# UPSC Daily Current Affairs| Prelim Bits 25-04-2025

## Indus Water Treaty Suspension

**Prelims** – *Current events of national and international importance.*

**Mains (GS II)** – *India and its neighbourhood - relations| Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.*

### Why in news?

*India has declared the Indus Water Treaty (IWT) of 1960 with Pakistan "in abeyance" with immediate effect in response to terror strike in Pahalgam.*

- **Held in abeyance** – India has ***temporarily suspended*** the enforcement of the treaty until Pakistan credibly and irrevocably abjures its support for cross-border terrorism.
- **Scope of suspension** – There is *no explicit provision* for treaty suspension in the original water treaty agreement.
- **Article 62 of the Vienna Convention on Law of Treaties** - Provide grounds for rejecting a treaty *due to fundamental change of circumstances.*

  *The Vienna Convention on the Law of Treaties (VCLT) adopted on 1969 is an international agreement that regulates treaties among sovereign states.*

### Implications of Suspension

- India is no longer obligated to follow restrictions on *reservoir flushing* of the Kishanganga and other projects on western rivers (Indus, Jhelum, and Chenab) in Jammu and Kashmir.

  *Reservoir flushing is a technique used to remove accumulated sediment from a reservoir by releasing water at a high flow rate to wipe out the sediment.*

- Reservoir filling can now be *done anytime* instead of only during August (peak monsoon).
- There are *no operational restrictions* on how reservoirs are to be filled and operated.
- There will be *no restrictions on designing building structures* like dams on western rivers.
  - In the past almost every project has been objected to by Pakistan over the designs.
- India can *stop sharing flood data* on the rivers with Pakistan.

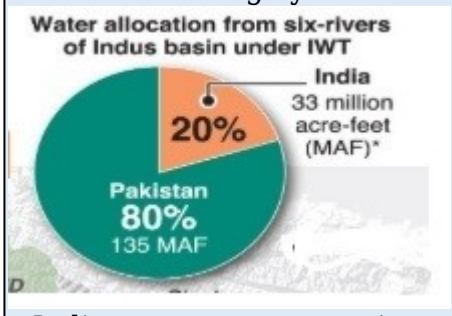
- India can take *flood control measures* to mitigate floods in the Valley.

**Indus Water Treaty**

• The Indus Water Treaty (IWT) is a water-distribution treaty between ***India and Pakistan.***
• **Negotiated by -** The World Bank.
• **Signed in -** 1960.
• The treaty covers the Indus system of rivers which includes:
  - The main Indus River
  - Five left bank tributaries - Ravi, Beas, Sutlej, Jhelum, and Chenab

**Water Allocation Under Treaty**

• **Eastern rivers** (Sutlej, Beas, and Ravi)
  - Allocated to India for unrestricted use
• **Western rivers** (Indus, Jhelum, and Chenab)
  - Allocated largely to Pakistan.




• India can use western rivers for *domestic use, agriculture, and hydroelectric power.*

**Reference**

The Hindu| Indus Water Treaty suspension

**Related Article:** Indus Waters Treaty (IWT)

## Indigenous HPV Test Kits for Cervical Cancer Screening

**Prelims** – *Current events of national and international importance.*

**Mains (GS III)** – *Science and Technology- developments and their applications and effects in everyday life.*

**Why in news?**

*Indigenous HPV (Human papillomavirus) test kits for cervical cancer screening were launched recently in New Delhi.*

- **Objective** – To enable affordable, accessible, and ideally mass screening for cervical cancer.
- **Developed by -** *Biotechnology Industry Research Assistance Council (BIRAC)* under Department of Biotechnology's (DBT) partnership programme Grand Challenges India (GCI).

*The Grand Challenges initiative launched by Bill & Melinda Gates Foundation*

*drives innovation (BMGF) to tackle critical health issues in developing nations.*

*In 2012, BMGF and DBT signed an MOU to launch Grand Challenges India, to foster health research and innovation.*

- Developed in collaboration with *International Agency for Research on Cancer (IARC)*.

