WHEET AVIOLETES

January 05-11, 2025

INTERPOL's Silver Notice



Robotic Telesurgery



HIGHLIGHTS

- ModifiedCashlessTreatment
- Polar Vortex

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Dynamic Groundwater Resource Assessment Report 2024

Why in News?

- The Ministry of Jal Shakti released the Dynamic Groundwater Resource Assessment Report 2024.
- Conducted annually since 2022 by the Central Ground Water Board (CGWB) and States/UTs.

Key Findings

Groundwater Recharge

Total annual groundwater recharge decreased from 449 BCM (2023) to 446.90 BCM (2024).

Rainfall contributes to 61% of recharge.

Groundwater Extraction

Extractable resources reduced from 407.21 BCM to 406.19 BCM.

Stage of extraction increased slightly from 59.21% (2023) to 60.47% (2024).

Category-Wise Assessment

Safe units: Increased marginally from 73% to 73.4%.

Critical units: Constitute 3.05% of total assessment.

Over-exploited units: Account for 11.1%, concentrated in:

Northwest: Punjab, Haryana, Delhi, Western UP.

West: Rajasthan, Gujarat.

South: Karnataka, Tamil Nadu, Telangana, Andhra Pradesh.

Definitions

Over-exploited: Groundwater extraction exceeds annual recharge.

Critical: Extraction is between 90-100% of extractable resources.

Safe: Extraction is less than 70%.



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Reasons for Groundwater Depletion

- Irrigation: Over 60% of groundwater is used for irrigation. Inefficient practices like flood irrigation and cultivation of water-intensive crops (e.g., rice).
- Recharge Issues: Reduced recharge due to loss of vegetation and variations in rainfall.
- Climate Change: Erratic rainfall patterns affecting recharge.

About CGWB

- Formation: Established in 1970.
- Role: Apex organization under the Ministry of Jal Shakti focusing on sustainable groundwater management.
- Mandate: Develop technologies and implement policies for scientific groundwater utilization.

- Promote efficient irrigation methods like drip and sprinkler systems.
- Encourage cultivation of less water-intensive crops.
- Enhance groundwater recharge through afforestation and rainwater harvesting.
- Strengthen policies and initiatives for groundwater conservation.

Prison Rules and Model Prisons Act

Why in News?

- The Ministry of Home Affairs has amended the Model Prison Manual, 2016 and Model Prisons and Correctional Services Act, 2023 to address caste-based discrimination in prisons.
- Changes follow the **Supreme Court's directive** in the Sukanya Santha vs. Union of India & Others case.

Key Amendments

Prohibition of Caste-Based Discrimination

Prisoners must not face discrimination, classification, or segregation based on caste.

Allocation of duties and work within prisons must be free from caste bias.

Legal Provisions Enforced in Prisons

Amendments align with:

Article 14: Equality before law.

Article 15: Prohibition of discrimination.

Article 17: Abolition of untouchability.

Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 will have binding force in prisons.

Manual scavenging and hazardous cleaning inside prisons are explicitly prohibited.

Supreme Court Guidelines on Habitual Offenders

- The definition of habitual offenders must align with state-specific legislative definitions.
- A habitual offender is:

Convicted and sentenced multiple times within five years for separate offenses.

Sentences not reversed on appeal or review.

Prisons in India

Governance:

Prisons and persons detained therein are a State subject (Entry 4).

Managed under the **Prison Act, 1894** (now replaced by the **Model Prisons Act, 2023**) and state prison manuals.



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- Ensure robust implementation of anti-discrimination provisions.
- Conduct periodic inspections to enforce compliance with amended rules.
- Provide training for prison staff to prevent caste-based biases and ensure humane treatment of prisoners.

Environment Relief Fund (Amendment) Scheme, 2024

Why in News?

The Ministry of Environment, Forest and Climate Change (MoEF&CC) notified the **Environment Relief Fund (Amendment) Scheme**, 2024, revising the provisions of the 2008 Scheme under Section 7A of the Public Liability Insurance Act (PLIA), 1991.

