

WEEKLY NEWS

February 01-10, 2025

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- Revised MSME Classification
- International Big Cat Alliance (IBCA)

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Comprehensive Social Security Model for Workers

● Why in News?

- ➡ **Three Committees** constituted by the **Union Ministry of Labour & Employment** and **State Governments** to draft a **Comprehensive Social Security Model** for workers.
 - ➡ Focus on **unorganised workers**, including **gig and platform workers**.
 - ➡ **Each committee** includes **five states** for broader representation.
- Proposal for a **dedicated social security and welfare scheme** for gig and platform workers.

● What is Social Security?

- ➡ **Definition:** Measures to protect workers by ensuring **healthcare access** and **income security** in cases of Old age, Unemployment, Sickness and disability, and Work-related injuries

● Why is a Comprehensive Social Security Plan Needed?

- ➡ **Unorganised Sector Dominance:** About **94%** of the workforce is in the **unorganised sector**, lacking legal protection under social security laws.
- ➡ **Changing Family Structure:** Shift from **joint family systems** (which provided social safety nets) to **nuclear families** increases the need for formal support.
- ➡ **Other Factors:**
 - Jobless Growth** – Fewer employment opportunities despite economic growth.
 - Impact of Automation** – Rising automation increases the vulnerability of low-skilled workers.

● Current Social Security Mechanisms in India

- ➡ **Code on Social Security, 2020:**

Consolidates nine major labour laws, including:

Employees' Provident Funds and Miscellaneous Provisions Act, 1952

Maternity Benefit Act, 1961

Social Security Fund to be established by the Central Government.

- ➡ **Life and Disability Coverage:**

Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) – Provides life insurance.

Pradhan Mantri Suraksha Bima Yojana (PMSBY) – Provides accident insurance.

● **Current Social Security Mechanisms in India**

➡ **Old Age Benefits and Pension:**

Pradhan Mantri Shram Yogi Maan-Dhan (PM-SYM) – Pension scheme for unorganised workers.

National Pension Scheme (NPS) for **Traders and Self-employed Persons** – Provides old-age financial security.

● **Way Forward**

➡ **Tailored Social Security for Gig Workers:** Implement a **specific welfare scheme** addressing their unique employment conditions.

➡ **Improve Coverage:** Ensure **universal access** to social security for all workers, especially in the unorganised sector.

➡ **Strengthen Legal Framework:** Enhance the **Code on Social Security, 2020** by adding dynamic and inclusive provisions.

➡ **Leverage Technology:** Use **digital platforms** for **efficient delivery** of benefits and tracking worker data.

Sundarbans' Resilience to Natural and Human-Induced Stress

● **Why in News?**

- ➡ A new study by IIT Bombay and others highlights that **Sundarbans mangroves** show **resilience** to extreme weather and pollution but have **limits** to their self-repair capacity.

● **Key Findings of the Study**

- ➡ **Resilience to Extreme Weather:** Mangroves recover within **1-2 weeks** after extreme weather events like **cyclones** and **thunderstorms**.
- ➡ **Nutrient Stability:** Despite a decline in **nutrient composition** due to **anthropogenic water pollution**, mangroves maintain **stable productivity**.
- ➡ **Increased Link Strength and Memory:** Mangroves enhance their survival by increasing **link strength** and **memory** with hydro-meteorological factors like Precipitation, Temperature, and Wind Speed.
- ➡ **Plant Memory:** The ability of plants to "**remember**" responses to past stresses (e.g., cyclones) and **store** this information for future adaptation.

● **About Mangroves**

- ➡ **Definition:** Woody plants that grow in **coastal intertidal zones**, periodically flooded by **tides**.

➡ **Key Characteristics:**

Salt-Tolerant: Only trees that thrive in salty water.

Carbon Sequestration: High carbon density and sequestration rates, playing a key role in global carbon cycles.

Ecosystem Engineers: Also known as '**Blue Forests**' due to their ability to stabilize and shape coastal ecosystems.

➡ **Major Mangrove Sites in India (Other than Sundarbans):**

Bhitarkanika (Odisha)

Pichavaram (Tamil Nadu)

Chorao Island (Goa)

Gulf of Kutch (Gujarat)

Vembanad Kol (Kerala)

Andaman and Nicobar Islands

● **About Sundarbans**

- ➡ **Location:** Situated in the **Ganga-Brahmaputra-Meghna Delta**, spanning **India** and **Bangladesh**.
- ➡ **Global Significance:**
 - Largest** contiguous **mangrove** forest in the world.
 - Recognized as a **UNESCO World Heritage Site** and a **Ramsar Wetland of International Importance**.
- ➡ **Threat Status:**
 - Classified as **endangered** under the **IUCN Red List of Ecosystems** (2020 assessment).
- ➡ **Ecosystem Services:**
 - Acts as a **natural barrier** against **floods** and **storm surges**.
 - Supports the **livelihoods** of millions through the **blue economy** (fisheries, ecotourism, etc.).

● **Challenges Facing Sundarbans**

- ➡ **Climate Change:** Rising **sea levels** and **frequent cyclones** threaten the ecosystem.
- ➡ **Pollution:** **Industrial runoff** and **plastic waste degrade** mangrove health.
- ➡ **Habitat Loss:** Encroachment for **agriculture** and **urban development**.

● **Way Forward**

- ➡ **Strengthen Conservation Efforts:** Implement community-based conservation programs.
- ➡ **Promote Research:** Continue long-term ecological studies on mangrove resilience and adaptation.
- ➡ **Policy Interventions:** Enforce stricter regulations on industrial pollution and coastal development.
- ➡ **International Collaboration:** Enhance cross-border cooperation between India and Bangladesh for the Sundarbans' protection.

Four More Wetlands Added to Ramsar List

● Why in News?

