



# WEEKLY CURRENT AFFAIRS

Coverage of

**05 March - 11 March, 2025**

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**UPSC ESE, PSUs,  
RRB, SSC, Banking &  
State Services Exams**



**PAKISTAN 2025** 5 5 5 5 5



5<sup>th</sup> MARCH 2025

## National Health Mission (NHM)

- **Context:** The Union Minister of Health and Family Welfare recently chaired the ninth meeting of the Mission Steering Group (MSG) of the National Health Mission (NHM).

### About National Health Mission (NHM)

- The National Rural Health Mission (NRHM) was launched in April 2005 to provide accessible, affordable, and quality health services to the poorest households in remote rural areas.
- In May 2013, the National Health Mission (NHM) was approved by the Cabinet, incorporating the National Urban Health Mission (NUHM) as a sub-mission alongside NRHM.

### Achievements under NHM

- India achieved the National Health Policy target of Maternal Mortality Ratio (MMR) 100 deaths per 1 lakh live births, with an 83% decline in MMR from 1990 to 2020, surpassing the global decline rate.
- India saw a 69% reduction in Infant Mortality Rate (IMR) and a 75% decline in Under-5 Mortality Rate, both outperforming the global averages.
- Total Fertility Rate (TFR) decreased from 3.4 in 1992-93 to 2.0 in 2019-21.
- Out-of-pocket expenditure decreased from 69.4% in 2004-05 to 39.4% in 2021-22, while government health expenditure increased from 22.5% to 48%.
- The number of healthy human resources under NHM increased from 23,000 in 2006-07 to 5.23 lakh in 2023-24.

## PUNCH Mission

- **Context:** NASA has launched the Polarimeter to Unify the Corona and Heliosphere (PUNCH) Mission, aligning with the solar maximum phase of the Sun's cycle.

### About Solar Cycle

- The Sun, like a bar magnet, possesses a magnetic field with north and south poles.
- This magnetic field is generated by the movement of electrically charged particles within the Sun.
- Approximately every 11 years, the Sun's magnetic field completely flips, switching its north and south poles—a phenomenon known as the solar cycle.

### About Solar Maximum

- Solar maximum is the peak phase of the Sun's 11-year cycle, characterized by heightened solar activity.
- During this period, the Sun emits more energy, radiation, and light and experiences an increased number of sunspots. The transition occurs when the Sun's magnetic field undergoes a complete flip.
- Solar Maximum lasts between one and two years. The time between two solar maxima can vary from 9 to 13 years.

### Impacts of Solar Maximum on Earth

- **Solar Flares and Coronal Mass Ejections (CMEs):** The release of magnetic energy leads to massive solar storms that send bursts of radiation and particles into space.
- **Damage to Power Grids:** Intense geomagnetic storms can disrupt electrical infrastructure, leading to power outages.
- **Satellite Malfunctions:** Increased solar radiation affects satellite operations, potentially causing communication and navigation failures.

### About PUNCH Mission

- PUNCH is a NASA Small Explorer (SMEX) mission to better understand how the mass and energy of the Sun's corona become the solar wind that fills the solar system.
- The mission consists of a constellation of four small satellites in Sun-synchronous, low Earth orbit that together will produce deep-field, continuous, 3D images of the solar corona.

## Power Head Test Article (PHTA)

- **Context:** The Indian Space Research Organisation (ISRO) recently successfully conducted the Power Head Test Article (PHTA) on a semi-cryogenic engine (SE2000).

### About Power Head Test Article (PHTA)

- **Purpose of PHTA:** Validates the integrated performance of critical subsystems, including: Gas generator, Turbo pumps, Pre-burner, Control components.
- **Significance of PHTA:** Essential for the development of ISRO's semi-cryogenic engine.

## Cryogenic Stage in Launch Vehicles

- A cryogenic engine/cryogenic stage is the last stage of space launch vehicles which makes use of cryogenics to store its fuel and oxidiser as liquids instead of gas.
- In space, there is a lack of air, including oxygen, which means it is impossible to burn anything.
- To fix this, rockets carry their own oxygen, known as an oxidiser, mixed with fuel to burn it in space.

