

# NEWS TODAY

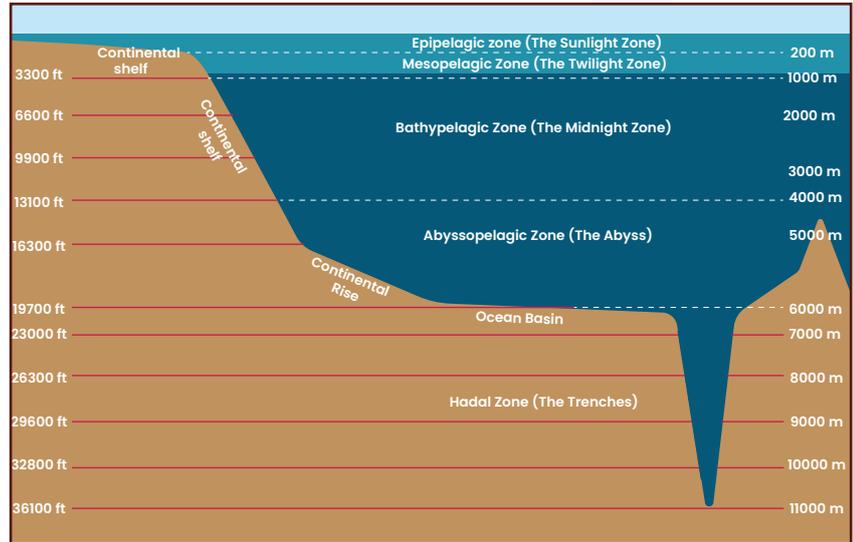
## Study reveals that 99.999% of Earth's Deep Seafloor is yet to be explored

97% of recorded deep-sea dives had been performed by **only five countries: the U.S., Japan, New Zealand, France, and Germany.**

- **Observation Means:** Visual Imaging from manned submersibles, Remotely Operated Vehicles (ROVs), Autonomous Underwater Vehicles (AUVs), Tow Cameras tethered to Ships etc.
- ⊕ **Geomorphological features like ridges and canyons** saw a disproportionate amount of exploration, compared to abyssal plains, which dominate the seafloor.

### About Deep Ocean

- **Deep Ocean** is generally defined as sea and seabed below the depth at which **light starts to decrease rapidly**, typically around **200 meters** (where **Twilight Zone** starts).
- **Conditions:** Deep ocean is **cold** – with an **average temperature of only 4°C** and is subject to **extreme pressure**, from about 40 to over 110 times the pressure of Earth's atmosphere.
- **Biodiversity:** Squid, krill, jellies, and fish are super abundant in **Mesopelagic Zone (200m-1000m)** with about 90% of world's fish (by weight).
- **Hydrothermal Vents:** Openings in the Earth's Crust on the ocean floor, which releases **geothermally heated mineral-rich water**, that is used by microorganisms to provide energy and nutrients through **chemosynthesis**.
- **Significance of Exploration:** Sources of energy (oil, gas, methane hydrate, ocean currents), promising source for new antibiotic and anti-cancer drugs, presence of polymetallic nodules, understanding, predicting and mitigating climate change etc.



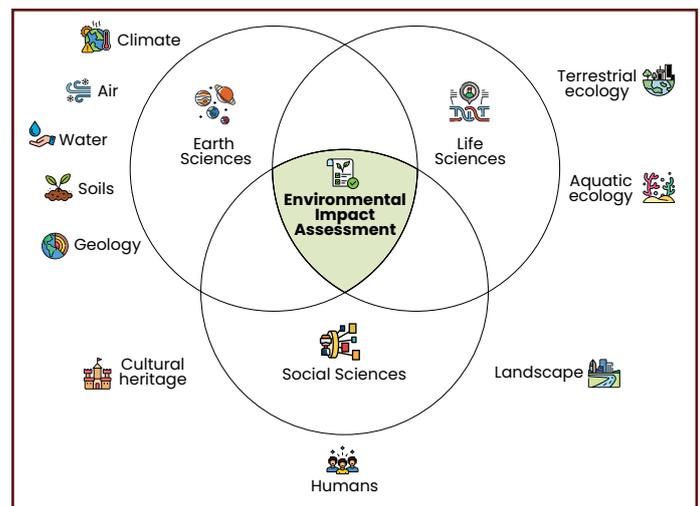
## Supreme Court strikes down retrospective Environmental Clearances

