

DAILY CURRENT AFFAIRS (DCA)

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26TH SHANGHAI COOPERATION ORGANISATION (SCO) SUMMIT

Context

- The **26th Shanghai Cooperation Organisation (SCO) Summit** has been concluded in Kyrgyzstan.

Major Highlights

- It is being held to mark the **25th anniversary** of the Shanghai Cooperation Organisation.
- **The theme of this year's SCO summit** is '25 Years of the SCO: Together Towards Sustainable Peace, Development and Prosperity'.
- It concluded with **key outcomes covering counter-terrorism, climate action, energy, disaster management and digital cooperation**.
- **Bishkek Declaration:** The summit adopted the historic Bishkek Declaration.
 - ♦ **English** has been adopted as an official SCO language.
 - ♦ Leaders also agreed to establish a **Universal Centre for Countering Security Threats**.
- **Tackling Drug Trafficking:** Stronger coordination among law enforcement agencies and a cooperation programme on combating drug addiction until 2030.
 - ♦ The measures support India's efforts against cross-border narcotics trafficking and narco-terrorism.
- It also emphasized the **non-military nature of the SCO**, saying its members adhere to an approach that excludes bloc-based and confrontational methods.
- The summit also approved **closer cooperation between the SCO and the African Union Commission** and **designated Lahore, Pakistan, as the SCO's tourism and cultural capital for 2026-2027**.
 - ♦ **Pakistan will take over the SCO chairmanship from Kyrgyzstan** and host the next meeting of the Council of Heads of State in 2027.

Shanghai Cooperation Organisation (SCO)

- **Shanghai Five** emerged in **1996** from a series of border demarcation and demilitarization talks between **4 former USSR republics and China**.

- ♦ **Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan** were members of the Shanghai Five.
- ♦ With the accession of **Uzbekistan** to the group in **2001**, the Shanghai Five was renamed the SCO.
- **Objective:** To enhance regional cooperation for efforts to curb terrorism, separatism, and extremism in the Central Asian region.
- **Members (10):** China, Russia, India, Pakistan, Iran, Belarus and the four Central Asian countries of Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan.
 - ♦ India became a full member in **2017** and assumed the rotating **chairmanship in 2023**.
 - ♦ Member countries contribute around **30% of the global GDP** and about **40% of the world's population**.
- **Observer status:** Afghanistan and Mongolia.
- **Language:** The SCO's official languages are Russian and Chinese. English has been added in the 26th summit.
- **Structure:** The supreme decision-making body of the SCO is the **Council of Heads of States (CHS)** which meets once a year.
 - ♦ **The Organization has 2 standing bodies** — the Secretariat in Beijing and the Executive Committee of the Regional Anti-Terrorist Structure (RATS) in Tashkent.

Significance for India

- **Regional Security:** The SCO serves as a platform for addressing security concerns, including terrorism, separatism, and extremism, which are critical issues for India.
 - ♦ Through SCO's Regional Anti-Terrorist Structure (RATS), India collaborates on intelligence sharing and counter-terrorism efforts.
- **Balancing China and Pakistan:** While both are SCO members, the forum allows India to assert its position and prevent the formation of anti-India narratives.
- **Energy Security:** Central Asia is rich in oil, gas, and uranium. SCO membership allows India to strengthen energy ties with these countries.

- **Economic Cooperation:** The organization facilitates economic collaboration among member states, which enhance trade and investment opportunities for India, particularly with Central Asian countries.
- **Central Asia:** The **SCO is especially important for India** because its membership and focus emphasize **Central Asia**—a region where **India is keen to ramp up ties** but faces an inherent constraint with its outreach.

Challenges

- **China-Pakistan Axis:** The strong partnership between China and Pakistan within the SCO complicates India's strategic positioning, as at times it limits India's influence in regional security discussions.
- **Geopolitical Tensions:** Ongoing border disputes and geopolitical tensions with China and Pakistan spill over into SCO discussions, making it difficult for India to engage constructively.
- **Focus on Security over Economic Development:** The SCO's primary focus on security issues sometimes overshadow economic and developmental cooperation, which are crucial for India's interests in the region.
- **Institutional limitations:** Decision-making within SCO is consensus-based, slowing progress on key issues.