- ➡ India has added **four new wetlands** under the **Ramsar Convention**, increasing the total from **85 to 89**.
- ➡ India now has the **highest number of Ramsar sites in Asia** and ranks **third globally**.
- ➡ The newly designated sites are from **Tamil Nadu, Sikkim, and Jharkhand**.
- ➡ **Tamil Nadu** continues to lead with **20 Ramsar sites**, the highest among Indian states.
- ➡ **Sikkim and Jharkhand** have received their **first Ramsar sites**.

● About the Four New Ramsar Sites

➡ 1. Sakkarakottai Bird Sanctuary (Tamil Nadu)

Location: Near **Gulf of Mannar**, on the **Central Asian Flyway**.

Historical Significance: The **Sakkarakottai Tank** was dug in **1321 A.D.** through **Kudi-maramattu** (community participation).

Key Species: **Painted Stork, Black-headed Ibis, and other migratory birds.**

➡ 2. Therthangal Bird Sanctuary (Tamil Nadu)

Location: Near **Gulf of Mannar**, on the **Central Asian Flyway**.

Key Species: **Painted Stork, Black-headed Ibis, Spot-billed Pelican.**

Notable Feature: Dominated by **Babul (Acacia nilotica)** trees.

➡ 3. Khecheopalri Wetland (Sikkim)

Also Known As: **Wishing Lake**, believed to fulfill wishes. Locally called **Sho Dzo Sho** ("Oh Lady, Sit Here").

Etymology: Derived from **Kha-Chot-Palri**, meaning "**Heaven of Padmasambhava**".

Type: **Cirque-type wetland**, considered **sacred** by **Buddhists and Hindus**.

➡ 4. Udhwa Lake (Jharkhand)

Named After: **Saint Uddhava**, a friend of **Lord Krishna** from the **Mahabharata**.

Status: Declared as a **Wildlife Sanctuary** and an **Important Bird Area (IBA)**.

Key Feature: Comprises two water bodies – **Patauran and Berhale**.

Key Species: **House Swifts, Fishing Eagles, Brahminy Kite.**

● **About the Ramsar Convention**

- ➡ **Adopted:** 1971 in Ramsar, Iran.
- ➡ **Objective:** Provides a framework for **national and international conservation and wise use of wetlands**.
- ➡ **World Wetlands Day:** Celebrated on **2nd February** every year.

● **Way Forward**

- ➡ Strengthening **wetland conservation efforts** through **scientific monitoring** and **community participation**.
- ➡ Ensuring **sustainable management** to **prevent habitat degradation**.
- ➡ Expanding **awareness programs** to highlight the **importance of wetlands** for biodiversity and climate resilience.



Karnataka Allows Dignified Death for the Terminally Ill

● Why in News?

- ➡ **Karnataka** becomes the second state, after **Kerala**, to allow dignified death for terminally ill patients.
- ➡ The decision aligns with the **Supreme Court's ruling** affirming the **right to die with dignity**.

● Supreme Court Ruling on Passive Euthanasia

➡ Common Cause vs. Union of India & Anr. (2018):

Recognized the **right to die with dignity** as a **fundamental right** under **Article 14**.

Upheld the **legal validity of passive euthanasia** in India.

➡ 2023 Ruling:

Simplified the procedure for **advance medical directives** related to passive euthanasia.

● Understanding Euthanasia

- ➡ **Definition:** The act of deliberately ending a person's life to relieve suffering from a **painful and incurable** condition.

➡ Types of Euthanasia:

Passive Euthanasia: Withholding or withdrawing **life-sustaining treatment (LST)** for terminally ill patients with no hope of recovery.

Active Euthanasia: **Intentional act** of ending life at the voluntary request of a terminally ill patient. **Illegal in India.**

● Ministry of Health and Family Welfare's Draft Guidelines

- ➡ **Conditions for Withdrawing LST:** Allowed in cases where a patient is **declared brainstem dead**, among other conditions.

➡ Medical Board Framework:

Primary Medical Board (PMB): Responsible for evaluating cases and making **LST withdrawal proposals** based on consensus.

Secondary Medical Board (SMB): Required to **validate** the decision of the PMB.

- ➡ **Clinical Ethics Committee:** Hospitals must constitute this committee for **audit, oversight, and conflict resolution** in euthanasia cases.

● **Way Forward**

- ➡ **Awareness & Sensitization:** Educating medical professionals and the public on **passive euthanasia** laws.
- ➡ **Strengthening Legal Framework:** Clearer guidelines on advance medical directives to ensure ethical and legal compliance.
- ➡ **Institutional Oversight:** Ensuring that **medical boards and ethics committees** function transparently to prevent misuse.



Revised MSME Classification in Union Budget 2025-26

Why in News?

- ➡ Union Budget 2025-26 announced **new classification criteria** for **Micro, Small, and Medium Enterprises (MSMEs)**.
- ➡ **Investment and turnover limits** for MSMEs increased by **2.5 times and 2 times**, respectively.
- ➡ Aims to enhance **efficiency of scale**, promote **technological upgradation**, and improve **access to capital**.

Revised MSME Classification Criteria

Type of Enterprise	New Investment Limit	New Turnover Limit
Micro Enterprises	Increased from Rs 1 crore to Rs 2.5 crore	Increased from Rs 5 crore to Rs 10 crore
Small Enterprises	Increased from Rs 10 crore to Rs 25 crore	Increased from Rs 50 crore to Rs 100 crore
Medium Enterprises	Increased from Rs 50 crore to Rs 125 crore	Increased from Rs 250 crore to Rs 500 crore

Other Key Announcements for MSME Sector

- ➡ **Enhanced Credit Guarantee Cover:** Increased from **Rs 5 crore** to **Rs 10 crore** for **micro and small enterprises**.
- ➡ **Customized Credit Cards:** Introduction of **10 lakh credit cards** with a **Rs 5 lakh limit** for **micro enterprises** registered on the **Udyam portal**.
- ➡ **Export Promotion Mission:** Facilitates **easy access to export credit**. Supports MSMEs in overcoming **non-tariff barriers** in international markets.
- ➡ **New Fund of Funds:** **Rs 10,000 crore** fund to support **start-ups**.

