

NEWS TODAY

Anusandhan National Research Foundation (ANRF) launched 'Partnerships for Accelerated Innovation and Research' (PAIR) programme

PAIR initiative aligns with National Education Policy 2020 and is designed to transform research and innovation in Indian Universities through hub and spoke model.

About PAIR

- **Hubs:** For the 1st phase, hub will include institutions with high NIRF ranking that will guide emerging institutions (spokes) in research activities, provide access to harness their resources and expertise.
- **Spoke:** Central and State Public Universities and select NITs and IITs (to be extended subsequently).

About Research Ecosystem in India's HEI

According to 2024 EY Report:

- **Improved research quantity:** India is world's third-largest higher education system (only behind U.S. and China), and ranks 4th in research papers published from 2017 to 2022.
- **Quality research remains a concern:** As compared to peers, India lags behind in citations per document and H index or Hirsch index (designed to measure research quality over time).

Key issues in India's Research Ecosystem

- **Research translation:** Research work is merely on paper and does not translate into meaningful action.
- **Funding sources:** Global universities get large funding from private organizations in addition to their government, whereas in India, funding is largely driven government.
- **Research budgets:** India's R&D expenditure is only around 0.65% of GDP (4.8% in South Korea, 3.4% in US).
- **Lack of incentives to publishing quality research work** and burden of administrative work on faculties.

ANRF (established by the ANRF 2023 Act) in addition to other initiatives like SERB-SURE, IMPRINT, Atal Innovation Mission, etc. are expected to improve the quality of research ecosystem in India.

Ministry of Science and Technology launched Operation Dronagiri and Integrated Geospatial Data Sharing Interface (GDI)

These initiatives have been launched in efforts to liberalise geospatial data, and developing geospatial infrastructure, geospatial skill and knowledge.

- **Geospatial data** is information that describes objects, events or other features with a location on or near the Earth's surface.
 - ⊕ **Examples:** Satellite imagery, census data, social media data etc.
 - ⊕ Geospatial data is widely accepted as a critical national infrastructure and information resource.

About Operation Dronagiri

- It is a pilot project under National Geospatial Policy 2022, and will be implemented by Geospatial Innovation Cell, Department of Science and Technology.
- **Purpose:** To demonstrate the potential applications of geospatial technologies and innovations in improving the quality of life of citizens and ease of doing business.
- **First Phase Implementation:** In the states of UP, Haryana, Assam, Andhra Pradesh & Maharashtra.
 - ⊕ Pilot projects and use cases will be demonstrated to showcase potential applications of integration of geospatial data and technology in 3 sectors: **Agriculture, Livelihoods, Logistics and Transport.**

About Integrated Geospatial Data Sharing Interface (GDI)

- Interface is being built for making spatial data accessible with advanced data exchange protocols and privacy-preserving features.
- **Significance:** Enabling seamless data sharing, enabling data-driven decisions for public good, fostering responsible use of geospatial data.

National Geospatial Policy 2022

- **Vision:** Position India as global leader in geospatial sector, develop national framework, and enable easy availability of valuable geospatial data.
- **Institutional Framework:**
 - ⊕ **Geospatial Data Promotion and Development Committee (GDPDC)** as apex body for geospatial sector.
 - ⊕ **Survey of India** as overarching nodal agency for geospatial data.
 - ⊕ **National Digital Twin Strategy.**
 - ⊕ **Geospatial Knowledge Infrastructure.**

Ministry of Science & Technology Introduces 'PPP plus PPP' Model to check diabetes in India

“PPP plus PPP” is a **two-tiered collaboration** where **India’s public and private sectors unite internally** to strengthen healthcare infrastructure while **simultaneously engaging with international counterparts**.

- The model was introduced on **World Diabetes Day (14th November)** which was made a **global observation by the UN in 2006** and was first established in 1991 by WHO and International Diabetes Federation (non-profit organisation).