In **Vanashakti v. Union of India (2025)**, the SC **restrained** the Centre from granting **ex-post facto environmental clearance (EC)** to **mining projects** or regularising actions that **contravene the 2006 EIA notification**.

- The **EIA Notification, 2006**, clearly requires '**prior environmental clearance**' before a project can start.
- The court also held that such notification issued by the Centre (MoEFCC) were illegal, arbitrary, and **violative of Articles 14 (equality before law) and 21 (protection of life and personal liberty)** of the Constitution.
- Previously, in **Common Cause v. UoI & Ors. (2017)**, Supreme Court held that the concept of ex post facto or retrospective environmental clearance is **completely alien to environmental jurisprudence**.

### Environmental Impact Assessment (EIA)

- **EIA notification 2006** was designed to ensure that developmental projects are **assessed** for their potential environmental impacts **before approval**.
- It categorised the projects in **2 categories**:
  - ⊕ **Category A:** National Level Appraisal
    - ◆ Require prior EC from the **Central Government** in the MoEFCC.
    - ◆ Decision based on recommendations of an **Expert Appraisal Committee (EAC)**.
  - ⊕ **Category B:** State Level Appraisal
    - ◆ Require prior EC from the **State/UT Environment Impact Assessment Authority (SEIAA)**.
    - ◆ Decision based on recommendations of a **State or UT level Expert Appraisal Committee (SEAC)**.



## Access to Obesity Management not available to most Indian Patients: World Heart report

“The World Heart 2025: Obesity and Cardiovascular Disease report” published by World Heart Federation highlighted the rising prevalence of obesity and gaps in access to treatment worldwide.

### Key Observations

- **Obesity in adults globally has quadrupled since 1990:** In 2022, 878 million adults lived with obesity, compared with 194 million in 1990 due to various factors (refer image).
- **Future threat:** As per current trends, nearly **2/3rd adults (over 25 years)** could be overweight/obese by 2050.

### About Obesity

- Obesity is defined as an **abnormal or excessive fat accumulation that presents a risk to health.** The commonly used metric to classify obesity is **Body Mass Index (BMI)**, where a BMI of **25 or above** is considered overweight, and a BMI of **30 or above** is classified as obese. (WHO)
  - ⊖ BMI is calculated by dividing a person's weight in kilograms by their height in meters squared (kg/m<sup>2</sup>).
- Overall, **24% of Indian women and 23% of Indian men** are obese. (NFHS-5)

### Key recommendations

- **System-level interventions:** Policies that regulate food marketing, tax sugary drinks, subsidise healthy food options, etc.
- **Medication:** Governments should increase efforts to expand the availability and affordability of obesity medications, such as GLP-1RAs.
- **Other:** Lifestyle intervention, dietary modifications, Cardiovascular guidelines should incorporate obesity-specific recommendations, etc.

### KEY FACTORS Driving the rise of Obesity In India

	<b>High-Calorie, Low-Nutrient Diets</b> Increased consumption of refined carbohydrates and saturated fats.		<b>Use of Genetically Modified Crops</b> Altered food composition impacting metabolism and weight gain
	<b>Easy Access to Processed Foods</b> Widespread availability of packaged, ready-to-eat meals		<b>Physical Inactivity</b> Declining engagement in sports, exercise, and outdoor activities
	<b>Growing Culture of Eating Out</b> Frequent dining at restaurants where food is often cooked in unhealthy oils		<b>Sedentary Lifestyles</b> Long hours of sitting, excessive screen time, and minimal movement in daily routines

