

NEWS TODAY

Department of Atomic Energy (DAE) inaugurated the Major Atmospheric Cherenkov Experiment (MACE) Observatory at Hanle, Ladakh

The inaugural of MACE Observatory was a part of the **Platinum Jubilee** year celebrations of the DAE.

- DAE was set up under the direct charge of the Prime Minister through executive order in 1954 in accordance with Atomic Energy Act, 1948.
- DAE leads Research and development for the peaceful uses of atomic energy.

About MACE Observatory

- It is largest imaging Cherenkov telescope in Asia and 2nd largest in the world.
 - ⊕ **Cherenkov Telescope Array (CTA)** will be the **largest Cherenkov telescope** in the world (currently under construction). It consists of two array located at Spain and Chile, respectively.
- It is located at an altitude of ~4,300 m, the highest of its kind in the world.
- **Objective:** Observe **high-energy gamma rays** to understand the most energetic phenomena in the universe (such as supernovae, black holes, and gamma-ray bursts).
- It is named after scientist **Pavel Alekseyevich Cherenkov**, who discovered that charged particles glow when they pass through a non-conducting medium under certain conditions (referred as **Cherenkov radiation**).
- Indigenously built by **Bhabha Atomic Research Centre (BARC)** with support from **Electronics Corporation of India (ECIL)** and other partners.
- It will also complement global observatories such as **High Energy Stereoscopic System (HESS)**, etc.

What are Gamma Rays?

- Gamma rays have the **smallest wavelengths** and the most energy of any wave in the electromagnetic spectrum.
- **Sources:**
 - ⊕ **In the universe**, such as neutron stars and pulsars, supernova explosions, and regions around black holes.
 - ⊕ **On Earth**, generated by nuclear explosions, lightning, and the activity of radioactive decay.

Why Hanle in Ladakh is chosen for observatory?

- **Hanle Valley** of Changthang (4250m above msl), the site is a dry, cold desert with sparse human population.
- **Cloudless skies** and **low atmospheric water vapour** make it one of the best sites in the world for optical, infrared, sub-millimetre, and millimetre wavelengths.
- In 2022, the Hanle Dark Sky Reserve (HDSR) was notified for astro-tourism.

External Affairs Minister recently expressed concerns over the increasing Weaponization of Trade

He highlighted that **trade globalization along with weaponization** has caused job losses and impacted quality of life in many countries.

About Trade Weaponization

- It refers to the **use of trade** as a **tool of foreign policy** and occurs when a country uses its **trade leverage over another nation** coercing it to take actions for a **specific outcome**.
- It aims at fulfilling national security objectives, geo-political gains, etc.

Key Tools for Trade Weaponization

- **Creating Impediments to Trade:** Preventing customs clearance, obstacles concerning environment, biosecurity, intellectual property standards, etc.
 - ⊕ E.g., In 2022, China blocked the imports of citrus, fish and other foods from Taiwan.
- **Sanctions and Embargo:** Selectively cutting off imports and exports.
 - ⊕ E.g., USA's **Countering America's Adversaries Through Sanctions Act** targeting Iran, Russia, and North Korea.

Consequences of Trade Weaponization

- **Protectionism:** Involves **tariff impositions** on products imported from a country. E.g., China Shock 1.0 and 2.0 have prompted tariffs against Chinese products.
- **Trade War:** Occurs when the countries involved impose **retaliatory tariffs** on each other. E.g., Witnessed between the USA and China since 2018.
- **Supply Chain Disruptions:** Witnessed during the times of COVID-19; etc.

Measures to counter Trade Weaponization

- **Institutional Cooperation:** Involving forums like **Indo-Pacific Economic Framework for Prosperity (IPEF)**; Mineral Security Partnerships, etc.
- **Supply Chain Resilience:** Through diversification of trade basket, promoting innovation and digitization, etc.
- **Counter Strategies:** Like **China plus one** (business strategy that prevents investing in China only); **Friend Shoring** (enhancing trade between economic and political allies), etc.

Nobel Prize in Physics awarded for training artificial neural networks (ANNs) using physics

It has been awarded jointly to **John Hopfield & Geoffrey Hinton** for constructing methods that helped lay foundation for **machine learning** (A type of AI) using ANNs.

What is ANNs?

- ANNs are a **subset of Machine Learning algorithms** designed to model **workings of human brain**.
- ANNs consist of **interconnected nodes, or artificial neurons**, that process information similarly to how neurons function in the human brain.