About Diabetes or Diabetes Mellitus (DM)

- DM is a **chronic, metabolic disease** that causes **elevated blood glucose levels** (hyperglycemia).
- **Symptoms: Loss of glucose through urine** and formation of harmful compounds known as **ketone bodies**.
 - ⊕ It can cause **serious damage to the heart, blood vessels, eyes, kidneys, and nerves**.
- **Major Types**
 - ⊕ **Type 1 (juvenile diabetes or insulin-dependent diabetes): Autoimmune disorder** in which insulin producing cells are destroyed by immune system.
 - ⊕ **Type 2:** Most common type and usually occurs in **adults**. Caused when **body becomes resistant to insulin or doesn't make enough insulin**.
 - ⊕ **Gestational:** Develops during pregnancy.
- **Prevalence:** Around **830 million** people globally have diabetes (around 212 million in India), the **majority living in low-and middle-income countries**.
- **Treatment Gap:** More than **50% lack treatment**.
 - ⊕ **Around 64 million men and 69 million women with untreated diabetes** in India are at high risk of developing associated severe complications.
- **WHO Target:** To **halt the rise in diabetes and obesity by 2025**.

About Insulin

- Insulin is a **peptide hormone** secreted by **β-cells of Pancreas**.
- It plays a major role in the **regulation of glucose homeostasis**.
- Insulin acts mainly on **hepatocytes and adipocytes** (cells of adipose tissue), and **enhances cellular glucose uptake and utilisation**.
- Nowadays, **recombinant human insulin** is mainly produced either in **E. coli or Saccharomyces cerevisiae**.

CAG releases Compendium of Performance Audits on the implementation of the 74th Constitutional Amendment Act (CAA) 1992

Compendium encapsulates **key findings from Performance Audits** undertaken by the Comptroller and Auditor General (CAG) on **implementation of 74th CAA in 18 states**.

- 74th CAA introduced **Part IXA** to the Constitution of India, providing **constitutional status to Urban Local Self-Governments (ULSGs)**.
 - ⊕ It authorized State Legislatures to enact laws to endow local bodies with powers and authority to **enable them to function as institutions of Self-Government**.
 - ⊕ It introduced **Twelfth Schedule to the Constitution**, enumerating **18 specific functions** to be devolved to ULSGs.

Key finding of Report

- **Autonomy:** **17 functions** in Twelfth Schedule are devolved to ULSGs, by law, however, **only 4 functions are effectively devolved with complete autonomy**.
- **Women:** **6 out of 14 States reserve 50%** of their City Council seats for women, over the **constitutional mandate of 33% reservation**.
- **ULSGs Finances:** On average, **only 32% of total revenue of ULSGs is their own revenue**, with the rest coming from the Union and state governments.
 - ⊕ ULSGs are facing a **42% gap between their resources and expenditure** and **only 29%** of their expenditure goes towards **programmatics and development work**.
- **Functionaries:** Average **staff vacancy** against sanctioned strength in ULBs is **37%**.



LOCAL SELF-GOVERNMENT—URBAN

Recommendations to ensure efficacy of 74th CAA

- **Take action to ensure that decentralization turns into a reality**, involving ULSGs in critical functions such as planning, regulation etc.
- **Strengthen State Election Commissions** for timely municipal elections.
- **Improve financial sustainability** of ULSGs through enhancing their tax collection capacity.
- Establish a **robust workforce management system** in ULSGs for filling up the vacant posts.

Ministry of Home Affairs Reimposed AFSPA in violence hit areas of Manipur including Jiribam

Armed Forces (Special Powers) Act (AFSPA) 1958 is imposed to bring back order in "disturbed areas".

Key highlight of AFSPA

- **Disturbed areas:** A part or whole state/UT can be declared so by Governor of state, administrator of UT or by Centre if use of armed forces in aid of civil power is necessary to restore order.
- **Grants Special power to armed forces:** They can open fire against any person in contravention of law, arrest and search premises without warrant, etc.
- **Immunity to Armed Forces personnel:** Prohibits legal proceedings against them except with the previous sanction of the Central Government.
- **Treatment of arrested person:** Army authority is required to handover the arrested person to the officer-in-charge of the nearest police station with least possible delay.
- **Applicability:** Parts of Assam, Manipur, Nagaland, Arunachal Pradesh.
 - ⊕ **Armed Forces (Jammu & Kashmir) Special Powers Act 1990** is applicable to disturbed areas of Jammu and Kashmir.
- **Concern:** Abuse of powers, Human rights violation including rapes and sexual assaults etc.

