

NEWS TODAY

Tribunals in India need to be strengthened: Supreme Court

The court also highlighted **key issues of Tribunals** like appointment of staff and service conditions while hearing a petition challenging constitutional validity of the Tribunal Reforms Act, 2021.

What are Tribunals?

- Tribunals are **quasi-judicial bodies** established to **adjudicate disputes related to specified matters**.
- **Constitutional Recognition: 42nd Amendment Act of 1976** added a new Part XIV-A to the Constitution, which **inserted Articles 323-A and 323-B**.
 - ⊖ **Article 323A empowers Parliament** to constitute administrative Tribunals (both at the central and state levels) for adjudication of matters related to the recruitment and conditions of service of public servants.
 - ⊖ **Article 323B specifies certain subjects** (such as taxation and land reforms) for which Parliament or state legislatures may constitute tribunals by enacting a law.

Key issues in working of Tribunals

- **Independence of tribunals:** SC has time and again emphasized that the issues like 'executive power over selection process, presence of technical members dilutes judicial independence.
- **Pendency of cases:** For eg. Till 2021 central government's industrial tribunal cum-labour courts had **7,312 pending cases**, and Armed Forces Tribunal had **18,829 pending cases**.
- **Infrastructural Issues:** e.g. Lack of human resources, pending vacancies and poor service conditions.
- **Overlapping Jurisdiction:** Issue of overlapping cases between regular courts and tribunals creates confusion.

Way Forward

- **Enhance Judicial Independence:** Ensure selection committees have judicial dominance and protect tribunal members from outside interference.
- **Creation of an independent body called National Tribunals Commission (NTC):** For the administration of all tribunals in India.
- **Timely Appointment and Staffing Improvements:** Appoint tribunal staff on deputation basis while on Government service.

Antarctic Circumpolar Current (ACC) is Slowing Down as per recent studies

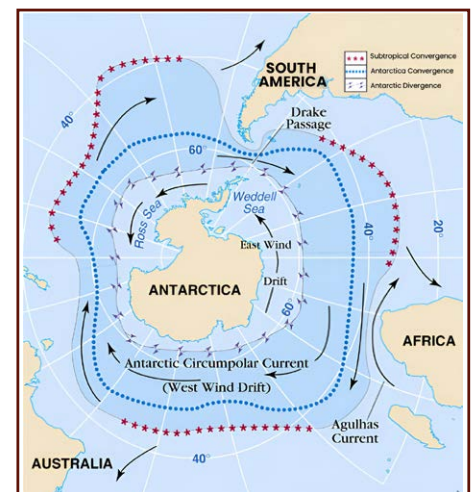
Scientists have warned that ACC **might slow down by around 20 per cent by 2050** in the **high carbon emissions scenario**.

What is ACC?

- ACC is the **strongest and the largest wind-driven current on Earth** and moves clockwise around Antarctica, driven by **strong westerly winds**.
- It is the **only current that goes all the way around the planet and connects the Atlantic, Pacific, and Indian Oceans**.
- **Significance:**
 - ⊖ It's a **type of cold current that acts as a barrier and prevents warmer waters from reaching Antarctica**.
 - ⊖ Significantly influences **uptake of heat and carbon dioxide** in the ocean.
 - ⊖ Blocks **invasive species** (e.g., bull kelp, shrimp, mollusks) from other continents reaching Antarctica.

Reasons for weakening of ACC

- **Changes in Ocean Salinity:** Due to **accelerated melting of ice shelves (from global warming)** around Antarctica has resulted in weakening of **Antarctic Bottom Water (AABW)**.
 - ⊖ AABW is a **sinking process** and a critical component of global ocean circulation tied to circulation of ACC.
- **Changes in Wind Patterns:** Climate change can alter pattern of **westerly winds** in Southern Hemisphere.
- **Positive Feedback Loop:** Reduced sea ice can **exacerbate warming & freshwater input**, creating a feedback loop that **further weakens ACC**.