Discoveries:

- **John Hopfield:** He invented a type of neural network (**Hopfield Network**) which is **designed to store and recall patterns**, similar to **how memory works**.
 - ⊕ Hopfield network utilizes physics that **describes a material's characteristics** due to its atomic spin.
 - ◆ Atomic spin is **magnetic moment of an atom** that is caused by **spins of particles** that make up atoms.
- **Geoffrey Hinton:** He invented a method (**Boltzman Machine**) that can autonomously find properties in data e.g. **identifying specific elements in pictures**.
 - ⊕ Boltzmann machine learns by **using examples that it may see while it works**. It can **sort images or create new patterns** similar to what it learned.
 - ◆ This network uses **methods from statistical physics**.

Role of ANNs in AI

- **Deep Learning:** ANNs are **foundation of Deep Learning**, a branch of Machine Learning that **deals with large datasets** and complex models.
- **Use in AI:** AI systems used for **image recognition, natural language processing**, and autonomous systems rely on ANNs to make **decisions without human intervention**.
- **Learning from Data:** For example, ANN trained on thousands of medical images can eventually detect tumors in **new images with high accuracy**.

India eliminates trachoma as a public health problem: WHO

India is the **third country in the South-East Asia Region** after Nepal and Myanmar that eliminated this Neglected Tropical Diseases (NTD).








- Previously WHO declared India free from two other NTDs (**Guinea Worm disease (2000) and Yaws (2016)**).

About Trachoma

- It is **eye infecting disease** caused by infection with bacterium **Chlamydia trachomatis**.
 - ⊕ It is contagious (spreading through contact with **eyes, nose etc.**) disease and If left untreated can cause **irreversible blindness**.
- **Status in India:** In 1971, blindness due to Trachoma was 5% and now it has come down to less than 1%.
- **Interventions for Trachoma:** National Programme for Control of Blindness & Visual Impairment (NPCBVI), Adoption of WHO SAFE strategy etc.

What are NTDs?

- **NTDs** are a diverse group of conditions caused by a variety of pathogens (**viruses, bacteria, parasites, fungi and toxins**).
- These are mainly prevalent among **impoverished communities** in **tropical areas** living in poor environmental conditions.
- Called **Neglected** because they are almost **absent from global health agenda**, have Low global funding and are associated with **stigma and social exclusion**.

| Neglected Tropical Diseases (NTDs) | | | |
|---|--|--|--|
|  <p>Helminth NTDs: Taeniasis/ Cysticercosis Guinea worm disease Echinococcosis Foodborne trematodiasis Lymphatic filariasis Soil-transmitted helminthiasis Schistosomiasis Onchocerciasis</p> |  <p>Protozoan NTDs: Chagas Disease Leishmaniasis Human African Trypanosomiasis</p> |  <p>Viral NTDs: Rabies Dengue & Chikungunya</p> |  <p>Non-infectious diseases or conditions Snakebite envenoming</p> |
| |  <p>Fungal NTDs: Mycetoma, chromoblastomycosis and other deep mycoses</p> |  <p>Bacterial NTDs: Buruli Ulcer Leprosy Trachoma Yaws</p> |  <p>Ectoparasitic NTDs Scabies and other ectoparasites</p> |

Steps Taken for NTDs:

- **Globally:** Global NTD Annual Reporting Form (GNARF), Global vector control response 2017–2030 (GVCR) and Kigali declaration on NTDs (2022)
- **India:** National Vector Borne Diseases Control Programme (NVBDCP)

Supreme Court (SC) flags Discriminatory Attitude towards Elected Women Representatives (EWRs) in Rural Areas

In a recent case, SC while offering relief to Woman Sarpanch removed by District Administration in a Maharashtra village highlighted resistance faced by EWRs in Panchayats.

Issues faced by EWRs in Rural Areas:

- **Rubber Stamps Candidates:** Actual decision-making powers are in hand of husbands/male family members.
- **Gender Biases and Social Barriers:** Domestic Responsibilities along with prejudiced attitude towards EWRs limits possibility for bringing social change.
- **States' Policies as Barrier:** Some states like Rajasthan have two-child norm or minimum educational qualification as criteria for contesting elections.
- **Rotation of Seats:** EWRs often have to discontinue after serving a single term due to rotation.
- **Other Issues:** Digital divide, Lack of Knowledge, apprehensions about ability, cultural Constraints etc.