### About Cryogenics

- Cryogenics is the study of materials and processes at extremely low temperatures, typically below -150°C.
- It primarily involves the use of cryogenic fluids such as liquid nitrogen (LN<sub>2</sub>), liquid oxygen (LOX), and liquid hydrogen (LH<sub>2</sub>).
- **Applications in Various Fields:** Space, Medical, Food Preservation, Industrial gases, Superconductivity etc.

6<sup>th</sup> MARCH 2025

## Pradhan Mantri Shram Yogi Maandhan Yojana (PM-SYM)

- **Context:** The Pradhan Mantri Shram Yogi Maandhan (PM-SYM) Scheme was launched in 2019 to provide pension security for unorganized workers.

## Key Facts

- India's unorganized sector contributes nearly 50% of the GDP, employing millions in occupations like street vending, construction, agriculture, and domestic work.
- However, financial insecurity after retirement remains a major concern, to address this issue the PM-SYM scheme was launched.
- As of 2024, over 30.51 crore workers are registered on the e-Shram portal. E-Shram portal is a flagship initiative by the Government of India to support and empower the unorganized workforce.
- Registered workers receive a UAN linked to their Aadhaar, enabling seamless access to benefits.

### About Pradhan Mantri Shram Yogi Maandhan (PM-SYM) Scheme

- It is a voluntary and contributory pension scheme, ensuring a minimum 3,000 monthly pension after the age of 60 years.
  - Spouses receive 50% of pension if the subscriber dies after retirement.
  - Spouses can continue or exit the scheme if the beneficiary dies before 60.
- **Implementation:** Ministry of Labour & Employment and managed by the Life Insurance Corporation of India (LIC).
- **Eligibility:** Age: 18–40 years, monthly income Rs.15,000 or less, not covered under EPF/ESIC/NPS.
- **Contribution Structure:** monthly contribution Rs. 55 to Rs. 200, depending on the age of joining.
- **Enrollment:** Through Common Service Centres (CSC) or the Maandhan portal.
- **Implementation and Current Status:** 46.12 lakh enrollments (March 2025) across 36 States/UTs. Top 3 States are Haryana, Uttar Pradesh, Maharashtra.

## Mission 300

- **Context:** In 2024, the World Bank Group and the African Development Bank together launched Mission 300.

## Key Facts

- Mission 300 aims to connect 300 million people to electricity in Sub-Saharan Africa by 2030.
- The ambitious initiative builds on years of groundwork, much of it led by the Energy Sector Management Assistance Program (ESMAP).
- **Goal:** Accelerate electrification while ensuring cleaner, diversified energy sources, economic growth, and job creation.
- **Current Challenge:** Nearly 600 million people in Sub-Saharan Africa lack electricity, making up 83% of the global unelectrified population.
- **Key Focus Areas:**
  - Investment in generation, transmission, distribution, and regional interconnection.
  - Sector reform to ensure reliable, affordable, and quality power.

7<sup>th</sup> MARCH 2025

## IndiaAI Mission

- **Context:** The Union Minister for Electronics & Information Technology unveiled a series of AI-driven initiatives under the IndiaAI Mission, marking a major step in strengthening India's artificial intelligence ecosystem.

## Key Initiatives Launched

- **AIKosha (IndiaAI Datasets Platform):** A secured AI repository designed to facilitate AI innovation by providing:
  - 300+ datasets and 80+ AI models for diverse applications.
  - An AI sandbox environment with an integrated development environment (IDE), tools, and tutorials.
  - The datasets on AI Kosha include submissions from various sources, such as 2011 Census data, satellite imagery captured by Indian satellites, Open Governance Data platform, health data, and meteorological and pollution data.

## About IndiaAI Mission

- Launched in March 2024, it is a comprehensive initiative aimed at fostering AI research, development, and innovation in India.
- **Funding:** 5-year public-private partnership model.
- **Implementing Agency:** 'IndiaAI' Independent Business Division under Digital India Corporation.
- **Objectives:** Strengthening public-private partnerships to accelerate AI research & development.
  - Deployment of over 10,000 GPUs to enable high-performance AI computing.
  - Establishing AI supercomputing facilities like AIRAWAT at C-DAC, Pune.
  - Ensuring ethical AI practices, data transparency, and accessibility.
- The launch of AIKosha, the AI Compute Portal, and other IndiaAI initiatives marks a major step in democratizing AI access, fostering research-driven innovation, and strengthening India's global AI leadership.
- The event brought together government officials, researchers, industry leaders, and startups, fostering collaboration to build an AI-powered future for India.