*The International Agency for Research on Cancer is an intergovernmental agency is a part of World Health Organization founded in 1965 to conduct and coordinate research on causes of cancer.*

## Key Features of the Test Kit

- **Focused screening** – The kits include only the *7-8 most common cancer-causing HPV types*, making the screening more focused and relevant to the Indian population.
- **RTPCR-based diagnostic** – The kits use RTPCR (Real-Time Polymerase Chain Reaction) technology, which is known for its *high sensitivity and specificity* in detecting viral genetic material.
- **Efficient and cost-effective** – The focused approach on the most relevant HPV types and the use of existing RTPCR infrastructure make these kits a cost-effective screening method.
- **Point-of-care test** –The testing is conducted close to the site of patient care where care or treatment is provided.

| Cervical Cancer in India |
|---|
| • Cervical cancer is a cancer that develops in the cervix, the lower part of the uterus.<br>• **Caused by -** Human PapillomaVirus (HPV).<br>• ***2nd most common*** cancer among Indian women.<br>• According to WHO data, ***1 in every 5 women*** globally suffering from cervical cancer is from India,<br>• ***25% of global cervical cancer*** deaths occurring in India often due to *late diagnosis*.<br>• WHO recommends transitioning to HPV testing *with only two tests in a lifetime (at age 35 and 45)* to reduce the burden of screening, making it easier for women to access screening programs.<br>• **Target** - Screen 70% of eligible women by 2030. |

**Reference**

The Hindu| Indigenously developed HPV test kits

## Emission Reduction Compliance Mechanism

***Prelims*** **|** *Current Events of National Importance*

***Mains (GS III)*** | *Environmental Pollution & Degradation*

## Why in News?

*The environment ministry has issued a draft notification proposing GHG emission intensity (GEI) reduction target under Carbon Credit Trading Scheme (CCTS), 2023.*

- All traditionally high-emission industries in India such as aluminum, cement and pulp & paper are obligated to reduce their greenhouse gas (GHG) emissions to meet specific targets.
- **Compliance mechanism under -** Carbon Credit Trading Scheme, 2023.
- **Notification -** Industries have to reduce GEI within a specified time-period.
- If industries do not meet their GEI targets by reducing emissions for the respective compliance year, they will have to purchase ***carbon credit certificates*** from the Indian carbon market.
- In case an obligated entity *fails to comply with the GEI target or fails to submit the carbon credit certificates* equivalent to the shortfall for compliance, the Central Pollution Control Board (CPCB) will impose 'environmental compensation' (penalty) for the shortfall.
- The penalty will be equal to twice of the average price at which the carbon credit certificate is traded during the trading cycle of that compliance year.
- The average price will be determined by the ***Bureau of Energy Efficiency (BEE)***, which has finalized detailed procedures to fix GEI targets (in tonnes of carbon dioxide equivalent) for each of the high emission sectors from the 2023-24 baseline year.
- Environmental Compensation shall be paid within the 90 days from the day of such imposition.
- The targets are in sync with the country's 'net zero' emission goal of 2070 and will contribute to meet its Nationally Determined Contribution (NDCs) climate action targets.
- It is expected that the move may also make these industries ready to face the European Union's proposed *Carbon Border Adjustment Mechanism (CBAM)*, which is to be implemented from next year.
- The CBAM is a tool to put a price through imposing border tax on carbon intensive goods, like iron & steel, aluminium and cement.
- India has, however, strongly opposed the EU's move as it will put a tariff burden on such products of developing countries and impact their trade.

## Carbon Credit Trading Scheme (CCTS), 2023

• It is a ***market-based mechanism*** for reducing greenhouse gas emissions.
• It aims to establish the *Indian Carbon Market (ICM)* and supports the country's climate goals.
• The scheme operates through a compliance mechanism and an offset mechanism, allowing entities to reduce emissions through various projects and *trade carbon credits*.
• **Compliance Mechanism -** Mandatory for specific sectors, such as power, cement, steel, and others, with specific emission intensity targets.
• Entities are required to meet these targets or purchase carbon credits from the ICM.
• **Offset Mechanism -** Incentivizes voluntary emission reduction projects from entities not under the compliance mechanism.

