NEXT IAS

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 20-08-2025

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INDIA–CHINA SPECIAL REPRESENTATIVES' DIALOGUE

Context

- Recently India-China held the **24th round of India-China Special Representative talks**.

Key Outcomes of the Dialogue

- **Trade and Connectivity:**
  - Resumption of **direct flights** between India and China, facilitation of visas for tourists, businesses, media, and others.
  - **Re-opening** of border trade through **Lipulekh Pass, Shipki La Pass, and Nathu La Pass.**
  - Facilitation of trade and investment flows, with China addressing India's key concerns such as **fertilisers, rare earths, tunnel boring machines**.
- **People-to-People Engagement:**
  - Resumption of **Kailash Mansarovar Yatra** and discussion on **cultural exchanges.**
  - Plan to hold the 3rd High-Level Mechanism on People-to-People Exchanges in India in 2026.
- **Trans-Border Rivers Cooperation:**
  - China agreed to share **hydrological data** during emergency situations.
  - India flagged concerns about China's mega dam construction on the **Yarlung Tsangpo (Brahmaputra).**

Significance of the Visit

- **The year 2025 marks the 75th anniversary of the establishment of diplomatic relations** between India and China and both sides committed to commemorating this milestone with renewed cooperation.
- **India–China Reset:** The rapprochement comes after years of military and diplomatic freeze **post-2020 clashes**.
  - **The Kazan meeting in 2024** between PM Modi and President Xi Jinping is seen as a turning point.
- **Geopolitical Backdrop:** The rapprochement is significant as India faces deteriorating trade ties with the U.S., following recent tariffs imposed by the USA.
- **Multipolarity Push:** Both India and China emphasised the need for a **multipolar world order,** reflecting a shared interest in resisting unilateralism and Western dominance.

India-China Relations

- **The Panchsheel Agreement, Signed in 1954,** emphasized the principles of peaceful coexistence, mutual respect for sovereignty, and non-interference in each other's internal affairs, forming the foundation of India-China diplomatic relations.
- **Historical Tensions:** Strained since the **1962 Sino-Indian war**, deepened by recent clashes and mistrust.
  - India restricted Chinese investments, banned Chinese apps (e.g., TikTok), and halted flights to China.
- **Trade Relations:** China overtook the U.S. in 2024 as India's largest trading partner, with over $100 billion in imports. Despite tensions, economic ties continue to grow.
- **Ongoing Mechanisms:** Despite tensions, mechanisms like the Special Representatives (SR) and **Working Mechanism for Consultation and Coordination (WMCC)** have been in place to address the boundary issue.
- **Recent Developments:** India and China announced successful disengagement in eastern Ladakh.

Challenges Ahead

- **Boundary issues:** Despite mechanisms, the fundamental border dispute remains unresolved.
- **Trust Deficit:** Despite stabilisation, the Galwan incident and repeated border violations since 2013 (**Depsang, Doklam, Pangong Tso**) keep Indian policymakers wary.
- **China's Activities on Brahmaputra:** India remains cautious about ecological and security impacts of mega dam projects.
- **Global Alignments:** India's strategic balancing between the U.S., Russia, and China remains delicate.
  - **China–Pakistan Factor:** India remains concerned about China's closeness with Pakistan, especially under the **China–Pakistan Economic Corridor (CPEC) framework.**

Way Ahead

- **Advance Border Dialogue:** Prioritise early progress on boundary delimitation and phased de-escalation at the LAC to ensure lasting peace and stability.

- **Balanced Economic Cooperation:** Trade and investment flows should be mutually beneficial, avoiding over-dependence.
- **Transparency on Rivers:** Build trust through open data-sharing and cooperation on trans-boundary water projects to safeguard ecological and security interests.
- **Strengthen Multilateral Cooperation:** Leverage forums like SCO, BRICS, and G20 to promote multipolarity, global governance reforms, and the interests of the Global South.

Concluding remarks

- India–China relations are at a cautious but promising juncture. While structural challenges like the unresolved border persist, recent agreements mark a constructive reset.
- Guided by mutual respect and sensitivity, stable ties between the two Asian giants could contribute significantly to regional peace, economic revitalisation, and the shaping of a multipolar world order.

