययनों के माध्यम से बताया कि **मरुस्थलीय सरीसृप** किस प्रकार **शरीर का तापमान** नियंत्रित करते हैं तथा विभिन्न ऋतुओं के अनुसार अपनी **पोषण संबंधी आवश्यकताओं** में समायोजन करते हैं।

- “Lizards, like other **ectothermic vertebrates**, can behaviourally thermoregulate, but will not be able to handle future **climate warming**,” she said.

उन्होंने कहा, “छिपकलियाँ, अन्य शीत-रक्तीय कशेरुकियों की भाँति, व्यवहारगत रूप से ताप-नियमन कर सकती हैं, किंतु भविष्य में होने वाले जलवायु **ऊष्मीकरण** का सामना करने में सक्षम नहीं होंगी।”

Ectothermic vertebrates

- **Ectothermic vertebrates** are animals with a backbone whose body temperature depends mainly on the temperature of their surroundings.
- The word **ectothermic** comes from two Greek words: “ecto,” meaning outside, and “therm,” meaning heat.
- Thus, these animals obtain most of their body heat from external sources such as sunlight, warm rocks, soil or water.
- They are commonly called **cold-blooded animals**, but this term can be misleading. Their blood is not always cold.
- A lizard sitting in sunlight may have a body temperature higher than that of a human.
- The important point is that it cannot maintain a nearly constant internal temperature through metabolism in the way humans, birds and other mammals do.



China's 'Great Green Wall' tames desert growth, but fight not over

GS III: Environment
Associated Press

For half a century, millions of workers have repeated a task across the deserts in northern China: inserting forearm-length sticks into shifting sand, first in a row, then in an intersecting line, gradually forming a grid. Then saplings are planted at the centre of each small square.

The technique, known as "straw checkerboards", is a simple yet widely used method to stabilise sand dunes against the wind and help plants take root by using water supplied through an irrigation system.

The widespread lattice it created across the sand has become the iconic image of China's decades-long campaign against the spreading of desert conditions, known as the Three-North Protective Forest Program or the Green Great Wall.

The generations of work have yielded measurable progress, but scientists caution that preserving the gains will require decades of continued effort.

For a long time, drought, overgrazing and farming removed vegetation, harmed the soil and made areas vulnerable to wind and sandstorms. That kind of degradation of the land over time is known as desertification. The area of desertified land in northern China peaked

in 2000, and it has been reduced by over 1,000 sq. km each year since then, according to data published by state media. The Chinese government said the initiative launched in 1978 has played a crucial role in transforming vast regions covering nearly half of China from "the desertification advancing and people retreating" to "greenery advancing and the desertification retreating." Forests planted by the program now cover a cumulative 500,000 sq. km.

"The broad significance of the Three-North Program is not only the scale of restoration, but the long-term political commitment behind it," said Barron Joseph Orr, chief scientist for the U.N. Convention to Combat Desertification. He added that reversing desertification is possible when it becomes part of long-term development strategies.

The progress is the result of the efforts of frontline sand-control workers, along with top-level planning and substantial state investment, said Zhu Jiaojun, a scientist at the Institute of Applied Ecology, Chinese Academy of Sciences, who has long been dedicated to the construction and management of the program. He added that increased rainfall in recent years in some areas has made vegetation restoration easier.

"The achievement of desertification combat is due to people's hard work and a bit of luck with climate," he said.

According to long-term monitoring data by Zhu's team, China's desertified land has shrunk by around 10% overall since 2000, and areas of severely or extremely desertified land have decreased by more than 40%. Forest cover in the program area has risen from around 5% in 1978 to 14% in 2022.

In a recent government-organised media tour to a corner of Kubuqi Desert, about 800 km to the west of Beijing, 60-year-old Yin Yuzhen recounted her early days of being a sand-control worker.

Four decades ago, she recalled, the sand often blew so thick that it made it hard to see a short distance. "But now we can see the sun. We can see the green in the distance. We can see the road," said Yin. Zhu, the scientist, estimated that over 300 million rural labourers have been involved in the program, mostly on a paid, part-time basis.

16J7. China's 'Great Green Wall' tames desert growth, but fight not over

चीन की 'ग्रेट ग्रीन वॉल' ने मरुस्थलीकरण की वृद्धि को नियंत्रित किया, लेकिन संघर्ष अभी समाप्त नहीं हुआ है

• For half a century, millions of workers have repeated a task across the **deserts in northern China**: inserting **forearm-length sticks** into shifting sand, first in a row, then in an intersecting line, gradually forming a grid.