Conclusion

- SCO is a strategic platform for India to engage with Eurasian powers, promote regional stability, secure economic and energy interests, and enhance counter-terrorism cooperation.
- Despite challenges, India uses SCO to promote its vision of "Security and Growth for All in the Region (SAGAR)" and as a counterbalance to Western alliances.

Source: AIR

INDIAN STATISTICAL INSTITUTE BILL, 2026

Context

- The Indian Statistical Institute Bill, 2026, has been referred to the Department-Related Standing Committee on Finance for detailed examination.

About

- The **Indian Statistical Institute Bill, 2026**, provides a legal framework for the **Indian Statistical Institute, Kolkata (ISI)**.
- The Bill seeks to repeal and replace the **Indian Statistical Institute Act, 1959**.

Indian Statistical Institute

- **Professor P.C. Mahalanobis** founded the Indian Statistical Institute in Kolkata in **1931**.
- The institute gained the status of an Institution of National Importance by an act of the **Indian Parliament in 1959**.
- ISI provides education, research, and training in statistics.

Key Provisions of the Bill

- **Incorporation:** ISI is presently registered as a society under the West Bengal Societies Registration Act, 1961.
 - ♦ The Bill provides that ISI will be a corporate body and will be a not-for-profit legal entity.
- **Visitor:** The President of India will be the visitor of the institute.
- **Board of Governors:** ISI will have a Board of Governors as the **principal policy-making** executive body.
 - ♦ **The Chairperson of the Board** will be a distinguished person in academia, industry, education, public policy, statistical sciences and allied sciences, or other such fields.
 - ♦ The Chairperson will be nominated by the Visitor on the recommendation of the central government.
- **Councils:** The Bill establishes;
 - ♦ **An academic council** as the principal academic body to decide matters such as courses, admissions, examinations, and evaluation,
 - ♦ **A finance committee** to scrutinise accounts and expenditure, and
 - ♦ **A management council** for each centre.
- **Director:** The Board will appoint a Director who will be the chief executive officer, with prior approval of the Visitor. The Director will be responsible for implementing the decisions of the **Board and the academic council**.

What are Parliamentary Standing Committees?

- Parliamentary Standing Committees (PSCs) are **permanent committees of Parliament** constituted to examine, scrutinise, and oversee the functioning of the executive.
- These committees **continue to function throughout the year**, unlike ad hoc committees, which are temporary.
- **Types of Parliamentary Standing Committees:**
 - ♦ **Department-Related Standing Committees (DRSCs):** It examines demands for grants from ministries, bills referred to them and policy issues. Example: Parliamentary Standing Committee on Finance
 - ♦ **Financial Committees:** Public Accounts Committee (PAC), Estimates Committee and Committee on Public Undertakings.
 - ♦ **Other Standing Committees:** Business Advisory Committee, Committee on Privileges and Rules Committee.

Source: TH

FEMINISATION OF AGRICULTURE

In News

- Women now constitute a major portion of India's agricultural workforce, mainly because men are shifting to non-farm jobs.

Feminization of agriculture

- It refers to the increasing participation and leadership of women in the agriculture sector.
- In India, women have always played a significant role in agriculture, whether as cultivators or laborers.

Present Status and Trends

- Agriculture employs nearly **46 per cent of the country's workforce** but contributes barely **17 to 18 per cent of its GDP**.
- Today, women make up almost **60% of India's agricultural labour**, a shift caused by more and more males transferring to non-farm jobs.
 - ♦ This has resulted to the **feminisation of agriculture** with more farming responsibilities for women, but little control over land and resources.

- **Across Asia, male migration and industrialisation have also boosted the importance of women in agriculture** in Nepal and China, while land ownership is often concentrated in the hands of men.