## India: The World's Third-Largest Biofuel Producer

- **Context:** According to the Minister of Petroleum and Natural Gas, India has emerged as the world's third-largest biofuel producer.

## About Biofuels

- Biofuels are alternative fuels made from plant and plant-derived resources. **Example:** Bioethanol, Biodiesel, Green diesel, Biogas etc.
- Biofuels can be categorized into different generations based on the feedstocks used and the processes involved in their production.
  - **First Generation:** They are made from food crops like corn, sugarcane, wheat, and vegetable oils.

- **Second Generation:** They are made from biomass extracted from agricultural waste or waste plant material like non-food feedstocks corn stover.
- **Third Generation:** These are often derived from algae and other microorganisms.
- **Fourth Generation:** They are made from genetically modified species crops. These include synthetic biology and microorganisms engineered to produce specific biofuels.

### About National Policy on Biofuels, 2018

- The National Policy on Biofuels 2018 (amended in 2022) provides a framework for increasing the use of biofuels in India to enhance energy security. It will allow more feedstocks for production of biofuels.
- The Policy allows use of surplus food grains for production of ethanol for blending with petrol with the approval of National Biofuel Coordination Committee.
- The policy will advance the ethanol blending target of 20% blending of ethanol in petrol to Ethanol Supply Year (ESY) 2025-26 from 2030.
- It will promote the production of biofuels in the country, under the Make in India program, by units located in Special Economic Zones (SEZ)/ Export Oriented Units (EoUs).

### Quantum Technology

- **Context:** NITI Aayog's Frontier Tech Hub (NITI-FTH) highlights the potential of quantum computing for economic growth and national security and global competitiveness.

### About Quantum Technology

- Quantum technology is a rapidly advancing field that leverages the principles of quantum mechanics to develop new technologies with unprecedented capabilities.
- Quantum mechanics is the branch of physics that studies the behavior of particles at the quantum level, where classical physics no longer applies.

- Quantum computing uses 'qubit' (or quantum bit) as its fundamental unit.
- This technology exploits the principles of quantum mechanics, which include superposition, quantum entanglement, and interference. Superposition refers to the ability of these particles to exist in multiple locations simultaneously.

### Domains of Quantum Technologies

- **Quantum communication:** It applies the properties of quantum physics to provide better security and improved long-distance communications.
- **Quantum simulation:** It refers to the use of a quantum system to simulate the behavior of another quantum system.
- **Quantum computation:** It is a field of computing that utilizes the principles of quantum mechanics to perform certain types of calculations more efficiently than classical computers.
- **Quantum sensing and metrology:** It leverages the principles of quantum mechanics to achieve highly precise measurements.

### About National Quantum Mission (NQM)

- It was conceptualized by the Prime Minister Science Technology Advisory Council (PM-STIAC) with a total outlay of Rs 6003.65 Crore for a period of eight years.
- The Mission aims to seed, nurture, and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT).

8<sup>th</sup> MARCH 2025

### International Women's Day

- **Context:** Prime Minister Narendra Modi reiterates commitment for Women Empowerment on International Women's Day.

### Key Facts

- Every Year International Women's Day is celebrated on the 8th March.

