

# VAID ICS LUCKNOW



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## The Disaster Management (Amendment) Bill, 2024

**Why in News?** The central government introduced the **Disaster Management (Amendment) Bill, 2024** in the Lok Sabha, to amend the existing Disaster Management Act, 2005.

The Bill revises the Disaster Management Act, 2005, enhancing the roles of NDMA, SDMA, and DDMA.

### Key Points :

#### Enhanced Coordination and Proactive Disaster Management:

- The Bill aims to strengthen disaster management systems with greater uniformity and coordination across national and state levels.
- **NDMA and SDMA will now directly prepare** disaster management plans rather than delegating them to executive committees.
- The focus shifts from disaster response to risk prevention and mitigation.

#### Addressing Emerging Risks from Climate Change:

- Expanded roles for NDMA and SDMA include assessing risks related to climate change, providing technical assistance, and maintaining disaster databases.
- Urban Disaster Management Authorities will be established in state capitals and cities with municipal corporations to address urban-specific challenges.

#### Statutory Status to Key Bodies:

- The Bill grants **statutory status to existing committees**, such as the **National Crisis Management Committee (NCMC) and the High-Level Committee (HLC)**.
- This formalizes their roles and responsibilities in disaster preparedness and response.

#### Funding and Resource Allocation:

States can now create State Disaster Response Forces (SDRF) to enhance preparedness.

SDRF allocations have significantly increased, with Rs 1.24 lakh crore allocated from 2014-2024, compared to Rs 38,000 crore in the previous decade.

- NDRF budgets also saw a rise from Rs 28,000 crore to Rs 79,000 crore during the same period.

**Exclusion of Man-Made Disasters:**

- Man-made disasters, such as **industrial accidents**, are excluded from the Bill's scope, sparking criticism.
- Opponents argue this leaves **affected individuals without necessary recourse or relief measures**.

**Urban Disaster Management and Technical Provisions:**

- The Bill includes provisions for Urban Disaster Management Authorities to address urban-specific disasters.
- It empowers NDMA to **appoint staff and consultants, enhancing operational efficiency**.

**Opposition's Criticisms:**

**Narrow Definition of Disasters:** Issues like air pollution, heatwaves, and mudslides are not included in the disaster definition.

**Inadequate Early Warning Systems:** Radar systems in India lag behind global standards, issuing warnings only when storms are within 150 km.

**Unfair Funding Formula:** States like Tamil Nadu argue that the population-based funding allocation disadvantages them for maintaining controlled populations.

**Delayed Relief:** Several MPs highlighted delays in aid allocation to disaster-hit states like Maharashtra and Sikkim.

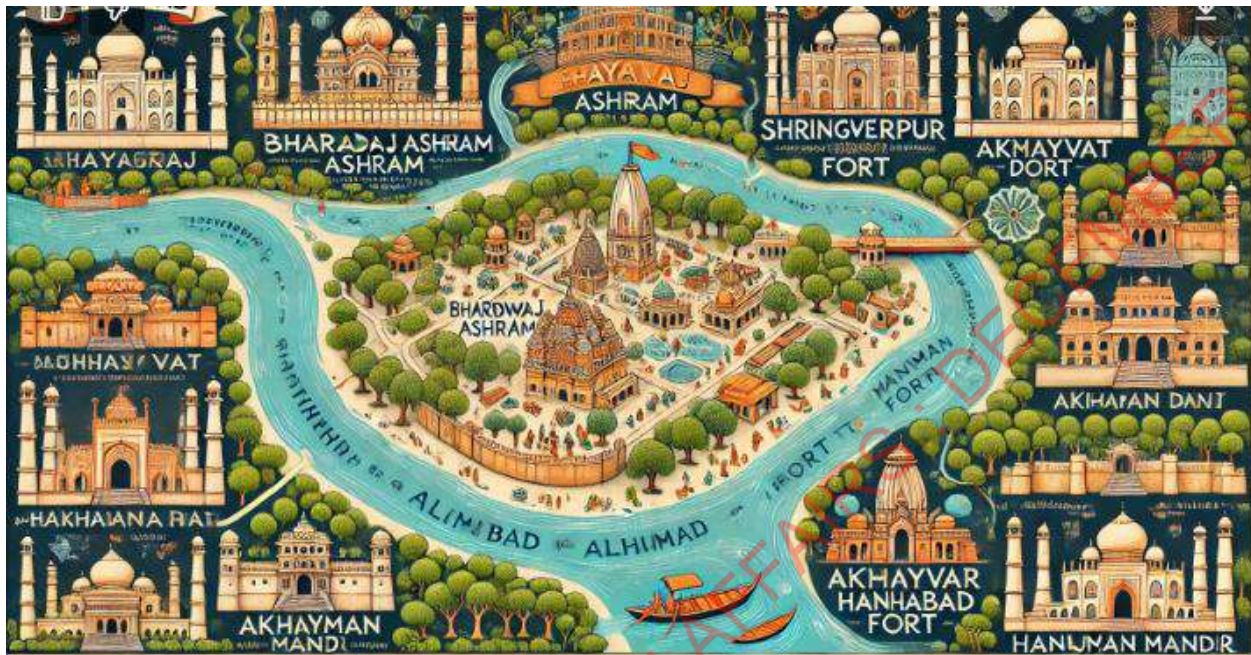
## Shringverpur Dham & Akshayvat corridors

**Why in News ?**

The Prime Minister has recently inaugurated major temple corridors which include Bharadwaj Ashram corridor, Shringverpur Dham corridor, Akshayvat corridor, Hanuman Mandir corridor among others. These projects will ensure ease of access to devotees and also boost spiritual tourism.

**Bharadwaj Ashram Corridor (Prayagraj):**

**Significance:** Bharadwaj Ashram is associated with the sage Bharadwaj, who is believed to have hosted Lord Rama, Sita, and Lakshman during their exile.



**Shringverpur Dham Corridor (Prayagraj):**

**Significance:** Shringverpur is believed to be the place where Lord Rama crossed the Ganga River with the help of Nishadraj, a tribal king.

**Akshayvat Corridor (Prayagraj):**

**Significance:** Akshayvat, or the "Indestructible Banyan Tree," is considered sacred and has historical significance in Hindu mythology. It is located inside the Allahabad Fort.

**Hanuman Mandir Corridor (Prayagraj):**

**Significance:** Hanuman Mandir houses a reclining idol of Lord Hanuman and is a major pilgrimage site.

## The Smuggling in India report 2023-24

**Why in News?** The Smuggling in India 2024 report by the Directorate of Revenue Intelligence (DRI) highlights evolving narcotics hubs and trafficking routes affecting India.

### Key Points from the Report:

#### India's Strategic Location:

- India's geographic position makes it a major hub for drug trafficking, with borders connecting narcotics-producing regions, and a vast coastline providing numerous entry points.

