Women Empowerment

India has witnessed remarkable progress in women's empowerment across education, societal participation, and personal efficacy. However, access to employment opportunities remains stagnant, limiting women's potential contribution to the economy.

Women empowerment and its types:

Economic empowerment: Equal access to employment, markets, and entrepreneurship opportunities.

Political empowerment: Women's participation in decision-making and leadership roles in politics.

Social empowerment: Ensuring equal rights in health, family decisions, marriage, and societal engagement.

Social constraints are not holding women back:

Educational gains: Gender gap in education has disappeared; 26% of young women now have college degrees (up from 12% in 2011-12).

Marriage and Autonomy: Marriage age is delayed; more women (52%) have a say in choosing their partners.

Societal engagement: Women's mobility and political engagement have increased; Self-Help Group (SHG) participation doubled to 18%.

Family support: 80% of women report family approval for work, indicating social norms are no longer the main barrier.

Lack of employment opportunities holding women back:

Stagnation in wage labour: Women's participation in wage labour declined from 18% in 2012 to 14% in 2022.

Mismatch in job availability: Women are willing to work but lack suitable job opportunities.

Role in unpaid work: Most women contribute to family farms but lack access to formal employment.

Other challenges to women empowerment:

Economic challenges:

Persistent pay gaps and overrepresentation in informal sectors.

Motherhood penalty and unpaid care work reduce women's economic participation.

Political challenges:

Low representation in legislative bodies and lack of intra-party democracy.

Social challenges:

Health burdens from limited access to menstrual hygiene and healthcare.

Threats to safety, including domestic violence and workplace harassment.

Government schemes for women empowerment:

Economic empowerment:

Maternity Benefit Act (2017) for paid leave.

Mudra Yojana for financial support to women entrepreneurs.

Political empowerment:

Nari Shakti Vandana Adhiniyam (33% reservation in Lok Sabha and Assemblies).

73rd and 74th Amendments provide reservations in local bodies.

Social empowerment:

Prohibition of Child Marriage Act (2006) and MTP Amendment Act (2021) ensure reproductive and marital rights.

Digital India Land Records Modernisation Programme for securing women's land rights.

Way ahead:

Enhance employment opportunities: Create public and private sector jobs tailored to women's needs and implement skilling initiatives.

Ensure workplace safety: Strict enforcement of the POSH Act (2013) for harassment-free work environments.

Improve basic amenities: Focus on health, hygiene, and education for rural women to enhance workforce participation.

Promote women-led development: Shift the narrative from women's welfare to enabling them as drivers of progress in all sectors.

State of the Climate 2024 Report

The WMO State of the Climate 2024 Update once again issues a Red Alert at the sheer pace of climate change in a single generation, turbo-charged by ever-increasing greenhouse gas levels in the atmosphere.

Summary of State of the Climate 2024 Report:

Temperature and Greenhouse Gases:

2024 is on track to be the warmest year, with global temperatures 1.54°C above pre-industrial levels.

Greenhouse gas levels (CO_2, CH_4, N_2O) hit record highs in 2023, continuing to rise in 2024.

Ocean and Sea Level Rise:

Ocean heat content reached record levels in 2023, absorbing 3.1 million TWh of heat.

Global sea level rise accelerated to 4.77 mm/year (2014-2023), doubling the rate of 1993-2002.

Cryosphere (Polar Ice and Glaciers):

Arctic and Antarctic Sea ice extent in 2024 remained below historical averages.

Glaciers lost an unprecedented volume of ice equivalent to five times the water in the Dead Sea in 2023.

Precipitation and Water Resources:

2023 was the driest year for global rivers in over 30 years.

Extreme precipitation events caused significant flooding, but overall water availability declined globally.

Extreme weather events:

Devastating floods, heatwaves, droughts, and wildfires affected millions globally in 2024, with extensive socio-economic impacts.

Early Warning Systems and Climate Services:

Progress made in implementing Multi-Hazard Early Warning Systems (MHEWS), with 108 countries adopting them.

Significant gaps persist, especially in vulnerable regions like Africa and small island nations.

Renewable Energy and Climate Finance:

Renewable energy capacity increased globally, with improvements in wind and solar generation.

Climate finance and integrated policies emphasized to meet adaptation and mitigation targets.

Factors Impacting Climate:

Anthropological factors:

Greenhouse Gas Emissions	Rising concentrations of CO_2, CH_4, and N_2O from fossil fuels, agriculture, and industrial activities.
Land Use Changes	Deforestation, urbanization, and agricultural expansion altering natural carbon and water cycles.
Industrial Activities	Energy-intensive processes releasing heat-trapping gases and pollutants.
Transportation	Emissions from vehicles and aviation contributing to CO_2 and particulate matter levels.
Waste Management	Methane emissions from unmanaged landfills and improper waste handling.

Natural factors:

El Niño and La Niña	Cyclical warming (El Niño) and cooling (La Niña) of ocean waters driving global temperature and weather changes.
Volcanic Activity	Periodic eruptions releasing aerosols that temporarily cool or warm the atmosphere.
Solar Variability	Changes in solar radiation influencing Earth's energy balance.
Ocean Circulation	Variations in currents like the Gulf Stream affecting heat distribution.
Natural Carbon Sinks	Forests, oceans, and soil absorbing less CO_2 due to degradation or warming-induced changes.

Recommendations from the State of the Climate 2024 Report

Mitigation of Climate Change:

Accelerate efforts to limit global warming below 1.5°C through stronger commitments to reducing greenhouse gas emissions.

Climate adaptation:

Scale up climate adaptation strategies, including investments in resilient infrastructure and integrated water management.

