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Daily News Analysis

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1. Mauritius

- **Prelims** - Location of Mauritius
- **Mains** - GS 1 - Geography

Mauritius



Why in news?

- INS Sutlej, a specialised hydrographic survey vessel of the Indian Navy arrived at Port Louis to undertake 18th Joint Hydrographic Survey at Mauritius.

Mauritius

- **Location:** Mauritius is an Indian Ocean island country.
- **Capital:** Port Louis.
- **Maritime Border:** It shares a maritime border with Madagascar and Reunion Island.
- **Groupings:** Member of the African Union, the Commonwealth of Nations, the Indian Ocean Commission, and the Indian Ocean Rim Association.



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2. Argentina and Mar del Plata Canyon

- **Prelims** - Location of Argentina and Mar del Plata Canyon
- **Mains** - GS 1 - Geography

Argentina

Why in the news?

- A groundbreaking expedition to Argentina's Mar del Plata Canyon uncovered over 40 potential new deep-sea species, including glass squids and pink lobsters.

Argentina

- **Location:** Argentina is a South American country.
- **Capital:** Buenos Aires
- **Fact:** The second-largest country in South America after Brazil.
- **Bordering Countries:** Chile, Bolivia, Paraguay, Brazil, Uruguay.
- **Bordering Waterbodies:** South Atlantic Ocean, Drake Passage.
- **Disputed Territory:** Falkland Islands with Britain
- **Climate:** Temperate Climate
- **Local Wind:** Pampero Winds
- **Desert:** Patagonia
- **Grasslands:** Pampas
- **Economic Significance:** Part of Lithium Triangle.

Mar del Plata Canyon

- **Location:**
 - Situated along the continental margin off the coast of Buenos Aires Province, Argentina.
 - Lies about 250–300 km offshore from the city of Mar del Plata in the South-Western Atlantic Ocean.
 - It is one of the largest submarine canyons on the Argentine continental margin system.
- **Geological & Oceanographic Features:**
 - **Type:** Submarine canyon — a deep, steep-sided valley incised into the continental slope and rise.



- **Depth:** Reaches approximately 3,000–3,500 metres below sea level, extending from the continental shelf to the deep Atlantic basin.
- **Seafloor Composition:** Dominated by fine sand mixed with terrigenous material (land-derived sediments) and planktonic foraminifera substrate (microfossil deposits).
- **Formation:** Shaped by turbidity currents, sediment erosion, and underwater landslides transporting material downslope.
- **Hydrographic Characteristics:**
 - The region is highly productive, influenced by the Argentine Shelf-break Front, a permanent oceanographic front marking a sharp boundary between contrasting water masses:
 - ★ Sub-Antarctic shelf waters (cold, nutrient-rich), and
 - ★ Cooler, more saline waters of the Falkland-Malvinas Current.
 - This interaction creates a thermohaline front (temperature-salinity gradient), leading to nutrient upwelling, high plankton productivity, and rich marine biodiversity.



3. Forest Rights Act (FRA) of 2006

- **Prelims** - Forest Rights Act (FRA) of 2006
- **Mains** - GS 3 - Environment

Why in the news?

- The Ministry of Tribal Affairs (MoTA) urged all states and Union Territories implementing the law to clear the backlog of all forest and community land claims under the Forest Rights Act (FRA), 2006.