#### Methamphetamine Seizures:

- Increased seizures of methamphetamine in states like Assam and Mizoram, with 123 kg confiscated in 2024 during April-September.

#### Major Narcotics Hubs and Trafficking Routes:

##### The Death Crescent:

**Region:** Afghanistan, Iran, Pakistan.

##### Trafficking Routes:

- Through **African and Gulf regions**.
- Traditional routes like the **India-Pakistan border and maritime** routes.
- Maritime Routes:

**Challenges:** India's long coastline offers opportunities for smuggling via sea.

**Methods:** Drugs are often concealed in shipping containers or fishing vessels.

**Concern:** Difficult to track and control illicit shipments due to the volume of maritime traffic.

##### The Death Triangle:

**Region:** Myanmar, Laos, Thailand.

**Significance:** Major source of synthetic drugs and heroin.

##### Trafficking Routes:

- Drugs enter India through the northeastern states.

- The porous borders and difficult terrain of states like Manipur, Mizoram, and Nagaland make trafficking easier.
- Smuggling occurs through remote forest areas and rivers along the Indo-Myanmar border.

**Key vulnerable areas: Moreh and Churachandpur (Manipur) and Zokhawthar (Mizoram).**

**Air Routes:**

**Significance:** Air routes have become a significant method for smuggling due to faster transportation and increased international air traffic.

**Methods:**

- Drugs are often hidden in luggage, courier packages, or ingested by carriers (**known as "mules"**).

**About the Directorate of Revenue Intelligence (DRI):**

The **Directorate of Revenue Intelligence (DRI)** is a premier agency under the **Department of Revenue**, Ministry of Finance, Government of India, tasked with investigating and combating **smuggling** and **customs-related offenses**, particularly focusing on the enforcement of economic laws.

**Powers:**

- The DRI is headed by a **Director General (DG)**, who is an officer of the **Indian Revenue Service (Customs)**, typically at the rank of **Additional Secretary** to the Government of India.
- The **Director General** of DRI is appointed by the **Union Government** under the Ministry of Finance.
- The appointment is made by the **Department of Revenue**, which comes under the **Ministry of Finance**.
- The head of the DRI is typically a senior officer from the **Indian Revenue Service (IRS)**, with experience in customs and revenue-related matters.
- As an agency under the **Ministry of Finance**, DRI directly reports to the **Secretary (Revenue)** in the ministry.

## UK Joins CPTPP

**Why in News?** The UK has officially become a member of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), joining 11 existing members including Australia, Japan and Canada.

### About CPTPP:

- The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is a major free trade agreement among countries in the Asia-Pacific region. It evolved from the original Trans-Pacific Partnership (TPP) after the United States withdrew in 2017. The CPTPP came into effect on December 30, 2018.

### Member Countries:

CPTPP currently includes 11 member countries:

- Australia
- Brunei
- Canada
- Chile
- Japan
- Malaysia
- Mexico
- New Zealand
- Peru
- Singapore
- Vietnam
- Together, these countries represent **13.4% of the global economy** and have a combined **GDP of over \$13.5 trillion.**

### Goals of CPTPP:

**Promote Trade:** Reduce tariffs and trade barriers.

**Economic Integration:** Enhance economic cooperation among member nations.



**Market Access:** Expand access for goods, services, and investments.

**Standards:** Promote common standards on labor rights, intellectual property, environmental protection, and e-commerce.

**Significance of the CPTPP:**

**Trade Impact:** Eliminates 95% of tariffs between member countries.

**Economic Influence:** Strengthens global supply chains and enhances trade across the Pacific.

**Regional Balance:** Provides an alternative to China's growing economic influence in the region.

**India and the CPTPP:**

- **India is not** a member of the CPTPP.
- However, India's participation in similar agreements like RCEP (Regional Comprehensive Economic Partnership) has been debated, given its strategic position in the Asia-Pacific.

## Cyclone Chido impact on Mayotte

**Why in News?** The cyclone caused significant devastation on the Indian Ocean island of Mayotte, triggering chaos and fear. The situation is extremely precarious.

- Mayotte, located at the **northern edge of the Indian Ocean's cyclone** zone, had largely avoided the worst cyclones in recent years.

**Indian Ocean's Cyclone Zone:**

- The Indian Ocean Cyclone Zone refers to the region around the Indian Ocean where tropical cyclones, or hurricanes, are most commonly formed.
- The zone includes the eastern **coast of Africa**, the **islands in the Indian Ocean**, the **Arabian Peninsula**, and parts of **South and Southeast Asia**.
- Cyclones in this region typically form during the cyclone seasons, which vary based on the geography:

**Northern Indian Ocean:** Cyclones generally occur between April and December, with the peak season being between May and November.

**Southern Indian Ocean:** Cyclones typically form from November to April.

- These storms are powerful weather systems that can cause severe damage, including flooding, strong winds, and loss of life.
- Regions like **Mayotte, Madagascar**, and parts of India and **Sri Lanka** are particularly vulnerable to the impact of these cyclones.



**About the Red Cross and Red Crescent Societies (IFRC):**

- The International Federation of **Red Cross and Red Crescent Societies (IFRC)** is the world's largest humanitarian network, composed of **192 National Societies**, including the **Indian Red Cross Society** and the **French Red Cross**.

**Key Facts about IFRC:**

**Mission:** The IFRC provides humanitarian assistance, focusing on the most vulnerable communities affected by emergencies, health crises, and natural disasters, and works towards long-term development and building resilience.

**Disaster Management:** In emergencies like Cyclone **Chido in Mayotte**, the IFRC plays a critical role by coordinating with local and international stakeholders, providing resources, medical teams, and logistical support to affected areas.

**Health and Community Services:** Beyond disaster relief, IFRC focuses on improving public health, with initiatives around preventing diseases, improving sanitation, and ensuring access to medical care in underserved regions.

**International Collaboration:** The IFRC works closely with other humanitarian organizations such as the United Nations, local governments, and other aid organizations to coordinate efficient and effective disaster relief.

## Sacred groves

**Why in News?** The Supreme Court of India has recently directed the Union government to make a comprehensive policy for managing sacred groves across the country.

**About Sacred groves:**

- They are **small patches of forests or natural vegetation** that are protected by local communities due to religious or cultural beliefs.
- These areas are considered sacred and often dedicated to local deities, spirits, or ancestral figures.
- They play a **crucial role in conserving biodiversity**, preserving traditional ecological knowledge, and maintaining cultural heritage.

**Key Features of Sacred Groves:**

**Ecological Importance:**

- Act as reservoirs of biodiversity, housing rare and endangered species of flora and fauna.
- Serve as carbon sinks, aiding in climate regulation.
- Protect soil and water resources.

**Cultural and Religious Significance:**

- Associated with local deities, spirits, or religious rituals.
- Often act as sites for community gatherings and festivals.

**Traditional Conservation Practices:**

- Protected through unwritten community rules or taboos.
- Activities like hunting, logging, or agriculture are prohibited or restricted.