Source: TH

ADI KARMAYOGI ABHIYAN

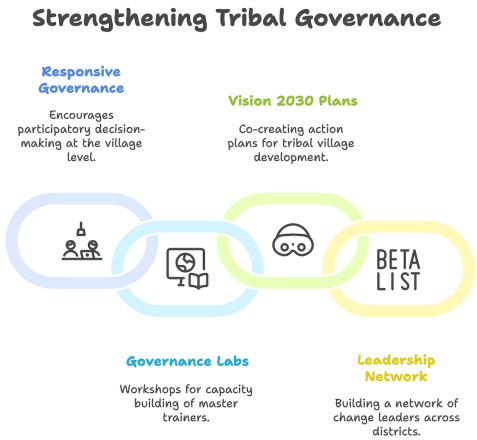
In News

- The Ministry of Tribal Affairs has launched the **Adi Karmayogi Abhiyan**, envisaged as the **world's largest tribal grassroots leadership programme.**
  - It aligns with the **Janjatiya Gaurav Varsh** celebrations and contributes to the vision of **Viksit Bharat @2047.**

Core Philosophy

- Guided by Sewa (Service), Sankalp (Resolve), Samarpan (Dedication).
- Embodies the principle of "Sabka Saath, Sabka Vikas, Sabka Prayas, Sabka Vishwas."

Key Components & Outcomes



- **Adi Sewa Kendra**: Proposed in every tribal-dominated village, where government officials and villagers dedicate a few hours fortnightly as "Adi Sewa Samay." These centres will address local problems, mentor youth, and support last-mile delivery of schemes.
- **Governance Lab Workshops:** Multi-departmental labs for collaborative problem-solving, ensuring convergence of welfare schemes.
- **Tribal Village Action Plan (Vision 2030)**: Co-created by officers and villagers, aligning with national goals and the Sustainable Development Goals (SDGs).
- **Role of Volunteers: Adi Sahyogi:** Teachers, doctors, and professionals who mentor and mobilise communities.
  - **Adi Saathi:** SHGs, tribal elders, NRLM members, and local leaders aiding outreach and implementation.

Significance

- **Empowerment:** Moves beyond welfare to leadership creation.
- **Trust Building:** Bridges the gap between tribal communities and government institutions.
- **Conflict Mitigation:** Reduces alienation and strengthens social harmony.
- **Sustainable Development:** Ensures grassroots action is aligned with Agenda 2030 and India's vision for 2047.

Source: PIB

U.S. TARIFFS ON INDIA: IMPLICATIONS AND POLICY OPTIONS

In News

- In August 2025, U.S. President Donald Trump imposed a 50% tariff on imports from India, including a 25% penalty related to India's oil purchases from Russia.

India's vulnerabilities in the global system.

- U.S. tariffs averaged 2–3% for two decades until April 2024 but the new hike marks a sharp departure.
- In return for tariff relaxation, the U.S. is demanding greater market access, especially for agricultural and dairy products, which could hurt Indian farmers.
- Despite being a U.S. ally, India faces steeper tariffs than China (now reduced to 30%).
  - The tariff war highlights India's vulnerabilities in the global system.

The tariff attack

China's vice-like grip over large parts of the global production network and exclusive access to some rare earth minerals may have quickened the melting of ice between it and the U.S.

Table 1: U.S. tariffs on selected countries

	U.S. tariffs (%), as of April 9, 2025	U.S. tariffs (%), as of August 11, 2025
India	26	50*
China	145	30
Vietnam	46	20
Bangladesh	37	20
Thailand	36	19
Pakistan	29	19

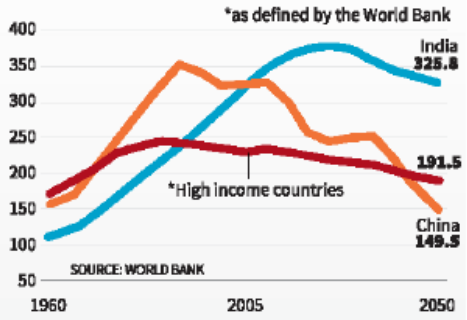
Note: This includes 25% penalty tariff, which will take effect on August 27, 2025.
Source: The New York Times

Table 2: Shares (in %) of these countries in global exports of selected products, 2022

	China	U.S.	India
Textiles and clothing	36.3	3.5	4.4
Footwear	40.9	1.0	1.7
Metals	18.4	5.2	2.5
Chemicals	10.7	10.1	2.6
Machine and electrical equipment	24.9	7.0	0.9

Source: WITS (World Integrated Trade Solution), The World Bank

Chart 1: Population aged 15 to 29 years, in millions



■ The population of Indian immigrants in the U.S. rose from 0.3 million in 1982 to 3.2 million in 2023

China's influence

- China's dominance stems from its massive production capacity and technological prowess.
- China holds 36.3% of global textile exports and 24.9% in machinery/electricals; India lags at 4.4% and 0.9% respectively.
  - Initial 145% tariffs on China were reduced after diplomatic engagement.