Way forward on facilitating EWRs

- **Institutional Reforms:** recruiting more women in other Panchayat roles like Panchayat Secretary, institutionalized monitoring to restrict interference by their male counterparts in their work.
- **Strengthening Women Collective Agency:** Nurturing federations of EWRs, mobilizing forums like Self Help Groups, etc.
- **Others:** Investing in capacity building through education; coherent and updated data for comprehensive assessment, etc.

EWRs in Rural Government

- **Status in India:** ~1.4 million women constituting 46% of total elected representatives of PRIs.
- ⊕ **73rd Constitutional Amendment, 1992** mandated reservation of at least one-third seats for women.
 - ◆ Some states like Bihar, Chhattisgarh, have increased reservation proportion to 50%.
- **Significance of EWRs:** Improved service delivery; lesser corruption; inclusive governance; gender equality, etc.

India becomes fourth nation to cross 700 billion dollar in Forex Reserves

India is now the fourth country in the world to have over \$700 billion in foreign reserves, following China, Japan, and Switzerland.

- India's reserves can cover 11.9 months of imports, well above the general norm of six-months.

About Forex (Foreign Exchange) Reserve

- It comprises of different assets that are held by a central bank.
 - ⊕ In India, the **RBI Act of 1934** contains the enabling provisions for the **Reserve Bank of India (RBI)** to act as the custodian of forex reserve, and manage reserves within the defined objectives.
- **Components of Reserve** (in descending order as per their value)-
 - ⊕ **Foreign Currency Assets (FCA):** It is valued in currencies other than the country's own
 - ⊕ **Gold reserves**
 - ⊕ **Special Drawing Rights:** A reserve asset provided by **International Monetary Fund (IMF)**.
 - ◆ Its value is based on a mix of five major currencies- the US dollar, euro, Chinese renminbi, Japanese yen, and British pound sterling.
 - ⊕ **Reserve Tranche Position (RTP):** It is equal to the member's quota less the IMF's holdings of the member's currency in account.
- **Key deriving factor behind rise in reserve:** Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI), Remittances, etc.

Significance/Need of Forex Reserve

- **Managing Crises:** Limiting external vulnerability by maintaining foreign currency liquidity to absorb shocks during times of crisis.
- **Meet Financial Obligations:** Reserves help pay debts and finance imports.
- **Reassure Investors:** Providing confidence to the markets, especially credit rating agencies, to the effect that external obligations can always be met
- **Other:** Enhancing capacity to intervene in foreign exchange markets, etc.

Also in News



Atal Pension Yojana (APY)

APY has surpassed 7 crore enrolment.

About APY:

- Launched: **By Ministry of Finance** in 2015.
- **Objective:** To create a universal social security system for all Indians, especially underprivileged and workers in unorganized sector

Key-Features:

- Minimum guaranteed pension of **Rs.1,000/- or 2,000/- or 3,000/- or 4,000 or 5,000/- per month.**
 - ⊕ Pension will start after attaining the **age of 60 years** depending on the contributions by subscribers.
- **Eligibility:** Any citizen of India between the age of 18 and 40.
 - ⊕ Should have a **savings bank account/ post office savings bank account.**
- **Administered by:** Pension Fund Regulatory and Development Authority (PFRDA)



Evergreening of loans

SEBI has issued guidelines for investors in alternative investment funds to prevent loan ever-greening.

About Evergreening of Loans

- A practice where **banks give new loans to borrowers who are unable to repay existing loans**, often to avoid classifying previous loans as non-performing assets (NPAs).
- **How Evergreening is done?**
 - ⊕ **Restructuring of Loans:** Restructuring existing loans by modifying repayment terms, interest rates, or tenures to delay or avoid recognizing a loan as bad.
 - ⊕ **Round-Tripping of Funds:** Extending new loans to repay old ones.
- **Consequences:**
 - ⊕ **Hides banks' true financial health** by preventing recognition of non-performing loans.
 - ⊕ It may lead to **worse asset quality**, higher default risks, capital loss, and **distorted financial indicators.**



World Association of Zoos and Aquariums (WAZA)

Global body WAZA has suspended membership of Delhi zoo over plight of an African elephant.

About WAZA (Established in 1935)

- **Objective:** To support zoos, aquariums, and similar organizations in animal care, welfare, environmental education, and global conservation.
- **Global Alliance:** Serves as a global alliance that includes regional associations, national federations, zoos, and aquariums.
- **WAZA Membership:** Comprises nearly 400 leading institutions and organizations.
- ⊕ **WAZA accepts membership applications in four categories:** Associations, Institutions, Affiliates and Corporations.