**References**


1. MSN | Emission intensity reduction targets
2. Energetica | Draft GEI target Rules


## World Economic Outlook, 2025

***Prelims–*** *Economic and Social Development*

***Mains (GS - III) –*** *Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.*

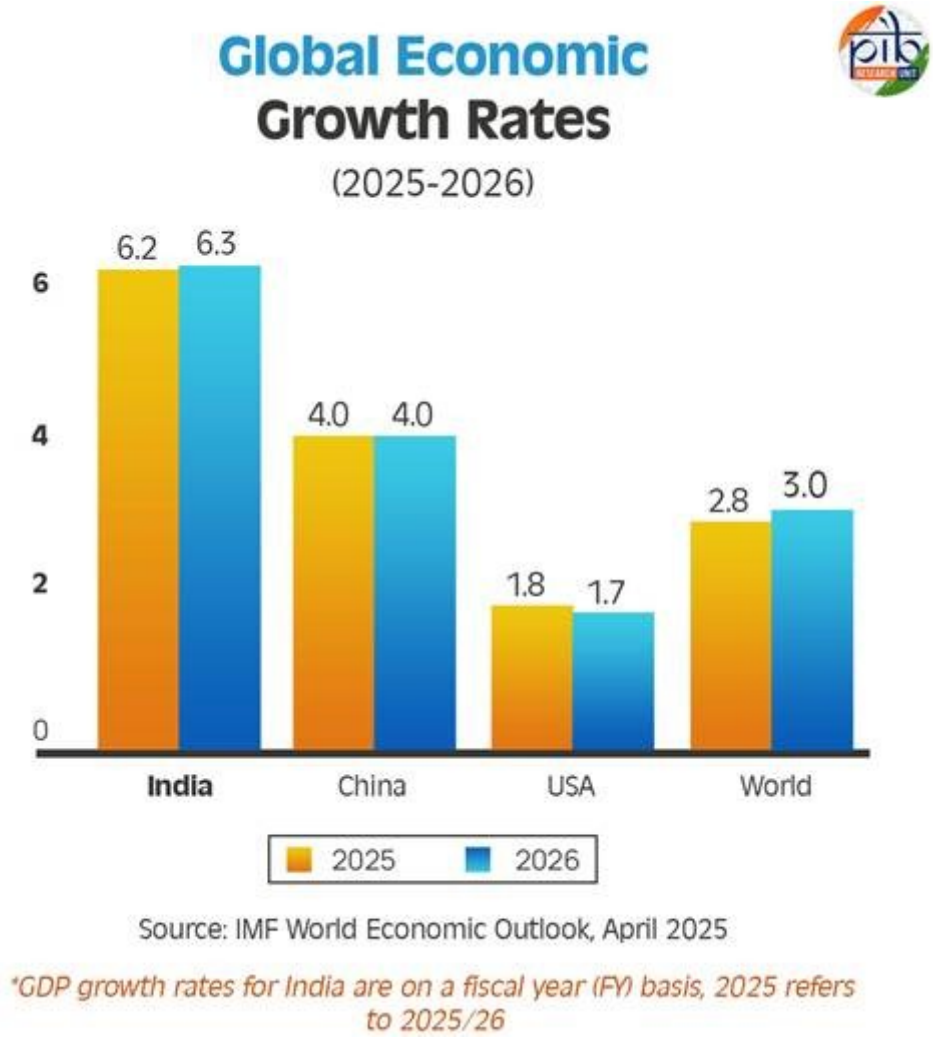
### Why in News?

*India is poised to lead the global economy once again, with the World Economic Outlook projecting it to remain the fastest growing major economy over the next two years.*

- **Released by -** International Monetary Fund (IMF).
- **Duration -** Published twice a year.
- It provides projections for the near and medium term, covering advanced, emerging, and developing economies.
- The report supports the IMF’s economic surveillance and guides discussions on policy among member countries.

### Recent Findings of the Report

- **Global Findings -** IMF projects global economic growth to be much lower, at 2.8% in 2025 and 3.0% in 2026.
- China’s GDP growth forecast for 2025 has been downgraded to 4.0%, down from 4.6% in the January 2025 edition of the World Economic Outlook.
- Similarly, the United States is expected to see a slowdown, with its growth revised downward by 90 basis points to 1.8%.
- Despite these revisions, India’s robust growth trajectory continues to set it apart on the global stage.




- **Findings For India -** The growth outlook is relatively more stable. The IMF projects steady expansion for the Indian economy, supported by firm private consumption, particularly in rural areas.
- In a global environment marked by uncertainty and subdued growth, India's resilience stands out, reinforcing its role as a key driver of global economic activity.
- India's economy is expected to grow by 6.2% in 2025 and 6.3% in 2026, maintaining a solid lead over global and regional peers.
- India is projected to remain the fastest-growing large economy for 2025 and 2026, reaffirming its dominance in the global economic landscape.

**Reference**

PIB | India: Fastest-Growing Major Economy

## Recent findings on Earth's Geological process

***Prelims*** *– Current events of National and International Importance*

***Mains (GS I) –*** *Geography of the India & World | Important Geophysical phenomena*

**Why in News?**

*Scientists have recently discovered that a rare geological process is tearing the Indian Plate apart deep beneath the surface.*

- Researchers revealed the India plate is delaminating, its *dense lower layer peeling off and sinking into the Earth's mantle.*
- The process called delamination was detected beneath the Tibetan Plateau using seismic waves and helium gas analysis from natural springs.
- This shift could reshape earthquake patterns ***across the Himalayas and beyond***.
- The findings reveal that parts of these plates especially their deeper sections can soften, break off, and sink back into the Earth over geological time.
- These findings have raised urgent scientific questions about the stability of one of Earth's most active tectonic zones.
- **Impact -** The Himalayan region is already one of the most earthquake-prone areas in the world.
- With the Indian Plate tearing from below, new stress lines could be forming in the crust above.
- The tearing and sinking of the plate could create new stress points in the Earth's crust, triggering more frequent and potentially more powerful quakes.
- Particular attention is being paid to the ***Cona-Sangri Rift***, a deep fracture in the Tibetan Plateau.
- Scientists believe it may be directly connected to this hidden tear. If confirmed, regions around this rift could face heightened earthquake threats in the coming decades.
- The implications go beyond India. The study suggests that delamination may not be unique to the Indian Plate.
- Researchers are now scanning other continental plates for signs of similar activity.
- Researchers continue to monitor seismic activity and helium levels across the region, using these tools to paint a clearer picture of the miles beneath the Earth's surface.

**Reference**

Economic Times | Hidden rift in Indian Plate

**One Liners 25-02-2025**

**History, Art and Culture**

## Mehrgarh Farming Settlement

*Recently, radiocarbon dating using Accelerator Mass Spectrometry (AMS) has adjusted the timeline of the farming settlement in Mehrgarh from 8000 BCE to 5200 BCE.*

• **Location** – Mehrgarh, a Neolithic site, is situated at the entrance of the Bolan Pass in Balochistan, Pakistan.
• **Early agricultural practices –** The site reveals the presence of an early farming village with evidence of domesticated wheat, barley, and cattle.
• It is the earliest known location where cotton was utilized in the Old World.
• **Excavations** – Preserved mud brick structures, burial sites, and distinctive pottery known as Togau ware.
• **Implications** – The revised dating to 5200 BCE provides a more accurate chronological framework for understanding the development of early agriculture and settlement patterns in the region preceding the Harappan civilization.

