UPSC Daily Current Affairs| Prelim Bits 30-05-2025

Satellite Tree Monitoring for Volcano Prediction

Prelims *– General issues on Environmental ecology, Bio-diversity and Climate Change.*

Mains – *General Studies-III (Conservation, environmental pollution and degradation, environmental impact assessment).*

Why in news?

NASA scientists have recently stated that they can detect early signs of volcanic eruptions by observing the changing colors of leaves from trees.

- **Underground Activity** – When a volcano is preparing to erupt, rising magma releases carbon dioxide (CO_2) and sulfur dioxide (SO_2) gases.
- **Tree Response** – Trees near the volcano absorb this extra CO_2 through their roots, which acts like fertilizer.
- **Visual Change** – The extra CO_2 makes the trees healthier and greener, which can be visible from space satellites.
- **Early Detection** – Scientists can spot these color changes in satellite images before traditional warning signs appear.
- **Satellite Eyes** – NASA scientists are using satellites to look at the color of tree leaves around volcanoes. If they see the trees getting greener, it's a red flag.
- **Healthier and greener trees** – Trees absorb CO_2 through their roots. More CO_2 from the volcano means more "food" for the trees, making them grow healthier and greener.
- **Partnership** – NASA scientists have partnered with *AVUELO (Airborne Validation Unified Experiment: Land to Ocean)*, to detect early signs of volcanic eruptions by observing the changing colors of leaves from trees.

India has active volcanoes like Barren Island in Andaman & Nicobar and this technology could enhance India's disaster management capabilities.

Significance of the discovery

- **Early Warning** – This method could provide an earlier warning for volcanic eruptions than traditional methods (like seismic activity or ground deformation) for certain types of volcanoes.
- **Remote Areas** – Many volcanoes are in very remote places, making it hard for scientists to constantly monitor them on the ground. Satellites can cover huge, hard-to-reach areas.
- **Filling a Gap** – While sulfur dioxide (SO_2) from volcanoes is easier to track, CO_2 has

been tricky because it mixes with other gases. This tree-based method offers a new way to detect volcanic CO_2's impact.
- **Saving Lives** – The example from the Philippines shows how an early warning based on tree changes can lead to timely evacuations and prevent casualties.

Reference

Indian express | Satellite Tree Monitoring for Volcano Prediction

RBI's 6th Remittances Survey

Prelims: Economic development | Current events of national and international importance.

Why in news?

Recently Reserve Bank of India (RBI)'s 6th Round of India's Remittances Survey, was released.

- A remittance is money that's sent from one party to another and it usually refers to an **overseas transfer** but it can also be domestic.
- **Outward remittance** – It means the transfer of money from India to another country or region.
- **Inward remittance** – It means the transfer of funds into India from outside India.
- In India, inward remittances are **exempted from tax**.
- **Highest remittances –** In 2023-24 the inward remittances are $118.7 billion.
- It surpassed **FDI inflows** and finances **over half of India's merchandise trade deficit**.
- It reinforces the stabilizing role of remittances in India's **external sector**.

Inward remittances bring in Forex, increases purchasing parity of households and economic growth.

- **Shift in source countries** – Advanced Economies (AEs) now dominate remittance sources,
  - **U.S. share -** 27.7% (up from 23.4% in 2020-21).
  - **U.S., U.K., Canada, Australia, Singapore -** Combined 51.2%.
  - **GCC countries -** Declined to 37.9%.
- It reflects shift from low-skilled Gulf migrants to high-skilled professionals and students in AEs.
- **Rise in large-value transactions –** Rs 5 lakh+ transfers formed 29% of total remittance value but just 1.4% of transactions.
- **Growth of digital remittances** – Digital channels used in **73.5%** of remittance transactions.

Average cost of sending $200 to India is 4.9% (below global avg. 6.65%, above

SDG goal of 3%).

- **Uneven digital adoption** – High digital use in UAE (76.1%) & Saudi Arabia (92.7%).
- **Low digital use** in Canada (40%), Germany (55.1%), Italy (35%).
- **Regional disparities in india – Maharashtra, Kerala, Tamil Nadu** form 51% of total remittances.
- **Bihar, UP, Rajasthan** contributes less than 6%.