Consequences for India

- **Comparative Disadvantage:** Indian exports (e.g., textiles) now face higher tariffs than competitors like Vietnam and Bangladesh, making them uncompetitive.
- **Trade Deficit Risk:** U.S. export earnings are vital for India's external balance; tariffs threaten this inflow.
- **Sectoral Vulnerability:** Textiles, pharmaceuticals, and IT services may suffer job and income losses.
- **Investment Implications:** Continued tariff instability may deter global firms from shifting supply chains to India.

India's Policy Options

- **Engage with the U.S**. to recalibrate tariffs and protect strategic sectors.
- **Leverage WTO** and regional blocs to contest discriminatory trade practices.
- **Shift from export-led** to demand-driven growth via rising wages and consumption.
- **Boost public spending** to build human capital and resilience.
  - **Invest in high-value sectors** (tech, pharma, clean energy) to reduce dependence on low-wage competitiveness.
- **Role of youth** : Indian immigrants in the U.S. have Excelled in education, technology, and entrepreneurship and Contributed to U.S. technological and economic dominance.
  - Restricting Indian talent from U.S. jobs or visas could hurt U.S. interests long-term.
- **Ensure equitable access to opportunities** to prevent social fragmentation.

Conclusion and Way Forward

- A robust domestic market, empowered youth, and innovation-led growth are India's best defence against global economic turbulence.
  - This requires rapid increases in wages, incomes, and investment in high-value, tech-driven industries.
- India's 120 million youth (15–29 years) can power a knowledge economy and therefore there is a need to **expand vocational training, STEM education, and digital literacy.**
  - Harness diaspora networks for technology transfer and global influence.

Source :TH

DRAFT FRAMEWORK OF INDIA'S CLIMATE FINANCE TAXONOMY

Context

- The Ministry of Finance released the **Draft Framework of India's Climate Finance Taxonomy** which is aimed to create a unified classification system for climate-aligned investments, ensuring transparency, credibility, and alignment with national and global climate goals.

What Is a Climate Taxonomy?

- A climate taxonomy is a classification system that identifies which economic activities contribute to **climate mitigation, adaptation, or transition.** It helps:
  - Investors assess green credentials of projects;

- Governments channel subsidies and incentives;
- Regulators monitor compliance and prevent greenwashing;

Framework of India's Climate Finance Taxonomy

- **Objectives:** India's taxonomy is designed to complement instruments like green bonds, the Carbon Credit Trading Scheme, and SEBI's ESG norms, creating a unified climate finance ecosystem. It aims to:

  - define climate-aligned activities across sectors;
  - guide public and private investments toward low-carbon and climate-resilient development;
  - prevent greenwashing by establishing clear eligibility criteria;
  - support India's Nationally Determined Contributions (NDCs) under the Paris Agreement.
- **Sectoral Coverage:** Each sector includes specific criteria for mitigation, adaptation, and transition activities.
  - **Power:** Renewable energy, grid modernization, energy storage;
  - **Mobility:** Electric vehicles, public transport, fuel efficiency;
  - **Buildings:** Green construction, energy-efficient retrofits
  - **Agriculture & Water Security:** Climate-smart agriculture, irrigation efficiency, water conservation;
  - **Hard-to-Abate Sectors:** Low-carbon technologies in steel, cement, chemicals

Classification Approach (Three Categories)

- **Mitigation:** Projects that reduce or avoid greenhouse gas emissions;
- **Adaptation:** Initiatives that enhance resilience to climate impacts;
- **Transition:** Measures that enable high-emission sectors to shift toward sustainability;

