
Mains Topics

Safety and Protection of Women in Unorganised Sector

Context

The **Parliamentary Committee on Empowerment of Women** released a report titled “**Safety and Protection of Women in the Unorganised Sector.**”

Key Issues Identified by the Parliamentary Committee

- **Inter-State migrant women workers:** Their economic contribution remains largely invisible, exposing them to exploitation and lack of recognition.
- **Pradhan Mantri Shram Yogi Maandhan (PM–SYM) scheme:** Significant **regional disparities** in enrolment of women workers, with extremely low participation in **Lakshadweep and Sikkim**.
- **Sexual Harassment of Women at Workplace Act, 2013:** Many **Local Committees (LCs)** are either non-functional or workers lack awareness about their existence and role.
- **Palna Scheme under Mission Shakti:** Very **low utilisation of funds (6.24%)** and poor operationalisation, with only **2,425 Anganwadi-cum-Creche centres functional out of 14,599 approved**.

Key Recommendations of the Committee

- **Strengthen the Inter-State Migrant Workmen Act, 1979** by creating a **national digital database linked to e-Shram**, addressing women migrants’ safety, dignity, and living conditions.
- **Intensify district-level enrolment drives under PM–SYM**, especially through **women-led networks such as SHGs, Anganwadi workers, and ASHAs**.
- Ensure **full functionality and adequate funding of Local Committees**, along with wider community awareness.
- **Strengthen One Stop Centres and District Legal Services Authorities**, and include **domestic workers under labour protection frameworks**.
- **Improve budget execution** under the Palna Scheme and ensure **faster operationalisation of Anganwadi-cum-Creche centres**.

Source: [Hindustan Times](#)

Mains Topics

Fog Harvesting

Context

Fog harvesting is emerging as a low-cost, climate-resilient water solution for India's fog-prone and water-stressed regions.

What is meant by fog harvesting?

- Fog harvesting (also called fog collection or fog catching) is a **passive water collection technique** that uses fine mesh nets installed in fog corridors to capture microscopic water droplets from fog.
- As fog droplets strike the mesh, they **coalesce into larger drops** that flow by gravity into gutters and storage tanks.
- The system requires **no external energy**, minimal infrastructure, and with basic filtration and disinfection, the collected water can be used for **drinking, domestic needs, or agriculture**.
- Under favourable conditions, a single fog net can yield **up to 400 litres of water per day**, and clustered systems can supply **entire villages**.

Suitability of fog harvesting for India's climate

- India has **several fog-prone microclimates**, especially in Himalayan and hill regions, coastal belts, and select rain-shadow areas.
- Potentially suitable regions include **Himachal Pradesh, Uttarakhand, Sikkim, Darjeeling hills of West Bengal, Meghalaya, parts of the Northeast, and certain coastal or windward slopes**.
- The technology aligns well with India's needs because it is **low-cost, decentralised, climate-resilient, and community-manageable**, making it suitable for remote and high-altitude habitations.

- Fog harvesting can **complement existing sources** such as springs, rainwater harvesting, and groundwater recharge, reducing seasonal water insecurity.
- Limitations include **high site-specificity, seasonal dependence, land requirements, and the need for regular maintenance**, as well as caution in polluted or industrial zones.

Source: [Hindu Businessline](#)

DHRUVA64 Microprocessor

Context

Recently, the Ministry of Electronics and Information Technology (MeitY) announced the launch of **DHRUV64** Microprocessor.

What is DHRUVA64 Microprocessor

- **DHRUV64** is a **64-bit, dual-core, 1 GHz general-purpose microprocessor** developed by **C-DAC** under MeitY's **Microprocessor Development Programme**.
- It is based on the **RISC-V open instruction set architecture (ISA)** and is part of the **Digital India RISC-V (DIR-V) programme**.
- The processor is designed to support **operating systems and embedded applications**, targeting use cases such as **telecom equipment, industrial automation, control systems, and strategic sectors**.

- DIR-V is a **national programme under the Ministry of Electronics and Information Technology (MeitY)** aimed at developing an **indigenous ecosystem of RISC-V-based microprocessors** in India.
- DIR-V has led to chips such as **THEJAS32**,

THEJAS64, and **DHRUV64**, with more advanced processors like **DHANUSH** and **DHANUSH+** under development.