Other Related Information about AFSPA

- **Supreme Court Judgements**
 - ⊕ **Naga People's Movement for Human Rights Case (1997):** Court held power to cause death is to be exercised under definite circumstances.
 - ⊕ **Extra Judicial Execution Victim Families Association case (2016):** Court ruled that **armed forces could not be immune from investigation for excesses committed** during discharge of their duties even in **disturbed areas**.
- **Committees Recommendations**
 - ⊕ **Justice B.P. Jeevan Reddy Committee (2004)** recommended scrapping AFSPA.
 - ⊕ **Santosh Hegde Committee (2013)** suggested review of the Act every six-month.
 - ⊕ **Justice Verma Committee (2013)** called for subjecting sexual violence against women by armed forces to regular criminal law.

Executive committee of National Mission on Clean Ganga (NMCG) approves key biodiversity projects

These projects aim to enhance the conservation of River Ganga and its aquatic life.

Key projects approved

- **Project for assessing the Environmental flow of the Chambal, Son, Damodar and Tons rivers.**
- **Project for Conservation of endangered turtles in the Ganga basin in Uttar Pradesh.**
 - ⊕ **Rehabilitating** endangered turtle species and **reintroducing** highly threatened turtle species.
 - ⊕ Establishing a **Spatial Monitoring and Reporting Tool** at the **National Chambal Sanctuary**.
- **Advancing Rescue System for the Protection of Stranded Ganges River Dolphins.**
 - ⊕ **Objective:** Development of a specialized rescue vehicle - **Dolphin Ambulance** - to assist dolphins in distress.
 - ⊕ It will focus on **raising awareness** for dolphin conservation and **community capacity building** through training.

About Gangetic Dolphin (Platanista gangetica)

- **Habitat:** India (Ganga-Brahmaputra-Barak river system); Nepal and Bangladesh.
- **Characteristics:** **Freshwater species**, essentially **blind** and **hunt by emitting ultrasonic sound**.
- **Threats:** Entanglement in fishing gear; Poaching for dolphin oil; Habitat destruction due to development projects; Pollution through industrial wastes, pesticides etc.
- **Conservation status:** Endangered (IUCN); Appendix I (CITES); Schedule I (Wildlife Protection Act).

Conservation initiatives for Gangetic Dolphin

- Declared as '**National Aquatic Animal of India**'.
- Included as one of **22 critically endangered species** for providing financial assistance to States under the Centrally sponsored scheme 'Development of Wildlife Habitats'.
- **Project Dolphin** to conserve the Ganges river dolphins and its riverine ecosystem.
- Important habitats has been notified as **Protected Areas**, such as Vikramshila Dolphin Sanctuary, Bihar (India's sole dolphin sanctuary).

Also in News



e-Tarang System

Ministry of Defence launched the AI-enabled e-Tarang System.

About AI-enabled e-Tarang System

- It is a **unique software, developed by Integrated Defence Staff** in collaboration with **Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG-N)**.
- **Key Features:**
 - ⊕ It will enable **automated, efficient planning and management of Defence Spectrum**.
 - ⊕ By streamlining the spectrum management process, it ensures **interference-free operation** of equipment in both peacetime and wartime.
 - ⊕ It will support **development of newer technologies** in higher frequency bands.



Palaeocene-Eocene Thermal Maximum (PETM)

Study led by IIT-KGP revealed tropical rainforests could survive global warming.

- The study included confirming **PETM age of Gujarat's Vastan coal layers**.
- **About PETM period.**
 - **Timelines:** PETM was an interval of global warming that occurred **56 million years ago (Ma)**.
 - **Characteristic:** **4-5 °C global mean surface temperature increase**.
 - ⊕ PETM is considered to have the **highest carbon release rates** for the past 66 million years.
 - **Triggers for warming:** **Volcanism** associated with the North Atlantic Igneous Province, **dissociation of methane hydrates**, variations in Earth's orbit that controlled massive carbon release from **permafrost melting** or **oceanic methane hydrates** and an **extraterrestrial impact**.

Hallmark

Bureau of Indian Standards (BIS) began the **fourth phase of mandatory hallmarking** under the Hallmarking of Gold Jewellery and Gold Artefacts Amendment Order, 2024.

- **Hallmarking Order** mandates all gold jewellery to be hallmarked.
- Now, **361 districts** have been covered under mandatory hallmarking.

About Hallmark

- **Hallmarking** is the accurate determination and official recording of the proportionate content of precious metal in precious metal articles.
- It acts as a **guarantee of purity or fineness** of precious metal articles.
- At present, **two precious metals namely gold and silver** have brought under the purview of hallmarking in India.