- Vladimir Lenin declared March 8 as International Women's Day in 1922 to recognize the women's role in the 1917 Russian Revolution.
- It was officially recognized by the United Nations in 1977.
- **The themes for 2025 include:**
  - **United Nations (UN) Theme:** "For All Women and Girls: Rights. Equality. Empowerment,".
  - **Official International Women's Day Theme:** "Accelerate Action."
- The year 2025 commemorates 30 years since the adoption of the Beijing Declaration and Platform for Action.
  - This agreement remains one of the most comprehensive frameworks for advancing women's and girls' rights globally.
- It aims to strengthen interventions for women's welfare, safety, and empowerment, making women equal partners in nation-building.
- Initiatives like Beti Bachao, Beti Padhao, Sukanya Samridhi Yojana, Janani Shishu Suraksha Karyakram, and PM Matru Vandana Yojana have also contributed to significant improvements in the welfare and empowerment of women and girls.
- The Mission Saksham Anganwadi and Poshan 2.0 programmes focus on improving women's health beyond just calorie intake and improving overall health and immunity with proper micronutrients.
- The Women in Science and Engineering-KIRAN (WISE KIRAN) program has supported nearly 1,962 women scientists from 2018 to 2023.
- Nari Shakti Puraskar recognizes the contributions of women in various fields, celebrating achievements and inspiring others.
- Maternity Benefit (Amendment) Act, 2017 provides for 26 weeks of paid maternity leave for women working in the private sector and government.

### Achievements Related to Women in India:

- Nari Shakti Vandan Adhiniyam, 2023, seeks to reserve one-third of the total number of seats for women in Lok Sabha, State Legislative Assemblies and Delhi Assembly.
- The National Sex Ratio improved to 1020 for the first time (National Family Health Survey -5).
- Paid maternity leave increased to 26 weeks.
- 3.2 Crore Sukanya Samruddhi Yojana accounts.
- 72% women ownership under PM Awas Yojana Gramin.
- MMR to 97/lakh live births in 2018-20 from 130/lakh live births in 2014-16.
- Abolition of Triple Talaq empowering Muslim women.
- Permanent commission granted to Women Officers in 12 Arms and Services.
- Entry of women as Agniveers commenced in all the three Services.
- 43% of STEM graduates in India are women which is highest in the world.

### Major Government Initiatives

- Mission Shakti is a women empowerment programme launched by the Ministry of Women and Child Development (MWCD) for the period 2021-2025.

### Rashtriya Karmayogi Jan Seva Programme

- **Context:** The Union Ministry of Social Justice and Empowerment, successfully inaugurated the first batch of the Rashtriya Karmayogi Jan Seva Programme.

### Key Highlights

- It is an interactive event aimed to inspire, enlighten, and guide Central Government employees to adopt the Karmayogi Way, emphasizing a citizen-centric approach to governance.
- The initiative is launched by the Capacity Building Commission.
- The programme focused on fostering Seva-Bhav (a sense of service) and accountability.

### About Capacity Building Commission

- It was established in 2021.

- It is a three-member Commission, supported by an internal Secretariat headed by a Secretary.
- Members have been appointed from diverse backgrounds such as private sector, academia, public sector, and civil society.
- The Commission's focus is on driving stand harmonisation across the public sector learning and development landscape.

## Gandiva

- **Context:** India's latest and most advanced beyond visual range (BVR) air-to-air missile, Astra MK-III, has been officially renamed Gandiva.

## Key Features

- **Extended Range:**
  - 340 km when targeting enemies at 20 km altitude.
  - 190 km when engaging targets at 8 km altitude.
- **Advanced Propulsion System:**
  - Powered by a dual-fuel ducted ramjet engine (a cutting-edge technology that utilizes atmospheric oxygen as an oxidizer), ensuring sustained high-speed flight.
  - Launch speed between 0.8 to 2.2 Mach, capable of engaging targets moving at 2.0 to 3.6 Mach.
- **Enhanced Target Engagement Capabilities:**
  - Can neutralize fighter jets, bombers, military transport aircraft.

## TROPEX-2025

- **Context:** TROPEX 25 is conducted over a period of three months from January to March 25.

## Key Facts

- It is the largest biennial maritime exercise organized by the Indian Navy, featuring substantial participation from Indian Army, Indian Air Force, and Coast Guard assets.
- It is executed in multiple phases—both in Harbour and at Sea—integrating various facets of combat operations, including cyber and electronic warfare,

live weapon firings during the Joint Work Up Phase, and the Amphibious Exercise (AMPHEX).

9<sup>th</sup> MARCH 2025

## ICC Champions Trophy 2025

- **Context:** India ended a 12-year wait to clinch a record-extending third Champions Trophy title, beating New Zealand by 4 wickets in the Champions Trophy 2025 final at the Dubai International Cricket Stadium. Indian Captain Rohit Sharma was awarded Man of the Match in the final match for his crucial 76 runs knock and New Zealand's Rachin Ravindra was conferred upon Man of the Series award.