Region	Local Name	Details
Himachal Pradesh	Dev Van	Dedicated to local deities; often in forests.
Uttarakhand	Devarai or Dev Bhoomi	Located in hilly terrains, linked to temples.
Rajasthan	Oran or Devbani	Vital for arid region biodiversity.
Madhya Pradesh	Mawlynnong Sacred Forest	Protected by tribal communities.
Maharashtra	Devrai	Associated with goddesses or local spirits.
Karnataka	Devara Kadu	Linked to local temples or shrines.
Kerala	Kavu	Linked to serpent worship or deities.
Tamil Nadu	Kovil Kadu	Attached to village temples.
West Bengal	Jaher Than or Harin Bari	Worship sites of the Santhal tribes.
Meghalaya	Law Kyntang, Law Lyngdoh	Protected by Khasi tribes for rituals.
Assam	Than or Madaico	Maintained by local communities.
Andhra Pradesh & Telangana	Pavitavana	Worshipped as sacred spaces.

## The Waste Water Management

**Why in News?** The Waste to Worth : Managing India's Urban Water Crisis through Wastewater Reuse report, released by the Centre for Science and Environment (CSE) and the National Mission for Clean Ganga (NMCG), explores how treated wastewater can be reused to mitigate water scarcity in urban areas.

**72% of wastewater remaining untreated**, which exacerbates the country's growing water crisis.

**Key Points from the Report:**

**Current Water Crisis and Wastewater Reuse:**

- India's urban areas face significant water shortages due to rapid urbanization, industrial growth, population expansion, and climate change. Reusing treated wastewater could play a vital role in easing these water shortages by supporting agriculture, industrial processes, and urban greening projects.
- Presently, **only 28% of the 72,000 million liters** of wastewater generated daily in India is treated, with the rest polluting rivers, lakes, and soil. Treating and reusing wastewater could close this gap and provide a sustainable water source.

#### Wastewater Treatment and Reuse Mandates:

- The Ministry of Jal Shakti mandates that cities recycle at least **20% of the water** they consume, but scaling up the treatment infrastructure is necessary to meet this goal.
- The report suggests that wastewater reuse is crucial for achieving water security by promoting "**water circularity**" (recycling water in multiple uses).

#### Regional Disparities and Progressive Policies:

- **Uttar Pradesh** leads in untreated wastewater volumes, followed by Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Delhi, and Haryana. However, some states have adopted progressive policies to encourage wastewater reuse.
- **Maharashtra** mandates industries in urban areas to use treated wastewater, while **Gujarat** has set a target for 100% wastewater reuse in agriculture and industry. Tamil Nadu focuses on using treated wastewater for industrial processes and urban greening.
- Cities like **Nagpur, Bengaluru, and Chennai** are successful examples of wastewater reuse in action. For example:
  - **Nagpur uses treated wastewater** in power plants to reduce freshwater use.
  - **Bengaluru uses treated wastewater** for agriculture, lake rejuvenation, and groundwater recharge.
  - **Chennai uses** it in industrial processes, urban landscaping, and groundwater replenishment.

#### Challenges in Scaling Up Wastewater Reuse:

- Despite the clear benefits, several challenges remain in upscaling wastewater reuse:
- Public resistance due to cultural beliefs and safety concerns about using treated wastewater.

- Infrastructure gaps, especially in sewage treatment and distribution.
- High operational costs of wastewater treatment facilities.
- Quality assurance to ensure that treated water meets standards for safe reuse.
- The report stresses the need for **decentralized and cost-effective** treatment technologies to address these gaps.

#### **Circular Economy and Policy Alignment:**

- The report advocates for a circular economy approach to water management, where treated wastewater is integrated into national programs like **Jal Jeevan Mission, Atal Bhujal Yojana, and AMRUT** (Atal Mission for Rejuvenation and Urban Transformation). This would help build a more climate-resilient water management framework.
- The idea is to treat wastewater as a valuable resource rather than a waste product, which can contribute significantly to water security in India.

#### **Call for Action:**

- The report presents a blueprint for policymakers to prioritize wastewater reuse as a public good, ensuring equitable access, especially for underserved communities.
- Community engagement, innovative policies, and robust infrastructure investment are critical to overcoming challenges and implementing effective wastewater reuse practices.
- Public-private partnerships and capacity-building initiatives are essential for promoting wider adoption.

## **ISRO's SpaDeX Mission**

**Why in News?** PSLV C60/SPADEX Mission is scheduled on 30th December 2024 at 21:58 hrs IST from SDSC SHAR, Sriharikota.

#### **About the mission:**

- The SpaDeX (Space Docking Experiment) Mission is a pioneering technology demonstrator launched by the Indian Space Research Organisation (ISRO).

- It aims to develop and showcase in-space docking technology using two small spacecraft. This capability is vital for India's advanced space exploration goals, including human spaceflight, lunar sample return missions, and establishing the **Bharatiya Antariksh Station (BAS)**.

#### What is docking?

- Docking is the precise process of connecting two spacecraft, either manned or unmanned, so they can operate as a single unit.

#### Why is docking important?

- Docking is essential for future space operations, such as human spaceflight, lunar sample return missions, and the construction of large space structures.

#### How does docking work?

- Docking involves a series of steps, including soft capture, load attenuation, and hard docking.

#### What will SPADEX achieve?

- SPADEX will help India become the fourth country in the world to have space docking technology. It will also be a critical milestone for the development of the **Bharatiya Antariksh Station (BAS)** and other advanced space endeavors.

#### What is Rendezvous?

- **Rendezvous refers** to the process of two spacecraft meeting in orbit and positioning themselves within close proximity for docking.
- It is achieved through careful calculations of orbital mechanics, propulsion adjustments, and precise navigation.

## GenCast

**Why in News?** The term was recently in news.

#### What is GenCast?

- GenCast is a new AI-based ensemble weather forecasting model that advances the prediction of weather uncertainties and risks.

- It is a high-resolution (0.25°) model designed to provide more accurate and reliable weather forecasts, particularly up to 15 days in advance.
- It is considered a significant improvement over traditional weather forecasting models, such as the **European Centre for Medium-Range Weather Forecasts' (ECMWF) ENS.**

#### **Key Features of GenCast:**

- **Ensemble Forecasting:** Unlike traditional models that provide a single weather forecast, GenCast generates a range of likely weather scenarios (ensemble forecasting).
- This provides decision-makers with a clearer understanding of the potential variability in future weather conditions, helping them make more informed decisions.

#### **AI and Diffusion Models:**

- GenCast utilizes a diffusion AI model, a type of generative AI that has recently advanced in fields like image, video, and music generation.
- However, GenCast is adapted specifically to the spherical geometry of the Earth and is designed to generate probability distributions of weather scenarios based on current weather conditions. This allows it to predict future weather patterns with greater accuracy, especially for extreme events.

