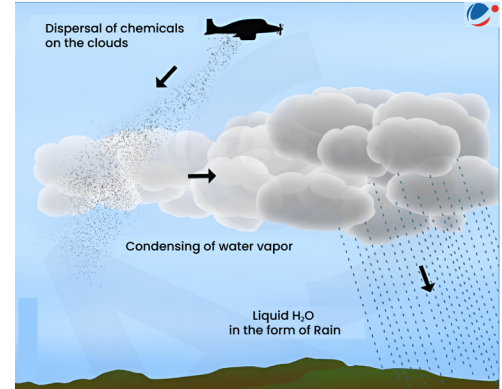


NEWS TODAY

Delhi Government seeks Centre's permission for Cloud Seeding in the backdrop of deteriorating air quality

Cloud Seeding

- **About:** It is a weather modification technique that aims at enhancing precipitation (generate artificial rain) from clouds.
- **Method:** Uses chemicals like silver iodide, potassium iodide, and dry ice, which are dispersed into the sky via airplanes and helicopters.
 - ⊕ These chemicals attract water vapour (acting as nuclei), helping form rain clouds.
- **Types:** Hygroscopic Cloud Seeding (accelerates the merging of droplets in liquid clouds) and Glaciogenic Cloud Seeding (induces ice formation in super cooled clouds).



Cloud Seeding as a solution to Climate Change

Arguments in Favor

- **Regulates prevailing Weather Conditions:** Regulates water vapour preventing damage by hails and storms; causes more winter snowfall, etc.
- **Enhances Natural Water Supply:** Making drier areas more liveable and supporting local communities.
- **Disperses Air Pollutants:** Reduces the concentration of dust, smoke, smog, etc., helps control wildfires.
- **Benefits Agriculture:** Provides moisture to crops.

Arguments Against

- **Lack of Research:** Lack of sufficient data to prove its effectiveness as a solution to pollution like the one witnessed in Delhi.
- **Suitability:** Requires presence of moisture-filled clouds as not all clouds are suitable for seeding.
- **Impact of chemicals used:** Silver Iodide (most preferred material) may cause iodism (type of iodine poisoning) proving toxic to terrestrial and aquatic life.
- **Economic Viability:** May cost around ₹1 lakh per square kilometre.

Conclusion: Apart from undertaking research on cloud seeding, other Nature based (green infrastructure; urban vegetation); construction based (carbon capture and storage, bio-based building materials) solutions could be explored.

Pradhan Mantri Awas Yojana- Rural (PMAY – Rural) completes 8 year

PMAY – Rural was launched by Ministry of Rural Development (MoRD) in 2016.

About PMAY- Rural

- **Aim:** To provide housing for the poorest segments of society including EWS.
- **Scheme Type:** Centrally Sponsored Scheme (CSS)
- **Key Target:** Originally 2.95 crore houses were to be completed by 2023-24.
 - ⊕ Scheme was extended with 2 crore more houses, with a total outlay of ₹3,06,137 crore for FY 2024-29.
- **Ownership:** Mandated for the female head of the family.
- **Eligibility criteria:** Houseless Households and Households with Kuccha Houses (as per the Socio Economic and Caste Census (SECC), 2011)
- **Selection of beneficiaries:** Through a three-stage validation (SECC, Gram Sabha, and geo-tagging).
- **Assistance:** Rs.1.20 lakh in plain areas and Rs.1.30 lakh in North Eastern Region States and Hill States of Himachal Pradesh, Uttarakhand, Union Territories of J&K, and Ladakh.
 - ⊕ Loan up to ₹70,000 is available to eligible beneficiaries at a 3% reduced interest rate.
 - ⊕ RS.12, 000/- for toilets under Swachh Bharat Mission – Gramin.
- **Convergence with other schemes:** For providing basic amenities like LPG connection under Pradhan Mantri Ujjwala Scheme, Access to safe drinking water under Jal Jeevan Mission, etc.
 - ⊕ Eligible households can avail 95 days of employment as unskilled labour under Rural Mason Training.