Key Highlights

- Environment Relief Fund (ERF) Amendments
- Administration: ERF is now under the Central Government.
- Fund Manager: Central Pollution Control Board (CPCB) replaces United India Insurance Company Limited for a 5-year term starting January 1, 2025.

Disbursement Mechanism:

Fund Manager to develop an online portal for fund management.

Disbursement to follow the orders of the District Collector or the Central Government.

- Investment Strategy: ERF funds will be invested in public financial institutions and savings accounts to ensure timely availability.
- Environmental Restoration: Funds can be allocated for restoring damage caused by hazardous substances during various activities (e.g., manufacture, transport, disposal).
- Auditing: Independent auditors, approved by the Comptroller and Auditor-General, will audit ERF accounts.

Related News: Public Liability Insurance (Amendment) Rules, 2024

- Eligibility Expansion: Claims can now be made by individuals with a direct and substantial connection to affected public property.
- Environmental Restoration: Allows ERF utilization for restoring environmental damage.
- Increased Insurance Coverage:

₹250 crore for single accidents.

₹500 crore for multiple accidents.



Significance

- ➡ Victim Support: Streamlined relief for victims of accidents involving hazardous substances.
- Enhanced Oversight: CPCB ensures better administration and disbursement.
 Proactive Environmental Restoration: Strengthens mechanisms to mitigate environmental damage.
- Financial Preparedness: Improved fund management and increased insurance limits support disaster readiness.

- Develop robust monitoring frameworks for effective disbursement.
- Ensure capacity building within CPCB for efficient fund management.
- Raise public awareness about claims process and environmental restoration initiatives.

Forest Rights Act (FRA) Implementation in Veerangana Durgavati TR

Why in News?

The Union Ministry of Tribal Affairs (MoTA) has directed the Madhya Pradesh Government to investigate alleged violations of forest rights of local communities under the Forest Rights Act (FRA) 2006 in and around the Veerangana Durgavati Tiger Reserve.

About Forest Rights Act (FRA) 2006

- Objective: To recognize and vest forest rights in Scheduled Tribes (STs) and Other Traditional Forest Dwellers (OTFDs) living on forest lands.
- Rights under FRA:

Individual Rights: Rights for self-cultivation and habitation.

Community Rights:

Access Rights: Grazing, fishing, and water body access.

Habitat Rights: For Particularly Vulnerable Tribal Groups (PVTGs).

Intellectual Property Rights: Protection of traditional knowledge.

Sustainable Use Rights: To conserve and manage community forest resources.

- Role of Gram Sabha: Primary authority for initiating the determination of forest rights.
- Role of State Governments: Implementation of FRA through State Level Monitoring Committees, District Level Committees, and Sub-Divisional Committees.

About Veerangana Durgavati Tiger Reserve

- Location: Spans Sagar, Damoh, and Narsinghpur districts in Madhya Pradesh.
- Constituents: Includes Nauradehi Wildlife Sanctuary and Veerangana Durgavati Sanctuary.
- Significance:

Unique protected area covering the basins of the Ganges and Narmada Rivers.

Vegetation: Tropical dry deciduous forests dominated by teak.

Fauna: Hosts species like Nilgai, Chital, Sambhar, Rhesus Macaque, Panthers, and Indian Wolves.

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- Immediate Action: Investigate and address reported forest rights violations. Ensure community participation in decision-making regarding the tiger reserve.
- Long-Term Goals: Strengthen the role of Gram Sabhas in forest governance. Conduct capacity-building programs for officials and communities to ensure FRA compliance.
- Conservation with Inclusion: Balance ecological conservation with the rights and livelihoods of forest-dwelling communities.

Polar Vortex

Why in News?

The USA and Canada are experiencing extreme cold spells due to an Arctic blast caused by the southward expansion of the polar vortex.