Source: [The Hindu](#)

Exercise Desert Cyclone-2025

Context

The 2nd edition, Desert Cyclone-II, is being held in Abu Dhabi, UAE, from 18 to 30 December 2025.

About Exercise Desert Cyclone

- It is a **bilateral joint military exercise**
- **Between India and the United Arab Emirates (UAE)** involving the Indian Army and the UAE Land Forces.
- It is designed to **enhance military cooperation, interoperability, and training** between the two countries.
- Troops will practice fighting in built-up areas, heliborne operations, mission planning and integration of UAS and Counter-UAS capabilities.
- **Initiated in:** 2024

Source: [DD News](#)

Global Declaration on Noncommunicable Diseases (NCDs) and Mental Health

Context

At the 80th United Nations General Assembly (UNGA), a resolution on Non-Communicable Diseases (NCDs) and mental health was adopted.

Key Highlights of the Declaration

- The declaration broadens the NCD agenda to include areas such as **oral health, lung health, and childhood cancers**.

- It **explicitly covers environmental and chemical risk factors**, including air pollution, clean cooking access, lead exposure, and hazardous chemicals.
- For the first time, it acknowledges **harms from excessive screen time, social media use, misinformation, and disinformation**.
- It calls for **tighter regulation of tobacco, unhealthy foods, trans fats, and e-cigarettes**.
- **Whole-of-government and whole-of-society approach:** It promotes coordinated action involving civil society, youth, persons with disabilities, and the private sector.
- It mandates progress reporting by the UN Secretary-General, with technical support from the WHO.

Global Health Targets to be Achieved by 2030

- **First-ever Global Fast-Track Targets:**
 - Reduce the number of **tobacco users by 150 million**.
 - Ensure **150 million more people have controlled hypertension**.
 - Provide **150 million more people with access to mental health care**.
- **System-Level Process Targets:**
 - At least **80% of countries** to have **policy, legislative, fiscal, and regulatory measures** addressing NCDs and mental health.
 - At least **80% of primary health centres (PHCs)** to have **affordable WHO-recommended essential medicines and technologies**.
 - At least **60% of countries** to provide **financial protection for mental health services**.

Source: [WHO News](#)

BRICS

Context

Brazil officially transferred the BRICS presidency to India on December 12, 2025, during the concluding session of the 4th BRICS Sherpas Meeting.

About BRICS

- The term "**BRIC**" was first introduced in 2001 by **Goldman Sachs**,
 - Acronym for Founding Members – Brazil, Russia, India, and China.
- **Current Members:** 11.
 - **South Africa** joined in **2010**, transforming **BRIC into BRICS**.
 - **2024:** Egypt, Ethiopia, Iran, and the UAE as full members from January 1, 2024.
 - **January 2025: Indonesia became a full member** and countries like Belarus, Bolivia, Kazakhstan, Cuba, Malaysia, Nigeria, Thailand, Uganda, and Uzbekistan were inducted as partner countries.
- Collectively, these nations represent approximately 49.5% of the global population, around 40% of the global GDP, and about 26% of global trade.
- **Summits:**
- **1st BRIC Summit (2009):** Yekaterinburg, Russia
- **Most Recent:**
 - **16th Summit 2024:** Kazan, Russia. **Theme:** Strengthening Multilateralism for Just Global Development and Security
 - **15th Summit (2023):** Johannesburg, South Africa. **Theme:** BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development, and Inclusive Multilateralism
- **Chairship:** Rotates annually among Brazil, Russia, India, China, And South Africa.

- **2025: Brazil**
- **2026: India**

UPSC PYQ (2025)

Consider the following statements with regard to BRICS:

- I. The 16th BRICS Summit was held under the Chairship of Russia in Kazan.
- II. Indonesia has become a full member of BRICS.
- III. The theme of the 16th BRICS Summit was Strengthening Multiculturalism for Just Global Development and Security.

Which of the statements given above **is/are correct**?