Bodo Tribe

First Bodoland Mahotsav was inaugurated in New Delhi to **celebrate Bodo language, literature, and culture.**

About Bodo tribe

- **Inhabiting areas:** The Bodos are **one of Assam's largest indigenous communities** concentrated in Assam's **Bodoland Territorial Region (BTR)** covering Kokrajhar, Baksa, Udalguri, and Chirang districts.
 - ⊕ **BTR is governed by Bodoland Territorial Council** established under the **Sixth Schedule** of the constitution.
 - ⊕ They also live in **Bangladesh, Nepal and other states of North-East India.**
- **Bodo language:** It is part of the **Tibeto-Burman language family** and is also in **8th schedule** of Constitution.
- **Bodo Peace Accord (2020):** Signed between the Centre, state government of Assam and Bodo Groups.

Pinaka Weapon System

DRDO completed Flight Tests of the **indigenously developed Guided Pinaka Weapon System.**

- It was developed by the **Armament Research and Development Establishment** (in Pune) of DRDO in collaboration with private players including **Tata Advanced Systems Limited and Larsen & Toubro.**

About Pinaka Weapon System

- Pinaka is a **Multi-Barrel Rocket Launcher (MBRL) system.**
- **Precision strikes:** It can launch a salvo of **12 rockets within 44 seconds** covering an area of **700x500 meters.**
- **Range:** 38Km (Pinaka I), 60 Km (Pinaka II), 75 Km (Pinaka III, the latest version)
- **Export Potential:** Already **bought by Armenia** and under **consideration by the French military.**

Consent to Establish

Ministry of Environment, Forest and Climate Change (MoEFCC) **removed the dual compliance** of Environmental Clearance (EC) and Consent to Establish (CTE) for setting up of new industries.

- **Now, non-polluting white category industries** will not be required to take CTE or Consent to Operate (CTO) at all.
- Also, industries who have **already taken EC will not be required to take CTE.**

About Consent to Establish (CTE)

- CTE is required under the **Water (Prevention and Control of Pollution) Act, 1974** and **Air (Prevention and Control of Pollution) Act, 1981.**
- A CTE from the State Pollution Control Board is required to **industries that discharge effluents or emit pollutants into the environment.**

MATES

Australia is introducing a new scheme - **Mobility Arrangement for Talented Early-professionals Scheme (MATES).**

- It is a visa stream that **allows Indian graduates and early career professionals to live and work in Australia for up to 2 years.**
- **Eligible fields of study:** renewable energy, mining, engineering, information and communication technology, artificial intelligence, financial technology and agricultural technology.
- MATES is the centrepiece mobility offer in the **Australia-India Migration and Mobility Partnership Arrangement.**

Solomon Islands

World's largest coral found (as big as two basketball courts and at least 300 years old) near the Pacific's Solomon Islands.

- Corals are animals from the **phylum Cnidaria**, typically found along **tropical coastlines.**
- They comprise **hundreds to thousands of living organisms called polyps.**

About Solomon Islands

- **Location:** Scattered **archipelago of mountainous islands and low-lying coral atolls**, the Solomon Islands stretche in the **south-easterly direction** from the Shortlands Islands to the Santa Cruz islands.
- **Climate:** The climate is **tropical**, though temperatures are rarely extreme due to cooling winds blowing off the surrounding seas
- **Economy:** Fisheries & timber and exports copra and palm oil are main source of income.



Place in News **Dominica (Capital: Roseau)**

Commonwealth of Dominica will Honour Prime Minister of India with 'the Dominica Award of Honour'.

- It is recognition of his **contribution to the country during the Covid-19 pandemic** and his dedication to **strengthening the bilateral partnership.**

About Dominica

- **Political features**
 - ⊕ **Member of Commonwealth** since 1978.
 - ⊕ The island country of the **Lesser Antilles in the eastern Caribbean Sea.**
 - ⊕ Only island with a **relatively large and distinctive group of Carib Indians.**
- **Geographical features**
 - ⊕ **Relief:** **Volcanic origin** having numerous **fumaroles** (volcanic vents) and **hot springs.**
 - ⊕ **Soil:** Rich in alluvial and volcanic soils.
 - ⊕ **Mountains:** Mount Diablotins (highest peak) and Mount Trois Pitons.