Potential Impact of weakening of ACC

- **High climate variability** with increasing instances of greater extremes in certain regions.
- **Accelerated global warming** due to a reduction in the ocean's capacity to act as a carbon sink.
- **Impact on the food web** due to arrival of **invasive species** onto the fragile Antarctic continent.
- **Impact on global ocean current system** due to weakening of the AABW.

India's Spending on Research & Development (R&D) Doubled in last Decade

India's Status in R&D

- **Gross Expenditure on R&D (GERD):** Consistently increased over the years and has more than doubled from Rs. 60,196.75 crore in 2010–11 to Rs. 127,380.96 crore in 2020–21.
- **GERD is mainly driven by the Government sector:** Central Government (43.7%), State Governments (6.7%), Higher Education (8.8%) & Public Sector Industry (4.4%).
- **Women participation** in extramural R&D projects has increased significantly to 25% in 2019–20 from 13% in 2000–01.
- **India's Global Standing in Innovation and IP:** India ranks **39th in Global Innovation Index 2024** and **6th position in global Intellectual Property (IP) filings**, as per the WIPO report.

Initiatives Undertaken to Promote R&D in India

- **Anusandhan National Research Foundation (ANRF):** Launched under the ANRF Act 2023, it is accelerating India's research and development ecosystem.
- **National AI Mission:** Promotes AI-based research and applications across sectors.
- **Institutions Promoting R&D:** DRDO, BIRAC (Biotechnology Industry Research Assistance Council), **SERB (Science and Engineering Research Board)** etc.
- **Other:** WISE-PhD and WISE-Post Doctoral Fellowship (WISE-PDF), **Atal Innovation Mission** etc.

Challenges

- **India's Low GERD as percentage of GDP:** It remained at **0.64%** (2020–21), whereas most of the developed countries spent more than 2% of their GDP on R&D.
- **Low Private Sector Contribution:** It contributed **36.4%** (2020–21). In most of the developed & emerging economies, participation of Business Enterprises in GERD is generally more than 50%.
- **Other: Brain Drain** (Researchers moving abroad due to better opportunities), weak Industry-academia collaboration, lack of cutting-edge infrastructure etc.

Employment on the Rise, but Wage Growth Lags Behind Inflation

India is witnessing a steady **increase in employment** opportunities across various sectors. However, despite this positive trend, wage growth has not kept pace with rising inflation.

Status of Stagnant Wages

- **PLFS (Periodic Labour Force Survey) Annual Report 2023-24:**
 - ⊕ **Job Growth: worker-population ratio** increased from 34.7% in 2017-18 to 43.7% in 2023-24, indicating job growth exceeding population growth.
 - ⊕ **Wage Disparity:** While casual workers' real wages have increased, regular salaried workers have seen stagnant wages due to inflation.
- **Economic Survey 2024-25:**
 - ⊕ **Corporate profitability:** Soared to a 15-year peak in FY24. **Corporate profits climbed 22.3%** in FY24, but **employment grew by a mere 1.5%**.
 - ⊕ **Stagnant Wages:** Despite Indian companies achieving a stable EBITDA margin of 22% over last four years, wage growth has moderated particularly at entry-level IT positions.

Concerns

- **Slowdown in Economy:** A higher profit share and stagnant wage growth risk slowing economy by **curbing demand**.
- **Income Inequality:** Disproportionate rise in **corporate profits** predominantly among large firms raises concerns about income inequality.

Need of Balancing Wage Growth with Rising Profitability

- Sustained economic growth hinges on bolstering employment incomes, which directly fuel **consumer spending**, spurring **investment** in production capacity.
- To secure **long-term stability, a fair and reasonable distribution of income** between capital and labour is imperative.

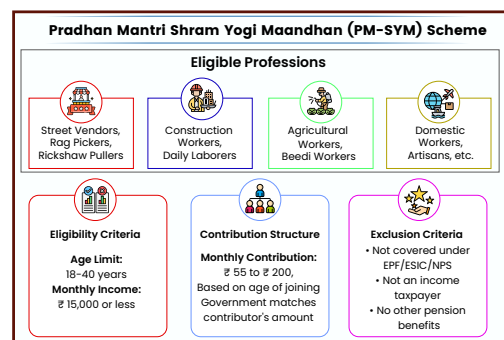
Six years of Pradhan Mantri Shram Yogi Maandhan Yojana (PM-SYM) completed

PM-SYM provides **universal pension coverage** through financial security for **unorganized workers**, creating a more inclusive **social security framework** in India.

- **Unorganized sector** contributes around **50% of nation's GDP**. There are over **30.51 crore** unorganised workers registered on **e-Shram portal** (2024).

About PM-SYM

- **Ministry: Central Sector Scheme** launched in **2019** by Ministry of Labour and Employment
- **Objective:** Voluntary and contributory **pension scheme** ensuring a **minimum monthly pension of Rs. 3,000 after age of 60**.
- **Pension Fund Manager:** Life Insurance Corporation of India (LIC)
- **Enrollment:** At Common Service Centres or **Maandhan portal**.
- **Contribution by Subscriber:** Shall be made through 'auto-debit' facility from savings bank account/ Jan-Dhan account.
- **Other Features:**



- ⊕ **Family Pension:** If subscriber dies during receipt of pension, only the **spouse can** receive **50%** of pension amount.
 - ◆ If a beneficiary has given regular contribution and **died before age of 60 years**,
 - » His/her spouse will be entitled to **continue scheme subsequently** by payment of regular contribution or exit as per provisions of exit and withdrawal.
- ⊕ **Donate-a-Pension Module:** Encourages **employers** to pay **premium** for their staff to increase enrolment.
- **Implementation and Current Status:**
 - ⊕ **Coverage:** 36 States/UTs
 - ⊕ **Enrollments:** ~46,12,330 (March 2025)
 - ◆ **Top 3 States:** Haryana, Uttar Pradesh, Maharashtra.

India is looking for overseas copper deposits to secure copper supply

Recently, India secured a 9,000-sq-km block in Zambia to explore copper amidst a rising demand of metal in country.

➤ Listed as **critical mineral in India**, copper is a major industrial metal because of its **high ductility, malleability, thermal and electrical conductivity and resistance to corrosion**.

⊖ Natural ores of copper are Copper sulfide ore (such as **chalcopyrite**) and copper oxide ore.

Why is Copper demand rising?

➤ **High Demand:** Due to vital role in **defense applications, infrastructure, and emerging technologies** demand is projected to outstrip supply from mines by 2035.

⊖ Between FY19 & FY24, **copper concentrate imports** doubled to Rs 26,000 cr in India.

➤ **Global Factors:** Both **China and US** are increasingly securing **major mines** in Africa and South America due to its criticality.

➤ **Low Domestic Production:**

⊖ At 3.78 million tonnes (mt) in 2023-24, it has **come down by 8%** than in 2018-19.

⊖ **Copper ore reserves in India** (Around 164 Mt) are mostly of **low grade**.

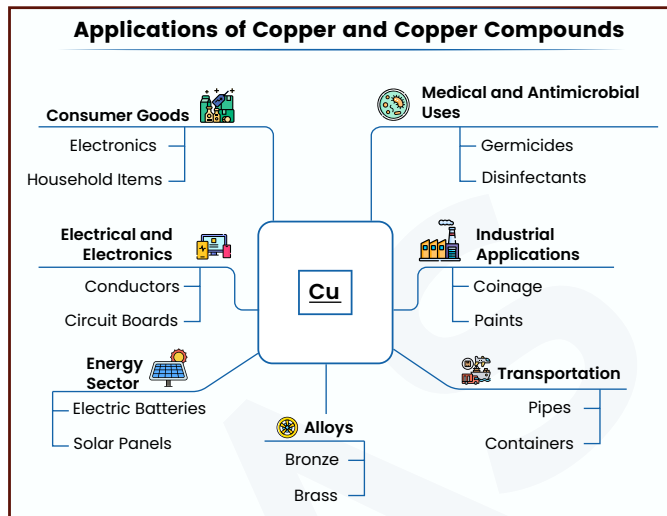
Distribution of Copper

➤ **Top 3 States in India (Reserves):** Rajasthan (52%), Madhya Pradesh (23%) and Jharkhand (15%)

⊖ **Major mines in India:** Singhbhum Copper Belt (Bihar), Khetri Copper Belt (Rajasthan), Balaghat District (MP), etc.