## About ICC Champions Trophy

- The ICC Champions Trophy is a premier One Day International (ODI) cricket tournament featuring the world's top eight teams.
- The tournament was originally called the ICC Knockout when it began in 1998 in Dhaka (Bangladesh). It was renamed the ICC Champions Trophy in 2002.
- It was held every two years until 2009. After that, the event transitioned to a four-year cycle.
- **Tournament Format:**
  - The format of the competition has endured since 2006. The eight teams are divided into two groups of four teams each.
  - Each team plays once against every other team in the group.
  - And then, the top-two teams from each group advance to the semi-finals, determining the two that feature in the summit clash.
  - Previously the top-eight ranked ODI sides would feature in the Champions Trophy. But for the 2025 edition, the qualification used the results of the 2023 edition of the ICC Men's Cricket World Cup.
- **Teams in 2025:** India, Pakistan, Bangladesh, New Zealand were in Group A while the remaining four teams — Australia, Afghanistan, England, South Africa — were in group B.

## About International Cricket Council (ICC)

- The International Cricket Council (ICC) is the global governing body for cricket. Representing 108 members, the ICC governs and administrates the game and works with our members to grow the sport.
- The ICC is also responsible for the staging of all ICC Events. The ICC presides over the ICC Code of Conduct, playing conditions, the Decision Review System and other ICC regulations.

## Hantavirus

- **Context:** According to the U.S. Centers for Disease Control and Prevention (CDC), hantaviruses are a family of viruses that can cause severe, potentially fatal illnesses.

## About Hantavirus

- A family of viruses that cause severe respiratory and renal illnesses.
- It causes Hantavirus Pulmonary Syndrome (HPS), which starts with flu-like symptoms such as fever, chills, and muscle aches. In severe cases, it leads to respiratory distress, fluid buildup in the lungs, and can be fatal.
- Carried by rodents (deer mice, rice rats, white-footed mice, cotton rats).
- **Transmission methods:** Inhalation of virus particles from rodent droppings, or saliva, touching contaminated materials and then the eyes, nose, or mouth.

## Madhav National Park: India's 58th

### Tiger Reserve

- **Context:** The Centre declared the Madhav National Park in Madhya Pradesh as the country's 58th tiger reserve.

### Key Facts

- It has become the ninth tiger reserve in the state, the highest in any state.

- **Location:** It is situated near Shivpuri town in Madhya Pradesh and is a part of the upper Vindhyan hills.
- **Lakes:** Sakhya Sagar (Ramsar site, in 2022) and Madhav Sagar.
- **Rivers:** Manier and Sind river.
- **Vegetation:** Tropical dry deciduous forests and Dry Thorn Forests.
- **Flora:** Kardhai, Salai, Dhaora and Khair.
- **Fauna:** Nilgai, Chinkara and Chowsinga and Deer including Chital, Sambar and Barking Deer.
- It was the hunting ground of Mughal emperors and Maharaja of Gwalior.
- It got the status of a National Park in 1958.

10<sup>th</sup> MARCH 2025

## Chandra's Surface Thermophysical Experiment (ChaSTE)

- **Context:** A new analysis of data from Chandra's Surface Thermophysical Experiment (ChaSTE) aboard Chandrayaan-3 suggests that water ice might be present in locations outside of the polar regions of the moon.

### Key Facts

- Findings offer insights into the Moon's surface composition and evolution.
  - Practical implications include potential for creating temperature-controlled habitats for future human missions.
- High-latitude areas with slopes  $>14^\circ$  in the poleward direction may have conditions similar to polar regions for hosting water-ice.
- These areas may be more accessible than extreme polar regions for exploration.

### About ChaSTE

- It is a thermometer that performed on-site temperature measurements of the Moon's surface and sub-surface near the polar regions for the first time.



- It revealed a significant temperature difference of nearly 60°C between the Moon's surface and a layer just 10 cm beneath it, highlighting the extreme non-conductivity of the Moon's surface.

