

## 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<sub>2</sub>) and sulfur dioxide (SO<sub>2</sub>) gases.
- **Tree Response** - Trees near the volcano absorb this extra CO<sub>2</sub> through their roots, which acts like fertilizer.
- **Visual Change** - The extra CO<sub>2</sub> 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<sub>2</sub> through their roots. More CO<sub>2</sub> 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<sub>2</sub>) from volcanoes is easier to track, CO<sub>2</sub> has

been tricky because it mixes with other gases. This tree-based method offers a new way to detect volcanic CO<sub>2</sub>'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 6<sup>th</sup> Remittances Survey

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

### Why in news?

*Recently Reserve Bank of India (RBI)'s 6<sup>th</sup> 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 6<sup>th</sup> 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 provides **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 **recording 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 assess 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](#)