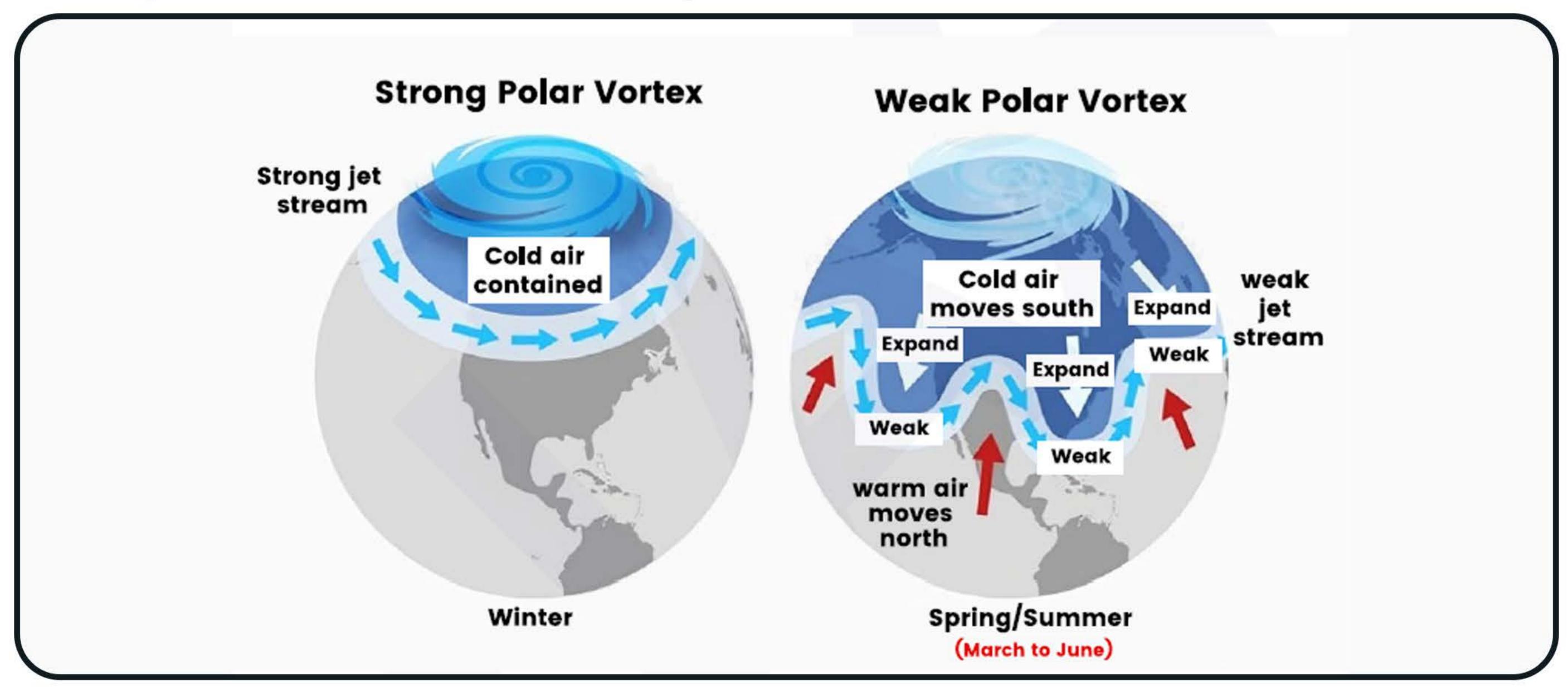
What is Polar Vortex?

- Definition: A large area of low-pressure and cold air that spins counter-clockwise around both of Earth's poles.
- Types of Polar Vortex:

Tropospheric Polar Vortex: Forms in the lowest atmospheric layer (surface to 10-15 km). **Stratospheric Polar Vortex:** Forms at higher altitudes (15 km to 50 km). Strongest during autumn and disappears in summer, unlike the tropospheric vortex.

Impacts of Polar Vortex

- Arctic Blast: Sudden, intense surges of cold air in the USA due to polar vortex disruptions, allowing Arctic air to spill into lower latitudes.
- Extreme Weather Events: A weakened vortex causes the jet stream to dip southward, resulting in cold Arctic air entering lower regions and triggering severe weather.
- Ozone Depletion: Trapped cold air accelerates ozone depletion, particularly over Antarctica, contributing to the ozone hole.
- Impact on India: A weakened polar vortex leads to increased western disturbances, causing heavy snowfall in the western Himalayas and colder conditions in northern India.