Policy Recommendations

- Enhancing **digital remittance infrastructure** and reduce costs of sending.
- Promoting **financial literacy and asset creation** among remittance-receiving households.
- Designing **state-specific skilling and migration support** systems.
- Introducing **remittance-linked investment products** for long-term developmental benefits.

Reference

The Hindu| RBI's 6th Remittances Survey

Modified Interest Subvention Scheme (MISS)

Prelims: Public policy| Government Initiatives | Current events of national and international importance.

Why in news?

Recently Indian Government approved the continuation of the Modified Interest Subvention Scheme (MISS) for 2025-26.

- **Modified Interest Subvention Scheme (MISS) –** It provoide **short-term credit** at an affordable rate to farmers through **Kisan Credit Card (KCC)**.
- **Launch** - It is a **Central Sector Scheme** launched in **2006–07** by the Government of India.
- **Funding** – **Fully funded** by the central government.
- **Implementation Mechanism –** Implemented by **RBI and NABARD.**
- **Operated through**
  - Public Sector Banks
  - Regional Rural Banks (RRBs)
  - Cooperative Banks
  - Private Sector Banks in rural/semi-urban areas.

Key features

- **Interest subvention –** For Banks the interest subsidy is initially 2%, but later revised to **1.5%**.

- For farmers short-term loans up to Rs **3 lakh** at a **7% annual interest**.
- An additional **3% incentive** for **prompt repayment**, lowering effective rate to **4%**.
- As per Union Budget 2025–26, the loan limit is enhanced to Rs **5 lakh**.
- **Loan Coverage Extended –** It covers **crop production loans** and working capital for **animal husbandry and fisheries.**
- Interest benefit for these allied sectors is applicable up to Rs **2 lakh**.
- **Disaster Relief Component** – In case of **natural calamities**, restructured crop loans receive **2% interest subvention** for the **first year**.
- It supports farmers during recovery and ensures continuity of agricultural activities.

Significance

- It ensures **financial inclusion** of rural farmers.
- It boosts productivity by supporting input needs.
- It protects farmers from **high-interest informal loans**.
- It also **supports rural and cooperative banks** in lending at subsidised rates.
- **Scheme Continuation –** The scheme will continue with the **existing structure** and **1.5% interest subvention** rate for **FY 2025–26**.

Reference

The Hindu| Modified Interest Subvention Scheme (MISS)

Remission of Duties & Taxes on Exported Products (RoDTEP) Scheme

Prelims: Economy| Government Initiatives | Current events of national and international importance.

Why in news?

Recently, Indian Government announced the restoration of benefits under the Remission of Duties and Taxes on Exported Products scheme for exports which was suspended due to budgetary constraints

- **Aim** – To **reimburse exporters** for **embedded, non-refundable taxes and duties** to make Indian exports more cost-competitive globally.
- **Launch** – 2021
- **Implementation agencies** – Department of Commerce and Department of Revenue.
- **WTC compliance –** It is as World Trade Organization (WTO) compliant and implemented through an **end-to-end digital platform** for transparency.
- The WTO prohibits **export-linked incentives** that are considered **trade-distorting**.
- RoDTEP does not **reward exports directly** instead, it **reimburses embedded taxes and levies**.
- These reimbursements are classified as **"non-actionable subsidies"** under WTO rules because they do not cause any adverse trade effects.

This includes levies on fuel, electricity, water, education cess, and duties on inputs used in production.

The remission is granted in the form of electronic scrips, which are credited to an electronic ledger maintained by the exporter with Customs (ICEGATE portal).