Progress made under PMAY-G

- **Current Status:** As of November 2024, 2.67 crore houses have been completed (out of 3.21 crore sanctioned).
- **Women Empowerment:** 74% of sanctioned houses are owned by women solely or jointly.
- **Skilling:** Almost 3 lakh rural masons trained.

Chennai-Vladivostok Eastern Maritime Corridor Operational: Union Minister of Ports, Shipping & Waterways

Also known as the **Eastern Maritime Corridor (EMC)**, it is set to boost **maritime ties between India and Russia**.

About EMC

- Envisioned during the **Eastern Economic Forum (2019)** in **Vladivostok, Russia**.
- It seeks to develop a **sea route** between the **Indian port of Chennai** and **Vladivostok** through **Northeast Asia**.
- Covers a distance of around **10,300 km**.
- Passes through the **Sea of Japan, the South China Sea, Malacca Strait, etc.**



Significance of the Corridor

- **Reduced Logistics cost:** Due to **reduction in transportation time** (by around 16 days) and **distance** (by around 40%).
 - ⊕ Present trade route between **Mumbai and St. Petersburg (Russia)** via Suez Canal takes around 40 days and covers a distance of around 16,066 Km.
- **Boost India's maritime sector:** The sector handles around **95%** (by volume) and **70%** (by value) of country's trade.
 - ⊕ Complement **India's Maritime Vision, 2030** that encompasses more than 150 initiatives from all areas of Maritime Sector.
- **Address China's Dominance:** Passes through the **South-China Sea**.
 - ⊕ **Vladivostok** is located at a **short distance** from **Russia-China border**.
- **Boost India's Act Far East Policy:** Offer enhanced **access to Russian resources** and provide stronger foothold to India in the Pacific trade network.

Other Significant Maritime Corridors

- **India-Middle East-Europe Economic Corridor (IMEEC):** Announced during **G20 Leaders' Summit (New Delhi, 2023)** for the integration of **Asia, Europe and the Middle East**.
- **International North-South Transport Corridor (INSTC):** First mooted in 2000 to build a **transport corridor linking Russia's Baltic Sea coast to India's western ports in the Arabian Sea via Iran**.

2nd India-CARICOM Summit concluded in Guyana

India proposed **seven key pillars** to strengthen ties between India and the **Caribbean Community (CARICOM)**.

- Seven pillars listed by the India form the **acronym C-A-R-I-C-O-M**.
 - ⊕ **Pillars include** Capacity Building, Agriculture and Food Security, Renewable Energy and Climate Change, Innovation, Technology and Trade, etc.
- The first-ever India-CARICOM Summit was held in 2019.

About CARICOM

- A regional organization established in **1973** to promote **economic integration and cooperation** in the **Caribbean**.
- Consists of 21 countries (fifteen Member States and six Associate Members) including Antigua and Barbuda, Bahamas, Barbados, Belize, etc.

Significance of CARICOM for India

- **Partnership in Multilateral Forums:** Many CARICOM countries such as Antigua and Barbuda support India's position in international forums. E.g. Support for permanent membership in the UNSC.
- **South-South Cooperation:** Countries from group participated in 3rd Voice of Global South Summit, 2024, organised by India.
- **Defence Export:** E.g. Recently, HAL delivered two Dornier 228 planes to Guyana.
- **Climate Action Collaboration/Energy Security:** E.g. Suriname joined **International Solar Alliance (ISA)**
- **Other:** Act as a gateway to **Latin America**, Cooperation in **disaster resilience** (E.g. Coalition for Disaster Resilient Infrastructure), Home to **Indian Diaspora** (Trinidad and Tobago), etc.



UN Report lauds India Gender Responsive Budgeting (GRB)

Report titled 'Charting New Paths for Gender Equality and Empowerment: Asia-Pacific Regional Report on Beijing + 30 Review' highlighted that adoption of GRB by India demonstrated strong commitment to ensure the efficient allocation of resources.

- Report has been published by **UN Economic and Social Commission for Asia and the Pacific (ESCAP)** and **UN Women**.

What is GRB or Gender Budgeting?