Key Concerns in India's Climate Finance Taxonomy Framework

- **Lack of Indigenous Context:** India's draft borrows mostly from international models like the **EU taxonomy**, hindering **India's unique climatic vulnerabilities and development priorities.**
  - It fails to reflect local realities such as the role of informal sectors, traditional practices, and regional disparities in emissions and climate risks.
- **Misplaced Sectoral Focus:** High-emission sectors like energy generation, transportation, chemicals, cement, and real estate are underrepresented.
  - Meanwhile, low-emission sectors such as agriculture, food, and water security are included without clear justification, raising concerns about misdirected climate finance.
- **Absence of Clear Metrics and Criteria:** The taxonomy lacks scientific, data-backed rationale for selecting sectors and defining thresholds for emissions reduction.
  - Terms like 'climate-friendly technologies' and 'public consultation' are vague and undefined, limiting transparency and accountability.
- **Weak Governance Architecture:** There is no defined institutional mechanism for implementation, review, or enforcement — especially problematic given India's federal structure.
  - The framework does **not specify** how **state governments, local bodies, or civil society** will be involved in decision-making.
- **Ignoring Equity and Justice:** Vulnerable communities — such as small farmers, low-income households, and indigenous groups — are not prioritized in climate finance allocation.
  - The draft overlooks social safeguards like labor rights, human rights, and equitable access to finance.

- **Overemphasis on High-Tech Solutions:** The taxonomy promotes advanced technologies while sidelining low-cost, indigenous, and community-based climate solutions.
  - This risks excluding MSMEs and informal sectors that lack access to capital and technical expertise.
- **No Timeline Alignment with India's NDCs:** The draft fails to establish sector-specific timelines or transition pathways, despite referencing **India's Net Zero by 2070 and NDC targets.**
  - It does not differentiate responsibilities across states or sectors based on their emissions contributions.

Recommendations for Improvement

- **Legal Alignment:** The taxonomy needs to harmonize with **domestic laws** like the **Energy Conservation Act, SEBI regulations**, and **international frameworks** such as the **Paris Agreement** (Article 6.4)**.**
- **Content Clarity:** Definitions should be technically precise and accessible to MSMEs, informal sectors, and non-experts.
  - Quantitative thresholds (e.g., GHG reduction targets) need to be updated with empirical data.
- Other recommendations include:
  - Re-centering the taxonomy on high-emission sectors;
  - Defining measurable, science-based metrics;
  - Establishing a robust governance and review mechanism;
  - Integrating equity, social safeguards, and indigenous knowledge;
  - Creating staggered compliance pathways for MSMEs and vulnerable groups;

Source: TH

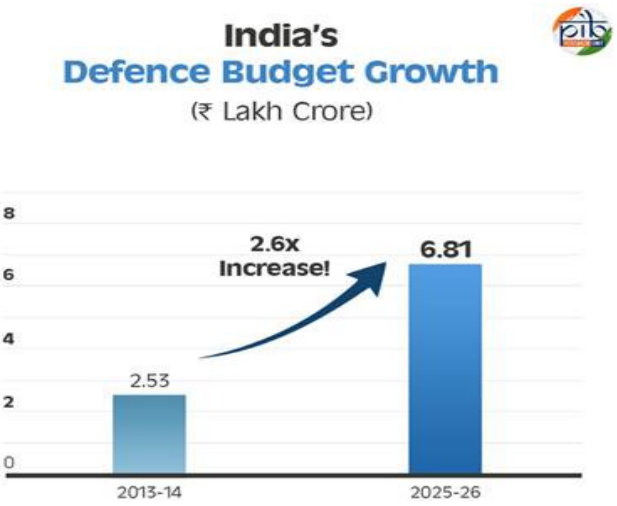
INCREASE OF PRIVATE SECTOR SHARE IN INDIA'S DEFENCE PRODUCTION

Context

- According to the Department of Defence Production, the **private sector contributed ₹33,979 crore (22.56%)** to India's total defence production of 1,50,590 crore in **FY 2024-25.**
  - This marks the highest-ever private participation since 2016-17, when the share was 19%.

Defence Production in India

- **Sectoral Contribution:** In FY 2024-25, defence public sector undertakings **(DPSUs)** accounted for **57.50%** of the total defence production, while **Indian ordnance factories contributed 14.49%**, and non-defence PSUs 5.4%.
- **Defence Budget Growth:** Increased from 2.53 lakh crore in 2013-14 to 6.81 lakh crore in 2025-26.
- **In 2024-25**, India achieved its highest-ever defence production of **₹1.50 lakh crore,** more than three times the 46,429 crore recorded in 2014-15.
- **Surge in Indigenous Defence Production:** 65% of defence equipment is now manufactured domestically, a significant shift from the earlier 65-70% import dependency.
- India targets **₹3 lakh crore** in defence production by **2029**, reinforcing its position as a global defence manufacturing hub.