Forest Rights Act (FRA) of 2006

- **Also known as the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act.**
- **Aim:** To recognize and vest forest rights and occupation in forest land to forest-dwelling Scheduled Tribes (STs) and other traditional forest dwellers (OTFDs), who have been residing in such forests for generations but whose rights have not been recorded.
- **Features:**
 - **Recognition of Forest Rights:** The Act recognizes the rights of forest-dwelling Scheduled Tribes and other traditional forest dwellers to live in and cultivate forest land for habitation or self-cultivation.
 - **Vesting of Rights:** It provides for the vesting of forest rights and occupation in forest land to eligible individuals and communities.
 - **Types of Rights:** The Act recognizes various types of rights, including land rights, ownership rights, habitat rights, and community forest rights.
 - **Process of Recognition:** The Act outlines the process for the recognition and verification of forest rights by the concerned authorities at the gram sabha (village assembly) level.
 - **Appeals and Grievance Redressal:** It establishes mechanisms for filing appeals and resolving grievances related to the recognition of forest rights.
 - **Protection of Forests and Wildlife:** While recognizing the rights of forest dwellers, the Act also emphasizes the conservation and protection of forests, wildlife, and biodiversity.



4. Mission Sudarshan Chakra

- **Prelims** - Mission Sudarshan Chakra
- **Mains** - GS 3 - Science and Technology

Why in the news?

- The Indian Army has issued a tender to procure AK-630 air defence guns from state owned Advanced Weapon and Equipment India Ltd (AWEIL) under Mission Sudarshan Chakra..

Mission Sudarshan Chakra

- **What is it?**: A national security mission aimed at creating an **advanced, multi-layered defence shield** to protect India's strategic, civilian, and religious sites from enemy attacks.
- **Nodal Ministry**: Ministry of Defence
- **Objectives**:
 - Ensure **self-reliance** in critical defence technology in consonance with Atmanirbhar Bharat vision.
 - Develop an **indigenous, research-based security system** to neutralise threats from all domains such as air, land, sea, and cyber domains.
 - Provide all round protection to **vital infrastructure, cities, and sacred places** in India.
- **Key Features**:
 - **Multilayered Defence** integrating Surveillance, Interception and Counter attack machineries
 - **Comprehensive coverage** to strategic, civilian and religious sites
 - **Advanced Technology** involving AI, cyber defence and physical systems all integrated.
 - **Long term planning** including future prospects of expansion and modernisation.
 - **Entirely indigenous** designs and development
- **Significance**:
 - **Strategic Deterrence**: Envisioned in the model of **Iron Dome** of Israel, ensuring all round protection of the nation's systems.



- **National Sovereignty:** Self sustenance and reduced dependence on other nations aligns with the idea of **Atmanirbhar Bharat**.
- **Strategic Autonomy:** Nation's self reliance will boost strategic autonomy.
- **Financial Security:** Reduced reliance on foreign nations will help in reduce defence expenditures and ensures financial security of the nation



5. Small Modular Reactors (SMR) and Nuclear Energy Mission

- **Prelims** - Small Modular Reactors (SMR) and Nuclear Energy Mission
- **Mains** - GS 3 - Science and Technology

Why in the news?

- As govt eases N-power restrictions private players like Reliance Industries Ltd., Tata Power, and Adani Power are among six private entities that are learnt to have formally expressed interest to set up small modular nuclear reactor-based projects.

Small Modular Reactors (SMR)

- **What is it?:** SMRs are compact nuclear reactors with a maximum capacity of 300MW, designed to complement conventional Nuclear Power Plants (NPPs).
- **Advantages:**
 - SMR features enhance safety measures, simpler design, and passive safety features, reducing the potential for uncontrolled radioactive material release.
 - SMR can be installed in decommissioned thermal power plants.
 - SMR minimizes time and cost for installation.
 - SMR can generate clean and reliable energy by minimizing greenhouse gas emissions for industries and urban areas.
 - Most SMRs need only low-enriched uranium.
- **Issues:**
 - Establishing an efficient regulatory framework.
 - Public attitude towards nuclear installation due to various nuclear accidents.
 - Initial capital investment is very high.
- **Global Context in SMR:**
 - The International Atomic Energy Agency (IAEA) has emphasized the need to double nuclear energy by 2050 to meet global net-zero goals.
 - **Only two operational SMR projects exist:**
 - ★ Akademik Lomonosov (Russia) – Floating power plant with 35 MWe modules.
 - ★ HTR-PM (China) – High-temperature reactor operational from December 2023.
- **India's Engagement with SMRs**