- A tool for **gender mainstreaming** which uses the Budget as an entry point to apply a gender lens to the **entire policy process**.
 - ⊕ It is **not a separate Budget** and also not about spending the same on women and men.
- **GRB in India**
 - ⊕ **Genesis:** Institutionalized by **Ministry of Finance** in **2005–2006**.
 - ◆ **Gender Budget Statement** is presented by the Government in budget session.
 - ⊕ **Nodal Agency:** Ministry of Women and Child Development (MWCD)
 - ⊕ **Consists of two parts:**
 - ◆ **Part A:** Encompasses schemes that allocate funds exclusively for women.
 - ◆ **Part B:** Represents the dominant share in the budget – comprises schemes that allocate a minimum of 30% of funds towards women.
 - ⊕ It also comes under the **Samarthya, sub-scheme of Mission Shakti**.

Key Challenges in implementation: Exclusion of key programmes that benefit women, lack of sex- disaggregated data, etc.

Recommendations of the UN report for improving the Efficiency of GRB

- Establish stronger **monitoring mechanisms** to enhance the quality of GRB efforts at the sectoral level.
- Integrate GRB considerations during the budget prioritization phase.
- Encourage **subnational governments** to adopt GRB practices.

UNICEF's Flagship State of the World's Children 2024 report released

The report spotlights **three global megatrends- demographic shifts, climate crises, and frontier technologies** which would create ripple effects across society impacting trends like **inequality, migration, urbanization**.

Major Findings of the Report

- **Demographic transition:** Global child population is projected to **stabilize at around 2.3 billion by 2050s**.
 - ⊕ India projected to have **350 million children by 2050**, accounting for **15% of global child population**.
- **Climate Risks:** Nearly half the world's children (1 billion) live in countries facing high risk of climate and environmental hazards.
 - ⊕ India ranks **26th in the Children's Climate Risk Index (UNICEF, 2021)** with children facing acute climate risks.
- **Frontier Technologies:** Digital Divide remains a challenge in realizing the benefits of **Frontier technologies** like artificial intelligence (AI), etc.
 - ⊕ Over 95% of people in high-income countries are connected to the internet, compared to 26% in low-income countries.

Major Recommendations

- **Planning:** Integrate climate resilience into local planning and infrastructure, including schools, healthcare systems, etc.
- **Renewable Energy:** Invest in renewable energy and promote solutions to cut emissions by 43% by 2030.
- **Policy reforms:** Legislations to protect children's rights in digital environments, including new types of crimes; adopt ethical guidelines for technology development, etc.



Also In News



Bomb Cyclone

Recently, a bomb cyclone struck North-western US and western Canada.

About Bomb Cyclone

- Also referred to as **bombogenesis**, it describes a **mid-latitude cyclone** (low pressure region) that rapidly intensifies over a **24-hour period**.
 - ⊕ Witness a drop in their central air pressure to **at least 24 millibars in 24 hours**.
- Majority of these **occur over the ocean** and can be **tropical or non-tropical** in nature.
- Usually coupled with weather events, ranging from **blizzards to severe thunderstorms to heavy precipitation**.



Cold Wave

Recently, **National Programme on Climate Change and Human Health (NPCCHH)**, under **Ministry of Health and Family Welfare** released advisory to some states on cold wave conditions.

About Cold Waves

- Weather occurrences caused by **extremely low temperatures** in the **near-surface atmosphere**.
- **India Meteorological Department (IMD)** defines cold wave conditions as:
 - ⊕ Minimum temperature less than or equal to **10°C (Plains)**
 - ⊕ Minimum temperature less than or equal to **0°C (Hilly regions)**.
- **Impacts:** Health Risks (frost bites and other illnesses); heating costs; impact on vulnerable sections, etc.



Bhu-Neer Portal

Recently Ministry of Jal Shakti launched the "Bhu-Neer" portal during India Water Week 2024.

About Bhu-Neer Portal

- **Aim:** Serve as a **one-stop platform** for managing and **regulating groundwater resources** at the state and national levels.
- **Developed by:** Central Ground Water Authority (CGWA) in collaboration with the National Informatics Centre (NIC).
 - ⊖ **CGWA** has been constituted under the **Environment (Protection) Act, 1986** to regulate and control development and management of ground water resources in the country.