Growth in Defence Exports

- **India's defence exports** have surged, from 686 crore in 2013-14 to **₹23,622 crore in 2024-25,** a 34-fold increase.
- **India's diverse export portfolio** includes bulletproof jackets, Chetak helicopters, fast interceptor boats, and lightweight torpedoes.
- India exports defence equipment to over **100 countries**, with the U.S., France, and Armenia, emerging as the top three destinations in 2023-24.

Government Intervention

- Government schemes such as **iDEX (Innovations for Defence Excellence)** and **DTIS (Defence Testing Infrastructure Scheme)** enable innovation within the Defence & Aerospace ecosystem.
- **Acing Development of Innovative Technologies with iDEX (ADITI) Scheme** is a sub-scheme within iDEX with an outlay of Rs 750 crore covering the period of 3 years from **2023–2024 to 2025–2026.**

- It aims to **support critical and strategic technologies** such as satellite communication, advanced cyber technology, artificial intelligence, quantum technology, nuclear technologies, and underwater surveillance.

- **Two Defence Industrial Corridors (DICs)** have been set up in **Uttar Pradesh and Tamil Nadu** to boost defence manufacturing. These corridors provide incentives to companies investing in the sector.
- **Self-Reliant Initiatives through Joint Action (SRIJAN):** Launched by the Department of Defence Production (DDP) in 2020 to promote indigenisation under Atmanirbhar Bharat.
  - Serves as a common platform for Defence Public Sector Undertakings (DPSUs) and the Armed Forces (SHQs) to list imported items for domestic manufacturing.
- **Ease of Doing Business (EoDB):**
  - **In 2019**, the Defence Product List was streamlined to reduce the number of items requiring a manufacturing licence.
  - The validity of defence licences under the **Industries (Development and Regulation) Act, 1951,** has been extended from three years to **15 years,** with a further extension option of up to 18 years.

Way Ahead

- **Provide Level Playing Field:** Ensure transparent procurement processes so that private firms compete fairly with DPSUs.
- **Strengthen Export Ecosystem:** Diversify export destinations and incentivise private companies to enter newer global markets.
- **Encourage Start-ups:** Expand support under iDEX and ADITI to nurture defence start-ups in AI, quantum, space, and cyber domains.
- **Promote Joint Ventures:** Facilitate partnerships with foreign defence majors for co-development and technology transfer.
- **Skill Development:** Launch specialised training programmes to create a skilled workforce for emerging defence technologies.

Source: TH

NEWS IN SHORT

HENRY DEROZIO EFFECT

In News

- In her book, **India's First Radicals: Young Bengal and the British Empire**, Rosinka Chaudhuri highlights **Henry Derozio's role in India's independence movement.**

About

- In 1826, Henry Derozio, a 17-year-old Anglo-Portuguese poet, became a lecturer at Hindu College, Calcutta.
- He was Dismissed in April 1831 for "propagating atheism," Derozio died soon after, but his students continued his legacy.

Influence

- His English poetry, especially **The Fakeer of Jungheera,** expressed nationalist anguish and a call for freedom.
- He inspired students to form the Academic Association, promoting liberty, reason, and reformist debate.
- The Derozians evolved into **Young Bengal,** a radical group challenging religious and social orthodoxy.
- In **1843**, they founded **India's first political party — Bengal British India Society** — with egalitarian aims.
- Their vision contrasted with Macaulay's anglicized elite; they were described by Alexander Duff as "a **new race of men in the East."**

Legacy & Ideological Continuity

- Though short-lived, Young Bengal's ideals — inclusivity, tolerance, intellectual openness — prefigured the visions of Gandhi and Nehru.
- Rosinka Chaudhuri frames their radicalism as foundational to India's modern political and cultural identity.

Source :TH

GLOBALLY IMPORTANT AGRICULTURAL HERITAGE SYSTEMS (GIAHS) IN INDIA

In News

- As per the Food and Agriculture Organization (FAO), India is currently home to three Globally Important Agricultural Heritage Systems (GIAHS).

The Globally Important Agricultural Heritage Systems (GIAHS)

- They are dynamic, community-managed farming systems that integrate agrobiodiversity, traditional knowledge, and cultural heritage to ensure sustainable livelihoods and food security.
- They are recognised by the FAO, 99 such systems have been designated across 29 countries.
- Recently, a **mountain agropastoral system in Tajikistan** has become Central Asia's first inclusion in the GIAHS.