- (a) I and II
- (b) II and III
- (c) I and III
- (d) I only

Answer: A

Source: [The Hindu](#)

Nuclear Energy Mission

Context

The Union government has informed Parliament that **India plans to develop and operationalise at least five indigenously designed Small Modular Reactors (SMRs) by 2033** under the Nuclear Energy Mission

What are the Key Features of Nuclear Energy Mission

- Achieve **100 GW of nuclear power capacity by 2047**, aligned with India's long-term energy transition strategy and the **Viksit Bharat** vision.
- Installed nuclear capacity stands at **8,180 MW (January 2025)**, with plans to expand to **22,480 MW by 2031–32**.
- Focus on **research, development, and deployment of Small Modular Reactors (SMRs)**, with a target of setting up **at least five indigenously developed SMRs by 2033**.

- Proposed amendments to the **Atomic Energy Act, 1962** and the **Civil Liability for Nuclear Damage Act, 2010** to encourage **private sector participation** in nuclear power projects.
- Promotion of **public-private partnerships** for setting up **Bharat Small Reactors (BSRs)**, R&D of **Bharat Small Modular Reactors**, and development of **advanced nuclear technologies**.
- Development of **SMRs by BARC (Bhabha Atomic Research Centre)** for repurposing retiring coal-based power plants and meeting electricity needs in **remote and underserved regions**.
- Emphasis on **indigenous reactor technologies**, particularly **Bharat Small Reactors (220 MW PHWRs)** designed for captive and flexible use.
- Introduction of **advanced reactor systems**, including **high-temperature gas-cooled reactors** for hydrogen co-generation and **molten salt reactors** to utilise India's thorium reserves.
- Support to India's broader **energy transition and climate commitments**, including **500 GW of non-fossil fuel capacity by 2030** and **50% energy requirements from renewables** as pledged at **COP26 (Glasgow, 2021)**.

Source: [TOI](#)

UNESCO Report - Bhasha Matters: State of the Education Report for India 2025

Context

UNESCO Released its flagship report - Bhasha Matters: State of the Education Report for India 2025.

Key recommendations of UNESCO (India Education Report 2025)

- Establish a **coordinated national framework** with strong institutional alignment between the Centre and States.

- Implement **clear MTB-MLE policies** tailored to local and regional linguistic contexts.
- Recruit and train **multilingually competent teachers**, and reform both pre-service and in-service teacher education systems.
- Create **flexible language learning pathways** that reflect learners' diverse linguistic backgrounds.
- Institutionalise **community participation and integration of local knowledge systems** within school education.
- Develop **high-quality multilingual textbooks, assessments, and learning resources** across all grade levels.
- Integrate **MTB-MLE into middle, secondary, and alternative schooling**, with explicit attention to gender sensitivity.
- Leverage **digital platforms** to support multilingual teaching, learning, and continuous teacher mentoring.
- Invest in **translation tools, speech technologies, and AI**, while actively addressing the digital divide.
- Ensure **adequate and equitable financing** for multilingual education and language-responsive technologies.

Source: [UNESCO](#)

Weakly Interacting Massive Particles

Context

A recent study claims detection of a gamma-ray excess from the Milky Way's centre, which may be consistent with annihilation of Weakly Interacting Massive Particles (WIMPs), a leading dark matter candidate.

What are Weakly Interacting Massive Particles (WIMPs)?

- **WIMPs** are hypothetical subatomic particles proposed as a leading candidate for **dark matter**.
- They are **massive** compared to ordinary particles and **interact extremely weakly** with normal matter and electromagnetic radiation.
- Because they **do not emit, absorb, or reflect light**, WIMPs cannot be detected directly and are inferred only through **gravitational effects or high-energy by-products**.
- When two WIMPs collide, they are theorised to **annihilate and produce high-energy gamma rays**, which astronomers attempt to detect as indirect evidence of dark matter.
- WIMPs fit naturally within the **Lambda–Cold Dark Matter (ΛCDM) model**, which explains the large-scale structure and evolution of the universe.

Source: [The Hindu](#)

India reported highest Anti-Doping Rule Violations for 3rd consecutive year

Context

As per recent World Anti-Doping Agency's (WADA) 2024 Testing Figures Report, India reported highest Anti-Doping Rule Violations for 3rd consecutive year.

