DAILY CURRENT AFFAIRS 13-01-2025

GS-1

1. **President Murmu's invite for this year's Republic Day reception set to honour crafts from South**
2. **National River Interlinking Project**

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3. **International Organization for Migration (IOM)**

GS-3

4. **SpaDex**
5. **Nimesulide Ban**

President Murmu's invite for this year's Republic Day reception set to honour crafts from South

Syllabus: GS-1; Art & Culture

Context

- A specially curated craft box with symbolic meaning from five southern States will be sent to invitees; curated in collaboration with National Institute of Design

Special Curated Invitation for Rashtrapati Bhavan Reception

- This year's "At home" reception at Rashtrapati Bhavan, marking 75 years since the formation of the Republic of India, departs from tradition.
- Instead of the usual stiff white card embossed with the Lion Capital of Ashoka, invitees will receive a specially curated box featuring crafts from the five southern States — Tamil Nadu, Kerala, Karnataka, Telangana, and Andhra Pradesh.

Symbolic Craft Items

The contents of the specially curated box include:

- **Bamboo Weave Box**: Adorned with Kalamkari paintings by Nimmalakunta artisans.
- **Ikat-Pochampalli Cover**: A reusable cover that can be used even after the box is opened.
- **Mysore Ganjifa Art Magnet**: A fridge magnet depicting the famous Ganjifa art, typically seen in playing cards.

- **Kanjeevaram Silk Pouch**: A handmade pouch from Tamil Nadu, showcasing the region's renowned silk weaving tradition.
- **Etikopakka Dolls**: Male and female dolls from Andhra Pradesh, made by local artisans.
- **Screwpine Leaf Bookmark**: Woven by artisans from Kerala.

- All these items are made with Geographical Indicator (GI) tags and are drawn from the **"One District One Product"** scheme, ensuring the preservation and promotion of traditional crafts.

Special Invitees

The reception will host special guests, including:

- **'Drone Didis'**: Women achievers in the drone technology space.
- **Agriculturists**: Those engaged in natural farming practices.
- **Achievers with Disabilities**: Individuals who have made significant contributions in their respective fields despite facing disabilities.

This new approach to the "At home" reception reflects a celebration of India's diverse heritage, sustainability, and inclusion, making it a unique and meaningful occasion.

National River Interlinking Project

Syllabus: GS-1: Resources – Water.

Context:

- PM to Lay Foundation Stone of Ken-Betwa River linking national project in Madhya Pradesh on Vajpayee's 100th birth anniversary.

National River Interlinking Project (NRIP)

Introduction

- The **National River Interlinking Project (NRIP)** is a large-scale initiative by the Government of India to address water scarcity, reduce regional water imbalances, and manage the distribution of water resources across the country.
- Spearheaded by the **National Water Development Agency (NWDA)** under the **Ministry of Jal Shakti**, the project aims to connect surplus water basins with deficit water basins through a network of canals, reservoirs, and dams.

Objectives

- **Water Redistribution**: Efficiently transfer surplus water from water-rich areas to water-deficient regions.
- **Irrigation Expansion**: Enhance irrigation potential to boost agricultural productivity and reduce dependency on monsoons.
- **Flood and Drought Mitigation**: Reduce the risk of floods in surplus basins and alleviate droughts in arid regions.
- **Hydropower Generation**: Create additional capacity for hydropower projects.
- **Drinking Water Supply**: Ensure sustainable access to potable water for rural and urban populations.
- **Navigation and Transportation**: Develop inland waterways for transportation and commerce.

Key Components

The NRIP is divided into **two broad categories**:

- **Himalayan Component**:
    - Comprises 14 river interlinking projects.
    - Major rivers: Ganga, Brahmaputra, and their tributaries.
    - Purpose: Address flood management, hydropower generation, and irrigation.
    - Examples:

- Manas-Sankosh-Teesta-Ganga link.
- Kosi-Ghagra link.

- **Peninsular Component**:
  - Comprises 16 river interlinking projects.
  - Major rivers: Mahanadi, Godavari, Krishna, and Cauvery.
  - Purpose: Transfer water from surplus basins in the eastern region to deficit basins in the south.
  - Examples:
    - Godavari-Krishna-Cauvery-Vaigai link.
    - Ken-Betwa link (pilot project).

Notable Projects

- **Ken-Betwa Link Project**:
  - First project under NRIP to take off.
  - Connects the **Ken River** in Madhya Pradesh with the **Betwa River** in Uttar Pradesh.
  - Aim: Irrigate 6 lakh hectares of land, supply drinking water, and generate 103 MW of hydropower.
- **Damanganga-Pinjal Link**:
  - Transfers water from the **Damanganga River** in Gujarat to the **Pinjal River** in Maharashtra.
  - Aim: Meet the water requirements of Mumbai.
- **Mahanadi-Godavari Link**:
  - Connects the surplus waters of the **Mahanadi River** to the deficit **Godavari River**.
  - Aim: Support irrigation and drinking water supply in Andhra Pradesh and Telangana.