- Additionally, a **pine tree agroforestry system** and a traditional bamboo-fishery system i**n South Korea**, and an **agrosilvopastoral system in Portugal have also been recognized.**

India's Globally Important Agricultural Heritage Systems (GIAHS)

- **Koraput region, Odisha** : It is known for highland subsistence paddy farming and rich diversity of indigenous rice varieties, along with medicinal plant resources linked to tribal knowledge systems.
- **Kuttanad farming system, Kerala** : It is a unique **below-sea-level agriculture model combining paddy fields**, coconut gardens, inland fisheries, and shell collection in a wetland ecosystem.
- **Saffron Heritage of Kashmir** : It features traditional saffron cultivation using intercropping and organic practices, supporting biodiversity and soil health.

Source :PIB

PARLIAMENT PASSES MINES AND MINERALS AMENDMENT BILL, 2025

Context

- Parliament passed the **Mines and Minerals (Development and Regulation) Amendment Bill, 2025**, aimed at promoting sustainable mining, and advancing the objectives of the **National Critical Mineral Mission.**
  - The bill will amend the **Mines and Minerals (Development and Regulation) Act, 1957.**

Key Provisions of the Bill

- The Bill provides that **lease holders may apply** to the state government **for adding other minerals to an existing lease.**
  - For inclusion of critical and strategic minerals, and other specified minerals, no additional amount needs to be paid.
  - These include minerals such as lithium, graphite, nickel, cobalt, gold, and silver.
- The Bill expands the scope of the National Mineral Exploration Trust, renaming it as the **National Mineral Exploration and Development Trust.**
- **Captive mines** are allowed to sell up to **50 per cent** of minerals produced in a year, after meeting end-use requirements.
  - The Bill removes the limit on sale of minerals and provides for establishing an authority to register and regulate mineral exchanges.
- The bill empowers the government to facilitate mineral trading through exchanges, allow the **sale of mineral dumps to reduce environmental hazards**, and promote extraction of deep-seated minerals.

Source: DD News

WHITE-COLLAR AND BLUE-COLLAR JOBS IN THE AGE OF AI

Context

- A recent report, The Work Ahead by job listing platform Indeed, highlights that both white-collar and blue-collar workers in India are increasingly embracing Artificial Intelligence (AI) to future-proof their careers.

White-Collar vs. Blue-Collar Jobs in the AI Era

- **White-Collar Jobs:** Traditionally involve cognitive and desk-based roles (finance, IT, legal, management).
  - AI is reshaping these by automating repetitive tasks, enabling focus on higher-value work, and requiring reskilling in digital literacy, data analysis, and AI ethics.
- **Blue-Collar Jobs:** Traditionally involve manual and skilled labour (manufacturing, delivery, construction).
  - With AI, tasks like predictive maintenance, safety monitoring, logistics optimization, and customer engagement are being digitized, requiring basic digital and AI familiarity.

Source: TH

AI DESIGNS ANTIBIOTICS

Context

- Researchers at the Massachusetts Institute of Technology (MIT) have developed two new potential antibiotics using generative artificial intelligence (AI) to combat drug-resistant **Neisseria gonorrhoeae and methicillin-resistant Staphylococcus aureus (MRSA).**
  - Gonorrhea is a **sexually transmitted infection (STI)** caused by the bacterium Neisseria gonorrhoeae.

About

- **Antibiotics are antimicrobial agents** that target specific bacterial processes, disrupting their growth or killing them.
  - **Alexander Fleming's** discovery of **penicillin in 1928,** from the fungus Penicillium notatum, led to the first modern antibiotic.
- **Superbugs**, also known as **multidrug-resistant microbes,** are infectious organisms, primarily bacteria, that have developed resistance to

multiple types of antibiotics and other antimicrobial drugs, making them difficult to treat.

Source: BBC

QUANTUM MECHANICS AND GENERAL RELATIVITY

In News

- A new study proposes a groundbreaking experiment to explore the intersection of **quantum mechanics and general relativity.**

Quantum Mechanics

- It describes the behavior of matter and energy at atomic and subatomic scales.
- It reveals wave-particle duality, where particles like electrons exhibit both wave-like and particle-like properties.
- Key concepts include superposition, entanglement, and quantization of energy.
  - Technologies like atomic clocks, quantum sensors, and quantum networks rely on these principles.

General Relativity

- It was proposed by Einstein in 1915, general relativity redefined gravity as the curvature of spacetime caused by mass.
- It is validated by phenomena like gravitational lensing, black holes, and time dilation.
- It's a continuous theory, describing large-scale structures like planets and galaxies.