## Stockholm International Peace Research Institute (SIPRI) Report (2020-24)

- **Context:** According to the Sweden-based Stockholm International Peace Research Institute (SIPRI), Ukraine became the world's largest importer of major arms in the period 2020–24.

### Key Highlights

- **Top five arms importers:** Ukraine, India, Qatar, Saudi Arabia and Pakistan.
  - These five countries accounted for 35 percent of global arms imports.
- **Top five arms exporters:** The USA, France, Russia, China and Germany.
  - These exporters contributed 72 percent of total global arms exports.
- The US increased its share of global arms exports to 43 percent, whereas Russia's arms exports declined by 64 percent.
- China accounted for 5.9 percent of global arms exports in 2020–24, a slight decline from its share in 2015–19.

### Indian Scenario

- India was the world's second largest arms importer during 2020–24. However, its imports decreased by 9.3 percent between 2015–19 and 2020–24.
- The largest share of Indian arms imports (36 percent) came from Russia, a significantly smaller share than in 2015–19 (55 percent) and 2010–14 (72 percent).
- India has contracted major military deals with France, including 36 Rafale jets & six Scorpene-class submarines.

## About Stockholm International Peace Research Institute (SIPRI)

- SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- It is based in Stockholm, Sweden.
- Established in 1966, it provides data, analysis and recommendations to researchers, media and the interested public.

## Exercise Khanjar-XII

- **Context:** The 12th edition of Exercise Khanjar-XII is set to take place in Kyrgyzstan.

### Key Facts

- It is a joint special forces exercise.
- It is held annually and conducted alternatively in both the countries.
- It aims to exchange experiences and best practices in Counter Terrorism and Special Forces Operations in urban and mountainous high altitude terrain scenarios.

11<sup>th</sup> MARCH 2025

## World Air Quality Report 2024

- **Context:** A recent report by IQAir revealed that India is among the world's most polluted nations. Thirteen of the top twenty polluted cities globally are located in India.

### Key Highlights

- According to the World Air Quality Report 2024, India ranks as the fifth most polluted country, a slight improvement from third place in 2023.
- The average PM2.5 concentration in India decreased by 7% to 50.6 micrograms per cubic metre.
- However, cities like Delhi continue to struggle, with a PM2.5 level of 91.6 micrograms per cubic metre. This figure is nearly unchanged from the previous year.

## Major Polluted Cities in India

The report lists Byrnihat, Delhi, Mullanpur, Faridabad, Loni, New Delhi, Gurugram, Ganganagar, Greater Noida, Bhiwadi, Muzaffarnagar, Hanumangarh, and Noida among the world's top polluted cities. These cities report PM2.5 levels exceeding WHO limits by over ten times.

## Health Impacts of Air Pollution

- Air pollution affects public health. Life expectancy is reduced by an estimated 5.2 years due to poor air quality.
- A study published in Lancet Planetary Health indicates that approximately 1.5 million deaths annually from 2009 to 2019 were linked to long-term exposure to PM2.5 pollution. PM2.5 particles, smaller than 2.5 microns, can infiltrate the lungs and bloodstream, causing severe health issues such as respiratory diseases, heart conditions, and cancer.

## Ramsar Award

- **Context:** Jayshree Vencatesan, co-founder of Care Earth Trust, recently made history as the first Indian to receive the Ramsar Award for 'Wetland Wise Use'.

## Key Facts

- This prestigious global accolade recognises exceptional contributions to sustainable wetland management.
- Vencatesan was one of twelve women honoured for their impactful work in wetland preservation.
- Vencatesan has dedicated decades to the conservation of India's wetlands. Her efforts focus particularly on the Pallikaranai Marsh in Chennai.
- Leading an all-women research team, Vencatesan has not only protected wetlands but also inspired the next generation of female conservationists. She emphasises the importance of equipping women with technical skills and decision-making roles in wetland management. This approach encourages inclusivity and enhances conservation efforts.

## About Ramsar Award

- The Ramsar Award celebrates individuals and organisations dedicated to the sustainable management of wetlands.
- Established under the Convention on Wetlands, these awards aim to encourage wise use of wetland resources.
- The award categories include 'wise use of wetlands', 'innovation', and 'influencing policy'.