Climate Change Performance Index

Climate Change Performance Index (CCPI) 2025 is released by think tanks Germanwatch, New Climate Institute, and Climate Action Network International.

- First three places have been kept empty followed by **Denmark (fourth place)**.
- India ranked **10th on the list**.

About CCPI

- Tracks the progress of the world's largest emitters in terms of global greenhouse gas (GHG) Emissions, Renewable Energy, Energy Use and Climate Policy.
- It covers 63 countries and the European Union.

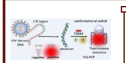


Antibiotics

Recently, Union Minister of Science and Technology launched the first indigenous antibiotic "**Nafithromycin**" for resistant infections.

About Antibiotics

- They are **chemical substances** (produced both synthetically and by some microbes) used as drugs to kill or stop the growth of **disease-causing microorganisms**.
- They have **low toxicity for humans and animals** and can be mixed with livestock feed to check microbial infections in animals.
- They work against the **bacterial and not the viral infection** (like common cold, flu).
 - ⊖ **Viruses lack cell wall** that is attacked by antibiotics.
- **Common Examples:** Streptomycin, tetracycline and erythromycin.



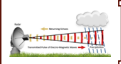
GQ-RCP Platform

Researchers have developed a technology for targeted better detection of HIV, using **G-Quadruplex (GQ) Topology-Targeted Reliable Conformational Polymorphism (GQ-RCP) Platform**.

- **Human Immunodeficiency Virus type 1 (HIV-1)** is a retrovirus which is responsible for the **Acquired Immunodeficiency Syndrome (AIDS)**.

About GQ-RCP Platform

- **Developed by:** Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore.
- It can be adopted for the detection of **various Deoxyribonucleic acid (DNA)/Ribonucleic acid (RNA) based pathogens** including bacteria and viruses.
- It is a **fluorometric detection method**.
 - ⊖ **Fluorometry** is defined as the measurement of the emitted **fluorescence light** (ability of certain chemicals to give off visible light after absorbing radiation).



Doppler Radar

Recently, **Department of Consumer Affairs** released the draft Rules for the **Microwave Doppler Radar** equipment for measuring speed of vehicles under the **Legal Metrology (General) Rules, 2011**.

About Doppler Radar

- Type of radar that uses the **Doppler Effect** to determine an **object's location, speed, and distance**.
 - ⊖ **Doppler Effect** refers to the **change in wave frequency** during the **relative motion** between the source and the observer.
- **Applications:** **Meteorology** (track weather patterns); **aviation** (track air traffic); **military** (track aircraft and missiles), etc.



AI Data Bank

Ministry of Science and Technology launched India's first Artificial Intelligence (AI) Data Bank.

About AI Data Bank

- **Objective:** To provide **researchers, startups, and developers access to high-quality, diverse datasets** essential for creating scalable and inclusive AI solutions.
- It will enhance national security through **real-time analytics of satellite, drone, and Internet of Things (IoT) data**.
- It also aligns with the country's goal to utilise **AI for predictive analytics** in disaster management and cyber security.

Personality in News

Dr. Harekrushna Mahtab(1899-1987)

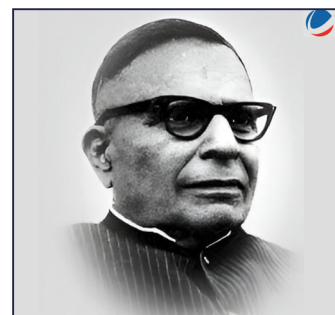
The 125th Birth Anniversary of **Dr. Harekrushna Mahtab (Known as Utkal Keshari)** has been celebrated.

- He was a freedom fighter, politician, historian, writer, social reformer, and journalist.

Contribution

- Participated actively in **Non-Cooperation Movement, Salt Satyagraha** etc.
- Played key role in the **integration of Odisha** into the Union of India.
- Influenced by figures like **Swami Vivekananda, Ramkrishna Paramhansa and Mahatma Gandhi**.
- Served as the **Chief Minister of Orissa** from 1946 to 1950.

Values: Determination, leadership etc.



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



JAIPUR



JODHPUR



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI