

DAILY CURRENT AFFAIRS (DCA)

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INDIA'S DEMOGRAPHIC TRANSITION: FROM DIVIDEND TO AGEING CHALLENGE

Context

- A recent report titled “Unravelling India’s Demographic Future: Population Projections for States and Union Territories, 2021–2051” highlights that India is undergoing a structural demographic transition, which has significant implications for governance, economy, and social sectors.

Key Demographic Trends in India

- **Declining Fertility:** India’s Total Fertility Rate (TFR) has declined to near **replacement level of 2.1**, reflecting a transition towards population stabilisation.
- **Slowing Population Growth:** India’s population is projected to increase from about 1.35 billion in 2021 to 1.59 billion by 2051, indicating a steady but slowing growth trajectory.
- **Divergent Regional Trajectories:** Southern and western states have reached **below-replacement fertility levels**, indicating early ageing, while Northern and eastern states continue to have relatively higher fertility rates, sustaining population momentum.
 - ♦ This regional **imbalance creates challenges in labour distribution**, migration, and state-level fiscal planning.

Consequences of India’s Demographic Shift

- **Rise of the Care Economy:** Declining family size and the rise of nuclear households are increasing the burden of elderly care on fewer individuals.
 - ♦ This necessitates the development of a formal care economy, including geriatric services, assisted living, and home-based care.
- **Urbanisation with New Demands:** Rapid urbanisation will increase demand for housing, infrastructure, and employment opportunities.
 - ♦ Cities must cater to both a young workforce and an ageing population through inclusive and accessible planning.
- **Shifts in Consumer Demand:** Changing age structures will transform consumption patterns from youth-centric to a more diversified demand structure.
 - ♦ There will be increased demand for **healthcare, insurance, retirement planning, and elderly-friendly services**. This creates opportunities for the **silver economy**.

Key Initiatives to Reap Demographic Dividend

- **Skill India Mission** aims to train millions of youth in industry-relevant skills focusing on improving employability and bridging the skill gap.
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)** provides short-term skill training and certification aligned with industry needs, encouraging **recognition of prior learning (RPL)**.
- **Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana:** It provides health insurance coverage and strengthens primary healthcare through Health and Wellness Centres.
- **Pradhan Mantri Matru Vandana Yojana:** It provides maternity benefits to support women’s health and nutrition to increase female labour force participation is key to fully utilising the demographic dividend.
- **The 2020 Labour Codes**, consolidating 29 central labor laws into four codes, aims to improve the ease of doing business, enhance worker protections, and promote formal employment by simplifying compliance and extending social security to gig/platform workers.

Way Ahead

- **Skilling and Education Reform:** India must transition from enrolment-based education to **outcome-oriented and skill-based learning** aligned with industry needs.
 - ♦ Emphasis should be placed on digital skills, vocational training, and lifelong learning to enhance employability.
- **Healthcare and Longevity Tech:** A healthier population contributes directly to productivity and economic growth and expansion of geriatric care, preventive healthcare, and health-tech innovations is essential to manage aging.
- **Regional demographic disparities** must be addressed by promoting labour-intensive industries in states with a younger population. This will reduce migration pressures and ensure balanced regional development.
- **Urban planning** must integrate productivity, inclusivity, and sustainability. Development of smaller towns can reduce pressure on mega cities and support balanced growth.

Concluding remarks

- India’s demographic transition marks a critical juncture where population growth alone can no longer drive economic expansion.
- The country must proactively **shift towards a productivity-led growth model** by investing in human capital, technology, and institutional capacity.

- If managed effectively, ageing can become an **opportunity through the silver economy**, enabling India to achieve sustainable and inclusive development while **avoiding the middle-income trap**.

Source: TH

MORALITY IN WARFARE

Context

- Iran has accused the United States and Israel of conducting the deadly missile attack on the school in Iran's south on the first day of the war.

Morality in War

- Morality in War is a complex issue that examines **whether ethical principles can exist during armed conflict and how they should guide behavior**.
- **Just War Theory:** The principles of a Just War originated with classical Greek and Roman philosophers like **Plato and Cicero** and were added to by **Christian theologians like Augustine and Thomas Aquinas**.
 - ♦ It provides a structured approach to assess the morality of war.
 - ♦ It states that war can be morally justified only under certain strict conditions.
 - ♦ **It is divided into three components:**
 - **Jus ad bellum:** It deals with the justification for going to war, such as self-defense, legitimate authority, and last resort.
 - **Jus in bello:** It governs conduct during war, emphasizing that civilians must not be targeted and that force must be proportional.
 - **Jus post bellum:** It focuses on justice after war, including fair peace settlements and reconstruction.

Key Moral Issues in War

- **Civilian Protection:** Civilian casualties remain one of the most serious ethical concerns in modern warfare.
 - ♦ Despite legal safeguards, bombings and military operations often result in unintended harm to non-combatants.
- **Use of Weapons of Mass Destruction:** Use of highly destructive weapons raises serious moral questions.
 - ♦ For instance, the Atomic bombings of Hiroshima and Nagasaki continue to be

debated in terms of necessity versus humanitarian consequences.

- **Treatment of Prisoners and Torture:** Ethical norms strongly oppose torture and inhumane treatment. Prisoners of war are entitled to dignity and protection under international law.
- **Preemptive and Preventive Wars:** Preemptive war may be justified in the case of an imminent threat, whereas preventive war is more controversial as it is based on potential future risks.

Competing Perspectives on Morality of War

- **Pacifism:** Pacifism holds that war is inherently immoral and should be avoided under all circumstances.
 - ♦ Thinkers like Mahatma Gandhi advocated non-violence and peaceful conflict resolution.
- **Realism:** Realism argues that states prioritize national interest and survival over moral considerations.
 - ♦ According to this view, ethical principles have limited relevance in international politics.

Role of International Law

- International law permits the use of force only in cases of **self-defence or when authorised by the UN Security Council**.
- **Geneva Conventions (1949):** The Geneva Conventions form the backbone of humanitarian law in armed conflict.
 - ♦ They protect wounded and sick soldiers on land and at sea.
 - ♦ They ensure humane treatment of prisoners of war.
 - ♦ They provide safeguards for civilians in conflict zones.
 - ♦ They prohibit violence, torture, and degrading treatment.
- **Additional Protocols (1977 & 2005):** These protocols expand protections, especially in civil wars and modern conflicts.
 - ♦ They strengthen the principle of distinction between civilians and combatants.
 - ♦ They regulate methods of warfare and protection of civilian infrastructure.
- **Institutions such as the International Criminal Court** ensure accountability by prosecuting war crimes and crimes against humanity.

Conclusion

- Morality in war seeks to balance military necessity with humanitarian considerations.

- While war may sometimes be unavoidable, ethical frameworks and international laws play a crucial role in limiting violence, protecting civilians, and upholding human dignity.

Source: NDTV

LEVELS AND TRENDS IN CHILD MORTALITY

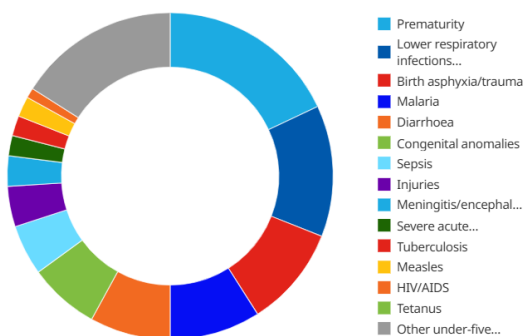
Context

- The **United Nations Inter-Agency Group for Child Mortality Estimation (UNIGME) Report 2025** was released recently.

Major Highlights

- **Child Mortality:** An **estimated 4.9 million children** died before turning 5 years old in 2024, including 2.3 million newborns.
 - ♦ Newborn deaths account for **nearly half of all under-five deaths**, reflecting slower progress in preventing deaths around the time of birth.
 - ♦ Most of these deaths were **preventable with proven, low-cost interventions and access to quality healthcare**.
- **Causes of Child Mortality:**
 - ♦ **Among newborns**, deaths are largely caused by prematurity, complications during labour, and neonatal infections.
 - ♦ **For children aged 1–59 months**, pneumonia, diarrhoea and malaria remain leading killers, often intensified by malnutrition.
 - ♦ For the first time, the report estimates **deaths directly caused by severe acute malnutrition (SAM)**, finding that more than 100,000 children aged 1-59 months died from it in 2024.

Cause of death distribution for under-five deaths, World (2024)



- **Progress Made So Far:** Since 1990, the under-five mortality rate has fallen by **about 60%**, and neonatal mortality by **45%**.

- **Rate of Decline:** Under-five deaths globally have fallen by more than half since 2000 however, since 2015, the pace of reduction in child mortality has slowed by more than 60%.
 - ♦ The current rate of decline means that 27.3 million under five deaths are projected between 2025 and 2030.
 - ♦ These deaths remain concentrated in the same regions: **sub Saharan Africa and Southern Asia**.
- **India Specific Findings:** India is among the countries demonstrating steady progress in reducing child mortality through sustained public health efforts.
 - ♦ In 1990, India had an NMR of 57 per 1,000 lives, which fell to 17 in 2024.
 - ♦ In 1990, the Under 5 Mortality Rate (U5MR) stood at 127 per 1,000 live births, while in 2024 it declined to 27.
 - ♦ This sharp reduction is due to targeted public health interventions, improved institutional delivery systems, and expanded immunisation coverage.
- **Recommendations:**
 - ♦ Political commitment from high-burden countries to mobilize domestic resources, and improve access to evidence-based, quality services that are affordable for all;
 - ♦ focus on those at highest risk, especially mothers and children in sub-Saharan Africa and Southern Asia, and in conflict and fragile settings;
 - ♦ strengthen accountability for existing commitments to reduce maternal, newborn, and child deaths, and
 - ♦ invest in primary health care systems to prevent, diagnose and treat the leading causes of death in children.

United Nations Inter-Agency Group for Child Mortality Estimation (UNIGME)

- It was formed in **2004** to share data on child mortality, improve methods for child mortality estimation, and report on progress towards child survival goals.
- It is led by the United Nations Children's Fund (UNICEF) and includes the World Health Organization (WHO), the World Bank Group and the United Nations Population Division of the Department of Economic and Social Affairs as full members.

Government Initiatives to Curb Child Mortality in India

- **Janani Shishu Suraksha Karyakram (JSSK)** entitles all pregnant women and sick infants (up to one year of age) delivering in public health institutions to have free and no-expense delivery, including cesarean section.
 - ♦ It includes free drugs, consumables, free diet during the stay, free diagnostics, free transportation, and free blood transfusion if required.
- **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)** provides pregnant women a fixed day, free of cost, assured and quality antenatal checkup by a Specialist/Medical Officer on the 9th day of every month.
- **Village Health Sanitation and Nutrition Days (VHSNDs)** are observed for the provision of maternal and child health services and for creating awareness on maternal and child care.
- **Reproductive and Child Health (RCH) portal** is a web-enabled tracking system for pregnant women and newborns to ensure seamless provision of regular and complete services to them.
- **Mother and Child Protection (MCP) Cards and Safe Motherhood Booklet** are distributed to pregnant women to educate them on diet, rest, danger signs of pregnancy, benefit schemes, and institutional deliveries.
- **Mission Indradhanush:** It was launched in 2014, aiming to achieve over 90% full immunisation coverage by strengthening routine immunisation services and targeting hard-to-reach populations.
 - ♦ Full immunisation coverage has risen from 62% in 2015 to 98.4% in 2026.
- **Rashtriya Bal Swasthya Karyakram (RBSK):** Children from 0 to 18 years of age are screened for 32 health conditions (i.e. Diseases, Deficiencies, Defects, and Developmental delays) under RBSK to improve child survival.
- **Nutrition Rehabilitation Centres (NRCs)** are established at public health facilities where children with Severe Acute Malnutrition (SAM) and medical complications are admitted for treatment.

Do You Know?

- India has eradicated **smallpox, polio and maternal & neonatal tetanus** through vaccination, and continues to expand its immunisation programme — most recently launched **HPV and indigenous Td vaccines in 2026.**

- The UIP is one of the world's largest immunisation programmes, reaching 2.9 crore pregnant women and 2.54 crore newborns every year, free of cost.

Source: TH

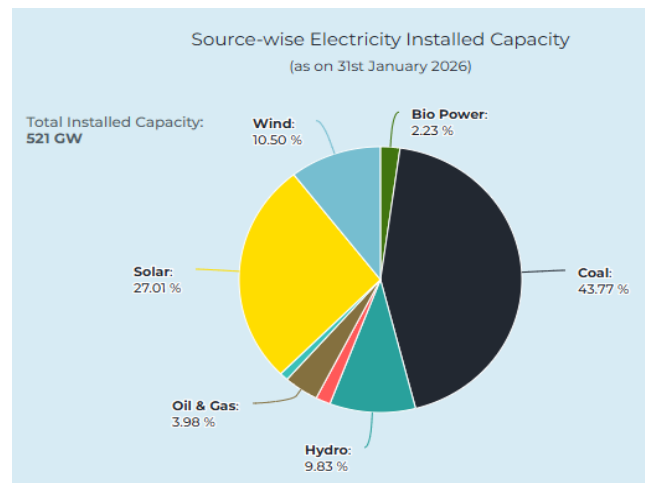
INDIA'S POWER SECTOR: PROGRESS AND REFORMS

Context

- India's power sector has transitioned from a deficit-driven system to a more reliable and capacity-sufficient system due to sustained investments, policy reforms, and institutional strengthening over the past decade.

Key Achievements of Power Sector

- India's installed power capacity reached **520.51 GW** as of January 2026, with the power shortage declining from 4.2% in FY14 to **0.03% till December 2025.**
- Per capita electricity consumption increased to **1,460 kilowatt-hours in 2024–25**, reflecting rising energy access and economic activity.
- DISCOMs recorded a profit of **₹2,701 crore in FY25**, reversing earlier financial losses.
- **Aggregate Technical and Commercial (AT&C) losses**, which represent energy lost due to technical inefficiencies and commercial leakages, declined from 22.62 per cent in FY14 to **15.04 per cent in FY25.**



Renewable Energy Transition

- India's total renewable energy capacity reached **253.96 GW** in November 2025, representing an increase of over 23% from 205.52 GW in 2024.
- **Solar installed capacity** reached **132.85 GW** followed by **Wind** at around **53.99 GW.**
- **India's Global Position:**

- ♦ India ranks **3rd globally** in **solar power** installed capacity.
- ♦ India ranks **4th in wind power** installed capacity.
- ♦ India ranks **4th in total renewable energy** installed capacity worldwide.
- The leading states in India for renewable energy capacity are **Rajasthan, Gujarat, Tamil Nadu, and Karnataka**.
- The country aims to achieve **500 GW** of non-fossil fuel capacity by **2030** as part of its climate commitments.

Government Initiatives for Power Sector Growth

- **Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY)** strengthened rural electrification and feeder separation.
- **Integrated Power Development Scheme (IPDS)** improved urban distribution infrastructure and IT-enabled systems.
- **Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya) Scheme** ensured universal household electrification through last-mile connectivity.
- **Revamped Distribution Sector Scheme (RDSS)** aims to improve efficiency and financial sustainability of DISCOMs with an outlay of 3.03 lakh crore.

Policy and Regulatory Reforms

- **The Electricity (Late Payment Surcharge and Related Matters) Rules, 2022**, aim to tackle DISCOM cash flow issues by establishing a structured, time-bound mechanism for settling outstanding dues.
- **Electricity (Amendment) Bill, 2026** seeks to promote cost-reflective tariffs, rationalise cross-subsidies, and enable market-based power procurement.
- **The National Electricity Plan (2023–2032)** provides a roadmap to meet projected peak demand of **458 GW by 2032** with large-scale investments.

Challenges

- **Financial Stress in DISCOMs:** Distribution companies (DISCOMs) continue to face financial stress due to high subsidy burdens imposed by state governments, especially for agriculture and domestic consumers.
 - ♦ Operational inefficiencies such as **power theft, poor billing, and low collection efficiency** further increase losses.
 - ♦ This weak financial position **affects their**

ability to invest in infrastructure, pay generators on time, and ensure reliable supply.

- **High Dependence on Coal:** Despite growth in renewables, coal remains the dominant source of electricity generation in India. This leads to high carbon emissions, air pollution, and environmental degradation, affecting climate commitments.
- **Intermittent Renewable Energy:** Renewable energy sources are intermittent in nature and the variability creates challenges in maintaining grid stability and balancing supply with demand in real time.
- **Need for Tariff Rationalisation:** Electricity tariffs in India are **not cost-reflective**, as higher-paying industrial consumers subsidise agricultural and domestic users.
 - ♦ This **cross-subsidy structure** leads to distorted pricing and reduces competitiveness of industries.

Way Ahead

- Accelerating the rollout of **smart metering and digital billing systems** will reduce AT&C losses, improve billing efficiency, and enhance transparency.
- Enhancing **grid infrastructure, including transmission corridors and flexible generation capacity**, is critical for managing rising demand and renewable integration.
- Promoting **cost-reflective tariffs with targeted direct benefit transfers (DBT)** will reduce cross-subsidies while protecting vulnerable consumers.

Source: PIB

NATIONAL VACCINATION DAY

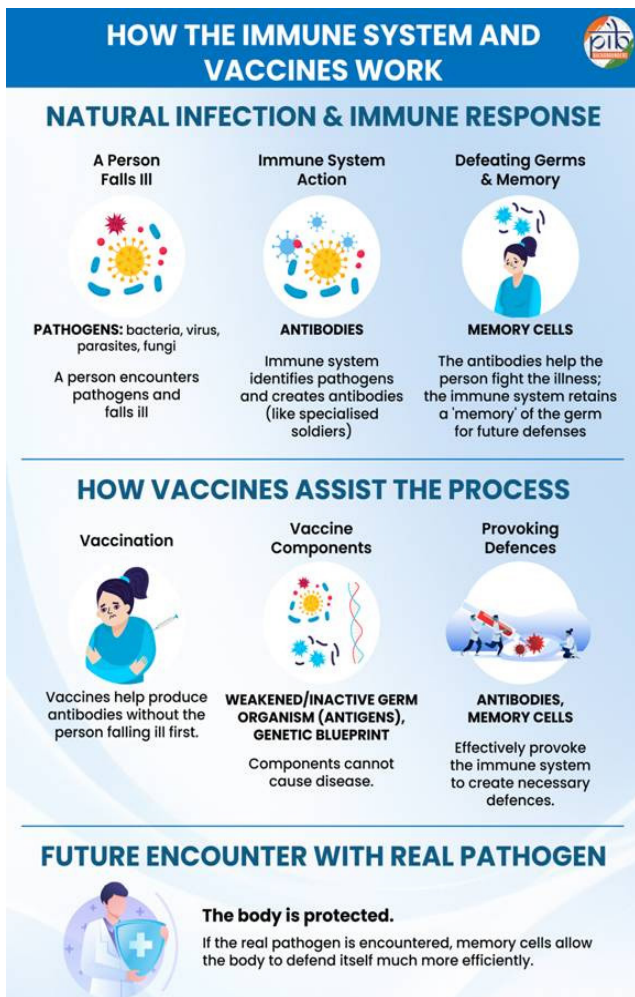
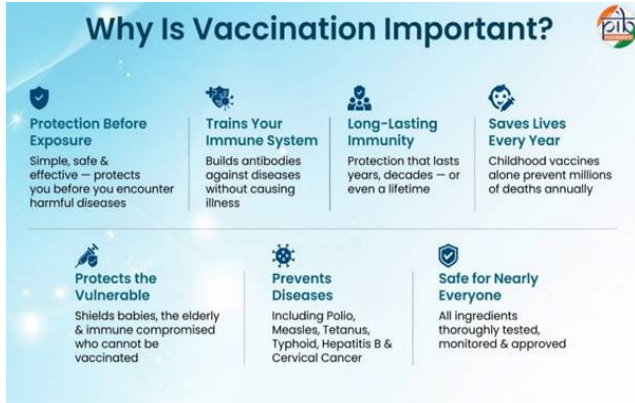
Context

- India marked **National Vaccination Day** (March 16) to highlight achievements in immunisation.
 - ♦ The day is observed to commemorate the **first dose** of the **Oral Polio Vaccine** administered in 1995 under the Pulse Polio Programme.

About

- Vaccination has played a transformative role in improving public health in India. The country has eradicated **smallpox (1977)** and eliminated **polio (last case in 2011)**, yaws, and maternal & neonatal tetanus.
- It has significantly reduced child mortality and the burden of diseases such as measles-rubella and tuberculosis.

- India emerged as the “**pharmacy of the world**” during **COVID-19**, administering over 200 crore vaccine doses and supplying vaccines globally. Notably, India contributes nearly 60% of global vaccine production.



Outcomes

- Vaccination along with improvements in nutrition, sanitation, and healthcare, has significantly improved maternal and child survival rates in India.
 - Full immunisation coverage increased from 62% (2015) to 98.4% (January 2026);

- Zero-dose children reduced from 0.11% (2023) to 0.06% (2024);
- Over 1.3 crore immunisation sessions conducted annually;
- Recognised globally as a model for large-scale public health delivery.

Government Initiatives

- The Universal Immunisation Programme:** Launched in 1985 and implemented by the Ministry of Health and Family Welfare, it aims to provide free vaccines to children and pregnant women against various diseases.
 - The programme reaches about 2.9 crore pregnant women and 2.54 crore newborns every year.
- Mission Indradhanush:** It was launched in **December 2014** by the Government of India to reach children and pregnant women who are unvaccinated or partially vaccinated.
- Recent Initiatives (2026)**
 - HPV Vaccination Campaign:** Targets ~1.15 crore girls (14 years) for cervical cancer prevention.
 - Indigenous Td Vaccine:** Manufactured at CRI, Kasauli; ~55 lakh doses planned for supply.
- Digital Initiatives:**
 - eVIN:** Real-time vaccine stock and temperature tracking;
 - U-Win:** Digital vaccination registry and tracking platform;
 - CoWIN:** Enabled administration of 220+ crore COVID vaccine doses.

Challenges

- Vaccine hesitancy and misinformation:** Despite high coverage, pockets of resistance persist due to misinformation and cultural beliefs, contributing to the presence of zero-dose children (~0.06% in 2024), especially in certain regions.
- Last-mile delivery gaps:** Reaching remote, tribal, and conflict-affected areas remains difficult, even though India conducts over **1.3 crore immunisation sessions annually** under the UIP.
- Cold chain maintenance issues:** India operates one of the largest vaccine cold chain systems with ~30,000 cold chain points and over **1.06 lakh equipment units**, making uninterrupted temperature maintenance in difficult terrains a logistical challenge.

- **Urban slum coverage gaps:** High population mobility and informal settlements in urban areas lead to missed or partially immunised children, posing challenges for achieving universal coverage.

Source: PIB

NEWS IN SHORT

ADIPOSE TISSUE

Context

- Recent scientific research has highlighted that adipose tissue (fat) is not merely a passive storage site for excess calories but an active metabolic and endocrine organ.

What is Fat (Adipose Tissue)?

- Adipose tissue is a **specialised connective tissue** responsible for **storage of excess energy** in the form of fat, regulation of metabolism through **hormone secretion** and protection and **insulation of vital organs**.
- It functions as an endocrine organ by releasing hormones such as:
 - ♦ **Leptin:** Regulates appetite and energy balance
 - ♦ **Adiponectin:** Enhances insulin sensitivity.

Types of Fat (Adipose Tissue)

- **White Adipose Tissue (WAT):** It is the **most abundant form of fat** in adults and has functions like;
 - ♦ Storing energy as triglycerides
 - ♦ Acting as a metabolic reserve during energy deficit
 - ♦ Providing insulation and mechanical cushioning
 - ♦ Secreting hormones regulating metabolism
- **Brown Adipose Tissue (BAT):** It is the specialized fat that burns energy to generate heat (thermogenesis). It is rich in mitochondria and contains Uncoupling Protein-1 (UCP1).
- **Beige adipose tissue (BeAT):** It is a thermogenic, "brown-like" fat that emerges within white adipose tissue (WAT) depots, typically in response to cold exposure or adrenergic stimulation, a process known as "browning".

Source: TH

NORTH ATLANTIC TREATY ORGANISATION (NATO)

Context

- US President Donald Trump has warned of leaving the North Atlantic Treaty Organisation (NATO) after its allies declined to assist in securing the Strait of Hormuz.

About NATO

- **Establishment:** A military alliance founded in **1949** with the signing of the **North Atlantic Treaty**, more popularly known as the Washington Treaty, in the aftermath of **World War II**.
- **Aim:** To ensure the security and defence of member states through the principle of collective defence.
- **Collective Defense:** The cornerstone of NATO is **Article 5**, which states that an armed attack against one or more of its members shall be considered an attack against all.
- **Members:**
 - ♦ **Founding members:** Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.
 - ♦ **Present strength:** 32 member countries (**Finland** and **Sweden** became the 31st and 32nd members respectively).
- **Decision-Making:** Decisions within NATO are made on the basis of **consensus among member countries**.
 - ♦ **The North Atlantic Council**, which includes the ambassadors of all member countries, is the **principal political decision-making body**.
- **Headquartered:** Brussels, Belgium.

Source: IE

PM POSHAN SCHEME

In News

- A Parliamentary Standing Committee has recommended the inclusion of breakfast in the **PM POSHAN Scheme & extension of coverage up to Class 12**.

About PM-POSHAN

- Earlier known as Mid-Day Meal Scheme (MDMS) and renamed as PM POSHAN (Pradhan Mantri Poshan Shakti Nirman) in 2021.

- It operates under the **Ministry of Education** and is approved for the period 2021-22 to 2025-26.
- It is a **centrally sponsored scheme (jointly funded by Centre and States)** providing **one hot cooked meal** to students in **government and aided schools up to Class 8**.
- It aims to address **hunger (lack of adequate food intake)** and **educational outcomes (attendance, retention, learning)** simultaneously.

Source: TH

BHARAT AUDYOGIK VIKAS YOJNA (BHAVYA)

Context

- **The Union Cabinet** approved the **Bharat Audyogik Vikas Yojna (BHAVYA)**, with an allocation of 33,660 crore.

About

- **Aim:** To create **100 “future ready”** industrial parks that will integrate with the **PM GatiShakti programme** so that they can avail of that programme’s multi-modal connectivity and last-mile access.
 - ♦ These parks will **set new benchmarks** in industrial infrastructure, ensuring reliability, reducing inefficiencies, and enhancing productivity across sectors.
- **Land Use:** Industrial parks ranging from 100 to 1,000 acres will be taken up for the development.
- **Funding:** While the Central government will provide funding of up to Rs 1 crore per acre, the scheme is meant to include the involvement of the respective State governments as well as the private sector.
- **Infrastructure:** Core infrastructure like internal roads, underground utilities, drainage, common treatment facilities, ICT and administrative systems.
- **The National Industrial Corridor Development Corporation (NICDC)**, under the Department for Promotion of Industry and Internal Trade, will play a key role in implementing the initiative.
- The scheme duration would be for **six years** starting in **2026-27**.
 - ♦ The first phase of development would see **50 parks being set up**.