Significance of MSMEs in Indian Economy

- ➡ **Employment Generation:** Over **1 crore** registered MSMEs in India. Provides employment to approximately **7.5 crore people**.
- ➡ **Contribution to Manufacturing:** MSMEs contribute **36%** of India's total **manufacturing output**.
- ➡ **Share in Exports:** MSMEs account for **45%** of India's **total exports**.

● **Challenges Faced by MSMEs**

- ➡ **Informal Micro Enterprises:** Lack of **PAN** and **GST registration** limits access to government benefits.
- ➡ **Regulatory Complexity:** Burden of **complex compliance** and **licensing processes**.
- ➡ **Limited Technology Adoption:** Insufficient use of **modern technology** impacts productivity.
- ➡ **Access to Finance:** Difficulty securing **timely credit** and working capital.
- ➡ **Infrastructural Issues:** **Inadequate infrastructure** disrupts smooth business operations.

● **Way Forward**

- ➡ **Simplify Compliance:** Reduce **regulatory hurdles** to improve the **ease of doing business**.
- ➡ **Digital Integration:** Encourage MSMEs to adopt **advanced technologies** for better productivity.
- ➡ **Targeted Credit Support:** Ensure **timely access** to **low-cost credit** for small businesses.
- ➡ **Market Access:** Strengthen initiatives to expand MSMEs' **domestic** and **international** reach.
- ➡ **Infrastructure Development:** Invest in better **logistics** and **connectivity** for MSMEs to operate efficiently.



Gyan Bharatam Mission

● Why in News?

- ➡ The Union Budget 2025–26 announced the launch of the **Gyan Bharatam Mission to preserve and protect manuscripts** across India.
- ➡ Budget allocation for the **National Manuscripts Mission (NMM)** increased from ₹3.5 crore to ₹60 crore to support the new initiative.

● About Gyan Bharatam Mission

- ➡ **Objective:** To conduct a nationwide **survey, documentation, and conservation** of over **one crore manuscripts** in academic institutions, museums, and libraries.
- ➡ **Significance:**
 - Preserves India's **historical and cultural knowledge**.
 - Showcases **ancient Indian wisdom** to the world.
 - Ensures **easy accessibility** and **longevity** of manuscripts.

● What are Manuscripts?

- ➡ Handwritten compositions on **paper, bark, palm leaves, etc.**, dating back at least **75 years** with historical, scientific, or aesthetic significance.
- ➡ **Bakhshali Manuscript** (3rd–4th century AD): An ancient **mathematical text** on birch bark containing the **earliest recorded use of zero**.
- ➡ **Not Considered Manuscripts:** Lithographs and printed volumes.
- ➡ **Themes:** History, religion, literature, astrology, agriculture, etc.
- ➡ **India's Manuscript Wealth:**
 - Estimated **10 million manuscripts** in **80 ancient scripts** (e.g., Brahmi, Gaudi, Lepcha, Maithili).
 - 75% in Sanskrit** and **25% in regional languages**.

● Other Initiatives for Manuscript Conservation

- ➡ **National Manuscripts Mission (NMM) (2003):** Ministry of Tourism and Culture initiative to locate and preserve manuscripts.
- ➡ **National Library of India, Kolkata:** Houses **3,600+ rare manuscripts**.
- ➡ **Asiatic Society of Bengal (1784):** Engaged in **digitization of ancient manuscripts**.

● **Way Forward**

- ➡ **Digitization and online accessibility** of manuscripts.
- ➡ **Collaboration with global institutions** to promote Indian heritage.
- ➡ **Training programs** for manuscript conservation and restoration.



100% FDI in Insurance Sector Proposal

● Why in News?

- ➡ Finance Minister proposed to **raise the Foreign Direct Investment (FDI) limit** in the insurance sector from **74% to 100%**.
- ➡ This increased limit applies only to **companies investing the entire premium within India**.
- ➡ **Amendments** to the following laws are required to implement this change:
 - Insurance Act, 1938
 - Life Insurance Corporation Act, 1956
 - Insurance Regulatory and Development Authority Act, 1999

● Significance of Increasing FDI Limit

- ➡ **Higher Investment:** Increased **foreign capital** for growth, innovation, and market expansion.
- ➡ **Enhanced Competition:** Leads to **better products, improved customer services, and competitive pricing**.
- ➡ **Technological Advancements:** Encourages adoption of **advanced technologies** and innovative insurance products.
- ➡ **Improved Insurance Penetration:** Helps expand coverage, supporting the goal of 'Insurance for All' by 2047.

● India's Insurance Sector: Key Statistics (Economic Survey 2024-25)

- ➡ **Total Insurance Premium:** Grew by **7.7%** in FY24, reaching **Rs. 11.2 lakh crore**.
- ➡ **Insurance Penetration:** Declined from **4%** in FY23 to **3.7%** in FY24.
- ➡ **Insurance Density:** Increased from **USD 92** in FY23 to **USD 95** in FY24.
- ➡ **Definitions:**
 - Insurance Penetration:** Ratio of **insurance premium** to **GDP**.
 - Insurance Density:** **Per capita** premium (calculated as the ratio of **premium** to **population**).

● **Challenges Faced by India's Insurance Sector**

- ➡ **Limited Presence of Global Firms:** 20 out of the world's top 25 insurance companies are not operating in India.
- ➡ **Economic Constraints:** Affordability issues restrict access to and adoption of insurance products.
- ➡ **Cultural Preferences:** Preference for traditional financial practices over insurance coverage.

● **Government Measures for Insurance Sector Development**

- ➡ **Insurance Regulatory and Development Authority of India (IRDAI):** Regulates and promotes the **orderly growth** of the insurance industry.
- ➡ **Insurance Ombudsman Rules, 2017:** Provides a **cost-effective** and **impartial** mechanism for resolving complaints related to insurance services.