आधी शताब्दी से, उत्तरी चीन के मरुस्थलों में लाखों श्रमिक एक कार्य को दोहराते आ रहे हैं: उड़ती हुई रेत में बाँह की लंबाई जितनी लकड़ियाँ गाड़ना, पहले एक पंक्ति में, फिर एक-दूसरे को काटती हुई पंक्तियों में, जिससे धीरे-धीरे एक जाल जैसी संरचना बन जाती है।

• Then saplings are planted at the centre of each small square.

इसके बाद प्रत्येक छोटे वर्ग के मध्य पौधरोपण किया जाता है।

• The technique, known as "**straw checkerboards**", is a simple yet widely used method to stabilise **sand dunes** against the wind and help plants take root by using water supplied through an **irrigation system**.

"स्ट्रॉ चेकरबोर्ड" के नाम से प्रसिद्ध यह तकनीक रेतीले टीलों को हवा के प्रभाव से स्थिर करने तथा सिंचाई प्रणाली से उपलब्ध कराए गए जल की सहायता से पौधों

को जड़ जमाने में सहायता देने की एक सरल किन्तु व्यापक रूप से प्रयुक्त विधि है।

- The widespread **lattice** it created across the sand has become the iconic image of China's **decades-long campaign against the spreading of desert conditions**, known as the **Three-North Protective Forest Program or the Green Great Wall**.

रेत पर निर्मित यह व्यापक जालीनुमा संरचना चीन के मरुस्थलीय परिस्थितियों के विस्तार के विरुद्ध दशकों से चल रहे अभियान का प्रतीक बन गई है, जिसे थ्री-नॉर्थ प्रोटेक्टिव फॉरेस्ट प्रोग्राम अथवा ग्रीन ग्रेट वॉल के नाम से जाना जाता है।

- For a long time, **drought, overgrazing and farming** removed vegetation, harmed the soil and made areas vulnerable to wind and **sandstorms**.

लंबे समय तक सूखा, अत्यधिक चराई तथा कृषि गतिविधियों ने वनस्पति को नष्ट किया, मिट्टी को क्षति पहुँचाई और क्षेत्रों को हवा तथा रेतीले तूफानों के प्रति संवेदनशील बना दिया।

- That kind of degradation of the land over time is known as **desertification**.

समय के साथ भूमि के इस प्रकार के क्षरण को मरुस्थलीकरण कहा जाता है।

- The **Chinese government** said the initiative launched in **1978** has played a crucial role in transforming vast regions covering nearly half of China from "the **desertification advancing and people retreating**" to "**greenery advancing and the desertification retreating**."

चीनी सरकार ने कहा कि 1978 में प्रारम्भ की गई इस पहल ने चीन के लगभग आधे भूभाग को "मरुस्थलीकरण



बढ़ रहा था और लोग पीछे हट रहे थे" की स्थिति से "हरियाली बढ़ रही है और मरुस्थलीकरण पीछे हट रहा है" की स्थिति में परिवर्तित करने में महत्वपूर्ण भूमिका निभाई है।

- "The broad significance of the **Three-North Program** is not only the scale of **restoration**, but the long-term **political commitment** behind it," said **Barron Joseph Orr**, chief scientist for the **U.N. Convention to Combat Desertification**.

संयुक्त राष्ट्र मरुस्थलीकरण निरोधक अभिसमय के मुख्य वैज्ञानिक बैरॉन जोसेफ ऑर ने कहा, "थ्री-नॉर्थ प्रोग्राम का व्यापक महत्व केवल पुनर्स्थापन के पैमाने में ही नहीं, बल्कि इसके पीछे निहित दीर्घकालिक राजनीतिक प्रतिबद्धता में भी है।"

- He added that **reversing desertification** is possible when it becomes part of **long-term development strategies**.
उन्होंने आगे कहा कि **मरुस्थलीकरण** को उलटना संभव है, यदि इसे दीर्घकालिक विकास रणनीतियों का हिस्सा बनाया जाए।
- According to **long-term monitoring data** by Zhu's team, China's **desertified land** has shrunk by around **10%** overall since **2000**, and areas of **severely** or **extremely desertified land** have decreased by more than **40%**.