Key Reasons

- **Male Migration:** Rural misery, declining farm land sizes, and variability in agricultural revenue have pushed male family members to relocate to metropolitan centers to seek non-farm jobs.
 - ♦ Women are left to oversee the family farm and household chores.
- **Mechanisation and Menial Tasks:** Men are primarily responsible for heavy machinery (e.g., tractors, harvesters), and female labourers are still relegated to manual and repetitive field work.
- **Economic compulsion:** Due to the economic distress of their families, women often become wage labourers on surrounding farms to augment household income.

Benefits

- **Economic Empowerment:** Women in rural regions can become financially independent and manage household expenses through farming and SHG participation.
- **Better Family Well-Being:** Evidence demonstrates that women's income is more likely to be used for children's education, family healthcare and nutrition.
- **Sustainable farming:** Women have preserved the traditional knowledge of the ecology that promotes natural farming, seed preservation, crop diversity and integrated animal management.

Challenges Faced by Women Farmers

- **No land title rights and Credit issues:** Cultural and structural restrictions prevent women from obtaining land titles.
 - ♦ Agricultural loans from financial institutions are secured against land, and women are forced to borrow from informal moneylenders at exorbitant rates of interest.
- **Lack of Market Linkages:** Social conventions limit women's mobility, preventing their direct negotiation at Mandis (APMCs) or fair market pricing.
- **Triple Burden of Work:** Women are caught in a "triple burden" of work - farm operations, home care duties and child-rearing - resulting in significant time poverty and health pressure.

- **Wage Inequality:** Daily salaries of female agricultural labourers are always less than those of male agricultural labourers for the same number of hours of fieldwork.

Various Initiatives

- The government has launched a number of projects to extend financing to women farmers, horticulture, pulses, and direct financial support.
- Under the **Modified Interest Subvention Scheme (MISS)**, short-term Kisan lending Card loans of up to ₹3 lakh are provided at 7% interest.
 - ♦ The collateral-free lending limit has been increased to ₹2 lakh from January 2025 with initiatives to increase women's access.
- The **Mission for Integrated Development of Horticulture (MIDH)** helps farmers (particularly women) in horticulture production and post-harvest infrastructure.
- **The Dalhan Aatmanirbharta Mission**, with an outlay of ₹11,440 crore for 2025–26 to 2030–31, supports climate-resilient pulses, storage and assured procurement, including at least 20% of financing for women farmers.
- **PM-KISAN** also provides annual payment of ₹6,000 through DBT to qualifying landholding farmer households, where women beneficiaries account for over 25% of the total benefits, thus improving the financial security of women.
- **Agriculture Infrastructure Fund (AIF)** is intended to boost agricultural infrastructure.
 - ♦ It focuses on post-harvest facilities including storage and logistics, helping farmers reduce losses, store product and get higher pricing.
 - Special emphasis has also been given to women farmers under the initiative
- **Agricultural Marketing Infrastructure (AMI) scheme**, is a part of the Integrated Scheme for Agricultural Marketing (ISAM), helps to develop and upgrade rural godowns and warehouses.
 - ♦ Women farmers, SC/ST promoters, FPOs and beneficiaries in North-Eastern and hilly areas get 33.33% subsidy, whereas farmers in plain areas are given 25% subsidy.
- **Namo Drone Didi Scheme** intends to supply 15,000 drones to women SHGs in 2023-24 to 2025-26, with an outlay of ₹1,261 crore. 80% financial help (up to ₹8 lakh) and training of farmers and drone pilots/assistants to offer agricultural drone services by women and generate new employment prospects.

- **The Sub-Mission on Agricultural Mechanisation (SMAM)** also facilitates women's access to farm technology through support to Custom Hiring Centers besides 50% help up to ₹5 lakh for purchase of drones by qualifying women farmers.
- **The National Beekeeping and Honey Mission (NBHM)** supports scientific beekeeping via training, skill development and capacity building, allowing women to obtain additional income and employment from honey and other bee products.
- **Deendayal Antyodaya Yojana–National Rural Livelihood Mission (DAY-NRLM):** DAY-NRLM works toward women's economic empowerment through SHGs, access to formal financing, self-employment and diverse agricultural livelihoods.

Conclusion

- The feminisation of agriculture reflects a **major transformation in India's rural economy**, with women increasingly serving as the backbone of agricultural production while remaining disadvantaged in terms of land ownership, income, institutional recognition and decision-making power.
- The challenge is to **transform women from merely agricultural labourers into independent farmers, resource owners and decision-makers** through joint land titling, accessible and collateral-free credit, gender-sensitive extension services, entrepreneurship support, women-friendly and drudgery-reducing machinery, collective institutions and social protection.
- Such measures can turn **feminisation from a symptom of rural distress into an opportunity for women's empowerment**, inclusive agricultural growth, food security and sustainable rural development.

Source : DTE

E-WASTE: FROM ENVIRONMENTAL LIABILITY TO URBAN MINE

Context

- The idea of **'urban mining'** i.e. recovering metals from discarded products is gaining importance for India's resource security and circular economy.

About E-Waste

- E-waste refers to discarded **electrical and electronic equipment (EEE)** and their components.

- It contains valuable materials such as **copper, aluminium, gold, silver and palladium**, alongside hazardous substances such as lead, mercury and certain persistent chemicals.
- Thus, e-waste presents a **dual character**:
 - ♦ **Urban mine**: a concentrated secondary source of valuable and critical materials.
 - ♦ **Hazardous waste**: unsafe dismantling and processing can contaminate soil, air and water and expose workers to toxic substances.

Present Status: Global & India

- Globally, e-waste generation is increasing faster than formal recycling capacity.
 - ♦ The **Global E-waste Monitor 2024** estimated **62 million tonnes of e-waste in 2022**, with only about **22.3% formally collected and recycled**.
- India ranks as the **third-largest** producer of electronic waste globally, following **China and the United States**.
 - ♦ It generated **6.2 million tonnes of e-waste in FY24**, projected to **more than double to 14 million tonnes by 2030**.
- According to the **Global E-waste Monitor**, E-waste generation in India has increased from about **2.76 MMT in 2020** to about **6.19 MMT in 2024** and is projected to reach 14 MMT by 2030.

Key Concerns & Challenges

- **Economic viability**: Advanced recycling requires collection, segregation, sophisticated recovery technologies, safe data destruction and environmentally compliant processing.
 - ♦ Hence, recycling may appear costlier than simply selling obsolete equipment for maximum resale value.
- **Informal recycling**: Informal dismantling and crude recovery methods can cause occupational and environmental hazards while reducing recovery efficiency.
- **Strategic resource loss**: Failure to recover metals from discarded electronics increases dependence on imported minerals and exposes India to global supply-chain disruptions.
- **Data-security risks**: Reuse or resale without secure data destruction can create significant cybersecurity and privacy vulnerabilities.

- **Weak life-cycle valuation**: Lowest-price procurement often ignores environmental costs, resource security, domestic industrial capability and future liabilities i.e. the '**second balance sheet**' of every transaction.

Related Measures

- **Global**:
 - ♦ **Basel Convention** regulates transboundary movement of hazardous wastes. **India is a party to it.**
 - ♦ **Extended Producer Responsibility (EPR)** makes producers responsible for the post-consumer management of products.
 - ♦ Several economies are shifting towards **life-cycle costing, circular-economy principles and right-to-repair** frameworks.
- **India**:
 - ♦ **E-Waste (Management) Rules, 2022** strengthened EPR through producer obligations and a formal system of EPR certificates.
 - ♦ The **CPCB** regulates and monitors e-waste management and authorised recyclers.
 - ♦ India's **National Critical Mineral Mission** seeks to strengthen exploration, processing, recycling and recovery of critical minerals.
 - ♦ **'Manak Manthan' on 'E-Waste Management — Guidelines'**: By Bureau of Indian Standards (BIS) focusing on creating awareness and facilitating stakeholder interaction.
 - ♦ Government initiatives promoting a **circular economy and resource efficiency** can integrate urban mining into industrial policy.

Way Forward

- Shift from **lowest-price procurement to life-cycle/value-based procurement**, incorporating environmental and strategic benefits.
- Strengthen **EPR enforcement**, with outcomes based on actual recovery rather than merely inexpensive compliance certificates.
- Build integrated collection, segregation and recycling infrastructure and formally integrate informal workers.
- Promote **design for repair, reuse and recyclability**, supported by right-to-repair mechanisms.
- Develop domestic technologies for recovering **critical minerals and precious metals** from e-waste.
- Mandate robust **data sanitisation and traceability** for discarded IT assets.

- Use public procurement to create assured demand for **secondary raw materials**.

Source: TH

INDIA'S DATA CENTRE BOOM IS COLLIDING WITH ITS CLIMATE REALITY

Context

- Global tech giants such as Google, Meta, Amazon, Microsoft have committed billions to build facilities across the country.
 - ♦ The government estimates that **data centres will drive nearly \$200 billion in investment** over the coming decade.

Data Centres in India

- Data centre capacity in India has **nearly tripled from 520 megawatts in 2020 to nearly 1.5 gigawatts today**.
- **By 2030**, it is projected to **hit 6.5 GW**, which is a **fourfold expansion** in just **four years**.
- **Electricity demand** from these facilities is expected to rise from **about 13 terawatt-hours (TWh) in 2024** to roughly **57 TWh by 2030**.
 - ♦ The Union Ministry of Power estimates that **artificial intelligence alone will add 26.3 gigawatts of new demand by 2031-32**.
- **Most data centres are clustered around existing tech hubs** of Mumbai, Hyderabad, Bengaluru, and the National Capital Region. These are precisely the places where **water and grid stress are already most acute**.

Concerns with Expansion of Data Centres

- **Water Consumption:** A 100 MW data centre consumes about 2 million litres of water daily. That is equivalent to the daily use of roughly 6,500 households.
 - ♦ India's data centres consumed an estimated 150 billion litres of water in 2024-25. By 2030, that figure is projected to more than double to 358 billion litres annually.
- **Water Stressed Regions:** The water use matters because data centres are clustering in **India's most water-stressed regions**.
 - ♦ Rajasthan extracts 147.11% of its annual groundwater recharge, the second highest rate in the country.
 - ♦ Several groundwater assessment units in Maharashtra are classified as semi-critical.

- ♦ Hyderabad's surface water supply dropped 20% during the summer of 2024 due to poor monsoon recharge, forcing the water board to ration supply.
- **India's power grid** is already straining under record demand. India curtailed 300 GW-hours of renewable energy in the first quarter of 2026 alone, simply because the grid could not carry it.
 - ♦ Over the past five years, India has met only about 80% of its annual transmission targets.
- **Renewable Energy Challenges:** Solar projects are being built faster than the wires to carry their power. This matters because data centres need reliable, uninterrupted electricity.
 - ♦ If renewable energy cannot reach them, the power will come from coal, adding to the burden of carbon emissions that India is trying to curtail.
- **Rise in Surface Temperature:** A study found that data centres raise land surface temperatures by an average of 2°C within a 10 km radius, with extreme cases reaching 9.1°C.
 - ♦ The study estimates that approximately 340 million people globally live within these affected zones.
- **The Governance Gap:** The data centre policies of various States offer generous incentives in the form of electricity duty exemptions, transmission charge waivers, stamp duty relief, and fast-track clearances.
 - ♦ None of the major State policies require a grid impact assessment before commissioning.

Way Ahead

- Governments should introduce **phased power and water use standards** with enforceable benchmarks.
- **A national AI Energy Star rating** would let buyers and regulators compare how energy-efficient a facility or model actually is.
- **A national sustainability framework:** It would establish minimum standards for renewable energy sourcing, water consumption disclosure, grid impact assessment, and thermal load evaluation.
 - ♦ It would create a common set of expectations for investors and a common set of protections for consumers.
 - ♦ It would also recognise that environmental constraints are economic constraints, and that ignoring them only creates larger costs later.

Conclusion

- The rapid adoption of AI worldwide is set to transform both the energy sector and the environment.
- AI-driven data centres are projected to multiply electricity and water demand—raising concerns of higher CO emissions, resource stress, and e-waste.
- AI also offers powerful solutions by enabling energy efficiency, renewable integration, and climate adaptation.
- The challenge ahead lies in ensuring that AI's energy-hungry growth is powered by clean, sustainable sources while leveraging its potential to build a greener, more resilient future.

Source: TH

NEWS IN SHORT

ARTICLE 142 OF THE CONSTITUTION

Context

- The Supreme Court of India took a rare and extraordinary step under **Article 142** to quash FIRs registered against Gen Z NEET-UG protesters.

What is Article 142 of the Constitution?

- Article 142 of the Constitution deals with the enforcement of decrees and orders of the Supreme Court to do "complete justice" in any matter pending before it.
- While the powers under Article 142 are extraordinary in nature, the apex court has defined its scope and extent through its judgments over time.
- In the **Prem Chand Garg case (1962)**, the Supreme Court held that orders passed under Article 142 must be **consistent with fundamental rights** and cannot contravene constitutional provisions.
- **Landmark judgments under Article 142**
 - ♦ **Ayodhya Case (2019):** The Supreme Court directed the Union government to establish a trust for the construction of the Ram Temple and awarded the disputed 2.77-acre site for the temple.
 - ♦ **Bhopal Gas Tragedy Case (1991):** The Supreme Court ordered **Union Carbide Corporation (UCC)** to pay \$470 million in compensation for the victims of the tragedy.

- ♦ **Highway Liquor Case (2016):** The Supreme Court restricted the sale of liquor within 500 metres of national and state highways to curb accidents caused by drunk driving.
- ♦ **Chandigarh Mayor Election Case (2024):** The Supreme Court invoked Article 142 to declare AAP candidate Kuldeep Kumar as the winner, after finding that the presiding officer had deliberately invalidated eight ballots.

Source: TH

TOTALISERS FOR VOTE COUNTING IN EVMS

Context

- The Supreme Court has asked the Union Government to examine the introduction of totaliser machines for counting votes recorded in Electronic Voting Machines (EVMs) to protect the secrecy of booth-wise voting patterns.

What is a Totaliser?

- A totaliser is an electronic interface designed to **aggregate votes recorded in multiple EVMS** before declaring the result.
- It can connect the control units of approximately 14 EVMs or polling stations and provide only the combined vote total for each candidate. Thus, individual **booth-wise voting patterns are not disclosed**.
- The technology was developed by:
 - ♦ Bharat Electronics Limited, Bengaluru; and
 - ♦ Electronics Corporation of India Limited, Hyderabad.

What are Electronic Voting Machines (EVMs)?

- It is a device used to **electronically record and count votes** cast in elections.
- EVMs were first used in **1982** in the Assembly constituency of Paravur in Kerala in 50 out of 123 booths.
- EVM has two parts, it consists of a **'control unit'** and a **'balloting unit'**, connected by a **5-meter cable**.
 - ♦ The control unit is with the Election Commission-appointed polling officer and it is the brain of the EVM.

- ♦ The balloting unit is in the voting compartment into which the voter enters to cast the vote in secret by pressing the button against the name and symbol of the candidate of her choice.
- ♦ **The balloting unit** is turned on only after the polling officer presses the 'Ballot' button on it.

Voter Verified Paper Audit Trail (VVPAT)

- A VVPAT is intended as an independent verification system for voting machines designed to allow voters to verify that their vote was cast correctly.
- It contains the name of the candidate (for whom vote has been cast) and symbol of the party/individual candidate.
- When a vote is cast, the VVPAT machine, which is attached to the **ballot unit (BU)** of the **EVM**, **prints out a slip of paper** with the **voter's choice indicated** on it.
 - ♦ Though it remains behind glass, the printed slip is visible for **seven seconds** so the voter can see that the vote has been recorded correctly, before it falls into a box underneath.
- The idea of the VVPAT machine **first emerged in 2010**. However it was used for the first time in the **Noksen Assembly constituency of Nagaland in 2013**.
 - ♦ **The Conduct of Elections Rules, 1961** were amended in **2013** to allow for a printer with a drop box to be attached to the EVM.
- From 2017, 100% of VVPATs began to be used in polls, and the **2019 Lok Sabha elections became the first general election to have 100% of EVMs being attached to VVPATs**.

Source: TH

INTEGRATED FERTILISER MANAGEMENT SYSTEM (IFMS)

Context

- The Integrated Fertiliser Management System has entered a new phase with the introduction of a series of digital initiatives that enable more effective, data-driven monitoring of the fertiliser supply chain.

About iFMS

- **The Integrated Fertilizer Management System (iFMS)** is a national-level digital platform for end-to-end monitoring and management of the fertilizer supply chain in India.
- It has been developed and technically supported by the **National Informatics Centre (NIC)** for the **Department of Fertilisers**, under the Ministry of Chemicals and Fertilisers.
- The system is increasingly being developed into a **data-driven monitoring and decision-support platform** through its integration with farmer, land and crop-related databases.
- **Key Features:**
 - ♦ iFMS is being integrated with State-level farmer, land and crop databases, including **Meri Fasal Mera Byora (MFMB) in Haryana**, and with AgriStack.
 - ♦ **The Vehicle Location Tracking System (VLTS)** links fertilizer dispatch and Goods-in-Transit information with vehicle-location data. It improves visibility of fertilizer consignments during transit and helps identify delays and unusual movement patterns.
 - ♦ **Framework for Fertiliser Sale (FFS):** The initiative connects a mobile application-based fertiliser booking system with the existing iFMS Point-of-Sale (PoS) ecosystem.
 - ♦ **Electronic Subsidy Processing:** iFMS plays a central role in fertiliser subsidy administration, with subsidy payments linked to actual fertiliser sales recorded through the PoS network.

Source: PIB

INDIA'S CURRENT ACCOUNT DEFICIT WIDENS

In News

- India's current account deficit (CAD) widened slightly to \$4.2 billion (0.5% of GDP) in Q1 FY27, from \$3.4 billion (0.4% of GDP) a year earlier, mainly because the merchandise trade deficit increased sharply.

Current Account Deficit

- It is a component of the **balance of payments system**, which records all financial transactions between a country and the rest of the world.

- It occurs when a country's total imports of goods, services and transfers are more than its total exports and transfers out.
- It includes trade in commodities and services but also revenue from investments overseas and unilateral transfers, such as remittances and international aid.

Causes

- Trade Imbalance:** A country has a deficit in the balance of trade when it imports more products and services from other countries than it exports to them.
- Flows of investment:** Capital flows (FDI and portfolio investment) can cause CAD by increasing demand for imports or by funding domestic consumption and investment.
- Exchange Rate Fluctuations:** Changes in the value of the currency, depreciation or appreciation, will affect the cost of imports and exports and the current account balance.

Implications

- Economic:** A stable CAD can depress a country's external financial position, making it more sensitive to external shocks and currency depreciation.
- Policy challenges:** CAD may tempt policymakers to respond with fiscal and monetary policies, trade policy and structural measures to improve competitiveness.
- Business Environment:** CAD can impact firms through the exchange rate, interest rate, inflation, and trade policies, which affect cost, pricing, and competitiveness.

Source: TH

IAF'S HIGHEST-RANKING WOMAN

Context

- In a historic milestone for the Indian Air Force (IAF) and defence forces, Air Vice **Marshal Shakti Sharma** scripted history and became the first woman officer (non-medical) to attain the rank of **Air Vice Marshal (or equivalent)**.

About

- Before creating history by the elevation to AVM, Sharma was also the **first woman** from the Tri-Services to command a **Sainik School**. She served as the principal of **Sainik School, Kapurthala**.