● **Way Forward**

- ➡ **Speedy Legal Reforms:** Amend relevant **insurance laws** to facilitate **100% FDI**.
- ➡ **Boost Global Participation:** Attract leading **international insurers** to enter the Indian market.
- ➡ **Increase Awareness:** Promote **insurance literacy** to address cultural resistance and increase demand.
- ➡ **Affordable Products:** Encourage **customized** and **low-cost** insurance solutions for all income groups.
- ➡ **Infrastructure Support:** Strengthen **digital infrastructure** for seamless delivery and customer access.



Nuclear Energy Mission

● Why in News?

- ➡ The government has announced the **Nuclear Energy Mission** to enhance India's nuclear power capacity.
- ➡ Aligns with the **Viksit Bharat** vision by ensuring energy reliability and reducing dependence on fossil fuels.

● Key Highlights of the Nuclear Energy Mission

- ➡ **Target:** Achieve **100 GW** nuclear power capacity by **2047** (Current capacity: ~8 GW).
- ➡ **Small Modular Reactors (SMRs):**
 - ₹20,000 crore allocated for R&D.
 - Five SMRs to be operational by **2033**.
- ➡ **Boosting Private Participation:** Amendments to key legislations:
 - Atomic Energy Act, 1962:** Regulates atomic energy development.
 - Civil Liability for Nuclear Damage Act, 2010:** Ensures compensation in case of nuclear incidents.

● Government Initiatives to Expand Nuclear Capacity

- ➡ **Construction & Commissioning of 10 Reactors** (Total 8 GW) across multiple states.
- ➡ **Indigenous Achievements:** Rajasthan Atomic Power Project's **Unit-7 (RAPP-7)** achieved criticality in **2024**.
- ➡ **Bharat Small Reactors (BSRs):** 220 MW **Pressurized Heavy Water Reactors (PHWRs)** with high safety and performance records.

● About Small Modular Reactors (SMRs)

- ➡ **Definition:** Advanced nuclear reactors with a **capacity of up to 300 MW(e)**, about **one-third** the size of conventional reactors.
- ➡ **Key Features:**
 - Modular Construction:** Factory-built for easy site transport.
 - Incremental Deployment:** Can be installed in **single or multiple** modules for flexible scaling.
- ➡ **Benefits:**
 - Lower initial capital investment.
 - Enables nuclear and **renewable energy integration**.

● **Way Forward**

- ⇒ **Fast-track legislative** amendments to **enable private participation**.
- ⇒ **Strengthen indigenous technology** for SMRs and large-scale reactors.
- ⇒ **Promote public-private partnerships** for funding and deployment.
- ⇒ Expand international collaborations for **advanced nuclear technologies**.



Union Budget 2025: Rationalization of Customs Tariff Structure

● Why in News?

- ➡ The **Union Budget 2025** has proposed **customs tariff rationalization** to simplify the taxation structure on imports.
- ➡ Aims to **reduce trade barriers**, support domestic industries, and **align India's trade policies** with global economic trends.

● Key Changes in Customs Tariffs

- ➡ **Reduction in Tariff Rates:** Total **customs tariff rates** reduced from **15 to 8**, including zero rates.
- ➡ **Cess and Surcharge Rationalization:**
 - Not more than one **cess or surcharge** to be levied.
 - Social Welfare Surcharge** removed on **82 tariff lines** where a cess applies.
- ➡ **Effective Duty Adjustment:** Appropriate cess to be applied to maintain **effective duty incidence** (except on a few items).

● Significance of Tariff Rationalization

- ➡ **Balancing Protection & Openness:** Supports **domestic industries** while facilitating crucial imports.
- ➡ **Impact on Global Trade Relations:** India aims to **counter accusations** of being a high-tariff country, improving trade ties with the **U.S. and other partners**.
- ➡ **Context of Ongoing Trade War:** The U.S. has imposed **new tariffs on China**, triggering retaliatory measures.

● What is a Trade War?

- ➡ An **economic conflict** where countries impose **tariffs or trade barriers** against each other.

Impacts:

- Disrupts **global supply chains**.
- Raises **import costs**.
- Slows down **economic growth**.

● *How India is Shielding Its Economy from Trade Wars?*

⇒ Strengthening Domestic Manufacturing:

Production-Linked Incentive (PLI) Scheme.

Make in India initiative.

⇒ Diversifying Trade Partners: Trade agreements with **UAE, Australia, and EU.**

⇒ Other Strategies:

China+1 strategy (reducing dependence on China).

Internationalization of the Rupee to reduce dollar reliance.

● *Tools of a Trade War*

⇒ **Tariffs:** Taxes on imports to make foreign goods expensive.

⇒ **Non-Tariff Barriers:** Trade restrictions without direct taxes (e.g., licensing requirements).

⇒ **Import Quotas:** Limits on the quantity of goods that can be imported.

⇒ **Currency Manipulation:** Adjusting currency value to gain trade advantages.

● *Way Forward*

⇒ Continue **customs reforms** to simplify tariff structures.

⇒ Strengthen **bilateral trade agreements** to **reduce economic vulnerabilities.**

⇒ Focus on **self-reliance in manufacturing** to withstand global trade disruptions.

⇒ Monitor global trade policies to ensure **India remains competitive.**

International Big Cat Alliance (IBCA)

● Why in News?

- ⇒ International Big Cat Alliance (IBCA) has officially come into force as a **treaty-based inter-governmental international organization** with **legal status**.

● About IBCA

- ⇒ **Headquarters:** Located in India.
- ⇒ **Members:** Includes **95 big cat range countries** and **non-range countries** interested in **big cat conservation**.
- ⇒ **Genesis:** Launched by the **Prime Minister of India** in **2023** during the event commemorating **50 years of Project Tiger**.
- ⇒ **Aim:** Conservation of **seven big cat species**: Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, and Puma.
- ⇒ **Primary Objective:**
 - To **facilitate collaboration** among global stakeholders.
 - Share successful conservation practices** and expertise.
 - Promote **synergy** for **big cat conservation** at the **global level**.
- ⇒ **Depository of Framework Agreement:** Ministry of External Affairs (MEA), Government of India.