झू की टीम के दीर्घकालिक निगरानी आँकड़ों के अनुसार, वर्ष 2000 के बाद से चीन की मरुस्थलीकृत भूमि में कुल मिलाकर लगभग **10%** की कमी आई है, जबकि गंभीर अथवा अत्यधिक मरुस्थलीकृत भूमि का क्षेत्रफल **40%** से अधिक घट गया है।

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TOPICS COVERED		
16J7	'Oil exploration only after resolving Assam-Nagaland border disputes' 'असम-नागालैंड सीमा विवादों के समाधान के बाद ही तेल अन्वेषण किया जाए'	

'Oil exploration only after resolving Assam-Nagaland border disputes'

GS III: Internal Security
The Hindu Bureau
GUWAHATI

The Konyak Union, the apex body of the Konyak Naga community, has asked the Nagaland government to proceed with the joint oil exploration with Assam only after the long-pending border disputes between the two States are resolved.

The union insisted that territorial clarity, landowners' consent, and stronger border security must precede the implementation of the bilateral agreement. The border dispute between the two States has claimed more than 150 lives since the 1960s, when Nagaland was carved out of Assam.

The Konyak Union's advisory board council and the union executive council recently reviewed the June

Konyak Nagas said territorial clarity, landowners' consent must precede implementation of bilateral agreement

11 memorandum of understanding on oil exploration signed by the governments of Assam and Nagaland in New Delhi. The agreement was inked in the presence of Home Minister Amit Shah.

In a statement on July 14, the Konyak Union said that the Nagaland government should first resolve disputed areas, particularly the Tizit-Naginimora belt and the boundary between Longwa in Nagaland's Mon district and Pongchao in Arunachal Pradesh's Longding district, before initiating oil exploration to

avoid future disputes.

It also urged the government to ensure that the concerns, rights, and consent of landowners are taken into consideration before any final decision is made, maintaining that stakeholder participation is essential for a fair, transparent, and acceptable outcome.

Clarity sought

The Konyak Union also backed the recent stand of a Lotha Naga organisation, which sought clarity on the Disputed Area Belt and other border issues to safeguard Nagaland's territorial integrity. Expressing concern over unresolved boundary issues in Mon district, the union alleged that Google Maps continues to inaccurately depict parts of Nagaland's borders.

16J7. 'Oil exploration only after resolving Assam-Nagaland border disputes'
'असम-नागालैंड सीमा विवादों के समाधान के बाद ही तेल अन्वेषण किया जाए'

- The **Konyak Union**, the apex body of the **Konyak Naga community**, has asked the **Nagaland government** to proceed with the joint oil exploration with **Assam** only after the long-pending border disputes between the two States are resolved.

कोन्याक यूनियन, जो **कोन्याक नागा** समुदाय का सर्वोच्च संगठन है, ने **नागालैंड सरकार** से आग्रह किया है कि वह **असम** के साथ संयुक्त तेल अन्वेषण की प्रक्रिया तभी आगे बढ़ाए, जब दोनों राज्यों के बीच लंबे समय से लंबित **सीमा विवादों** का समाधान हो जाए।

- In a statement on **July 14**,



the **Konyak Union** said that the **Nagaland government** should first resolve disputed areas, particularly the **Tizit-Naganimora belt** and the boundary between **Longwa in Nagaland's Mon district** and **Pongchao in Arunachal Pradesh's Longding district**, before initiating **oil exploration** to avoid future disputes.

14 जुलाई को जारी एक बयान में **कोन्याक यूनियन** ने कहा कि **नागालैंड सरकार** को भविष्य के विवादों से बचने के लिए **तेल अन्वेषण** प्रारंभ करने से पहले विवादित क्षेत्रों, विशेष रूप से **तिजित-नागिनिमोरा क्षेत्र** तथा **नागालैंड के मोन जिले के लॉगवा और अरुणाचल प्रदेश के लॉगडिंग जिले के पोंगचाओ के बीच की सीमा** का समाधान करना चाहिए।

- Expressing concern over unresolved **boundary issues in Mon district**, the union alleged that **Google Maps** continues to inaccurately depict parts of **Nagaland's** borders.

मोन जिले में लंबित सीमा संबंधी विवादों पर चिंता व्यक्त करते हुए यूनियन ने आरोप लगाया कि **गूगल मैप्स** अब भी **नागालैंड की सीमाओं के कुछ हिस्सों को गलत ढंग से प्रदर्शित करता है।**

PATRIOTIC IAS