Recent Research

- A new study proposes using entangled atomic clocks at different elevations to test how quantum systems behave in curved spacetime.
- By leveraging **robust W-state entanglement** and precision timekeeping with **ytterbium** atoms, the setup aims to detect minute frequency shifts caused by gravitational time dilation, offering a direct test of quantum coherence under relativistic conditions.

Importance

- The recent experiment could validate core quantum principles like unitarity and linearity in curved spacetime, and potentially reveal new physics.
- It marks a major step toward bridging quantum mechanics and general relativity using existing technologies.

Source :TH

PALMYRA PALM TREES

In News

- **Odisha ranks among the top states** in lightning-related deaths (as per IMD & NCRB data).
  - **Planting of Palmyra palm trees** is being promoted as a natural safeguard to lightning strikes.

About Palmyra Palm (Borassus flabellifer)

- **Origin & Status:** Tropical regions of South and Southeast Asia.
  - Declared the State Tree of Tamil Nadu.
- **Geographical Requirements:**
  - Highly adaptable soil, grows in sandy, red, black, alluvial, arid, and even wasteland soils.
  - Well-suited to semi-arid regions with less than 750 mm of annual rainfall.
  - Can live up to 100 years or more.
- **Utility:**
  - Fruits are edible (toddy, palm sugar, jaggery, palm fruit jelly).
  - Leaves used for thatching, mats, writing material in ancient times.
  - Deep roots prevent soil erosion.
  - Helps in groundwater recharge.
  - Provides fodder and shade in arid regions.

Source: DTE

SALTWATER CROCODILES IN SUNDARBANS

Context

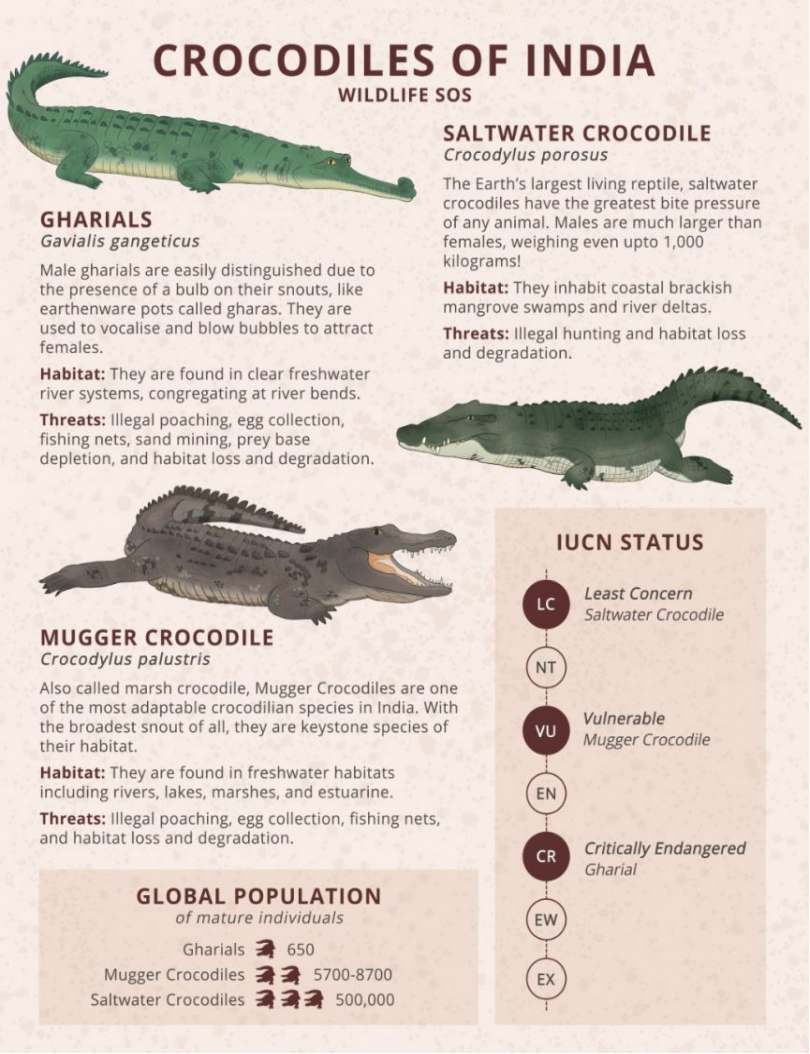
- A recent report titled "Population Assessment and Habitat Ecology Study of Saltwater Crocodiles in Sundarbans 2025" highlights an increase in the population of saltwater crocodiles in the **Sundarban Biosphere Reserve (SBR).**

Estuarine or Saltwater crocodile (Crocodylus Porosus)

- In India, saltwater crocodiles are distributed across the swamplands, rivers, mangroves of **Odisha and West Bengal** and the coastal areas of the **Andaman and Nicobar Islands.**
  - They are the largest living reptile on earth.
- **Ecological Significance:** It maintains ecological balance as a hypercarnivorous species and keeps flowing water clean by feeding on carcasses and wild remains.
- **Conservation status:**
  - **IUCN Status:** Least Concern
  - It is listed under **Schedule 1** of the Wild Life (Protection) Act, 1972.