◆ **Other areas:** Darjeeling of West Bengal, Rungpo in Sikkim, Manipur, Chitaldrug district of Karnataka, etc.

➤ **Top 3 Countries (Producers):** Chile, Democratic Republic of Congo (DRC) and Peru in 2024.



Also in News



Line of Credit

RBI has directed large NBFCs to stop new lines of credit and renewals.

About Line of Credit (LoC)

➤ A line of credit is a **flexible, working capital-like debt facility** often extended to self-employed individuals and small businesses.

➤ **Features:**

⊖ **Funds can be withdrawn multiple times** up to an approved limit.

⊖ **Surplus funds can be deposited back** into the loan account.

⊖ **Interest-only payments are allowed initially**, with principal deferred.



Anemonefish

A recent study revealed new insights into how anemonefish contribute to their host's well-being by providing food.

About Anemonefish

➤ **Anemonefish** are poor swimmers; forms **symbiotic relationship with anemone species**.

⊖ Anemones are stinging polyps closely related to corals and jellyfish.

➤ Anemonefish seek refuge in **sea anemones**, which protect them from predators with their stinging tentacles.

➤ In return, anemonefish play a crucial role in maintaining their hosts by **driving away organisms** that could harm or compete with the anemones.



Wallace Line

The 'Wallace Line' explains the species differences across continents.

What is Wallace Line?

➤ **Definition:** An **invisible biogeographical boundary** proposed by Alfred Wallace (in 19th century), **separating Asian and Australian fauna**.

⊖ Marks a **dramatic shift in species characteristics** over a narrow distance.

➤ **Geography (Southeast Asia):** Runs **between Bali and Lombok**, extends **north between Borneo and Sulawesi**, and **curves south of Mindanao (Philippines)**.

➤ **Reason behind distinct species development:** The **collision and interaction between the Australian and Asian tectonic plates** formed volcanic islands (e.g., Bali, Lombok, Sulawesi).

⊖ These islands acted as **isolated habitats**, separating species and allowing independent evolution.



Bose Metal

Researchers have found strong evidence of Bose Metal in Niobium Diselenide (NbSe₂).

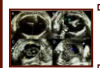
About Bose Metal

➤ It is a kind of **anomalous metallic state (AMS)**. In this **Cooper pairs** are formed but don't condense into a superconductor.

⊖ **Cooper pairs** are coupled electrons in a superconductor that behave like bosons and condense into a collective quantum state.

➤ Exist in a state where **conductivity is neither infinite (like a superconductor) nor zero (like an insulator)**.

➤ **Applications:** It helps in probing Quantum Processes.



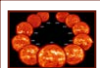
Hemolytic Disease of Fetus and Newborn (HDFN)

An Australian blood donor who saved 2.4 million babies recently passed away

- His rare blood, rich in **anti-D antibodies**, helped to develop **2.4 million doses of anti-D medication**.
- **Anti D injection** prevents an **Rh-negative mother's immune system** from producing antibodies that attack fetal red blood cells causing HDFN.

About HDFN

- It is a **blood disorder** that causes red blood cells to break down quickly in a fetus (**hemolysis**).
- **Causes:**
 - ⊕ When a mother and her unborn baby have **different blood types**.
 - ⊕ Or if **mother is Rh-negative** and baby in womb has Rh-positive cells, her antibodies to Rh antigen **can cross placenta** and cause very **severe anemia in baby**.
 - ◆ **Rhesus (Rh) factor** is an **inherited protein** that can be found on surface of red blood cells.
- **Complications:** Can lead to miscarriage, stillbirth, severe anemia, jaundice, and life-threatening complications in newborns.