Early warning systems:

Expand **Multi-Hazard Early Warning Systems (MHEWS)** globally, with a focus on vulnerable regions like Africa and small island nations.

Renewable energy:

Triple renewable energy capacity and double energy efficiency by 2030 to meet climate mitigation targets.

Strengthen climate services:

Enhance National Meteorological and Hydrological Services (NMHS) to improve data collection, modelling, and forecasting for effective decision-making.

Cryosphere protection:

Implement policies to mitigate glacial loss and ensure sustainable management of polar and high-altitude ecosystems.

About State of the Global Climate Report:

Purpose: Provides an **annual summary** of key climate indicators and updates.

History: Published annually by the **WMO since 1993** to complement IPCC's less frequent Assessment Reports.

Updates for COP: Since 2016, the report includes preliminary findings presented before the UNFCCC COP each year.

About World Meteorological Organization (WMO):

- **Overview:** An intergovernmental organization with 192 member states and territories.
- **Origin:** Evolved from the International Meteorological Organization (IMO), established in 1873.
- **Establishment:** Officially formed on 23rd March 1950 through the WMO Convention.
- **Role and Affiliation:** A specialized United Nations agency focusing on meteorology, climate, operational hydrology, and geophysical sciences.

- **Headquarters:** Based in Geneva, Switzerland.
- **India's Membership:** India is an active member of WMO.
- **Purpose:** Promotes international cooperation, data exchange, and research in weather, climate, and water sciences.

Adaptive Defence Strategy

Defence Minister Rajnath Singh has emphasized the government's commitment to developing an 'Adaptive Defence' strategy to address the complex and evolving security challenges faced by India.

About Adaptive Defence:

What it is:

Adaptive Defence refers to a strategic approach where military and defence systems evolve continuously to counter dynamic and emerging threats proactively.

Need for Adaptive Defence:

Changing nature of threats: Shift from traditional warfare to hybrid and grey-zone threats like cyber-attacks, terrorism, and information warfare.

Technological evolution: Rapid advances in AI, drones, swarm technologies, and quantum computing demand agile responses.

Geopolitical uncertainty: Increased cross-border tensions and global interdependence require a responsive and collaborative defence strategy.

Key features:

Proactive and anticipatory: Focus on predicting future threats and preparing in advance.

Integration of emerging technologies: Use of AI, drones, quantum technologies, and cybersecurity tools.

Strategic flexibility: Adaptation at tactical and operational levels for changing scenarios.

Collaboration and jointness: Integration among the armed forces and collaboration with global defence systems.

Focus on self-reliance: Promoting indigenous defence manufacturing under initiatives like 'Make in India' and 'Aatmanirbhar Bharat.'

India's Achievements in Renewable Energy

India's renewable energy sector saw notable growth from October 2023 to October 2024, with significant additions in solar, wind, hydro, and nuclear capacities.

India's Achievements in Renewable Energy: Key Points

Total Renewable Energy Capacity:

Increased by **24.2 GW** (13.5%) in a year, reaching **203.18 GW** in October 2024, up from **178.98 GW** in October 2023.

Non-Fossil Fuel Capacity:

Total capacity, including nuclear energy, rose to **211.36 GW** in 2024 from **186.46 GW** in 2023.

Solar Power:

Added **20.1 GW** (27.9%) to reach **92.12 GW** in October 2024, up from **72.02 GW** in October 2023.

Total solar capacity, including projects under implementation and tendered, stands at **250.57 GW**, up from **166.49 GW** last year.

Wind Power:

Installed capacity grew by 7.8%, reaching **47.72 GW** in 2024, up from **44.29 GW** in 2023.

Total capacity in the pipeline for wind energy reached **72.35 GW**.

Capacity Additions (April-October 2024):

Added **12.6 GW** of renewable capacity, with **1.72 GW** installed in October 2024 alone.

Projects under implementation expanded to **143.94 GW**, with 89.69 GW tendered, compared to 99.08 GW and 55.13 GW, respectively, in 2023.

Hydro and Nuclear Energy:

Large hydro projects contribute **46.93 GW**, and nuclear power adds **8.18 GW** to the renewable energy mix as of October 2024.

Long-Range Land Attack Cruise Missile

The Defence Research and Development Organisation (DRDO) successfully conducted the maiden flight test of the **Long-Range Land Attack Cruise Missile (LRLACM)**, a state-of-the-art indigenous missile with a range of 1,000 km.

About LRLACM:

Range and Performance:

Range: 1,000 km with precision strike capability.

Equipped with advanced avionics and software for reliability and efficiency.

This is a new variant of ***Nirbhay*** **LRLACM** with improved features

Development:

Developed by Aeronautical Development Establishment (**ADE**), Bengaluru, with contributions from DRDO labs and Indian industries.

Bharat Dynamics Limited and Bharat Electronics Limited are key development-cum-production partners.

Design and Navigation:

Configured for ground launch using mobile articulated launchers and naval launch from ships using universal vertical launch modules.

Strategic Significance:

Provides the armed forces with long-range standoff capabilities, comparable to the U.S. Tomahawk cruise missile.

Approval:

Approved by the Defence Acquisition Council in July 2020.

About Nirbhay Cruise Missile:

Type and Range: Sub-sonic long-range cruise missile with a strike capability of up to 1,000 km.

Development: Designed by Aeronautical Development Establishment (ADE), under DRDO, Bengaluru.

Launch and Propulsion: Uses a solid booster for launch, transitioning to a turbojet engine for sustained flight.

Capabilities:

Deep penetration to target high-value assets with precision.

Capable of loitering and operating at very low altitudes (~100 meters).

Warhead options: Can carry both conventional and nuclear payloads weighing 200-300 kg.