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- Climate Preparedness: Enhance forecasting systems for extreme weather events to mitigate impacts.
- Global Cooperation: Address ozone depletion and climate change collectively to minimize polar vortex disruptions.
- Regional Readiness: Strengthen disaster management strategies in regions prone to extreme cold events or temperature anomalies.

Cryo-Born Baby Corals Successfully Settled on Great Barrier Reef

Why in News?

- Global Milestone: The world's first cryo-born baby corals have been successfully settled on the Great Barrier Reef.
- Innovative Conservation: This groundbreaking achievement highlights advanced techniques in coral conservation, led by Australian researchers.

What are Cryo-Born Corals?

Definition: Corals created using cryopreservation techniques, involving freezing coral cells and tissues at extremely low temperatures.

Process:

Coral cells contain water, which forms harmful ice crystals during freezing.

Cryoprotectants are used to remove water, preventing damage and supporting cell structure during freezing and thawing.

Significance of the Breakthrough

- Climate Resilience: Aims to deploy millions of heat-tolerant corals to mitigate climate change effects on reefs.
- Enhanced Breeding: Overcomes limitations of natural coral spawning (once a year). Enables selective breeding and repeated use of colonies for reproduction.

About Coral Reefs

Biological Classification:

Invertebrates belonging to the class Anthozoa, phylum Cnidaria.

Reefs are formed by colonies of polyps secreting limestone skeletons.

Symbiotic algae (zooxanthellae) provide essential nutrition.

Distribution:

Found in shallow, sunlit waters between 30°N and 30°S latitude.

Prefer temperatures of 16-32°C and depths less than 50 meters.



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Threats to Coral Reefs

Climate Change:

Rising sea temperatures cause coral bleaching.

Ocean acidification weakens coral skeletons.

Pollution:

Nutrient runoff from agriculture promotes harmful algae growth.

Marine debris and microplastics cause physical damage.

- Overfishing: Disrupts reef ecosystems, leading to imbalances in marine life.
- Coastal Development: Dredging, land reclamation, and construction destroy habitats.
- Unsustainable Tourism: Physical damage from anchors and unregulated recreational activities.

Conservation Efforts

India

National Committee on Wetlands, Mangroves, and Coral Reefs (1986): Provides advisory support for conservation.

Environment (Protection) Act, 1986: Prohibits coral and sand extraction for construction.

Zoological Survey of India (ZSI): Uses biorock or mineral accretion technology to restore coral reefs.

Global

CITES: Lists coral species in Appendix II to regulate trade.

World Heritage Convention: Protects designated coral reef sites.

Frozen Coral Repository: Taronga CryoDiversity Bank: Houses trillions of sperm from 32 coral species since 2011.

- Strengthen Cryopreservation Research: Expand the use of frozen coral repositories globally.
- Implement Sustainable Practices: Promote eco-friendly tourism and regulate coastal development.
- Enhance Global Collaboration: Share technology and strategies for reef restoration across nations.
- Raise Public Awareness: Educate communities about coral conservation and their ecological importance.

BHARATPOL Portal

Why in News?

- Union Home Minister inaugurated the **BHARATPOL Portal**, developed by the Central Bureau of Investigation (CBI).
- The portal is a major step forward in enhancing India's law enforcement capabilities and strengthening international cooperation to combat crime.

About BHARATPOL Portal

- Developed by: Central Bureau of Investigation (CBI).
- Role: CBI, as the National Central Bureau (NCB-New Delhi) for INTERPOL in India, will manage the portal.

Five Key Modules of BHARATPOL

- Connect: Links Indian law enforcement agencies as an extension of INTERPOL'S NCB-New Delhi.
- INTERPOL Notices: Implements a scientific mechanism to locate criminals within India and globally.
- References: Simplifies processes for seeking and providing international investigative assistance.
- Broadcast: Enables immediate access to requests for assistance from 195 countries.
- Resources: Facilitates document exchange and supports capacity-building initiatives.

Potential Benefits

- Unified Collaboration: Streamlines coordination among central, state, and union territory law enforcement agencies.
- Combat Transnational Crime: Targets cybercrime, financial fraud, human trafficking, and organized crime.
- Enhanced Crime Control: Access to INTERPOL databases aids in analyzing data, strategizing crime prevention, and apprehending criminals effectively.
- Simplified Extradition: Facilitates smoother extradition of convicted criminals from abroad.

About INTERPOL

Establishment: 1923.

Headquarters: Lyon, France.

Members: 196 countries.

Purpose: Promotes global law enforcement cooperation to tackle international crime.

Key Functions:

Issues alerts such as Red Notices.

Maintains criminal activity databases.

Provides training and resources to member nations.

- Promote awareness among law enforcement agencies to fully utilize the portal's features.
- Strengthen international partnerships and enhance the sharing of crime-related intelligence.
- lnvest in advanced training for officers to maximize the potential of INTERPOL's resources.

Modified Gashless Treatment Scheme by MoRTH

Why in News?

- National Rollout: The Ministry of Road Transport and Highways (MoRTH) unveiled a nationwide cashless treatment scheme for road accident victims.
- Pilot Project: A similar pilot initiative was launched by MoRTH in 2024.

Legal Mandate

Motor Vehicles Act, 1988: Provides the legal framework for cashless treatment under the amendments made by the Motor Vehicles (Amendment) Act, 2019.

Key Features of the Scheme

Financial Support:

Covers treatment costs up to ₹1.5 lakh for a maximum of 7 days.

Mandatory reporting to the police within 24 hours of the accident.

For hit-and-run cases: ₹2 lakh compensation to the deceased's family.

Implementing Agency:

National Health Authority (NHA) coordinates with police, hospitals, and State Health Agencies.

Utilizes the e-Detailed Accident Report (eDAR) application for implementation.

Coverage: Applicable to all road accidents nationwide.

Need for the Scheme

Fatalities and Impact:

Last year, road accidents claimed 1.8 lakh lives.

66% of these victims were aged between 18 and 34 years.

- Golden Hour Treatment: Ensures timely medical attention within the critical first hour after an accident.
- Encouraging Good Samaritans: Incentivizes individuals to provide emergency care without fear of legal or financial repercussions.



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- Public Awareness Campaigns: Educate citizens about the scheme and the importance of the golden hour.
- Enhance Infrastructure: Equip hospitals with necessary facilities for immediate care.
- Strengthen eDAR Integration: Expand the usage of the e-Detailed Accident Report application for seamless implementation.
- Monitor and Evaluate: Establish regular assessments to improve scheme effectiveness.

Role of Indian Diaspora: 18th Pravasi Bharatiya Divas

Why in News?

- External Affairs Minister emphasized the Indian Diaspora's vital role ahead of the 18th Pravasi Bharatiya Divas (PBD) Convention.
- PBD, a biennial event, commemorates Mahatma Gandhi's return to India from South Africa on January 9, 1915.

Indian Diaspora Overview

Definition: Refers to individuals who migrated from the territories of modern India.

Categories:

Non-Resident Indians (NRIs)

Persons of Indian Origin (PIOs) (merged with OCI in 2015).

Overseas Citizens of India (OCI)

Current Status:

Total: 35.42 million Indians abroad (as of May 2024).

NRIs: 15.85 million.

Largest community resides in the USA: 5.4 million.

Key Contributions of Indian Diaspora

- Economic: Significant remittances aid rural socio-economic development. Contributions enhance entrepreneurial ecosystems and foster Foreign Direct Investment (FDI).
- Knowledge Transfer: Technical expertise and financial support from the diaspora drive innovation in India.
- Diplomacy: Large diaspora populations in regions like South Asia and West Asia builds bilateral ties. They help shape India's global image positively.
- Cultural Promotion: Enhances India's soft power by popularizing music, cuisine, spirituality, and more globally.