**Training and Data:** GenCast was trained on four decades of historical weather data from ECMWF's ERA5 archive, which includes detailed information on variables like temperature, wind speed, and pressure at different altitudes. The model uses this extensive dataset to learn global weather patterns and provide high-resolution forecasts at a 0.25° resolution.

#### **Performance Evaluation:**

- When tested on weather data from 2019, GenCast outperformed ECMWF's ENS, which is one of the leading operational weather models.
- It showed better **forecasting accuracy in 97.2%** of the tests across 1320 different weather variables and scenarios, with an even higher success rate of 99.8% for predictions beyond 36 hours.



### Advantages of GenCast:

#### Better Accuracy:

- GenCast provides more accurate forecasts compared to traditional systems like ECMWF ENS, particularly for day-to-day weather and extreme weather events.

#### Probabilistic Forecasting:

- By offering an ensemble of 50 or more possible weather outcomes, GenCast gives a fuller and more nuanced picture of future weather, allowing for better preparation for uncertainty.

#### Global Impact:

- Its high-resolution predictions (0.25°) make it particularly useful for global weather monitoring and can significantly enhance our ability to predict climate risks and extreme weather conditions, such as storms and heatwaves.

#### How GenCast Works?

- Generative AI in Weather Prediction: GenCast is based on the diffusion model used in AI applications for generating images and videos. For weather, this model learns from historical data to generate probability distributions of different weather scenarios, providing a range of possibilities rather than a single forecast.
- AI Training: By processing decades of weather data, GenCast can predict complex weather patterns and scenarios more accurately. The data it uses includes various weather variables, enabling the model to account for a wide range of weather factors in its predictions.

## The new Chairperson of NHRC

**Why in News?** The President of India has recently appointed retired Supreme Court Justice V. Ramasubramanian as the Chairperson of National Human Rights Commission.

#### About the NHRC :

- The National Human Rights Commission (NHRC) was established under the **Protection of Human Rights Act, 1993**, which was later amended in **2006 and 2019**.

- It is a **statutory body**, not a constitutional body, tasked with protecting and promoting human rights in India.

**Powers and Functions:****Inquiry and Investigation:**

- Inquires into complaints of human rights violations by public servants or negligence by public authorities in preventing such violations.
- It has powers of a civil court for summoning witnesses, requiring document production, and inspecting evidence.

**Recommendations:**

- Recommends compensation for victims.
- Proposes reforms to prevent future violations.

**Awareness and Research:**

- Spreads awareness about human rights through campaigns and publications.
- Promotes research and encourages efforts in the field of human rights.

**Advisory Role:**

- Advises the government on treaties, international covenants, and legislation relating to human rights.

**Autonomy:**

- NHRC operates autonomously and reports its findings to the Central Government, which is obligated to table these reports in Parliament.

**Chairperson and Eligibility Criteria:****Chairperson:**

- The chairperson of the NHRC must be a **former Chief Justice of India (CJI)**.

**Members:****The commission includes:**

- **One member** who is or has been a **judge of the Supreme Court**.
- **One member** who is or has been the **Chief Justice of a High Court**.
- **Two members** with knowledge or **practical experience** in matters related to human rights.

**Appointment Process:**

- The chairperson and members are appointed by the President of India based on the recommendations of a six-member committee, comprising:
- Prime Minister (Chairperson)
- Speaker of the Lok Sabha
- Deputy Chairman of the Rajya Sabha
- Leader of the Opposition in the Lok Sabha
- Leader of the Opposition in the Rajya Sabha
- Union Home Minister

**Tenure and Removal:**

**Tenure:** The chairperson and members hold office for a term of **three years** or until they reach the **age of 70 years**, whichever is earlier.

**Removal:** They can only be removed by the President on grounds of proved misbehavior or incapacity, based on an inquiry conducted by the Supreme Court.

**Limitations:****Lack of enforcement power:**

- The NHRC can only make recommendations, not enforce them.
- Jurisdictional restrictions: It cannot investigate cases older than one year.
- Dependence on government for funds and personnel limits its operational autonomy.

## PSLV Orbital Experiment Platform (POEM)

**Why in News?** The term was recently in news regarding the SpaDeX (Space Docking Experiment).

**About POEM :**

- The PSLV Orbital Experiment Platform (POEM) is a clever way of reusing the fourth stage of the PSLV rocket (normally discarded after launching satellites) as a small satellite platform in space.

### How it Works?

**Reusable Rocket Stage:** The fourth stage of the PSLV rocket, which would usually just become space debris, is turned into a functional satellite.

**Added Systems:** To make it work like a satellite, systems are added to it, such as:

#### **Solar panels for power.**

- Communication equipment to send and receive data.
- Systems to control its position (attitude control).
- Storage for experiment data.
- **Hosting Experiments:** Once turned into a satellite, this platform can carry small scientific experiments or equipment for research.

#### **Purpose:**

**Support for Startups and Universities:** POEM allows startups, students, and researchers to test their experiments or components in space at a much lower cost.

They don't need to build or launch their own full satellite; they can just attach their experiment to the POEM platform.

**Reduced Costs:** By reusing the PSLV stage, the cost of going to space is reduced since it avoids the need for expensive satellite buses (structures) and other space-grade components.

#### **Benefits:**

**Microgravity Experiments:** Researchers can perform experiments in the low-gravity environment of space.

**Component Testing:** New space technologies can be tested in orbit to ensure they work before being used in future missions.

**Eco-Friendly Approach:** It reduces waste by reusing the rocket stage that would otherwise be space debris.

#### **Simplified Example:**

Imagine a bus that drops passengers off at their destinations (like the PSLV rocket delivering satellites). Instead of scrapping the bus afterward, it's turned into a tiny mobile lab, where scientists can attach their experiments and run them for a few months.

## Binodini Theatre

**Why in News?** Bengal CM Mamata Banerjee has recently announced her decision to rename Kolkata's Star Theatre to Binodini Theatre to rectify a historical injustice done 141 years ago by a misogynistic society that ostracised a pioneering female stage performer due to her origins in a red-light district.

### What is theatre?

- Theatre refers to a form of performing arts where stories are enacted by live performers on a stage before an audience. It combines various elements like dialogue, music, dance, acting, set design, lighting, and costume design to create an immersive experience. Theatre serves as a medium for storytelling, cultural expression, and social commentary.

### Types of theatre in India:

India has a rich and diverse tradition of theatre that spans centuries. It includes classical, folk, and modern forms, each reflecting the cultural and linguistic diversity of the country.

#### 1. Classical Theatre

Classical Indian theatre is rooted in ancient texts and traditions.

**Sanskrit Theatre:** Derived from the **Natya Shastra**, an ancient treatise on performing arts by Bharata Muni. Examples:

- Kalidasa's Shakuntala
- Bhasa's Urubhangam
- It emphasizes rasa (emotions) and includes elaborate costumes, gestures, and music.

#### 2. Folk Theatre:

- This is a regional form of theatre performed in vernacular languages. It combines drama, music, and dance.

