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Daily Current Affairs
To The Point
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1 The Dhansiri River: Lifeline of Northeast India

Context: The **Dhansiri River** serves as a crucial watercourse in the **Golaghat District of Assam** and the **Dimapur District of Nagaland**. Known for its rich biodiversity and cultural significance, this river is an essential tributary to the **Brahmaputra River**. However, recent environmental concerns have emerged, highlighting the urgent need for sustainable management.

Recent Environmental Concerns:

Environmentalists have raised alarms over alleged **hazardous effluent discharge** from **Numaligarh Refinery Limited (NRL)** into the **Dhansiri River**. Complaints submitted to the **Central Pollution Control Board (CPCB)** emphasize the potential for **severe ecological damage**, particularly affecting aquatic life, forest ecosystems, and communities reliant on the river.

Course and Flow of the Dhansiri River:

- **Origin:** The river originates from **Laisang Peak** in **Nagaland**, known for its lush forests and diverse wildlife.

- **Initial Flow:** For the first **40 km**, the river flows in a **northwesterly direction**.

- **Mid-Course:** After this, it changes course to flow **northeast for about 76 km** until reaching **Dimapur**, the largest city in Nagaland.

- **Later Course:** Beyond Dimapur, the river adopts a generally **northerly flow** until it reaches **Golaghat** in Assam. Here, it takes a dramatic turn **northwest** and finally merges with the **Brahmaputra River** at **Dhansirimukh, Assam**.

Vital Statistics:

- **Total Length:** Approximately **352 km** from source to outfall.

- **Catchment Area:** Spans around **1,220 sq. km**.

- **Flora and Fauna:** Flows through the **Nagaland-Assam border**, sheltering diverse ecosystems, including:

  o **Dhansiri Reserved Forest** (Assam): Renowned for its rare and endangered species.

  o **Intanki National Park** (Nagaland): A haven for wildlife, including elephants, tigers, and various bird species.

Ecological and Cultural Significance:

The **Dhansiri River** not only supports a variety of **flora and fauna** but also plays a pivotal role in the **livelihoods of local communities**. From agriculture to fishing, its waters are integral to the socio-economic fabric of the region.

Additionally, the river is part of the **Brahmaputra Basin**, which contributes significantly to the hydrological and agricultural landscape of **Northeast India**. Its natural corridors are essential for maintaining **biodiversity connectivity** between **Assam and Nagaland**.

Interesting Fact:

The **Dhansiri River Basin** is home to several **ethnic communities** whose cultures and traditions are intricately linked to the river. Festivals and rituals celebrating the river's bounty are commonplace, underscoring its **deep cultural significance**.

Call for Conservation:

Amid increasing **industrialization and pollution**, the **Dhansiri River** faces unprecedented threats. Sustainable policies, stricter regulations, and **community-based conservation efforts** are essential to preserve its ecological balance for future generations.

2 Artificial Rain: Engineering Rainfall to Tackle Environmental Challenges

Context: Artificial rain, a cutting-edge weather modification technique, is gaining attention as a potential solution for mitigating **drought, air pollution, and climate change**. Governments worldwide, including **India's capital Delhi**, are exploring this technology to address pressing environmental concerns.

Latest Development:

Delhi's **Environment Minister** recently held discussions with key government agencies to assess the feasibility of implementing **artificial rain through cloud seeding** as a measure to **reduce air pollution and combat extreme weather conditions**.

What is Artificial Rain?

Artificial rain refers to the **induced precipitation** process achieved through **cloud seeding**. It involves dispersing specific chemicals into clouds to enhance **rainfall** and influence **weather patterns**.

How Does It Work?

The process of cloud seeding **involves:**

1. **Chemical Dispersion:** Chemicals such as **silver iodide, potassium iodide, and dry ice** are released into clouds via **aircraft or helicopters**.

2. **Nuclei Formation:** These substances act as **condensation nuclei**, around which **water vapor condenses** to form larger droplets.

3. **Rainfall Production:** As droplets combine and grow, they eventually become heavy enough to fall as rain.

Success Factors:

- **Presence of Moisture:** Cloud seeding is only effective when adequate moisture is already present in the atmosphere.

- **Suitable Atmospheric Conditions:** Optimal temperature and humidity levels are crucial for inducing precipitation.

Types of Cloud Seeding:

1. **Hygroscopic Cloud Seeding:**

   o Involves the dispersion of **salt particles** to accelerate the **coalescence of droplets** within liquid clouds.

   o Particularly effective in **tropical regions** where warm clouds dominate.

2. **Glaciogenic Cloud Seeding:**

   o Utilizes **ice-forming agents** like **silver iodide** to target **supercooled clouds**.

   o Converts **water vapor into ice crystals**, which later melt into rain.

   o More suitable for **cold or mixed-phase clouds** found in higher altitudes.

Alternative Technologies:

1. **Static Artificial Rain-Inducing System:**

   o Utilizes **natural ionization technology** to stimulate precipitation.

o This method enhances rainfall by generating **charged particles** that attract moisture-laden clouds.

2. **Stratospheric Aerosol Injection (SAI):**

   o A form of **solar geoengineering** inspired by **volcanic eruptions**.

   o Involves injecting **sulphur dioxide or reflective particles** into the atmosphere to cool the planet and reduce smog.

   o Highly controversial due to **potential adverse effects on weather patterns and ecosystems**.

3. **Diamond Dust Experiment:**

   o A futuristic approach that proposes using **diamond dust** as a **non-toxic, long-lasting alternative** to traditional aerosols for climate cooling.

   o Estimated cost: A staggering **$175 trillion**, making it economically unfeasible.

Benefits of Artificial Rain:

- **Drought Mitigation:** Provides relief to **agriculture and water-scarce regions**.

- **Air Pollution Reduction:** Artificial rain can **wash away pollutants and particulate matter**, improving air quality.

- **Climate Regulation:** Can be part of broader strategies to **combat global warming** and mitigate **extreme weather conditions**.

Challenges and Concerns:

- **Environmental Impact:** Prolonged use of chemicals like **silver iodide** may have adverse effects on **soil and water** bodies.

- **Cost and Efficiency:** High operational costs and variable success rates make **cloud seeding an expensive proposition**.

- **Ethical Considerations:** Concerns over **altering natural weather systems** and potential misuse for **geo-political purposes**.

Interesting Fact:

The concept of artificial rain dates back to **1946**, when **Vincent Schaefer**, an American chemist, successfully conducted the first cloud seeding experiment using **dry ice** over **New York's Mount Greylock**. Since then, over **50 countries** have adopted cloud seeding technologies for various purposes.

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3 Bolstering India's Undersea Cable Infrastructure: Importance, Risks, and Growth Measures

Context: India's rapidly expanding internet economy demands robust and resilient **undersea cable infrastructure**. As the country enhances its connectivity with **new cable systems**, addressing risks and ensuring streamlined growth is essential for national security and economic prosperity.

India's Subsea Cable Infrastructure: Latest Developments:

India is expanding its international internet bandwidth with **new cable landing systems**:

- **Airtel's 2Africa Pearls System** (backed by Meta) – Adds a massive **100 terabits per second** of capacity.
- **SEA-ME-WE-6 Cable System** – Landed in **Chennai and Mumbai** earlier this year, further enhancing connectivity.

Understanding Undersea Cables:

What Are Undersea Cables?

Undersea cables are the **backbone of global internet connectivity**, linking **internet service providers (ISPs) and telecom operators** across continents. They provide the foundation for **fast and reliable data transmission** worldwide.

Structure and Functionality:

- These cables, though only a few inches thick, are heavily protected to withstand **harsh underwater environments**.
- Inside, they contain **fiber optic strands** that transmit data at lightning-fast speeds.

Landing Points and Stations:

- **Landing Points:** Coastal entry points where cables reach land, typically protected in **manholes buried under sand**.
- **Landing Stations:** Inland facilities where undersea cables integrate with **terrestrial networks**, ensuring seamless internet connectivity.

Critical Role in the Modern World:

According to experts, undersea cables are responsible for:

- **90% of Global Data Transmission**
- **80% of World Trade**
- **$10 Trillion in Financial Transactions**
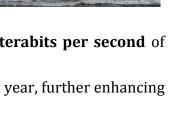- **Secure Government Communications**

Data Capacity:

Modern cables offer several **hundred gigabits per second** of capacity, serving **millions of users globally**.

Connection to Terrestrial Networks:

After reaching land, undersea cables connect to **terrestrial networks**, comprising **towers, buried cables, and data centers** that deliver internet services to homes and businesses.

India's Undersea Cable Hubs:

Major Hubs:

India's undersea cable infrastructure revolves around two main landing hubs:

1. **Mumbai:** Handles **95% of subsea cable traffic**, with a significant portion concentrated along a **six-kilometre stretch in Versova**.

2. **Chennai:** Serves as a critical connectivity point, especially for cables connecting to **Southeast Asia and the Middle East**.

Current Infrastructure:

- **17 International Cable Systems** currently land in India.

- **Two Domestic Projects:**
    - **CANI (Chennai–Andaman and Nicobar Islands)**
    - **Kochi–Lakshadweep Islands Project**

Planning and Cost:

Undersea cable projects are **capital-intensive**, involving:

- **Months or years of planning and execution.**

- Costs ranging from **millions to billions of dollars**.

India's Capacity:

- India accounts for **1% of global cable landing stations** and **3% of subsea cable systems**.

- While current infrastructure meets existing demand, experts warn of future shortfalls due to **rapidly increasing data usage**.

Risks Surrounding Undersea Cable Deployment in India:

Vulnerability to Cable Cuts at Sea:

- India's internet infrastructure is heavily dependent on **undersea cables**, with **more cables landing in Singapore than in India**.

- Disruption in areas like the **Red Sea** could result in a loss of **25% of India's internet connectivity**.

Impact of Cable Cuts in the Red Sea:

- In 2024, cable cuts in the **Bab-el-Mandeb Strait** (caused by Houthi rebel strikes) led to temporary issues.

- While alternative networks provided stability, a larger-scale disruption could have **catastrophic impacts** on connectivity.

Historical Dependence on Shipping Routes:

- Subsea cables traditionally follow **shipping trade routes** for easier deployment.

- This alignment exposes them to **risks from maritime activities and geopolitical conflicts**.

Measures to Strengthen India's Subsea Cable Infrastructure:

1. Streamlining Regulatory Processes:

- Companies currently face delays due to the need for **51 different approvals** from agencies like:
  - **Department of Telecom**
  - **Home Ministry**
  - **Environment Ministry**
  - **Local Municipalities**
- **Simplifying these processes** would reduce project timelines and costs, promoting faster deployment.

2. Enhancing Cable Security:

- **Physical damage from fishing trawlers and ships** poses a significant threat.
- Implementing **monitoring systems and surveillance technologies** could prevent accidental damage and enhance protection.

3. Building Domestic Repair Capabilities:

- India relies on **foreign repair vessels**, causing delays due to **lengthy approval processes**.
- Investing in **domestic repair vessels and cable storage depots** would:
  - Speed up repair work.
  - Reduce dependency on external resources.
  - Strengthen national security and economic resilience.

Interesting Fact:

The **world's longest undersea cable**, **SEA-ME-WE 3**, spans over **39,000 km** and connects **Europe, Asia, and Australia**. It plays a vital role in ensuring global connectivity, just as India's expanding infrastructure aims to do for the subcontinent.

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4 India-Thailand Strategic Partnership: Reinforcing 'Act East–Act West' Synergy

Context: India and Thailand, bound by **deep cultural, historical, and economic ties**, are now charting a bold new course towards enhanced strategic collaboration. Prime Minister Narendra Modi's recent visit underscores the evolving synergy between India's **'Act East Policy'** and Thailand's **'Act West Policy'**.

India-Thailand Latest News:

Prime Minister **Narendra Modi** arrived in Thailand on a **two-day visit** to attend the **6th BIMSTEC Summit**, signaling a renewed commitment to **strengthening bilateral ties**.

Historical and Cultural Linkages:

India and Thailand share a **rich civilizational heritage**, reflected through:

- **Buddhism:** A key spiritual link as Buddhism, which originated in India, remains a major religion in Thailand.

- **Maritime Trade Routes:** Ancient trade routes enabled exchanges of **culture, religion, and art**.

- **Ramayana Influence:** Thailand's version of the Indian epic, **Ramayana**, known as **Ramakien**, is a cornerstone of Thai folklore.

- **Cultural Artifacts:** Indian influence is visible in **Thai architecture, language (Sanskrit-Pali roots), traditional medicine, and performing arts**.

- **Commemorative Gesture:** During PM Modi's **2025 visit**, Thailand released a commemorative postage stamp depicting the **Ramayana mural paintings**, highlighting the countries' shared heritage.

Political Relations between India and Thailand:

India and Thailand enjoy **strong political ties** supported by shared **historical and cultural bonds**.

- **From 'Look East' to 'Act East':** India's foreign policy evolution towards **'Act East Policy'** under PM Modi emphasizes deeper engagement with Southeast Asia.

- **Thailand's 'Act West Policy':** A complementary effort to build stronger ties with **South Asian nations**.

- **Multilateral Cooperation:** Close collaboration within regional platforms like **ASEAN, BIMSTEC, ADMM-Plus, and the East Asia Summit**.

Strategic Partnership Announcement:

During his **April 2025 visit**, PM Modi and Thai PM **Paetongtarn Shinawatra** elevated bilateral ties to a **"Strategic Partnership"**, focusing on:

- **Security Cooperation:** Establishing a **Strategic Dialogue** between security agencies to bolster **maritime and defense collaboration**.

- **Regional Cooperation:** Enhancing ties through the **Indo-Pacific Vision**, emphasizing **free, open, inclusive, and rules-based engagement**.

Economic and Commercial Relations:

India and Thailand are important economic partners within **Southeast Asia**, with trade and investment ties steadily expanding.

Trade Statistics (FY 2023-24):

- **Thailand:** The **21st largest trading partner of India**.
- **Total Bilateral Trade:** Approximately **USD 14.94 Billion**.

Key Economic Initiatives:

- **India-Myanmar-Thailand Trilateral Highway:** Improving connectivity and boosting trade.
- **Mutual Investments:** Pushing for **collaboration in MSMEs** and enhancing bilateral investments.
- **ASEAN and BIMSTEC Engagement:** Leveraging regional platforms for improved trade relations.

The Indian Diaspora in Thailand:

The **Indian community in Thailand** is a significant contributor to economic and cultural ties between the two nations.

Population: Over 250,000 Indians reside in Thailand, including both historical and recent migrants.

Industries:

- **Trade**
- **Jewellery Business**
- **Hospitality**
- **Various Service Sectors**

Cultural Influence:

Prominent **Indian-origin associations and Buddhist spiritual networks** strengthen societal connections, enhancing **people-to-people ties**.

News Summary: Upgrading to a Strategic Partnership

Indo-Pacific Vision and Regional Connectivity:

- PM Modi reaffirmed India's support for **ASEAN Centrality and Unity** with a focus on a **free, open, inclusive, and rules-based Indo-Pacific**.
- Emphasizing **developmental cooperation (Vikaasvaad)** over **expansionism (Vistaarvaad)**, aligning with India's **evolving geopolitical stance** in Asia.

BIMSTEC's Role:

- PM Modi reiterated India's commitment to the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**.
- Ahead of the **6th BIMSTEC Summit**, both nations emphasized the need for greater **regional connectivity and trade**.
- A key agenda item included the **signing of an Agreement on Maritime Cooperation**, reflecting **shared maritime interests**.

Cultural Diplomacy and Symbolic Gestures:

Gift of the World Tipitaka:

In a gesture of **soft diplomacy**, Thailand gifted PM Modi the **World Tipitaka: Sajjhaya Phonetic Edition**, a special edition published in **2016** to commemorate the **70-year reign of King Bhumibol Adulyadej**. This symbolizes the **shared Buddhist heritage** and deep-rooted cultural connections between the two nations.

5 — Parliamentary Committee Report on Welfare of Other Backward Classes (OBCs)

Context: The Parliamentary Committee on Welfare of Other Backward Classes (OBCs) recently submitted its comprehensive report to the **Eighteenth Lok Sabha**, addressing critical issues surrounding the **Creamy Layer (CL) status** among OBCs and recommending significant policy changes.

About the Creamy Layer Concept:

The concept of the **Creamy Layer** refers to the **more socio-economically advanced members among OBCs**, who are excluded from reservation benefits to ensure affirmative action reaches the genuinely disadvantaged sections. This concept emerged from the landmark **Indra Sawhney Case (1992)**.

Key Highlights from Indra Sawhney Case (1992):

- The **Supreme Court upheld the 27% reservation** for OBCs in civil posts and services under the Government of India.
- However, it mandated the **exclusion of the Creamy Layer** to ensure equitable distribution of benefits.
- Following the judgment, the **Ram Nandan Prasad Committee** was constituted to identify criteria for determining the **Creamy Layer**.

Criteria for Creamy Layer (Based on Ram Nandan Prasad Committee Report):

The **Creamy Layer** was defined based on two categories:

1. **Occupational Criteria:** Individuals whose parents are or were employed in specific categories of government services.
2. **Economic Criteria:** Individuals with an annual income above a **prescribed threshold**.

The **threshold income limit** was last revised to **8 lakh** in **2017**.

Key Observations by the Committee:

1. Lack of Uniformity in Creamy Layer Criteria:

- The Committee observed that **uniform yardsticks** are not being followed across various states when applying the **income/wealth test** to determine **Creamy Layer status**.
- **Recommendation:** States should adopt a **uniform formula** to ensure consistency and fairness in the application of **Creamy Layer criteria**.

2. Review of the Existing Income Limit:

- The Committee noted that the current **income limit of 8 lakh** is inadequate, **depriving a significant segment** of the OBC population from reservation benefits.
- **Recommendation:** The **income limit should be substantially raised** after **consulting with relevant stakeholders** to better reflect the present socio-economic realities.

Additional Facts & Knowledge:

1. **Historical Context:** The concept of the **Creamy Layer** was introduced to ensure that economically advanced individuals within the OBC category do not corner the benefits meant for the truly marginalized.
2. **Previous Revisions:** The income limit has been periodically revised, with the last revision occurring in **2017**. Earlier limits were **1 lakh (1993), 2.5 lakh (2004), and 4.5 lakh (2008)**.
3. **Demand for Revision:** Many experts and social groups have been urging the government to raise the income limit to **12 lakh or more** to accommodate rising standards of living and inflation.
4. **Impact of Inconsistencies:** Due to disparities in applying the **Creamy Layer criterion**, genuine beneficiaries in some states remain excluded from **reservation benefits**.

6 Supreme Court Directs States to Follow Established Norms for Arrests

Context: The **Supreme Court of India** has recently reaffirmed the necessity for **law enforcement agencies across all states** to adhere strictly to **constitutional and statutory safeguards** during **arrests and custodial procedures**. The directive was emphasized during a ruling related to **Somnath Vs. State of Maharashtra (2023)**, where the Court reiterated its earlier guidelines from the landmark **D.K. Basu v. State of West Bengal case (1997)**.

Background & Context:

The Somnath Case (2023):

In this case, the **Supreme Court restated principles** laid down in the **D.K. Basu case (1997)**, emphasizing the need for **transparency, accountability, and protection of individual rights** during arrests. The Court expressed concern over **persistent non-compliance by police forces** and issued directives to all states to ensure adherence to established norms.

The D.K. Basu Case (1997):

The **D.K. Basu v. State of West Bengal case** was a landmark judgment that laid down comprehensive guidelines to prevent **custodial violence and protect fundamental rights**. It established safeguards aimed at enhancing **transparency and accountability** in the arrest process.

Supreme Court Guidelines in D.K. Basu Case (1997):

1. Proper Identification:

- Officers making an arrest must **clearly display identification badges** and **name tags** with their designation.
- This is essential for **accountability and transparency** during the arrest process.

2. Mandatory Arrest Memo:

- A **memo of arrest** must be prepared at the time of arrest, including **the exact time and date of the arrest**.
- The memo must be **attested by at least one witness** (preferably a family member or a respectable person from the locality) and **countersigned by the arrestee**.

3. Informing Relatives/Friends:

- **Immediate intimation** of the arrest must be given to a **relative or friend** of the arrestee as soon as practicable.
- This notification ensures **transparency and prevents wrongful detention**.

4. Inspection Memo:

- Upon request, the arrested person must undergo a **medical examination** at the time of arrest, and any injuries must be **recorded in an Inspection Memo**.

- This memo should be **signed by both the arrestee and the arresting officer** to maintain transparency.

5. Medical Examination During Detention:

- The **arrestee must undergo a medical examination every 48 hours** during detention by a **certified doctor**.

- This safeguard is essential to prevent **custodial torture and ensure physical well-being**.

6. Right to Consult a Lawyer:

- During interrogation, the arrestee must be allowed to **consult with their lawyer**, ensuring adherence to **Article 22(1) of the Indian Constitution**.

Additional Facts & Knowledge:

1. **Constitutional Safeguards:** Articles **20 and 22 of the Indian Constitution** provide protection against arbitrary arrest and detention.

2. **Custodial Deaths:** Despite guidelines, India continues to report cases of **custodial deaths and police brutality**, making adherence to these norms even more crucial.

3. **UN Guidelines:** India is a signatory to the **United Nations Convention against Torture (UNCAT)**, although the convention has not yet been ratified. Adherence to Supreme Court guidelines is crucial for upholding international human rights standards.

4. **Technological Solutions:** The use of **Body Cameras, CCTV Monitoring, and Digital Documentation** of arrests is being promoted to enhance accountability.