- One of the key reasons why a woman officer could achieve this feat is attributed to the Indian Air Force (IAF) officially granting **Permanent Commission status** to women officers in **2010**. Since then, the IAF has streamlined opportunities for their promotion and career development, including their participation in various career courses.
- The Army and the Navy started granting **Permanent Commission** to women officers in select arms/services and branches in **2008**. However, that was extended to multiple other branches in **2020** after the Supreme Court's intervention.



Source: PIB

INDIA IS REVIVING SANDALWOOD CULTIVATION

In News

- India is witnessing a renewed push to revive **sandalwood (*Santalum album*) cultivation**, with the Union Budget 2026-27 highlighting its cultural and economic importance.

Sandalwood (*Santalum album*)

- It is a **tall evergreen tree** from the Santalaceae family, characterized by its hemiparasitic roots and intensely aromatic yellowish-brown heartwood.

- It can grow up to 12 to 15 m in height and is a partial root parasite. The species mainly occurs in lowland tropical forest and woodland.
- It is **native to India, Sri Lanka, eastern Indonesia and Australia**.
 - ♦ The cultivation has spread from the typical southern states to Telangana, Gujarat, Madhya Pradesh and Andhra Pradesh and areas of north India.
- Santalum album is listed as **Vulnerable by the IUCN**.
- India has traditionally been a **big producer and exporter of sandalwood**, but dwindling stocks and output have undermined its position, making it more dependent on imports.
- By 2024, sandalwood plantations were estimated at 23,000–30,000 ha, increasing by roughly 600 ha each year, with the Ministry of AYUSH supporting plantations at about 3,275 ha.
- It is primarily cultivated for **sandalwood oil and is widely used in products such as incense, perfumes, and cosmetics**.
 - ♦ Its medicinal properties consist of a wide range of uses, including antimicrobial and antifungal properties.

Source: DTE

WAKEFIELD ACCELERATORS

Context

- **Wakefield accelerators** are at experimental stage, and can create very strong electric fields over a short distance, potentially **making particle accelerators much smaller**.

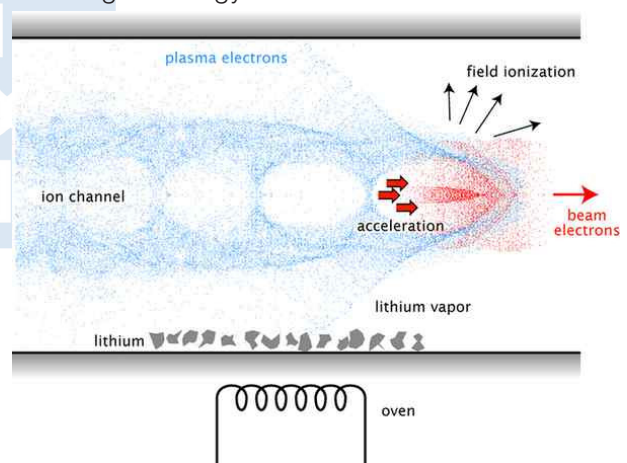
About

- A **particle accelerator** is a machine that uses **electric and magnetic fields** to make tiny particles, such as electrons or protons, to move **at extremely high speeds**.

- ♦ **The Large Hadron Collider (LHC)** is a huge particle accelerator in Europe. It is about **27 km long** and can accelerate protons to almost the **speed of light**.
- The newer accelerators **can be much smaller**, one such technology is **wakefield accelerator**.

Wakefield Accelerator

- It uses **plasma**, which is a **gas containing free electrons and positively charged ions**.
 - ♦ A **laser pulse or particle beam passes** through the plasma and pushes the electrons aside. The positively charged ions pull the electrons back.
 - ♦ **The electrons move back and forth**, creating a travelling wave of electric fields, called a wakefield.
- **Other electrons are injected at the right point into this wave**. They can “surf” the electric wave and gain energy.



- **Limitation:** They are still limited as the current wakefield accelerators can accelerate electrons to only a few tens of GeV, while the LHC can reach energies up to about 1,000 times higher.

Source: TH