● Current Members of IBCA

- ⇒ Countries that have signed the **Framework Agreement** to formally become members **Nicaragua, Eswatini, India, Somalia, and Liberia**

● Significance of IBCA

- ⇒ **Global Cooperation:** Facilitates **international collaboration** for **big cat conservation**.
- ⇒ **Biodiversity Protection:** Supports the protection of **ecosystems** that sustain **big cats**.
- ⇒ **Knowledge Sharing:** Promotes **exchange of expertise** and best practices in **wildlife conservation**.
- ⇒ **Policy Support:** Strengthens **legal frameworks** and **policy advocacy** for **species protection**.

● **Challenges in Big Cat Conservation**

- ⇒ **Habitat Loss:** Deforestation and human encroachment threaten **natural habitats**.
- ⇒ **Poaching and Illegal Trade:** **Illegal wildlife trafficking** poses a major threat to big cats.
- ⇒ **Human-Wildlife Conflict:** Increasing proximity between humans and big cats leads to **conflict**.
- ⇒ **Climate Change:** Alters **ecosystems**, affecting big cat survival and prey availability.

● **Way Forward**

- ⇒ **Strengthen Global Partnerships:** Encourage **more countries** to join IBCA and commit to **wildlife conservation**.
- ⇒ **Enhance Legal Frameworks:** Implement **strong legal measures** against **poaching** and **illegal trade**.
- ⇒ **Community Involvement:** Involve **local communities** in conservation efforts to **reduce conflicts**.
- ⇒ **Technology Integration:** Use **AI** and **satellite monitoring** for **habitat protection** and **species tracking**.
- ⇒ **Awareness Programs:** Launch **public campaigns** to promote the importance of **big cat conservation globally**.

Strengthening Academia-Industry Collaboration (AIC)

● Why in News?

- ➡ Director General, Bureau of Indian Standards (BIS) emphasized the need for Academia-Industry Collaboration (AIC) to shape standards that drive innovation and economic growth.

● About Academia-Industry Collaboration (AIC)

- ➡ Definition: AIC refers to the partnership between academic institutions and industries to promote research, innovation, and technological advancement.
- ➡ Triple Helix Model of Innovation: AIC is a key component of this model, which involves academia, industry, and government working together to drive innovation and economic development.

● Significance of AIC

➡ Economic Growth:

Example: IIT Madras Research Park has incubated 200+ startups, attracting investments exceeding Rs. 1,000 crore, contributing to economic development.

➡ Social Benefits:

Example: Pusa Basmati rice varieties have enhanced sustainable rice cultivation and boosted exports.

➡ High Return on Investment (ROI):

Germany's Fraunhofer Institutes research indicates that targeted research collaboration yields 18 times ROI through Improved regional economies, Enhanced workforce capabilities, and Higher firm and government revenues

● Challenges in AIC

- ➡ Insufficient Funding: In FY2020-21, India invested only 0.64% of its GDP in R&D, compared to 3.46% by the U.S. and 2.43% by China.
- ➡ High Commercialization Costs: Academic research faces high costs and limited demonstration of tangible outcomes.
- ➡ Lack of Research Motivation: Limited financial incentives, Administrative burdens, and Inferior research infrastructure

- **Challenges in AIC**

- ➡ **Intellectual Property (IP) Issues:** Disputes over monetization of shared IP and differing project management approaches hinder collaboration.

- **Way Forward**

- ➡ **Strengthening Talent Pipeline:** Build a skilled workforce by addressing regulatory bottlenecks and investing in upskilling programs.

- ➡ **Promote Collaborative Environment:** Encourage multidisciplinary research by Establishing translational research offices, and Developing incentives for industry participation in academic projects

- ➡ **Long-term Investment:** Invest consistently in both fundamental research and advanced technologies to sustain innovation.



Government Restricts AI Use on Official Devices

● Why in News?

- ➡ Union Ministry of Finance has issued warnings to government employees against using AI tools like DeepSeek and ChatGPT on official devices.
- ➡ The advisory highlights data security risks associated with AI-driven applications in governance.

● Applications of AI in Governance

- ➡ **Policymaking:** AI-driven insights for better decision-making.
- ➡ **Public Services:** AI-powered bots for tax filing, grievance redressal, etc.

● Concerns with AI in Governance

➡ Data Security & Privacy Risks:

AI tools process inputs on external servers, risking exposure of sensitive government data.

Example: The 2017 WannaCry ransomware attack disrupted the UK's National Health Service.

➡ Bias & Manipulation Risks:

AI models can inherit biases from training data, leading to discrimination.

Example: Predictive policing algorithms in the US faced criticism for racial bias.

AI-generated policies can be manipulated through data poisoning attacks.

➡ Loss of Accountability:

Over-reliance on AI can reduce human oversight, making it difficult to assign responsibility for errors.

➡ National Security Threats:

AI vulnerabilities can be exploited for espionage or policy manipulation.

Most AI tools used in India are foreign-based, increasing security concerns.

● **Way Forward**

➡ **Sovereign AI Development:**

Strengthening India's AI capabilities with its own infrastructure and research.

The government has announced a ₹10,000 crore **AI Computing Mission**.

➡ **Robust AI Governance Frameworks:**

Following NITI Aayog's "Responsible AI for All" principles.

Compliance with the **Digital Personal Data Protection Act, 2023**.

➡ **Human Oversight in AI Decision-Making:**

Implementing Human-in-the-loop (HITL) models to ensure human supervision in critical AI-driven decisions.

Western Disturbances

● Why in News?

- ➡ Western Disturbance (WD) has triggered a temperature drop across North India.
- ➡ These weather systems bring **winter rainfall (Mahawat)** and snowfall, affecting agriculture and climate.

● What are Western Disturbances (WD)?