**Jatra (Bengal):** Popular in rural Bengal, combining devotional themes and social commentary.

**Tamasha (Maharashtra):** Known for its humor, singing, and dancing.

**Yakshagana (Karnataka):** A blend of dance, music, and dialogue based on mythological themes.

**Therukoothu (Tamil Nadu):** A street theatre style performed during festivals.

### 3. Parsi Theatre:

- Emerging during British colonial rule, Parsi theatre introduced western-style proscenium stages to India.
- It popularized melodramatic storytelling, elaborate sets, and music.
- Precursor to Indian cinema, influencing Bollywood.

### 4. Modern Theatre:

- Modern Indian theatre began in the 19th century, incorporating European dramaturgy while reflecting Indian social issues.

**Binodini Theatre: Established in 1873 in Kolkata,** it is associated with the legendary actress Binodini Dasi. It marked the rise of modern **Bengali theatre.**

- **Indian People's Theatre Association (IPTA):** Emerged in the 1940s to promote socio-political awareness through drama.
- Modern playwrights include **Rabindranath Tagore, Vijay Tendulkar, and Girish Karnad.**

### 5. Experimental Theatre:

- In the post-independence era, experimental theatre evolved to break away from traditional narratives.
- Focused on minimalistic staging and abstract themes.
- Directors like **Ebrahim Alkazi and Badal Sircar** pioneered this movement.

### Prominent Theatres in India:

**Binodini Theatre (Kolkata):** A landmark of Bengali theatre, established by Binodini Dasi and **Girish Chandra Ghosh.**

**Prithvi Theatre (Mumbai):** Founded by Shashi Kapoor, it promotes contemporary and experimental plays.

**NSD Repertory Theatre (Delhi):** Associated with the National School of Drama, showcasing classical and modern works.

Indian theatre continues to thrive, blending traditional and contemporary styles to reflect societal changes and cultural evolution.

## Coastline-Waders Bird Census

**Why in News?** The country's first-ever 'Coastline-Waders Bird Census' was began recently at **Marine National Park and Sanctuary in Jamnagar**, Gujarat.

The three-day census which has been jointly organized by the Department of Forest and the **Bird Conservation Society** will also host significant events focusing on counting wader and coastal bird species.

### About Waders:

- Waders, also known as shorebirds or wading birds, are a diverse group of birds that are typically found in coastal or wetland habitats.
- They are **adapted to feed on the mudflats**, sandy shores, and shallow waters of beaches, **estuaries, and wetlands**. These birds have long legs, long bills, and are known for their ability to forage in water and mud for invertebrates like worms, mollusks, crustaceans, and other small prey.

### Key Characteristics of Waders:

**Long Legs:** Waders have long legs that allow them to wade through shallow waters or mudflats in search of food.

**Long Bills:** Their bills are often specialized for probing into the mud or sand to find food. Some species have straight bills, while others may have curved or spatula-shaped bills.

**Adaptation to Aquatic Habitats:** These birds are often found in wetland ecosystems, including coastal areas, freshwater lakes, marshes, and mudflats.

**Migratory Behavior:** Many waders are migratory, traveling long distances between their breeding grounds in northern regions and wintering grounds in the south.

### Examples of Wader Birds:

**Sandpipers** (family Scolopacidae)

**Plovers** (family Charadriidae)

**Godwits** (family Scolopacidae)

**Curlews** (family Scolopacidae)

**Stilts** (family Recurvirostridae)

**Avocets** (family Recurvirostridae)

**Hérons** (family Ardeidae) – though some herons are more commonly known for their standing posture rather than wading actively.

Waders play an important role in their ecosystems by helping to control populations of invertebrates and acting as indicators of environmental health. They are often used in bird watching and are an important subject of study for ornithologists and ecologists.

#### **About the Bird Conservation Society of India (BCSI):**

- The Bird Conservation Society of India (BCSI) is a prominent non-governmental organization that focuses on the conservation of bird species and their habitats in India. It works to raise awareness, engage in research, and take direct conservation actions to protect both migratory and resident bird populations.

#### **Powers and Membership:**

**Membership:** The Bird Conservation Society of India has a diverse membership base, including birdwatchers, nature lovers, researchers, students, and conservationists. Members can engage in birdwatching, contribute to research efforts, and participate in the society's conservation programs.

**Membership Benefits:** Members often get access to resources, newsletters, and updates on conservation efforts. They also have opportunities to participate in bird watching events, research projects, and campaigns organized by the society.

**Role of Members:** Members are encouraged to contribute to bird monitoring and conservation efforts. This can include reporting sightings of rare or threatened species, participating in surveys and fieldwork, and helping to raise awareness in their communities.

#### **Work Under:**

- The Bird Conservation Society of India works under **the framework of national and international wildlife conservation laws and policies.**



- They collaborate with other wildlife organizations, government bodies like the Ministry of Environment, Forest and Climate Change (MoEFCC), and global conservation networks such as **Birdlife International**. Additionally, BCSI works with local communities to promote sustainable practices that do not harm bird habitats and help in community-based conservation efforts.

## First Generation Beta (Gen Beta)

**Why in News?** India welcomed its first Generation Beta baby, Frankie Remruatdika Zadeng, on January 1, 2025, in Aizawl, Mizoram.

### First Generation Beta (Gen Beta) - Overview and History:

#### Gen Beta (Born 2025-2039):

- Children born between **2025 and 2039** are designated as **Generation Beta (Gen Beta)**. This cohort will grow up in a world that is heavily shaped by technological advancements, environmental challenges, and societal shifts.
- As per futurist **Mark McCrindle**, who coined the term, Gen Beta will be the first generation to be fully immersed in an increasingly digital and automated world.

#### Who Coined the Term Gen Beta?

- The term **Gen Beta** was coined by **Mark McCrindle**, a well-known Australian futurist and demographer, in his blog. McCrindle has been instrumental in the study of generational trends and has provided in-depth insights into how different generations are shaped by the socio-economic environment they are born into.
- In his explanation, McCrindle notes that the **last generational shift occurred in 2010** with the birth of **Gen Alpha**, which will conclude in **2024**. He specifically chose the labels "Alpha" and "Beta" for the two most recent generations to signify not just a continuation of the alphabet, but to **reflect a shift in the world's progression**. These names signal a departure from traditional generational naming and emphasize that these generations will be defined by technological, environmental, and social changes far more distinct from previous cohorts.

### Why "Alpha" and "Beta" for These Generations?

- McCrindle's reasoning behind naming the last two generations "Alpha" and "Beta" is profound. Instead of following the typical sequential naming (e.g., Baby Boomers, Generation X, Millennials), he chose these names to underscore that **Generations Alpha and Beta will be defined by fundamental changes** in the way they experience the world. For Gen Alpha, it signifies growing up in a **hyper-connected, technologically driven society**, while Gen Beta is expected to face challenges and opportunities shaped by **advanced AI, automation, environmental shifts**, and possibly a more **globalized world**.