Key Initiatives for Diaspora Engagement

- Overseas Citizenship of India (OCI): Introduced via Citizenship (Amendment) Act, 2005, offering a lifelong visa for eligible individuals.
- Know India Programme (KIP): Organized by the Ministry of External Affairs to connect diaspora youth with their Indian heritage.
- Indian Community Welfare Fund (ICWF): Supports Indians abroad in emergencies or distress.

- Strengthen engagement through innovative programs targeting youth and professionals.
- Enhance ease of contribution by the diaspora towards India's development via streamlined policies.
- Expand cultural diplomacy to consolidate India's global influence and soft power.

Marathi Granted Classical Language Status

Why in News?

- Marathi Recognized as a Classical Language: Official recognition highlights its historical significance and cultural influence.
- Expansion of Classical Languages: Recent approvals also include Pali, Prakrit, Assamese, and Bengali.

Classical Language in India

Background:

The concept introduced in 2004.

Criteria revised in 2024 to ensure a comprehensive framework.

Criteria for Recognition:

Antiquity: Texts/records over 1500-2000 years old.

Heritage: Ancient literature considered a legacy by generations.

Diverse Evidence: Includes prose, poetry, epigraphs, and inscriptions.

Continuity: The classical form may differ from its current version or have distinct offshoots.

Languages with Classical Status: Tamil (2004), Sanskrit (2005), Telugu and Kannada (2008), Malayalam (2013), and Odia (2014).

Benefits of Classical Language Status

- Preservation and Documentation: Encourages digitization and archiving of ancient texts. Generates employment in translation, publishing, and digital media.
- Academic Incentives: Two international awards annually for eminent scholars. Funding for research and language development.
- Cultural Impact: Enhances global awareness of India's linguistic diversity.

About Marathi Language

- Origins: Indo-Aryan language evolved from Maharastri Prakrta, spoken during the Satavahana era.
- Earliest Literary Work: Gathasaptasati: A collection of poetry attributed to Satavahana King Hala.



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- Increased Research: Promote academic studies and research in Marathi and other classical languages.
- Global Outreach: Organize international conferences and cultural events.
- Digital Accessibility: Enhance online repositories and platforms for language learning.

Trade's Role in Tackling Food Insecurity: UNCTAD Report

Why in News?

- UNCTAD Report examines the role of trade in reducing food insecurity and preventing famine.
- The report highlights key drivers of food insecurity and provides actionable recommendations for leveraging trade to mitigate these challenges.

Role of Trade in Addressing Food Insecurity

Ensuring Sustainable Supplies:

Trade can maintain food availability.

Example: Africa imports 30% of its cereal needs.

Stabilizing Prices and Markets:

Trade initiatives reduce price volatility.

Example: **Black Sea Initiative** facilitated food and fertilizer exports during the Russia-Ukraine war.

Challenges in Trade and Food Security

- Higher Costs: Non-tariff measures like sanitary standards can increase food import costs by 20%.
- Import Dependency: Dependency on imports makes countries vulnerable to global price hikes and supply disruptions.
- Rising Transportation Costs: Disproportionately affects developing and least-developed countries.

Recommendations from the Report

- Short-Term Solutions: Establish a Short-Term Export Facilitation Mechanism for combating severe food insecurity at global forums like WTO.
- Reducing Barriers: Lower trade barriers and enhance export capacities in food-insecure countries.
- Investing in Infrastructure: Develop ports, transport networks, and storage facilities to minimize supply chain vulnerabilities.

Recommendations from the Report

Climate-Smart Farming: Promote sustainable agricultural practices in developing countries to enhance resilience.

Facts and Figures

- Hunger Statistics (2023):
 - ~280 million faced acute hunger.
 - ~733 million faced chronic hunger.

Without action, 582 million could face chronic hunger by 2030.

Drivers of Hunger:

Armed Conflict: Impacted 5 million people in 20 countries (2022).

Climate Change: Agricultural productivity reduced by 21% since 1961.

Urbanization: Blurred rural-urban lines affecting agrifood systems.

- Enhance global collaboration on trade and food security policies.
- Support developing nations with technology, funding, and capacity building to address long-term food insecurity.

India's First Robotic Telesurgeries with SSI Mantra

Why in News?