- ➡ **Definition:** Low-pressure, non-monsoonal systems that originate in mid-latitudes and move eastward, bringing winter rainfall.
- ➡ **Why 'Disturbance'?** Air within these low-pressure systems is unstable, leading to unpredictable weather patterns.

● Formation and Movement

- ➡ **Origin:** Develops over the **Mediterranean Sea** due to interaction between cold and warm air masses.
- ➡ **Cyclogenesis:** High-pressure over Ukraine forces **cold polar air** into warm regions, creating instability.
- ➡ **Guiding Factor:** WDs are embedded within the **Subtropical Westerly Jet (SWJ)**, which moves them eastward.

● Moisture Sources

- ➡ Gains moisture from **Caspian Sea (north)** and **Persian Gulf (south)** while passing through **West Asia, Iran, Afghanistan, and Pakistan**.
- ➡ Upon reaching **Himalayas**, it causes **orographic rainfall in plains** and **snowfall in mountains**.

● Significance of Western Disturbances

- ➡ **Drought Mitigation:** Helps mitigate water scarcity, especially in pre-monsoon months (May-June).
- ➡ **Winter Rainfall:** Contributes **5-10% of annual rainfall**, crucial for maintaining soil moisture.
- ➡ **Agriculture Support:** Essential for **rabi crops** (wheat, barley) as it provides necessary winter moisture.
- ➡ **Glacier Replenishment:** Supports Himalayan glaciers, ensuring steady river flow.

● **Impact of Western Disturbances on Climate Patterns**

➡ Western Disturbances (WDs) significantly influence climate patterns across North India and beyond. Their effects vary depending on intensity, season, and geographic factors.

➡ **1. Impact on Temperature**

Winter Cooling: WDs bring **cloud cover and rainfall**, leading to a drop in temperature across North India.

Sudden Warm Spells: In some cases, WDs may trap heat, leading to short-term warm spells, especially in the **Himalayan foothills**.

Fog Formation: Increased humidity from WDs can cause **dense fog**, reducing visibility and impacting transportation.

➡ **2. Effect on Rainfall Patterns**

Winter Rainfall: Contributes **5-10% of India's annual rainfall**, crucial for non-monsoon moisture.

Snowfall in the Himalayas: Enhances snow cover, crucial for **glacier health** and long-term water availability.

Precipitation Anomalies: Strong WDs can cause **above-normal rainfall**, leading to localized flooding or landslides in hilly areas.

➡ **3. Impact on Agriculture**

Rabi Crop Growth: Essential for **wheat, mustard, barley, and pulses**, as it provides moisture before the summer heat.

Crop Damage: Unseasonal heavy rainfall or hailstorms caused by intense WDs can **damage standing crops**.

Soil Moisture Regulation: Helps maintain soil fertility and groundwater recharge in rain-fed agricultural areas.

➡ **4. Influence on Monsoon Dynamics**

Pre-Monsoon Rainfall (May-June): WDs extend into summer, influencing **pre-monsoon showers** in North and Central India.

Weakening of Monsoon Winds: A prolonged or strong WD can delay the onset of **Southwest Monsoon** by disrupting wind patterns.

➡ **5. Links to Global Climate Change**

Changing Frequency & Intensity: Studies suggest **climate change** is altering WD patterns, making them more unpredictable.

Extreme Weather Events: Increasing instances of **heavy rainfall, snowfall, and prolonged dry spells** linked to WD variations.

Impact on Western Himalayas: Melting glaciers due to erratic WDs may affect river flows in the long run, impacting water security.

● **Way Forward**

- ➡ **Improved Weather Forecasting:** Strengthening **IMD's early warning systems** to predict intense WDs.
- ➡ **Climate-Resilient Agriculture:** Promoting **drought-resistant rabi crops** and better irrigation techniques.
- ➡ **Glacier Monitoring:** Enhancing observation of Himalayan glaciers to track WD impact on long-term water resources.



India's Remarkable Tiger Recovery: Key Factors and Significance

● Why in News?

- ➡ A recent **study** attributes **India's remarkable tiger recovery** to **key conservation strategies** and **community support**.
- ➡ India holds **~75% of the global tiger population** and achieved the **TX2 goal** by **doubling its tiger population** by 2022, despite **high human densities**.

● Key Findings of the Study

- ➡ **Increase in Tiger-Occupied Areas:** Expanded by 30% between **2006 and 2018**, covering 40,000 km² of new areas.
- ➡ **Role of Protected Areas:** **85%** of tiger-occupied grids lie **within protected areas**, ensuring safer habitats.
- ➡ **Human-Tiger Coexistence:** **45%** of tiger habitats are **shared** with approximately **60 million people**, highlighting the coexistence between **humans and wildlife**.

● Factors Behind Conservation Success

➡ Land Sparing and Land Sharing Approach:

Balanced Strategy: Combining **exclusive tiger reserves** (land sparing) with **human-shared landscapes** (land sharing).

➡ Sociopolitical Stability:

Post-Conflict Recovery: Stability after conflict has supported tiger resurgence.

Examples: Success seen in **Nagarjunsagar-Srisailem, Amrabad, and Similipal** tiger reserves.

➡ Community Attitudes and Tolerance:

Community Support: Acceptance of **large carnivores** and **local involvement** aids recovery.

Examples: Significant growth in **Madhya Pradesh, Maharashtra, and Karnataka**.

● **Significance of Tiger Population Increase**

➡ **Flagship and Umbrella Species:** Tigers protect **entire ecosystems**, ensuring the survival of other megafauna.

➡ **Environmental Benefits:**

Carbon Sequestration: Forest protection aids in reducing **carbon emissions**.

Biotic Resistance: Helps maintain **ecological balance** and prevent the spread of **invasive species**.

● **Way Forward**

➡ **Strengthen Community Involvement:** Promote **awareness programs** to foster **local support** for tiger conservation.

➡ **Expand Protected Areas:** Enhance **tiger corridors** and **buffer zones** to ensure **habitat connectivity**.