# Geography

## Eruption at Poás Volcano

*Recently, highly active Poás volcano, a significant tourist draw, has recently experienced an eruption.*

• **Location** – Situated within the Poás Volcano National Park, Costa Rica.
• It is classified as a composite stratovolcano and reaches an elevation of 2,708 meters above sea level.
• Its irregular and complex structure covers a substantial basal area of approximately 400 square kilometers.
• **Characteristics** – It is characterized by its formation from several adjacent eruptive centers featuring large collapse craters.
• The volcano's principal crater is measuring about 1.5 kilometers in width and reaching a depth of 300 meters, ranking it among the largest active craters globally.
• **Recent activity** – Throughout 2024 and continuing into 2025, the crater lake has been drying up.
• **Impacts** – This process has triggered ash-producing eruptions and elevated gas levels, accompanied by small rock-ejecting explosions, indicating ongoing volcanic activity.

# Internal security Issues

## Pahalgam Terror Attack

*Recently, horrific terrorist attack struck in Pahalgam, on April 22, 2025, resulting in the tragic deaths of more than 25 individuals, predominantly tourists.*

• **Located in** – Baisaran Valley of Anantnag district, a well-known hill station in the Jammu and Kashmir Valley, approximately 90 km from Srinagar.
• Its remote, high-altitude location, accessible only by foot or horseback.
• **Tourist site** – The attack occurred in the scenic Baisaran Valley, a popular tourist destination renowned for its resemblance to European landscapes and often called "Mini Switzerland."
• **Other tourist sites** – Its attractions include the Amarnath Cave Temple, Aru Wildlife Sanctuary, Betaab Valley, and Tulian Lake, drawing numerous tourists annually.

# Polity & Governance

## Rights of Persons with Disabilities Act, 2016 (RPwD Act)

*Recently, the Delhi High Court asked Swiggy and Zepto, to respond to a plea claiming their apps were not accessible to people with visual impairment.*

• It was enacted to fulfill India's obligations under the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), which India ratified in 2007.
• **Aim** – To ensure the rights and dignity of people with disabilities.
• **Replacement of** – Persons with Disabilities Act, 1995.
• **Feature** – It mandates for adoption of accessibility features by the platforms such as e-commerce.
• **Barriers to visually impaired persons** – The platforms violated the dignity of persons with impairment by denying them equal access to essential services such as food delivery, grocery shopping, and restaurant reservations.
• The absence of accessible search features and interactive elements for the visually impaired created severe barriers.

## Price Support Scheme (PSS)

*Recently, the Government has approved the procurement of Tur, Urad and Masur under PSS equivalent to 100% of production for the procurement year 2024-25.*

• **Umbrella scheme** – Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA).
• **Objectives** – To provide financial assistance to farmers when market prices for their crops fall below the Minimum Support Price (MSP).
• To protect farmers from losses due to price volatility and ensure they receive a fair return for their produce.
• **Crops covered** – Bajra, Jowar, Maize, Paddy, Cotton, Tur, Moong, Urad, Groundnut, Sesamum Wheat, Gram, Mustard, and Sugarcane etc.
• The procurement of oil seeds, pulses and cotton, through National Agricultural Cooperative Marketing Federation of India Ltd (NAFED), which is the Central nodal agency for the MSP.

## Emissions Trading Scheme (ETS)

*Recently, Surat's ETS specifically designed to curb particulate air pollution, marking a significant step in environmental regulation.*

• **Launched in** – 2019, it is the 1st unique scheme to focus on trading particulate pollution globally.
• **Target** – It initially targeted 342 high-emitting industries in Surat, predominantly within the textile sector, which commonly used solid fuels like coal and lignite, and liquid fuels such as diesel.
• **Functions** – A regulatory mechanism that uses economic incentives to lower air pollution.
• Establishes a limit (cap) on total allowable emissions, distributing tradable emission permits to industries.
• Enable companies to buy and sell pollution rights and industries with lower emissions can profit by selling surplus permits to those exceeding their limits.
• It also known as Cap-and-Trade System.