Crocodiles Species in India

- **India is home to three main kinds of crocodile species** – the gharial (gavialis gangeticus), the saltwater crocodile (crocodylus porosus), and the mugger (crocodylus palustris).
- **Odisha is uniquely positioned by hosting wild populations** of all three crocodile species.



Sundarban Biosphere Reserve (SBR)

- Sunderban is the **largest delta (Ganges–Brahmaputra–Meghna delta) and mangrove forest** in the world.
- **Location:** The Sundarbans Biosphere Reserve or Indian Sundarbans is situated in West Bengal and covers an area of **9,630 square kilometers.**
  - The region is situated **south of the Tropic of Cancer.**
- **River system:** It is bounded on the west by **river Muriganga** and on the east by rivers **Harinbhahga** and **Raimangal.**
  - Other major rivers flowing through this eco-system are Saptamukhi, Thakuran, Matla and Goasaba.
- **Ecological Significance:** It is home to 34 mangrove species, including true mangroves like **Heritiera fomes** and **Excoecaria agallocha.**
  - **Fauna:** Royal Bengal Tiger, Fishing Cat, Olive Ridley Turtles, Irrawaddy Dolphins etc.
  - **Ecosystem Services:** Carbon sink, storm surge buffer, nursery for fisheries.

Recognitions of Sundarban Biosphere Reserve (SBR)

- The core area (Sunderban National Park) was designated as a **World Heritage site** in **1987.**
- It was declared a **UNESCO Biosphere Reserve** in **1989.**
- The Sundarban Wetland was designated as a **Ramsar site in 2019.**

Source: TH

REVIVAL OF CORALS IN THE GULF OF MANNAR

Context

- Coral reefs in the **Gulf of Mannar, located off the coast of Tamil Nadu**, have undergone a significant revival due to over two decades of dedicated scientific restoration efforts.

About

- Corals are **invertebrates** that belong to a large group of animals called **Cnidaria**.
  - Corals are formed by **multiple small, soft organisms known as polyps.**
  - They secrete a **rocky chalk-like (calcium carbonate) exoskeleton** around themselves for protection.
  - **Coral reefs** are therefore created by **millions of tiny polyps forming large carbonate structures.**
- **Appearance:** Corals range in colour from **red to purple and even blue,** but are most commonly shades of **brown and green.**
- **Coral reefs in India:** Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, Lakshadweep Island and Malvan.

About the Gulf of Mannar

- It is one of India's coral-rich regions, covering about 100 sq.km, with high species diversity of reef-building corals (117 species reported).
- It is a large shallow bay in the **Laccadive Sea**, lying between the southeastern tip of India and western Sri Lanka.
- It is bounded by Rameswaram (island), Adam's (Rama's) Bridge (a chain of shoals), and Mannar Island; approximately 130–275 km wide and 160 km long.

Source: TH

PALM CIVET

Context

- **Civet** problem forces Kerala High Court to adjourn for the day.

About Palm Civet (Paradoxurus hermaphroditus)

- **Common names:** Asian palm civet, common palm civet, and toddy cat.
- **Appearance:** Often mistaken for a cat; **known for its pungent urine**, making its presence noticeable in enclosed spaces.
- **Ecological role:** Important for forest ecosystems as a **seed disperser**, supporting biodiversity.
- **Diet:** It is an **omnivore** and feeds mostly on fruits and berries and occasionally small mammals and insects.
- **Habitat and Activity:** It is widely found in **south and southeast Asia**, and is known to be most active between night and dawn.
- **Threats:** Deforestation, land conversion for agriculture, and wildlife trafficking.
- **Conservation status: Least Concern** (IUCN).

Do you know?

- **Kopi luwak (civet coffee)** is made from coffee cherries partially digested and excreted by the Asian palm civet.
- The digestion process **reduces acidity** in the beans, giving the coffee a unique flavor.

Source: TH