➡ **Sustain Land Sharing Policies:** Implement **inclusive conservation** strategies combining **wildlife protection** with **local livelihoods**.

➡ **Invest in Research and Monitoring:** Continue **scientific monitoring** and **adaptive management** to sustain tiger recovery efforts.

RBI Cuts Repo Rate

● Why in News?

- ➡ The **Monetary Policy Committee (MPC)** of RBI has **cut the repo rate by 25 basis points (bps) to 6.25%** after nearly five years.
- ➡ The decision was taken under the **Liquidity Adjustment Facility (LAF)** to support economic growth while ensuring inflation remains within target.

● Key Decisions of MPC

- ➡ **Repo Rate Cut:** Reduced by **25 bps to 6.25%**.
- ➡ **Monetary Policy Stance:** Continued with a '**neutral**' stance, allowing flexibility to adjust rates as needed.
- ➡ **GDP Growth Projection:** Estimated at **6.7% for FY 2025-26**.
- ➡ **Inflation Outlook:**
 - Food inflation:** Expected to **soften significantly**.
 - Core inflation:** May **rise moderately** but will remain stable.

● Reasons for MPC's Decision

- ➡ **Declining Inflation:** Consumer price inflation has shown signs of easing.
- ➡ **Economic Recovery:** Growth expected to **pick up** after a weak Q2 of FY 2024-25.
- ➡ **Global Market Volatility:** Uncertainties in **global trade policies and financial markets**.
- ➡ **Weather Disruptions:** Adverse weather events impacting food supply and inflation trends.

● About Liquidity Adjustment Facility (LAF)

- ➡ A monetary policy tool to **manage liquidity** in the banking system.
- ➡ **Components:**
 - Repo Rate:** Rate at which RBI **lends to banks**.
 - Reverse Repo Rate:** Rate at which banks **park surplus funds** with RBI.

● **About Monetary Policy Committee (MPC)**

⇒ Established under **Section 45ZB of the RBI Act, 1934** (amended in 2016).

⇒ **Composition:**

Three members from RBI (including the Governor as the Chairperson).

Three external members appointed by the **Central Government** (tenure: **four years** or until further orders).

⇒ **Function:** Determines the **policy rate** required to maintain inflation at **4% ($\pm 2\%$) target**.

● **Way Forward**

⇒ **Monetary Policy Adjustments:** RBI may **adjust rates** based on economic conditions and global uncertainties.

⇒ **Inflation Management:** Continuous monitoring of **food inflation trends** and external shocks.

⇒ **Growth Strategies:** Supporting **domestic demand** while ensuring financial stability.

Union Budget 2025: Developing 50 Top Tourist Destinations

● Why in News?

- ➡ Union Budget 2025 proposes developing **50 top tourist destinations** in 'Challenge Mode' to enhance **tourism infrastructure, ease of travel, and connectivity**.
- ➡ **States** will **partner** with the **central government** by providing **land** for critical infrastructure, classified under the **Infrastructure Harmonized Master List (HML)**.

● Key Focus Areas of the Budget

➡ Employment-Led Growth

Skill Development Programs to train workers for the tourism sector.

MUDRA Loans for supporting **homestays** and small-scale tourism businesses.

Improved Travel & Connectivity to facilitate access to tourist spots.

➡ Spiritual Tourism

Promotion of Pilgrimage Sites with a special focus on **Buddhist heritage**.

➡ Medical Tourism

"Heal in India" Initiative to position India as a **global medical tourism hub**.

➡ Gyan Bharatam Mission

Documenting & Conserving India's **manuscript heritage** and cultural knowledge.

● Contribution of Tourism Sector

➡ Economic Contribution:

5% of GDP in FY23.

Created **7.6 crore jobs** during the same period.

➡ Global Standing:

1.8% share in **world tourism receipts**.

Ranked **14th worldwide** in **tourism earnings** (2023).

● **Government Initiatives for Tourism Development**

➡ **Infrastructure Development**

Swadesh Darshan 2.0: Develops **thematic tourism circuits**.

PRASHAD Scheme: Focuses on **pilgrimage site development**.

RCS-UDAN: Improves **regional air connectivity**.

➡ **Policy & Legal Framework**

National Tourism Policy: Guides overall **tourism growth** and governance.

E-Visa: Facilitates easy travel through **multiple visa categories**.

➡ **Thematic Tourism Promotion**

Focus on **wellness, culinary, rural, and eco-tourism** experiences.

➡ **NIDHI (National Integrated Database of Hospitality Industry)**

A **digital platform** to simplify **business processes** in hospitality and tourism.

● **Challenges in the Tourism Sector**

➡ **Tourism Seasonality:** Fluctuating visitor numbers lead to service shortages during peak seasons.

➡ **Infrastructure Gaps:** Inadequate connectivity and lack of essential facilities hinder tourist experiences.

➡ **Environmental Impact:** Overcrowding causes habitat degradation and pollution in sensitive areas.

➡ **Safety Concerns:** Issues like harassment and theft pose risks, especially for solo travelers.

● **Way Forward**

➡ **Strengthen Infrastructure:** Invest in transport networks, modern amenities, and sustainable practices.

➡ **Promote Year-Round Tourism:** Diversify offerings to reduce seasonality and ensure consistent revenue.

➡ **Enhance Safety Measures:** Implement tourist protection protocols and awareness campaigns.

➡ **Boost Digital Innovation:** Expand NIDHI for data-driven insights and better service delivery.

➡ **Sustainability Focus:** Encourage eco-friendly practices to mitigate environmental impacts.

SC: Informing Accused of Arrest Grounds is Mandatory

● Why in News?

- ➡ Supreme Court in **Vihaan Kumar vs. State of Haryana** ruled that **arresting an accused without informing the grounds is unlawful**.
- ➡ While **non-compliance** may **invalidate the arrest**, the **investigation, chargesheet, and trial** remain **valid**.