## Microsoft announces to lay off about 6000 Employees

Global Tech-giant, Microsoft, recently, announced to lay off **3% of its global workforce** (estimated around 6000 people) that would **affect employees across all levels, teams, and geographies.**

- The reasons behind these layoffs include **slashing unnecessary layers of management** and seizing the **benefits of new technology including Artificial Intelligence (AI).**

### How AI is poised to change the Workplace structure?

- **Traditional pyramidal structure:** Traditionally, organizations have been modeled with **broad base of lower-level employees, a mid-sized managerial layer, and a narrow top leadership tier.**
  - ⊖ It reflects a **hierarchy, clear chain of command, with layers of supervision and control.**

- **Hourglass structure:** In this setup, **AI is gradually taking over the role of coordination, management, and decision-making, with a wider top layer of strategic leaders and a growing top tier of knowledge workers while the bottom diversifies into a mix of people and tools.**

### Conclusion

The shift from a pyramidal to hourglass structure reflects a broader transformation in how organizations create value in the AI age. **Efficiency replaces supervision, insight replaces oversight, and strategic agility becomes more important than traditional control mechanisms.**

### Potential implications on the Workforce

Layer	Implications
 <b>Lower</b>	<b>AI and RPA (Robotic Process Automation) can eliminate repetitive clerical and administrative tasks.</b>
 <b>Middle</b>	AI-based analytics and decision-support systems reduce the need for multiple layers of middle management. <b>E.g.,</b> AI dashboards can directly present insights to top executives, bypassing several levels of reporting managers.
 <b>Top</b>	Increased demand for AI specialists, data scientists, and <b>Strategic thinkers</b> who can align AI capabilities with business goals.

## India makes significant pledges at UN Peacekeeping Ministerial in Berlin

At a high-level ministerial summit in Berlin, 74 UN Member States made specific pledges including **airlift and rapid deployment capabilities, specialized training, technological enhancements, and advancing Women, Peace and Security Agenda.**

- India has pledged one **Quick Reaction Force (QRF) Company**, one women-led Police Unit, a SWAT Police Unit and peacekeeping training, capacity building and partnerships.
- Meeting coincided with the 10-year anniversary of the **2015 New York Summit on Peacekeeping.**
  - ⊖ The summit emphasized the need to **modernize peacekeeping operations**, improve **performance**, **ensure rapid deployment** and highlighted **shared responsibility** and **stronger regional partnership** to boost peacekeeping effectiveness.

### India's Contribution to UN Peacekeeping

- **Highest Troops Contribution:** India has been a key contributor with over **2,90,000 peacekeepers serving** in more than **50 UN missions.**
  - ⊖ India is currently the **fourth largest troop-contributing nation with 5,375 personnel** after Nepal, Rwanda and Bangladesh.
- **Contributions in Historic Missions:** India played a key role in the Korean War armistice, peace missions in Cyprus, Congo etc.
- **Role Model for Women:** India became the **first country to deploy an all-women Formed Police Unit** (2007, Liberia).
- **Peacekeeping Honour:** In **2023**, India received the **UN's highest peacekeeping honour, the Dag Hammarskjöld Medal**, posthumously awarded to Indian peacekeepers.

### About United Nations Peacekeeping

- **Genesis: Began in 1948** with the establishment of the **United Nations Truce Supervision Organization (UNTSO) in the Middle East.**
- **Deployment:** UN Peacekeeping Missions are deployed, by UN Security Council, to support ceasefires and peace agreements.
  - ⊖ **UN Peacekeepers** are also known as **Blue Helmets**, get their name from light blue (symbolizing peace) of the UN Flag.
- **Principles:** Guided by **Consent of the parties, Impartiality, Non-use of force except in self-defence and defence of the mandate.**

## ISRO's 101<sup>st</sup> mission fails as PSLV rocket suffers malfunction

ISRO's 63<sup>rd</sup> PSLV mission (PSLV-C61/EOS-09) failed due to a **technical malfunction during the third stage** of the PSLV rocket.