Exercise Malabar 2024

Exercise Malabar 2024 commenced in Visakhapatnam (Andhra Pradesh).

About Exercise Malabar 2024

- **Annual** maritime exercise, which will take place both in harbour and at sea.
- **Participant:** Australia, Japan, the United States and India.
- **Aim:** To strengthen cooperation and security in the Indo-Pacific region.



Indian Wild Ass

10th Wild Ass Population Survey conducted by Gujarat Forest Department has found a 26.14% (6,082 in 2020 to 7,672 in 2024) increase in the population of Indian Wild Ass.

Indian Wild Ass (Equus hemionus khur)

- **About:** One of the **five subspecies** of the **Asiatic wild ass**, referred to as 'Ghudkhur'.
- **Habitat:** Arid zone of northwestern Indian subcontinent; presently only restricted to the **Little Rann of Kutch (LRK)** in Gujarat.
- **Behavioral Characteristics:** Solitary, Shy, present in low densities across its distribution range.
 - ⊕ Exhibit **dominance hierarchy** in territorial males
 - ⊕ Horns found only in adult males, for browsing preferred nutrient rich forage.

Conservation Status:

- **IUCN Red List of Threatened:** Near Threatened
- **Wildlife Protection Act, 1972:** Schedule I
- **CITES:** Appendix I



Humsafar Policy

Union Minister of Road Transport & Highways launched the Humsafar Policy.

About Humsafar Policy

- **Aim:** To provide a comprehensive framework to ensure that the commuters have access to standardized, well-maintained, and hygienic facilities along National Highways and Expressways
- **Key Benefits:**
 - ⊕ **Registered service providers** will be able to avail a waiver of renewal fees for access permissions, if they maintain an average rating of 3 or higher.
 - ⊕ **Reliable passenger** convenience establishments at regular intervals



Kaimur Wildlife Sanctuary (KWS)

National Tiger Conservation Authority's (NTCA) has given approval to develop Kaimur Wildlife Sanctuary (KWS) as Bihar's second tiger reserve after Valmiki Tiger Reserve.

➤ NTCA is a statutory body established under **Wildlife (Protection) Act of 1972**.

About KWS

- **Location:** Located on a Kaimur Hills plateau between the **Son River** (south) and **Karmanasa River** (west).
 - ⊕ It is spread over Central highlands (include b Satpura-Maikal hills and Vindhya-Bagelkhand hills) and Chota Nagpur Plateau.
 - ⊕ It is linked to Bandhavgarh-Sanjay-Guru Ghasidas-Palamau tiger landscape.
- **Fauna:** leopards, wild boars, sloth bears, etc.
- **Forest Type:** Northern Tropical Mixed Dry Deciduous Forests



Digital Arrest

Recently a woman from Madhya Pradesh was scammed by placing her under Digital Arrest.

About Digital Arrest:

- **About:** New method of cyber fraud, where fraudsters make audio or video calls **posing as law enforcement officers**, confining a victim under digital arrest **citing their involvement in an illegal activity**.
- **Intention:** Scare victims into transferring money, divulging personal and financial information, etc.
- **Tactics used:** False allegations; fabricated emergencies; etc.
- **Legality:** Unlike the arrest, where formal legal procedure exists, there is **no legal provision** that allows for a digital arrest.

Place in News



Lebanon (Capital: Beirut)

In recent escalations, Israel has ramped up its offensive against Hezbollah by deploying more troops along the Southern part of Lebanon.

Political Features

- ⊕ **Location:** **Narrow strip** of territory along the **eastern shore of Mediterranean Sea**.
 - ◆ **West Asian Country**, part of Levant region.
- ⊕ **Bordering Countries:** Syria (North and Northeast); Israel (South)
 - ◆ **Maritime Boundary:** Cyprus

Geographical Features:

- ⊕ **Mountains:** Lebanon Mountains (Jabal Lubnan), Anti-Lebanon and Hermon Ranges.
 - ◆ **Highest Peak:** Qurnat al-Sawda
- ⊕ **Valley:** Bekaa (Al-Biqa)
- ⊕ **Rivers:** Litani, Orontes, etc.



Errata: In News Today Dated 25th-26th August 2024, in the news "Union Cabinet approves the Unified Pension Scheme (UPS)", under the heading "Assured minimum pension", it was mistakenly given as "Increased from the ₹9,000/month available under OPS and NPS." The correct information is that the Assured Minimum pension has increased from Rs9000/month under OPS only. NPS is a market linked scheme with no assured pension.