Potential Benefits

- **Economic Growth**: Improves agricultural productivity, reduces dependency on rain-fed farming, and enhances food security.
- **Water Security**: Equitable distribution of water resources mitigates water stress in deficit areas.
- **Flood Control**: Effective management of water reduces flood-related damages.

- **Hydropower**: Increases renewable energy capacity.
- **Navigation**: Promotes inland water transport, reducing logistics costs.

Challenges and Criticisms

- **Environmental Concerns**:
  - Large-scale deforestation and loss of biodiversity.
  - Disruption of aquatic ecosystems and wildlife habitats.
- **Social Impact**:
  - Displacement of local communities.
  - Loss of livelihoods due to submergence of agricultural land.
- **Technical Feasibility**:
  - Complex engineering challenges in linking rivers across diverse terrains.
  - Maintenance of the canal network.
- **Economic Viability**:
  - High initial investment and maintenance costs.
  - Questionable cost-benefit ratio for certain projects.
- **Inter-State Disputes**:
  - States are often reluctant to share water resources, leading to conflicts.
  - Example: Cauvery Water Dispute.
- **Climate Change**:
  - Altered rainfall patterns and river flows may affect project sustainability.

Current Status

- **Ken-Betwa Project**: Approved by the Union Cabinet in 2021; implementation in progress.
- **Other Projects**: Most remain at the planning or feasibility study stage due to environmental clearances, funding issues, and inter-state disagreements.

Government Initiatives and Policies

- **National Water Policy (2012)**: Emphasizes the need for water conservation and equitable distribution.
- **National Perspective Plan (NPP)**: Conceptualized in 1980, the NPP lays the groundwork for NRIP.

- **Atal Jal Yojana**: Focuses on sustainable groundwater management in water-stressed areas.

Way Forward

- **Environmental Safeguards**: Conduct comprehensive environmental impact assessments and implement mitigation measures.
- **Consensus Building**: Foster cooperation among states through negotiations and legal frameworks.
- **Technological Innovation**: Utilize advanced engineering and data analytics for efficient project execution.
- **Public Awareness**: Educate citizens on the long-term benefits of river interlinking.
- **Integrated Water Resource Management (IWRM)**: Adopt a holistic approach to manage water resources sustainably.

Conclusion

The National River Interlinking Project holds immense potential to transform India's water resource management, agriculture, and economy. However, its success depends on addressing environmental, social, and technical challenges through a balanced and inclusive approach.

International Organization for Migration (IOM)

Syllabus: GS-2; International Institution- Migration

Context

- The UN International Organization for Migration announced it is increasing its appeal for Syria, raising the initial amount from $30 million to $73.2 million.

About

- The International Organization for Migration (IOM) is a leading intergovernmental organization in the field of migration.
- Established in 1951, it works closely with governmental, intergovernmental, and non-governmental partners to promote humane and orderly migration.
- **Headquarters:** Geneva, Switzerland
- **Membership:** 175 member states (as of 2023)

Key Objectives:

- **Policy Development:** Assist governments in developing migration policies and practices.
- **Migration Management:** Provide support in migration management, including addressing forced migration, labor migration, and migration due to climate change.
- **Crisis Response:** Offer emergency assistance and protection to displaced populations during crises.
- **Capacity Building:** Strengthen the capacities of states to manage migration effectively.

Functions:

- Facilitates voluntary migration and integration.
- Provides support for migrants in distress, including rescue and reintegration programs.
- Works to prevent and combat human trafficking and smuggling.
- Promotes research, data collection, and evidence-based policymaking on migration.

Key Initiatives:

- **Global Compact for Migration (GCM):** IOM supports the implementation of the GCM, the first intergovernmental agreement on international migration.
- **Displacement Tracking Matrix (DTM):** A system to track and monitor displacement and population mobility during crises.
- **Migration Governance Framework (MiGOF):** Provides states with guidelines for managing migration in a rights-based and development-oriented manner.

Role in Global Governance:

- Since 2016, IOM has been a related organization of the United Nations, aligning its efforts with the UN system to address global migration challenges.
- It works towards achieving Sustainable Development Goals (SDGs), particularly SDG 10 (Reduce Inequalities) and SDG 8 (Decent Work and Economic Growth).

Challenges:

- Addressing migration induced by climate change and environmental degradation.
- Combating irregular migration and associated human rights violations.
- Enhancing international cooperation to manage large-scale migration flows.

Significance for India:

- IOM collaborates with India on issues such as labor migration, remittances, and migrant worker rights.
- It supports India's efforts to manage migration effectively, both domestically and internationally.

SpaDex

Syllabus: GS-3: Science and Technology - Space Missions.

Context:

- After drift setback, ISRO's SpaDex mission ready for another docking attempt

About SpaDeX

- **Full Form**: Space Docking Experiment
- **Developed by**: Indian Space Research Organisation (ISRO)
- **Purpose**: Demonstrates in-space docking technology.
- **Significance**: Marks a major step in India's space capabilities for satellite servicing, crew transfers, and space station development.