- Pioneering Telesurgery: India's indigenous robotic system, SSI Mantra, successfully performed two world-first robotic cardiac telesurgeries.
- **Key Achievement:** Achieved a latency of only 40 milliseconds during telesurgery operations.

About Telesurgery

Definition: Utilizes robotics and cameras to enable surgeons to perform operations remotely through high-speed data connections.

About SSI Mantra

Regulatory Approval:

Only robotic system globally approved for telesurgery and tele-proctoring.

Approved by the Central Drugs Standard Control Organization (CDSCO) under the Drugs & Cosmetics Act, 1940.

Major Milestone: Performed robotic beating heart Totally Endoscopic Coronary Artery Bypass (TECAB), one of the most complex cardiac surgeries.

Applications of Robotics in Healthcare

- Safety & Monitoring: Telepresence systems equipped with computer vision monitor patient vitals.
- Robotic Prosthetics: Advanced prosthetics, such as robotic limbs and exoskeletons, enhance mobility for amputees.
- Sanitation & Disinfection: Robots using ultraviolet-C (UV-C) light or hydrogen peroxide vapour (HPV) for sterilization.
- Medical Transportation: Robots designed to deliver supplies, medications, and meals to patients.

Challenges in Robotics Integration

- High Initial Cost: Advanced systems require significant investment.
- Skill Gap: Limited availability of trained personnel to operate complex systems.
- Ethical Concerns: Issues around accountability for errors during robotic procedures.
- Patient Trust: Overcoming skepticism and gaining patient confidence in robotic systems.

Indian Initiatives for Robotic Healthcare

- National Health Policy, 2017: Recognized the vital role of technology in healthcare delivery.
- Draft National Strategy on Robotics, 2023:

Promotes robotics in healthcare.

Provides for the establishment of the Robotics Innovation Unit (RIU).

Artificial Intelligence & Robotics Technology Park (ARTPARK): Located in IISc Bengaluru, it fosters advancements in AI and robotics.

- Skill Development: Invest in training healthcare professionals for robotic systems.
- Cost Reduction: Encourage domestic production to make robotic solutions affordable.
- Ethical Framework: Develop comprehensive guidelines to address accountability and ethical concerns.
- Public Awareness: Conduct campaigns to build trust in robotic healthcare technologies.

INTERPOL's Silver Notice

Why in News?

- INTERPOL has introduced its first-ever Silver Notice to target criminal assets.
- The pilot phase involves **52 countries**, including **India**, and aims to combat **transnational organized crime**.

About the Silver Notice

- Purpose: Aims to locate, identify, and obtain information about laundered assets like properties, vehicles, financial accounts, and businesses.
- Focus Areas: Assists in tracing assets linked to crimes such as:

Fraud

Corruption

Drug trafficking

Environmental crime

Significance: Adds to INTERPOL's color-coded Notices suite for combating international crime.

About INTERPOL Notices

- Definition: International requests for cooperation or alerts allowing police in member countries to share critical crime-related information.
- Types: INTERPOL has 8 Notices apart from the INTERPOL-UNSC Special Notice.
- Issuing Authority: General Secretariat of INTERPOL.
- Requesting Authorities:

Member countries via their National Central Bureaus.

International Criminal Tribunals and the International Criminal Court for crimes like genocide and war crimes.

The United Nations for implementing UN Security Council sanctions.

About INTERPOL

- Founded: Established in 1923 as the International Criminal Police Commission (ICPC) during the 2nd International Criminal Police Congress in Vienna, Austria.
- Role: The only organization mandated to share police information globally with a robust technical infrastructure.



About INTERPOL

India's Membership:

Joined in 1949.

The Central Bureau of Investigation (CBI) acts as the National Central Bureau for INTERPOL in India.

- Enhancing Asset Tracing: Expand the Silver Notice framework for wider application beyond the pilot phase.
- Strengthening Cooperation: Encourage deeper collaboration between member nations for more effective tracking of transnational crimes.
- Capacity Building: Provide training to member countries on using the Silver Notice to combat organized crime effectively.
- Integration with National Systems: Align the Silver Notice with national crime databases for efficient information sharing.



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