Source: TH

METHANE EMISSION HOTSPOT

Context

- Recent satellite-based research by the Stop Methane Project (UCLA) has revealed that a small number of oil and gas sites account for disproportionately high methane emissions.

Key Findings of the Report

- Around **4,000+ methane plumes** were detected globally across thousands of oil and gas sites.
 - ♦ The top 25 sites are responsible for the most acute hourly emission rates recorded, ranging from **3.7 to 10.5 metric tonnes per hour**.
- **Turkmenistan** dominates the list, hosting over **two-thirds of the worst emitters**, while other major emitting regions include **Iran, Venezuela, Texas (USA) and Sindh (Pakistan)**.

About Methane

- Methane (CH₄) is a **colorless, odorless, and highly flammable gas**, and it is the primary component of natural gas.
 - ♦ It has a relatively short atmospheric lifetime of about **12 years**, compared to carbon dioxide.
- **Methane as a Greenhouse Gas:** Methane is a highly potent greenhouse gas with a strong short-term warming impact.
 - ♦ It is over 80 times more effective than carbon dioxide at trapping heat over a 20-year period.
 - ♦ It is responsible for around 30% of the current global warming since the pre-industrial era.
- **Major Sources:** Human-driven emissions arise mainly from oil and gas production, coal mining, **livestock enteric fermentation (burps)**, and decomposing waste in landfills.
 - ♦ Natural sources include **Wetlands**, marine sediments and hydrates and geological Sources like **volcanoes**.

Source: DTE

ANCIENT HILL RANGE

In News

- The central empowered committee of the Supreme Court (SC) has assigned the task of mapping mining areas in the Aravalli hills of Rajasthan to the Forest Survey of India.

Defining an Ancient Hill Range

- An **ancient hill range (geologically old, highly eroded mountain system)** like the Aravallis cannot be reduced to a **single measurable parameter such as elevation**.
- Its definition must integrate **geomorphology (study of landforms), slope, geological continuity, and ecological spread**, ensuring that both **physical form and environmental function** are captured.

Concerns in the Current Approach

- The committee's **100m elevation criterion** is criticized as **arbitrary and reductionist**, failing to account for the fragmented, eroded nature of ancient ranges.
 - ♦ This threshold risks excluding ecologically vital low-lying segments, inviting exploitation.
- Conversely, the **2011 FSI mapping** offers a scientifically validated alternative using **remote sensing, GIS, and digitized contour data**.
 - ♦ It utilizes a **3-degree slope threshold**, which more accurately captures terrain morphology than elevation alone.
- The committee's framework recognizes only 37 districts, significantly omitting 25 of the 62 districts previously identified by the FSI, thereby compromising territorial and scientific consistency.

Implications

- Rajasthan has only **~8% forest and tree cover (vegetative land area)**, largely concentrated in the Aravalli region.
- Misclassification could lead to **loss of legal protection**, accelerating **mining, deforestation, and groundwater depletion**, thereby disturbing an already **fragile ecological balance**.

Do you Know?

- The Forest Survey of India (FSI) (estd.1981), under the Ministry of Environment and Forests, is the premier national body for monitoring India's forest resources.
- Its core mandate includes publishing the biennial State of Forest Report to assess cover changes and maintaining a comprehensive inventory of tree resources in forest and non-forest areas.

Source: TH

JAPANESE CHUM SALMON

Context

- Researchers found that suitable marine habitats for **chum salmon have shifted significantly over the past 25 years**.
 - ♦ **Suitable habitats have declined** overall due to ocean warming, reduced zooplankton which are an important food source, and increasingly frequent marine heatwaves.

About Japanese chum salmon

- It is known in Japan as "**shirozake,**" or salmon.
- It has faint vertical stripes and silvery sides.
- Chum are a staple for people in the western Pacific and for native peoples in Alaska and British Columbia.
- Today, most of the salmon consumed in Japan is imported from countries like Chile and Norway.
 - ♦ But just two decades ago, Japanese chum salmon made up a much larger share of domestic salmon consumption.



Source: DTE