● Key Highlights of the Judgment

- ➡ **Violation of Fundamental Rights:** Failure to inform the grounds of arrest violates the fundamental rights under **Articles 21** and **22(1)** of the Indian Constitution.
- ➡ **Constitutional Provisions**
 - Article 21:** No person can be deprived of **personal liberty** except by a **legal procedure**.
 - Article 22(1):** An arrested person must be **immediately informed** of the **reasons** and has the **right to legal counsel** of their choice.
- ➡ **Statutory Provisions**
 - Section 50A of CrPC (Section 47 of BNSS):** Requires informing the accused's friends, relatives, or nominated persons about the grounds of arrest.
- ➡ **Bail Implications:** Non-compliance with Article 22(1) can be a valid ground for granting bail, even if statutory restrictions exist.
- ➡ **Clear Communication:** Grounds of arrest must be communicated in a language the accused understands.
- ➡ **Burden of Proof:** The investigating officer must prove compliance with Article 22(1) if challenged.

● Related Supreme Court Judgments

- ➡ **Pankaj Bansal vs. Union of India (2023):** Written grounds of arrest must be provided, including cases under the Unlawful Activities (Prevention) Act (UAPA) 1967.
- ➡ **Prabir Purkayastha vs. State (NCT of Delhi) (2024):** Communication of the grounds of arrest is sacrosanct and cannot be breached under any circumstance.

● **Significance of the Judgment**

- ⇒ **Upholds Fundamental Rights:** Strengthens the **constitutional protection** of **personal liberty**.
- ⇒ **Legal Accountability:** Ensures **transparency** and **checks** arbitrary **police action**.
- ⇒ **Bail Considerations:** Strengthens the **accused's position** when **procedural lapses** occur.

● **Way Forward**

- ⇒ **Strict Compliance:** Law enforcement must **adhere** to **Articles 21** and **22(1)** during all arrests.
- ⇒ **Training & Awareness:** **Educate** police on the **legal obligation** to inform **grounds of arrest**.
- ⇒ **Judicial Oversight:** Courts must **scrutinize** cases where the **procedure** is **not followed**.
- ⇒ **Record Maintenance:** Ensure **documented proof** of **communication** of arrest reasons.

Illegal Indian Migration to the U.S.

● Why in News?

- ➡ Over **15,000 Indian migrants** have been deported from the U.S. since 2009, as per the **Minister of External Affairs**.
- ➡ **Gujarat, Punjab, and Haryana** are major hotspots for illegal migration.
- ➡ Many migrants use "**Dunki Routes**" (**Donkey Routes**), passing through **Latin American countries** like Ecuador, Bolivia, and Guyana.
- ➡ Some nations, such as **Brazil and Venezuela**, provide easy visa access, making illegal migration simpler.
- ➡ Human trafficking networks play a crucial role in determining migration routes.

● Reasons for Illegal Migration

- ➡ **Better Job Prospects:** Low wages in India push migrants to seek better-paying jobs abroad.
- ➡ **Limited Legal Routes:** Slow and uncertain visa processes drive people toward illegal paths.
- ➡ **Cultural Pressures:** Some communities, especially **Patels in Gujarat**, feel societal pressure to migrate, leading families to sell assets or take loans.

● Consequences of Illegal Migration

- ➡ **High Risks:** Migrants face **robbery, assault, and even sexual violence**, with many crimes going unreported.
- ➡ **Dangerous Journey:** The **8-10 day journey** through unsafe terrains is life-threatening, and deceased migrants' bodies often cannot be repatriated.
- ➡ **Human Smuggling:** A thriving human trafficking network has developed, with agents charging **exorbitant fees** for false job promises.

● Way Forward

- ➡ **Enact the Overseas Mobility Bill 2024** to improve legal migration and worker protection.
- ➡ **Crackdown on Fraud:** Regulate recruiters and ensure job transparency to prevent exploitation.
- ➡ **Strengthen Diplomatic Efforts:** Negotiate fair **deportation policies** and improve visa accessibility.
- ➡ **Address Economic Issues:** Tackle **unemployment and agricultural crises** to reduce migration pressure.
- ➡ **Raise Awareness:** Educate potential migrants on **safe migration** options and fraud prevention.

Potash Mining in Punjab

● Why in News?

- ➡ The government plans to explore **potash mining** in **Fazilka and Sri Muktsar Sahib** districts of Punjab.
- ➡ Geological Survey of India (GSI) has also identified **potash reserves in Rajasthan**, reducing import dependency.

● What is Potash?

- ➡ A combination of **potassium carbonate & potassium salts**.
- ➡ **Principal ore**: Sylvinite.

● Uses of Potash

- ➡ **Agriculture**: Over **90%** is used as fertilizer (part of N-P-K nutrients).
- ➡ **Ideal nutrient ratio**: 4:2:1 (N:P:K) for plant growth.
- ➡ **Water Purification**: Potash alum removes **water hardness** & has **anti-bacterial** properties.
- ➡ **Industry**: Used in **glass ceramics, soaps, detergents, and explosives**.

● Types of Potash Fertilizers

- ➡ **Sulphate of Potash (SOP) & Muriate of Potash (MOP)**.
- ➡ **Potash Derived from Molasses (PDM)**: Indigenous fertilizer under **Nutrient-Based Subsidy (NBS) Scheme**.
- ➡ **NBS**: Provides subsidies based on actual nutrient content.

● Economic Importance

- ➡ **Classified as a Critical Mineral** under **MMDR Act, 2023**.
- ➡ **Potash Reserves**: Rajasthan (**89%**), Madhya Pradesh (**5%**), Uttar Pradesh (**4%**).
- ➡ **100% imported** (Indian Mineral Yearbook 2022).

● Way Forward

- ➡ Develop **domestic mining infrastructure** to reduce import dependency.
- ➡ Invest in **potash extraction technology** for efficient production.
- ➡ Strengthen **fertilizer subsidy schemes** to support farmers.
- ➡ Promote **sustainable and indigenous fertilizer use** for long-term soil health.



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