- Since its first flight, Polar Satellite Launch Vehicle (PSLV) has **failed only twice** - inaugural flight in 1993 and again in 2017.

### About PSLV-C61/EOS-09 Mission

- PSLV-C61 was meant to **carry the EOS-09** (Earth Observation Satellite-09) into a **Sun-Synchronous Polar Orbit (SSPO).**
  - ⊖ It was launched from the First Launch Pad at Satish Dhawan Space Centre in Sriharikota.
- **EOS-09 is an advanced Earth observation satellite**, equipped with **C-band Synthetic Aperture Radar (SAR)** technology.
- **Objective:** To provide **continuous and reliable remote sensing data** for operational applications across various sectors.
  - ⊖ This satellite can capture **high-resolution images of the Earth's surface in any weather, day or night.**

### About PSLV

- It is **India's third-generation launch vehicle**, developed by ISRO.
- It is a **four-stage vehicle** and **first Indian launch vehicle** to be equipped with **liquid stages.**
- Achieved **first successful launch** in October 1994 and earned the title **"the workhorse of ISRO"** for its consistent performance.
- Capable of launching satellites into **LEO, Geosynchronous, and Geostationary orbits**, like satellites from the **IRNSS Constellation.**
  - ⊖ Successfully launched major missions like **Chandrayaan-1 (2008)** and **Mars Orbiter Spacecraft (2013).**

## Also in News



### Folk art forms of Andhra Pradesh

Many **traditional folk art** forms like **Tholu Bommalata, Jamukula Pata, and Tappeta Gullu** are vanishing due to loss of patronage.

#### Key Folk Arts of Andhra Pradesh

- **Tholu Bommalata:** 3<sup>rd</sup>-century shadow puppetry art, depicting Hindu epics through music, storytelling, and acrobatics by wandering performers.
- **Jamukula Pata:** It is performed by three artistes: one **patakudu (singer)** with a chorus given by **two persons** in villages and entertained people from **downtrodden communities.**
- **Tappeta gullu:** Traditional devotional **dance form performed by shepherds** to appease the rain god and Gangamma. The artistes, wearing ankle bells, play a small drum tied to their chest as they dance to devotional songs.
- **Puli Veshalu:** Performed by a group of **artists painted like tigers** moving their bodies rhythmically in this art form. It is a **famous folk art form of Vizianagaram.**



### Global EV Outlook, 2025

The **Global EV Outlook 2025**, released by the **International Energy Agency (IEA).**

#### Key Findings

- **EV Share: Over 1 in 4 cars sold globally in 2024 was electric.**
  - ⊖ **China**, leads with **nearly 50% of global EV car sales.**
- **Asia and Latin America** (notably **Thailand, Vietnam, and Brazil**) are emerging as **new EV growth hubs.**
- **Projection:** Despite uncertainties, EVs are expected to reach **over 40% share** of global car sales.
- **Manufacturing: China remains the global EV production leader**, contributing **> 70% of total output.**
- **2 & 3-Wheelers:** Most **electrified transport segment** in 2024.
  - ⊖ **India**, leads global growth in **electric three-wheelers (~20% YoY growth in 2024)**, aided by **PM E-DRIVE.**



### Mosura Fentoni

Scientists have discovered a small three-eyed predator called **Mosura fentoni**, nicknamed as “**sea moth**”, which lived in the ocean about 506 million years ago.

#### About Mosura fentoni

- It belonged to an ancient group of sea creatures called **radiodonts**, which are related to today’s insects, spiders and crabs.
- It had **jointed claws** like insects or crabs.
- Fossils show it had a unique body part with **16 segments and gills**, helping it breathe better.
- **Size:** Only about the size of a human finger.
- **Significance:** Scientists can understand how these sea animals evolved from simple, worm-like bodies to more complex forms.