Solar Cycle

Recent increase in number of solar missions has been attributed to approaching solar maximum in solar cycle.

- **Recent solar missions** include **Aditya L1** by ISRO, **Proba-3** by European Space Agency and **PUNCH** by NASA.

What is the solar cycle?

- **Definition:** Every ~11 years, the **Sun's magnetic field flips, switching magnetic poles**, in a process called the solar cycle.
- **Phases of the Solar Cycle**
 - ⊕ **Solar Maximum:** Considered the **best period to study the Sun**, it marks the **peak of solar activity with most sunspots**.
 - ◆ Characterized by eruption of **solar flares and coronal mass ejections (CMEs)**.
 - ⊕ **Solar Minimum:** Follows the solar maximum and marks the **lowest solar activity with the fewest sunspots**.



Gum Arabic

Smuggling of Gum Arabic from war-torn Sudan is impacting **global supply chains**.

- **Sudan produces ~80% of the world's gum arabic.**

About Gum Arabic (Acacia Gum)

- It is a **dried water-soluble exudate** obtained from the **Acacia trees**.
 - ⊕ **Acacia trees** grow across **Africa's Sahel region** – known as the '**gum belt**' and are well-known landmarks in the **veld and savanna**.
- **Composition:** **Polysaccharides** and its calcium, magnesium, and potassium salts, which on hydrolysis yield **arabinose, galactose, rhamnose, and glucuronic acid**.
- **Uses:** **Emulsifier, stabilizer, and thickener** in **food industry, cosmetics; painting, soft drinks, pharmaceuticals** etc.
 - ⊕ It is an ideal **functional dietary fibre ingredient in food**.



Influenza Vaccines

WHO recommended **trivalent Influenza vaccines** for use in 2025–2026 northern hemisphere **influenza** season.

- It contains **Egg-based vaccines** and **Cell culture-, recombinant protein- or nucleic acid-based vaccines for Influenza**.

About Egg-based vaccines

- Made by growing viruses in **fertilized chicken eggs**.
 - ⊕ Fluid containing virus is extracted from eggs, then virus is either **inactivated** (for killed-virus vaccines) or **weakened** (for live attenuated vaccines).
- **Challenges:** '**Egg adaptation**' (vaccine seed viruses to adapt to avian receptors) leading to **genetic mutations** impacting **effectiveness**.
- **Other Vaccines:**
 - ⊕ **Cell culture based vaccines:** Utilize mammalian cells as substrate for virus growth.
 - ⊕ **Recombinant Protein-Based Vaccines:** specific protein (antigen) from a virus is produced using genetic engineering.
 - ⊕ **Nucleic Acid-Based Vaccines:** Deliver genetic instructions (DNA or mRNA) to cells, so they produce viral protein themselves.

Places in News



Austria (Capital: Vienna)

Christian Stocker was sworn in as Austria's new Chancellor.

Political Features:

- It is a **landlocked** country in **central Europe**.
- **Vienna** is **Headquarters** for international organizations like **International Atomic Energy Agency, United Nations Office on Drugs and Crime, Organization of Petroleum Exporting Countries (OPEC)** etc.
- **Bordering countries:** Czech Republic (north), Germany (north-west), Hungary (east), Italy (south-west), Liechtenstein (west), Slovakia (east), Slovenia (south), Switzerland (west).
- **Austria** is an **EU** member but not a member of **NATO**.

Geographical Features:

- **Climate:** Temperate, continental.
- **Terrain:** mostly Mountains (Alps) in west & south; flat or gently sloping along eastern and northern margins.
- **Major lake:** **Lake Constance** (shared with Switzerland and Germany)
- **Major river:** **Danube**



AHMEDABAD



BHOPAL



CHANDIGARH



DELHI



JAIPUR



JODHPUR



GUWAHATI



HYDERABAD



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI



SIKAR