### Generational Timeline and Characteristics:

#### Generation Z (Gen Z):

**Born:** 1997-2012

**Defining Characteristics:** Digital natives, socially conscious, and highly connected. They grew up during the rise of social media, smartphones, and globalized connectivity.

**Major Influences:** The internet, social media, environmental concerns, and movements for equality and justice.

#### Generation Alpha (Gen Alpha):

**Born:** 2010-2024 (currently, the oldest members of Gen Alpha are teens)

**Defining Characteristics:** The first generation to be born entirely in the 21st century, surrounded by the most advanced digital technologies, with a greater emphasis on AI, robotics, and virtual reality.

**Major Influences:** Artificial intelligence, automation, smart devices, and augmented reality.

#### Generation Beta (Gen Beta):

**Born:** 2025-2039 (projected):

**Defining Characteristics:** Children of Gen Beta are expected to grow up in a world dominated by **artificial intelligence, sustainability issues, and biotechnologies**. Climate change, social justice movements, and an emphasis on **global citizenship** are likely to shape their worldview.

**Major Influences:** Deep technological integration, sustainable living, AI, automation, and a more complex global socio-political landscape.

### Projected Impact of Gen Beta:

- **Technological Integration:** Gen Beta is expected to experience an even greater integration of technology in daily life. By the time they are adults, technologies like **AI, augmented reality, biotechnology**, and even **quantum computing** will likely be a standard part of life.
- **Environmental Challenges:** With growing environmental concerns, Gen Beta will have to navigate a world increasingly affected by **climate change, resource scarcity**, and the shift toward **sustainability**.
- **Economic Shifts:** Automation, driven by AI and robotics, will redefine the nature of work, potentially leading to new economic models such as **universal basic income** and **gig economy** trends.
- **Social Movements:** Social justice and global movements, especially related to climate change, gender equality, and racial justice, will likely shape their values and behaviors.

### Conclusion:

**Gen Beta, like Gen Alpha** before them, will be shaped by a rapidly changing world, with technological innovations, environmental crises, and shifting socio-political dynamics influencing their experiences. As the **first cohort of the post-2024 era**, they are set to face both unprecedented challenges and opportunities, with technology and sustainability at the forefront of their lives.

## Export Inspection Council (EIC)

**Why in News?** Recently, the EIC initiated a **gap assessment study** to evaluate the food testing infrastructure for exports, identifying any shortcomings in facilities and processes that may impact the quality assurance of exported goods.

### About EIC:

- The **Export Inspection Council (EIC)** is a statutory body set up by the **Government of India** under the **Export (Quality Control and Inspection) Act, 1963**. Its core mandate is

to ensure that products exported from India meet the quality and safety standards required by importing countries.

#### **Purpose and Establishment:**

- The EIC was created to promote the sound development of India's export trade by ensuring the quality control and inspection of products destined for international markets. It operates as the official certification body for exported goods, with a specific focus on food safety and quality standards.

#### **Structure and Leadership:**

- The **Chairman** heads the EIC, overseeing its overall functioning.
- The **Director of Inspection & Quality Control** serves as the Executive Head, responsible for managing day-to-day operations.
- The headquarters of the EIC is located in **Delhi**, with a network of **Export Inspection Agencies (EIAs)** in **Mumbai, Kolkata, Kochi, Delhi, and Chennai**, as well as 30 sub-offices spread across India.
- EIC's activities are backed by **state-of-the-art laboratories**, accredited by the **National Accreditation Board for Testing and Calibration Laboratories (NABL)**.

#### **Key Functions and Responsibilities:**

##### **Quality Control and Certification:**

1. The EIC's primary role is to ensure that products listed under the **Export (Quality Control and Inspection) Act, 1963**, comply with the safety and quality standards required by the importing countries.
2. It provides mandatory certification for various food products, **including:**
  - **Fish and fishery products**
  - **Dairy products**
  - **Honey**
  - **Egg products**
  - **Meat and meat products**
  - **Poultry meat products**
  - **Animal casings**
  - **Gelatin, ossein, crushed bones**

- Feed additives and pre-mixtures
- Certification for other food and non-food items is provided on a **voluntary basis**.

#### Gap Assessment Study:

- Recently, the EIC initiated a **gap assessment study** to evaluate the food testing infrastructure for exports, identifying any shortcomings in facilities and processes that may impact the quality assurance of exported goods.

#### International Standards Compliance:

- The EIC ensures that India's export products meet the international requirements of quality and safety, ensuring that Indian goods can enter global markets without facing rejection due to non-compliance with foreign regulations.

#### Role of EIC in India's Export Industry:

- The Export Inspection Council plays a pivotal role in the growth of India's export trade by maintaining high standards for products, particularly in the food sector. This, in turn, enhances India's reputation as a reliable exporter while safeguarding consumer safety abroad.

#### Collaboration with Other Entities:

- The EIC collaborates with various government bodies and **export promotion organizations** to streamline export procedures and support the certification process. It also works with international regulatory bodies to align India's export products with global standards.

#### Conclusion:

The **Export Inspection Council (EIC)** is crucial for India's export ecosystem, ensuring that exported goods, especially food items, are of the highest quality and comply with international regulations. With its comprehensive network and expertise in quality control, the EIC is helping maintain India's competitive edge in global trade while fostering consumer trust in Indian products worldwide.

## India's Climate Action Efforts and Commitments

**Why in News?** India submitted its 4th Biennial Update Report (BUR-4) to the UNFCCC on 30th December 2024.

### India's Climate Goals:

- **Net-Zero Target:** Achieve net-zero emissions by 2070 (announced at COP26 in 2021).
- **Progress:** India reported a **7.93% reduction in GHG emissions in 2020** compared to 2019 in its **4th Biennial Update Report (BUR-4)**.

### Key Climate Action Frameworks:

#### UNFCCC Goals:

- Stabilize GHG concentrations.
- Limit global temperature rise to well below **2°C**, aiming for **1.5°C**.



### India's Long-Term Strategy (LT-LEDS):

- Focused on **seven strategic transitions** including low-carbon electricity, sustainable transport, urban adaptation, decoupling growth from emissions, CO2 removal, enhancing forest cover, and financial pathways.

### Key Achievements and Facts:

- **India's Historical Emissions:** Annual share only **4% of global cumulative emissions (1850-2019)**.

- **Energy Consumption:** Per capita primary energy consumption in 2019 was **28.7 GJ**, significantly below global averages.
- **Net Emissions (2020):** Including Land Use, Land-Use Change, and Forestry (LULUCF): **2,437 million tonnes CO<sub>2</sub>e**.

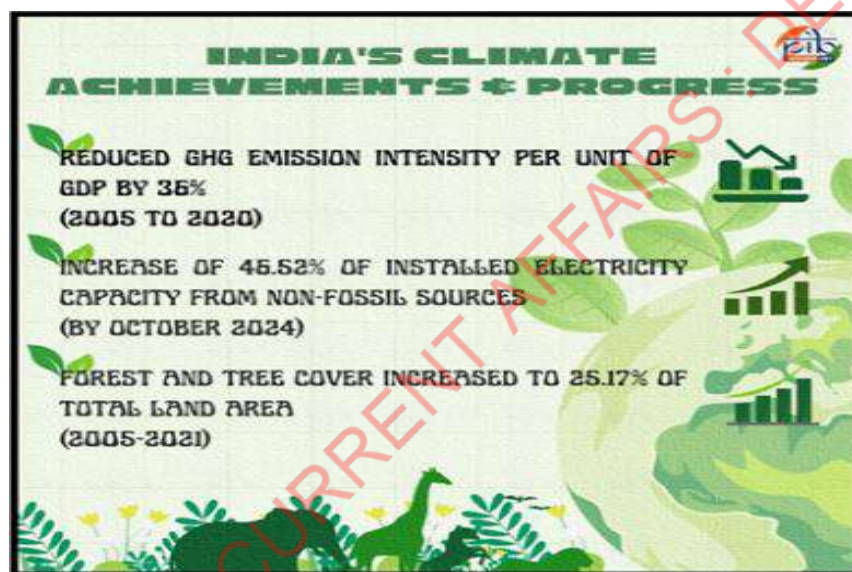
**Major Initiatives:**

**Forest Conservation and Afforestation:**

**Compensatory Afforestation:** For non-forest land use, including eco-restoration measures.

**Green Credit Program (2023):** Plantation on degraded lands for green credits.

**National Afforestation Programme (NAP):** Community-driven afforestation in degraded areas.



**Urban Climate Adaptation:**

- Integrating climate adaptation into urban planning (Smart Cities Mission, AMRUT, PMAY).
- Promoting energy and resource efficiency in urbanization.

**Air Pollution Control:**

- **National Clean Air Programme (NCAP):** City-specific action plans for 131 cities.
- Measures include cleaner fuels, ethanol blending, and BS-VI norms.

**Coastal Ecosystem Conservation:**

- **MISHTI (2023):** Mangrove restoration covering 540 km<sup>2</sup> in 9 states and 4 UTs.
- **Integrated Coastal Zone Management Plans (ICZMP):** Protection strategies for Gujarat, Odisha, and West Bengal.

**Regulatory Measures:**

- **Coastal Regulation Zone (CRZ) Notifications:** Focused on managing mangroves, coral reefs, and critical ecosystems (2011 & 2019).

**Significant Programs and Policies:**

- **“Ek Ped Maa Ke Naam” Campaign:** Nationwide tree plantation drive (2024).
- **Funding Initiatives:** Support through schemes like **SBM (Urban), SATAT, and FAME-II** for clean air and transportation.

India’s climate efforts reflect its **commitment to equity, sustainability, and global cooperation** under the Paris Agreement.

## 82<sup>nd</sup> Golden Globe Awards 2025

**Why in News?** The 82nd Golden Globe Awards, held on January 5, 2025, celebrated outstanding achievements in film and television.

**Major Winners:**

Best Motion Picture – Drama: **The Brutalist**

Best Motion Picture – Musical or Comedy: **Emilia Pérez**

Best Director: Brady Corbet for **The Brutalist**

Best Actor in a Motion Picture – Drama: Adrien Brody for **The Brutalist**

Best Actress in a Motion Picture – Drama: **Fernanda Torres** for **I'm Still Here**

Best Actor in a Motion Picture – Musical or Comedy: **Sebastian Stan** for **A Different Man**

Best Actress in a Motion Picture – Musical or Comedy: **Demi Moore** for **The Substance**

In the television categories, **Shōgun** emerged as a significant winner, securing awards for Best Television Series – Drama, with cast members Hiroyuki Sanada, Anna Sawai, and Tadanobu Asano receiving acting honors.

**Indian Representation at the Golden Globes:**



- Over the years, Indian artists and films have made notable contributions to the Golden Globe Awards:
- **V. Shantaram:** His film *Do Aankhen Barah Haath* (1957) was the first Indian film to earn a Golden Globe nomination.
- **Mira Nair:** Her film *Salaam Bombay!* (1988) received a nomination for Best Foreign Language Film.
- **R. Rahman:** In 2009, he won the **Golden Globe for Best Original Score** for *Slumdog Millionaire*, becoming the first Indian to win a Golden Globe Award.
- **S. S. Rajamouli and D. V. V. Danayya:** Their film *RRR* (2022) won the **Golden Globe for Best Original Song** for "Naatu Naatu".
- **M. M. Keeravani:** He composed the award-winning song "Naatu Naatu" from *RRR*.

#### About the Golden Globe Awards:

The Golden Globe Awards are prestigious accolades presented annually by the **Hollywood Foreign Press Association (HFPA)**. These awards recognize excellence in both film and television, honoring outstanding performances, direction, music, and storytelling.

#### Key Highlights:

##### Inception:

Established in 1944.

- Initially, the awards focused only on films but later included television in 1956.

##### Purpose:

- Celebrate excellence in motion pictures and television, both in the United States and internationally.

##### Categories:

**Film:** Awards include Best Motion Picture (Drama and Musical/Comedy), Best Actor/Actress, Best Director, Best Screenplay, etc.

**Television:** Includes Best Television Series (Drama and Musical/Comedy), Best Performance by Actors/Actresses in Leading and Supporting Roles, etc.

##### The Award:

The Golden Globe trophy is a golden sphere mounted on a pedestal, symbolizing global entertainment.

**Ceremony:**

- Held annually in **Beverly Hills, California**.
- One of Hollywood's most glamorous events, often seen as a precursor to the Academy Awards (Oscars).

## Panchayat Se Parliament 2.0

**Why in News?** At 'Panchayat Se Parliament 2.0' event, Lok Sabha Speaker recently hailed the role of women representatives and said their better and more sensitive leadership effectively addresses community concerns.

**Key Points from Om Birla's Address at "Panchayat Se Parliament 2.0"**

**Role of Women in Driving Change:**

- Women leaders, especially in rural and tribal communities, play a pivotal role in socio-economic transformation.
- Their leadership is better and more sensitive, addressing community concerns effectively.

**Importance of Women's Leadership:**

- Women leaders bring unique problem-solving skills based on their personal experiences.
- Their strategic approaches enable robust solutions to local challenges, particularly in rural areas.

**Women in Panchayati Raj Institutions:**

- Many states have surpassed the mandated 33% reservation for women, with some achieving over 50%.
- Women's participation in grassroots governance ensures accountability and fosters inclusive development models.

**Contribution to Economic Growth:**

- Tribal women entrepreneurs are creating self-reliant villages through traditional crafts, online businesses, and local production.
- Support is needed to help women-led enterprises reach global markets, contributing to economic growth while preserving cultural heritage.

**Women's Role in Democracy:**

- Increased participation of women in democratic systems at all levels, from panchayats to Parliament, ensures greater socio-economic transformation.

**Recognition of Women Leaders:**

- The event felicitated over 500 tribal women representatives from 22 States and Union Territories, highlighting their contributions to governance and development.

**Focus on Inclusive Governance:**

- Measures to empower women in governance are not symbolic but crucial for achieving sustainable and inclusive growth.

**About the Panchayat Se Parliament 2.0:**

- It is a program that was inaugurated on January 6, 2025 to educate women representatives from Panchayati Raj Institutions on India's Constitution and parliamentary procedures.
- The program was organized by the **National Commission for Women (NCW)** in collaboration with the **Lok Sabha Secretariat** and the **Ministry of Tribal Affairs**.

## Payal Kapadia : Golden Globe Nominations

Payal Kapadia is an Indian filmmaker and artist based in Mumbai, known for her evocative storytelling that delves into intimate and political aspects of Indian society. She studied Film Direction at the Film & Television Institute of India and has garnered international acclaim for her work.

**Notable Works:**

- **Afternoon Clouds (2017):** A short film that was India's official selection in the Cinefondation section at the Cannes Film Festival.
- **A Night of Knowing Nothing (2021):** A documentary that received critical acclaim for its portrayal of student protests and personal narratives in India.
- **All We Imagine as Light (2024):** Kapadia's latest feature film, which has received significant international recognition.

#### All We Imagine as Light:

- "All We Imagine as Light" is a poignant exploration of friendship and womanhood set against the backdrop of contemporary Mumbai. The narrative centers on two nurses, Prabha and Anu, who navigate personal and societal challenges in a patriarchal society. The film delves into themes of love, support, and the transformative power of female solidarity.

#### Accolades:

- **Cannes Film Festival:** The film won the **Grand Prix at the Directors'** Fortnight section, highlighting its international acclaim.
- **Golden Globe Nominations:** "All We Imagine as Light" received two nominations at the **82nd Golden Globe Awards**, marking Kapadia as the **first Indian woman in 26 years to achieve this honor**.

#### Themes and Impact:

- **Kapadia's work** is celebrated for its nuanced portrayal of women's lives in India, shedding light on the complexities of friendship, societal expectations, and personal aspirations. **Her films often critique patriarchal structures** and advocate for female solidarity as a means to foster a better society.

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## Facts for Prelims

### Disease X

**Why in news?** The recent outbreak reported in the first week of December 2024 in the Democratic Republic of Congo, which has claimed over **400 lives and remains unclassified**, has raised concerns that it could be an **instance of Disease X**.

#### What is Disease X?

- Disease X is a hypothetical term introduced by the World Health Organization (WHO) in 2018 to represent an unknown pathogen that could cause a devastating epidemic or pandemic.
- **It is not a specific disease** but a concept emphasizing the potential emergence of a novel, unpredictable pathogen with severe global health implications. The goal of the concept is to **prompt proactive planning and preparedness for such scenarios**.

### Sword of Honour to Ayodhya's Ram Temple

**Why in news?** **Recently**, the Ram Temple project in Ayodhya has been honored with the prestigious 'Sword of Honour' award by the British Safety Council.

This accolade recognizes the project's unwavering commitment to maintaining stringent safety protocols throughout its construction process. The award specifically highlights the work done on the first and second floors of the temple, including the construction of the temple's "Shikhar."

- The temple is being built using approximately **15 lakh cubic feet of Bansi Paharpur** stone, sourced from Rajasthan. The British Safety Council conducted a thorough audit of the project's processes and practices to ensure safety standards were met.

- The '**Sword of Honour**' is one of the highest distinctions in safety management, and the Ram Temple project had previously received the '**Golden Trophy**' from the National Safety Council for its exceptional safety measures at the construction site.

#### **About the British Safety Council:**

- It is a non-profit organization that has been promoting health, safety, and environmental standards across the world since its founding in 1957.
- **Headquartered** in London.

#### **Key functions :**

- Safety Audits and Assessments:
- Training and Certification:
- Awards and Recognition:
- The British Safety Council is known for its prestigious safety awards, including the **Sword of Honour** and Globe of Honour. These awards are given to companies that demonstrate outstanding safety management and environmental practices.
- **Advocacy and Campaigning:**

**Publications and Resources:** The organization publishes materials and reports on various aspects of safety management, providing useful resources for employers and safety professionals to stay informed about the latest trends and best practices.

## **The Association for Democratic Reforms (ADR)**

#### **About the Association for Democratic Reforms (ADR):**

- The Association for Democratic Reforms (ADR) is a non-partisan, non-governmental organization in India dedicated to fostering electoral and political reforms to strengthen democracy and improve governance.

#### **Founding:**

- Established in 1999 by professors from the Indian Institute of Management (IIM).

- It gained prominence for its efforts in promoting electoral transparency and accountability.

#### Goals and Objectives:

#### Electoral and Political Reforms:

- Advocating for legislative changes to improve the democratic process.
- Ensuring transparency in the electoral funding system.

#### Empowering the Electorate:

- Providing voters with accessible information on candidates' backgrounds, including criminal records, assets, and liabilities.
- Encouraging informed decision-making during elections.

#### Greater Accountability of Political Parties:

- Advocating for financial transparency in political parties.
- Highlighting issues of opaque funding and expenditure practices.
- Inner-Party Democracy and Transparency:

#### Promoting democratic processes within political parties.

Campaigning for the disclosure of party functioning and decision-making mechanism.

## Pink Fire Retardant

**Why in News ?** Recent wildfires in Southern California have brought into light the use of pink fire retardant as authorities deploy aerial resources to combat the flames.

#### What is Pink Fire Retardant?

- Pink fire retardant is a chemical mixture used to control or slow the spread of wildfires. The most commonly used brand in the **United States is Phos-Chek**, which is mainly made up of **ammonium phosphate-based slurry**.

- This mixture contains salts like **ammonium polyphosphate**, which provides longer-lasting protection compared to water. The bright pink color is added for visibility, allowing firefighters to easily identify areas that have been treated.

#### How Does It Work?

- The retardant is sprayed ahead of the advancing flames to coat vegetation. This coating prevents oxygen from reaching the plants, effectively slowing the fire's spread.
- The method's effectiveness depends on factors such as terrain, type of vegetation, and weather conditions. Firefighters create fire lines around the treated areas to help contain the fire and enhance safety.

#### Environmental Concerns:

- There are growing concerns about the environmental impact of using aerial fire retardants.
- A study from the University of Southern California highlighted that **Phos-Chek contains toxic metals like chromium and cadmium**, which can pose serious health risks, including cancer and organ damage.
- These substances can also harm aquatic ecosystems if they enter waterways. The debate continues over whether the benefits of fire suppression outweigh the environmental risks associated with the use of fire retardants.

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