### Non B-DNA

Researchers have predicted **where DNA sequences might form alternative structures beyond the traditional double helix**. These alternative conformations, known as **non-B DNA**.

- It refers to any DNA structure that deviates from the standard right-handed double helix (B-DNA) and include **structures** such as **cruciforms, slipped structures, triplexes, G-quadruplexes, Z-DNA** etc.
- Non-B DNA have been linked to the **regulation of cellular processes and genome evolution** and has been associated with **genetic diseases and cancer**.
- It has higher **mutation rates and instability**, potentially causing **DNA breakpoints and chromosomal rearrangements** linked to **evolution and genetic disorders**.



### Protein based Vaccines

US FDA approves Novavax’s **protein-based COVID vaccine** called Nu-vaxovid.

#### About Protein-based vaccines

- These are a type of **subunit vaccines** that also includes polysaccharide vaccines and conjugate vaccines.
- They contain **carefully identified protein fragments** of a virus, chosen for their ability to stimulate human immune system.
  - ⊕ These are often combined with another substance that helps to increase the immune system response to the protein fragments, called an **adjuvant**.
- Protein fragments by themselves are **harmless and incapable of causing disease**; they have no function on their own.



### Tulare Lake

**California's Tulare Lake**, which disappeared earlier, reemerged after **130 Years** as a result of 2023’s atmospheric rivers over California.

#### About Tulare Lake

- **Location:** San Joaquin Valley, California, USA.
- It was once the **largest freshwater lake west of the Mississippi River**.
- **Kern River**, fed by snowmelt from the **southern Sierra** replenishes Tulare Lake.
- It disappeared due to **man-made irrigation**.
- **Tachi Yokut tribe** relied on the lake as rainfall is scarce in the region.



### Land Port

In exercise of powers under Foreign Trade (Development & Regulation) Act, 1992, Central Government **restricted import of readymade garments** from Bangladesh to India through **Land Ports**.

#### About Land port

- Land port means an area on the international borders of India with facilities for clearance and transport of passengers and goods.
- Established as a statutory body under the Ministry of Home Affairs, the **Land Ports Authority of India** is entrusted with the task of building land ports.
- There are currently **Fifteen Land ports** in India at Attari, Agartala, Darranga, Petrapole etc.



### Pseudomonas aeruginosa

A new study reveals that **Pseudomonas aeruginosa**, a **common hospital bacterium** in India, can **degrade medical-grade plastic, materials used in sutures and implants**.

- Scientists isolated the **enzyme Pap1** from a strain of **Pseudomonas aeruginosa** and the enzyme degraded 78% of a plastic sample in just seven days.

#### About Pseudomonas aeruginosa

- **Pseudomonas aeruginosa**, a bacteria known for **causing 10%-30% of hospital-acquired infections** in India.
- These bacteria are commonly found in the environment, like in **soil and water**.
- It **can cause infections** in the blood, lungs (pneumonia), urinary tract or other parts of the body after surgery.
- It uses **plastic as its only food source**.



### New Caledonia

New Caledonia, a French Pacific territory under the **1998 Nouméa Accord**, faces renewed unrest after **May 2024 riots** over electoral roll changes and the **collapse of political talks**.

- Despite the **rejection of independence** in all three referendums (2018, 2020, and 2021), pro-independence demands by **indigenous Kanak people** remain strong.

#### About New Caledonia

- It is a French collectivity in the **southwestern Pacific Ocean**, east of Australia.
- It includes the island of **New Caledonia**, where the **capital, Noumea** is located; the Loyalty Islands; the Bélep Islands; and the Île des Pins.
- New Caledonia's lagoons, with their **diverse reefs and associated ecosystems**, were designated a **UNESCO World Heritage site** in 2008.



AHMEDABAD



BHOPAL



CHANDIGARH



DELHI



JAIPUR



JODHPUR



GUWAHATI



HYDERABAD



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI



SIKAR