# Economy

## India's Manufacturing Push

*Recently, Finance Minister outlined India's ambitious plan to elevate the manufacturing sector's contribution to GDP from 12% to 23% within the next 2 decades.*

• **Sunrise Industries** – They are emerging sectors experiencing rapid expansion, characterized by high growth rates, numerous startups, and substantial investment.
• **Characteristics** – These industries are not static and mature over time.
• It potentially transitioning into maturity and eventually the sunset phase, as exemplified by the compact disc industry.
• These industries often exhibit significant innovation and their swift growth can pose a threat to established, declining "sunset" industries.
• **Role** – The targeted growth in India's manufacturing sector is expected to be significantly propelled by the dynamism and potential of these burgeoning sunrise industries.
• **Examples** – Alternative energy, social media, cloud computing, blockchain technology, information technology, and clean energy.

# Environment

## National Environmental Engineering Research Institute (NEERI)

*The Supreme Court has recently directed the NEERI, to conduct a detailed assessment of the glass industries operating near the Taj Mahal in Agra, Uttar Pradesh, to evaluate their potential impact on the monument.*

• **Established in** – 1958 in Nagpur, under the Ministry of Science and Technology.
• It is a pioneering research institute in environmental science and engineering, funded by the Government of India and a constituent laboratory of Council of Scientific & Industrial Research (CSIR).
• The Central Public Health Engineering Research Institute (CPHERI), was renamed as National Environmental Engineering Research Institute (NEERI) in 1974.
• **Mission** – To undertake research and development in environmental management, pollution control, and sustainable development.
• **Focus on** – Water supply, sewage disposal, communicable diseases, and industrial pollution.
• **Areas of Expertise** – In climate/environment, health, lab and field testing, monitoring and evaluation, policy development, research, standards, technology, and fuel R&D.

# Science

## Quantum Gravity Gradiometers (QGGs)

*Recently, NASA scientists are exploring the use of advanced cold atom-based QGGs deployed on satellites to precisely measure shifts in Earth's mass distribution, particularly those caused by climate change.*

• It is a highly sensitive instrument that measures spatial variations in gravitational acceleration.
• **Functions** – To cool atoms near absolute zero in a vacuum, inducing wave-like behavior.
• Lasers manipulate these atoms, causing a phase shift directly proportional to the local gravitational force.
• **Application** – It is used in resource exploration to locate less dense hydrocarbon deposits, this technology is now being adapted for climate change monitoring.
• **Measurement capability** – This sophisticated setup allows for the detection of minuscule differences in acceleration, as small as 10−15m/s2 over a one-meter distance, enabling highly sensitive gravity measurements.
• **Monitoring Earth's mass distribution** – From low Earth orbit, QGGs can estimate the mass of significant geological formations like the Himalayas and monitor the movement of water, ice, and geological materials with unprecedented accuracy.
• The gravitational force across Earth's surface is not uniform; it varies based on the underlying mass distribution.
• Denser regions, such as mountain ranges, exhibit a stronger gravitational pull compared to less dense areas.

# Miscellaneous

## Special Category National Panchayat Awards, 2025

*Recently, the Special Category National Panchayat Awards are conferred at the event of National Panchayati Raj Day (NPRD) on 24th April, 2025.*

• It is the 1st time, that the Ministry of Panchayati Raj has institutionalised dedicated Special Category Awards.
• **Objective** – To incentivize and acknowledge exemplary efforts of Gram Panchayats in the key national priorities of Climate Action and Atmanirbharta (Self-Reliance) through augmentation of Own Sources Revenue (OSR).
• **Climate Action Special Panchayat Award (CASPA)** – To encourage Panchayats to act as climate-responsive local governments.
• **Atma Nirbhar Panchayat Special Award (ANPSA)** – To promote Atmanirbharta through augmentation of Own Source Revenue (OSR) by Panchayats.
• **Panchayat Kshamta Nirman Sarvottam Sansthan Puraskar (PKNSSP)** – To recognize excellence in capacity building and training of Panchayati Raj representatives and functionaries.
• This award was instituted in 2023 and 1st awards were conferred in 2024.

SHANKAR IAS PARLIAMENT
Information is Empowering