Objectives

- **Primary Objective**:
  - Demonstrate autonomous docking of two small spacecraft (SDX01 – Chaser and SDX02 – Target) in low Earth orbit.
- **Secondary Objectives**:
  - Test electric power transfer between docked spacecraft.
  - Demonstrate advanced spacecraft control systems.

Mission Details

- **Mission Duration**: Two years.
- **Orbit**: 470 km low Earth orbit.
- **Satellites Deployed**: SDX01 and SDX02.
  - Equipped with **Bharatiya Docking System (BDS)** featuring:

- **Low-impact** docking (approach velocity ~10 mm/s).
- **Androgynous mechanisms** (identical for both Chaser and Target).

- **Launch Vehicle**: Polar Satellite Launch Vehicle (PSLV).
- **POEM-4 Module**:
  - PSLV Orbital Experimental Module-4 carries 24 payloads for microgravity experiments.

Mission Design

- Initial deployment: Satellites drift apart in orbit.
- Rendezvous: Gradual approach from 20 km to 3 meters.
- Docking:
  - Satellites align and reduce relative velocity from **28,800 km/h to 0.036 km/h**.

Space Docking

- **Definition**: Joining two spacecraft in orbit to form a single unit.
- **Applications**:
  - Assembling large structures in orbit (e.g., International Space Station).
  - Equipment, crew, and supply transfers.
  - Long-term operational support for space stations.

Importance of Space Docking Technology for India

- **Modular Space Infrastructure**:
  - Enables construction of multi-modular space stations, such as the planned **Bharatiya Antariksh Station (BAS)**.
- **Interplanetary and Lunar Missions**:
  - Facilitates orbital refueling and payload exchange for missions to the Moon (e.g., **Chandrayaan-4**) and Mars.
- **Human Spaceflight Program**:

- Critical for crew transfers and emergency evacuations (e.g., **Gaganyaan**).

- **Global Collaboration**:
  - Positions India as the **fourth nation** (after Russia, the US, and China) to master space docking.
  - Enhances India's role in international satellite servicing and collaborations.

- **Satellite Servicing**:
  - Allows in-orbit repair, refueling, and upgrades, extending satellite life and performance.

Challenges

- Synchronizing two spacecraft moving at **28,800 km/h** to dock at a relative speed of **0.036 km/h**.

Nimesulide Ban

Syllabus: GS-3: Wildlife Conservation.

Context:

- Widely used animal painkiller nimesulide banned over toxicity threat to vultures

About Nimesulide:

- Nimesulide is a non-steroidal anti-inflammatory drug (NSAID).
- Used primarily for its analgesic (pain-relieving) and antipyretic (fever-reducing) properties.

Vulture Conservation in India:

Role of Vultures in Ecosystem

- Vultures, termed "nature's sanitation workers," maintain ecosystem health by removing animal carcasses, preventing disease spread.

Decline of Vulture Population

- Catastrophic decline in vulture population in the Indian subcontinent; several species near extinction.

- **White-rumped Vulture**: Population declined by over 99% due to non-steroidal anti-inflammatory drugs (NSAIDs) in veterinary medicine.

Government Interventions

- **Ban on Nimesulide (2024)**
  - Implemented under **Section 26A of the Drugs and Cosmetics Act, 1940**.
  - Gazette notification by the Ministry of Health and Family Welfare (Dec 30, 2024).
- **Ban on Diclofenac (2006)**
  - Triggered by findings of its toxic effects on vulture kidneys, causing visceral gout.

Persistent Challenges

- Incidents in Gujarat (2019 & 2020):
  - Post-mortem studies confirmed nimesulide poisoning in vultures.
  - Symptoms: Kidney damage and visceral gout.
- Ongoing issues with other NSAIDs:
  - Drugs like **ketoprofen** and **aceclofenac** still available in veterinary markets.
  - Illegal sales persist despite restrictions.

Human Costs of Vulture Decline

- **Study Findings (2024)**:
  - Vulture population collapse (2000–2005) caused a significant rise in human deaths (~1,00,000 annually).
  - Mortality costs: **$69.4 billion per year** due to increased diseases spread by dogs and pathogens.

Recommendations by Conservationists

- **Stricter Regulation and Enforcement**:
  - Increase unannounced raids on veterinary markets.
  - Regulate online sales of NSAIDs.
- **Safety Testing**:
  - Assess the impact of new NSAIDs on vultures before market approval.
- **Promotion of Alternatives**:
  - Advocate safe drugs like **meloxicam**.

- **Ongoing Monitoring**:
  - Support studies and initiatives for monitoring vulture populations.

Conclusion

- A **comprehensive conservation strategy** is essential:
  - Ban harmful drugs.
  - Enforce strict regulations.
  - Promote safe alternatives.
  - Monitor vulture populations.
- Protecting vultures benefits both ecosystems and human health by reducing disease risks and ensuring environmental balance.