- The earlier **Merchandise Exports from India Scheme (MEIS)** was challenged by the **U.S. at the WTO** for being an export-contingent subsidy.
- In response, India **phased out MEIS** and launched **RoDTEP** as a WTO-compliant alternative.
- **Beneficiaries covered** – It covers ***all export-oriented manufacturers*** in India such as,
  - Advance Authorization (AA) holders (allow duty free import for manufacturing inputs that are meant to be exported)
  - Export-Oriented Units (EOUs)
  - Special Economic Zone (SEZ) units
- **Restoration of Benefits -** Earlier benefits for AA/EOU/SEZ categories were **withdrawn on 5th February 2025**.
- Their **restoration provides parity** with other exporters and enhances competitiveness in global markets.
- Reinstated benefits apply to **eligible exports made on or after 1st June 2025**.

Significance

- It creates a level playing field for all exporters.
- It boosts export competitiveness and support a compliant and transparent export ecosystem.
- It contributes to India's long-term trade growth strategy.

Reference

PIB| Remission of Duties & Taxes on Exported Products Scheme

POCSO Act and the Recent SC Ruling

Prelims: Public policy| Social development | Current events of national and international importance.

Why in news?

Recently, Supreme Court declined to impose a sentence on a man convicted under the POCSO Act, noting that the victim did not view the incident as a crime and had suffered more from the legal fallout.

POCSO - Protection of Children from Sexual Offences Act
• It was enacted in **2012** to protect children under **18 years** from sexual offences. • It criminalises, - **Penetrative and non-penetrative sexual assault** - **Sexual harassment** - **Child pornography** • **Gender-Neutral Law** – The Act applies **equally to all children under the age of 18**, regardless of gender. • It also recognizes that **offenders can be of any gender**. • **Consent of Minors is Not Legally Valid** – Any sexual activity involving a person below 18 is considered non-consensual by law. • Even if the **minor claims** it was **consensual**, the law deems it **sexual offence under the law**. • **Special Courts –** It establishes Special Courts in every district for **speedy trials**. • **Child-Friendly Procedures –** It ensures **in-camera trials**, where the public is not allowed during proceedings. • It allows **video-recorded testimonies** and statements to prevent re-traumatizing the child. • **Presumption of Guilt –** Under **Section 29**, if a person is accused of a sexual offence under POCSO, the court **presumes the accused is guilty** unless proven otherwise. • **Time-Bound Trials –** The law mandates that r**ecording of the child's evidence** should be completed within **30 days** of the Special Court taking cognizance. • The entire trial should be completed **within one year** from the date of taking cognizance.

- **Case background –** In 2018, a **13-year-old girl** went missing and was later found married to a **25-year-old man**.
- Despite her mother's rescue attempts, she stayed with him and later gave birth to a child.
- The accused was convicted in 2022 under POCSO, and various IPC Sections.
- Special POCSO Court sentenced the accused to **20 years imprisonment.**
- The **Calcutta High Court overturned the conviction** and recommended **exclusion of consensual adolescent relationships** from POCSO.
- **Supreme Court set aside** the Calcutta HC's ruling and withheld sentencing and sought a deeper understanding of the victim's present situation.
- It **deferred sentencing under** Article 142 of the Constitution, citing:
    - The **victim's welfare**
    - Her continued support for the accused
    - Her **social isolation and poverty**
- A **three-member expert committee** was formed to assesses the situation before a final decision.
- **Expert panel findings –** It flagged the inadequate implementation of the POCSO Act as a "**collective failure**".
- It recommended keeping the family unit intact for the child's welfare, alongside providing financial, legal, and educational support.
- SC **withheld sentencing** and directed the West Bengal government to ensure her welfare and rehabilitation.

Controversy in SC ruling

- SC’s withholding of punishment using its extraordinary jurisdiction (Article 142) is unusual.
- It could lead to misuse by perpetrators claiming "**consensual" relationships with minors**.
- It undermines the **core intent** of **absolute protection** for children from exploitation.

Way Forward

- Need for **comprehensive sex education** and a **stigma-free curriculum** in schools.
- **Reforms in POCSO implementation** to make justice more sensitive and effective.
- **Exceptions must remain rare** and guided strictly by law and welfare but not social pressure or sentiment.

Reference

The Hindu| SC deviated from the POCSO Act in a recent judgment