Key Findings

In **2024, 260 Indian athletes** tested positive for doping out of **7,113 samples** analysed by the **National Anti-Doping Agency (NADA)**.

India recorded a **positivity rate of 3.6%**, placing it among the **highest globally**.

Nearly one in five Indian athletes tested during competitions was found **dope-positive**

What is Doping?

- **Doping** refers to the use of **prohibited substances or methods** under the **World Anti-Doping Code** to unfairly enhance athletic performance.
- **Common forms of doping used by athletes include:**
 - **Androgenic agents:** Anabolic steroids taken to increase muscle mass and strength.
 - **Stimulants:** Substances that elevate heart rate, alertness, and endurance.
 - **Diuretics and masking agents:** Drugs used to dilute urine or hide banned substances.
 - **Peptide hormones:** Agents such as **erythropoietin (EPO)** that increase red blood cells and endurance.
 - **Glucocorticoids:** Anti-inflammatory drugs misused to suppress pain and mask injuries.
 - **Beta blockers:** Substances that reduce heart rate and hand tremors.

About World Anti-Doping Agency (WADA)

- An **independent international agency** established in **1999** following the **Lausanne Declaration**.
- **Headquarters:** Montreal, Canada.
- **Mandate:** To **promote, coordinate, and monitor the global fight against doping in sport**.

National Anti-Doping Agency (NADA)

- India's **apex anti-doping organisation**, functioning under the **Ministry of Youth Affairs and Sports**.
- Established in **2005** and given statutory backing through the **National Anti-Doping Act, 2022**.
- **Role:** To implement the **World Anti-Doping Code** in India and ensure dope-free sport.

Source: [Indian Express](#)

Apache Helicopters

Context

The Indian Army has received the final batch of AH-64E Apache attack helicopters from the United States.

About Apache Helicopter

- The AH-64E Apache is a fully integrated attack helicopter weapon system, designed for precision strikes, high situational awareness, and network-centric operations.
- It is equipped with advanced sensors and targeting systems, unmanned aircraft control capability, and robust digital connectivity.
- The platform features a proven and upgraded airframe, offering enhanced power, endurance, and manoeuvrability, suited for high-intensity and demanding operational environments.

Source: [The Hindu](#)

Param Vir Chakra

Context

Portraits of all 21 Param Vir Chakra awardees (gallantry award) are now on display at Rashtrapati Bhavan.

About Wartime Gallantry Award

Category	Award Name	Level	Awarded For
	Param Vir Chakra	Highest	Most conspicuous bravery or supreme sacrifice in the presence of the enemy.

	Maha Vir Chakra	Second-highest	For acts of conspicuous gallantry in the presence of the enemy.
	Vir Chakra	Third-highest	Acts of gallantry on battlefield

Source: [The Hindu](#)

Thalassemia

Context

Four children with thalassemia test HIV-positive at Madhya Pradesh hospital.

About Thalassemia

- **What it is:** Thalassemia is a genetic blood disorder characterised by reduced or absent production of haemoglobin, the protein in red blood cells that carries oxygen.
- **Cause:** It is caused by inherited mutations in the genes responsible for haemoglobin synthesis and is passed from parents to children.
- **Types:**
 - **Alpha thalassemia:** Reduced production of alpha globin chains.
 - **Beta thalassemia:** Reduced production of beta globin chains; includes thalassemia minor (trait), intermedia, and major (Cooley's anaemia).
- **Symptoms:** Ranges from mild anaemia and fatigue to severe anaemia, growth retardation, bone deformities, and organ damage in severe cases.

Source: [Indian Express](#)

Places in News

Gulf of Oman



News? Iran has seized an oil tanker in the Gulf of Oman.

About Gulf of Oman

- It is the North western arm of the Arabian Sea.
- **Bordering Countries:** It is bordered by **Iran in the north**, by **the United Arab Emirates in the west**, and by **Oman in the south**.
- It connects the **Arabian Sea with the Strait of Hormuz**.

Source: [The Hindu](#)