- **India is exploring SMRs as part of its clean energy transition and foreign policy pitch in the nuclear domain.**
- The Department of Atomic Energy (DAE) is in talks with Holtec International (USA) for collaborative ventures, including the deployment of Holtec's SMR-300 at coal plant sites in India.
- **Focus areas include:**
 - ★ Joint manufacturing of nuclear components.
 - ★ Transitioning to light water reactor technology, aligning with global standards.
- **Advantages and Challenges of SMR for India:**
 - **Advantages:**
 - ★ Experience with small reactors like 220 MWe PHWRs.
 - ★ Cost-efficient manufacturing capabilities.
 - ★ Track record of safely operating reactors over decades.
 - **Challenges:**
 - ★ India's reliance on heavy water reactor technology, which is outdated compared to globally dominant light water reactors.
 - ★ Legal barriers like the Civil Liability for Nuclear Damage Act, 2010, which holds suppliers liable for nuclear accidents, discouraging foreign investment.
- **US-India Collaboration Opportunities:**
 - **Potential Benefits:**
 - ★ Leveraging India's manufacturing capabilities to reduce costs.
 - ★ Creating a competitive counterbalance to China in the global SMR market.
 - **Hurdles:**
 - ★ US restrictions under 10CFR810 limit technology transfer and manufacturing collaborations with India.
 - ★ India's liability laws need revisions to attract global players.

Nuclear Energy Mission

- **Part of:** Viksit Bharat@2047 vision.
- **Aim:** To make nuclear energy a core pillar of India's clean energy transition



- **Major Objectives:**

- **Target Capacity:**

- ★ 100 GW of nuclear power by 2047.
 - ★ Interim target of 22,480 MW by 2031–32 (from 8,180 MW in Jan 2025).

- **Small Modular Reactors (SMRs):**

- ★ At least 5 indigenously designed SMRs operational by 2033.
 - ★ ₹20,000 crore allocated for R&D.

- **Bharat Small Reactors (BSRs):**

- ★ Based on 220 MW PHWRs.
 - ★ Suited for deployment near industrial clusters.
 - ★ Private players provide land, water, capital; NPCIL handles design & operation.

- **Private Sector Participation:**

- ★ Proposed amendments to Atomic Energy Act and Civil Liability Act.
 - ★ Objective: Attract investment & innovation from private players.

- **Strategic Significance:**

- **Energy Security:** Reduces fossil fuel dependency and enhances grid reliability.
 - **Decarbonization:** Supports COP26 commitments (500 GW non-fossil, 50% renewable energy share by 2030).
 - **Indigenous Innovation:** Promotes self-reliance through domestic R&D and manufacturing.



6. International Stabilization Force (ISF)

- **Prelims** - International Stabilization Force (ISF)
- **Mains** - GS 2 - International Relations

Why in the news?

- Trump's 20-point comprehensive plan to end the Gaza Conflict (2025) put forward the concept of International Stabilization Force (ISF) for Gaza.

International Stabilization Force (ISF)

- **Nature and Mandate:**
 - To be developed by the United States in coordination with Arab and international partners.
 - Tasked with providing "temporary but long-term internal security" in Gaza.
 - Not a UN-mandated force – operates outside the UN Security Council (UNSC) framework, unlike conventional peacekeeping missions.
 - The UN's role is limited to humanitarian aid delivery.
- **Function:**
 - Demilitarisation Oversight: Set benchmarks for Hamas's disarmament and IDF's phased withdrawal.
 - Security Management: Prevent inflow of arms and munitions. Train and equip Palestinian law-enforcement agencies.
 - Transitional Support: Administer security in "terror-free zones" handed over by Israel.
- **Composition and Partners (Proposed):**
 - To comprise multi-national contingents, but composition remains undefined.
 - Possible contributors: select Arab states (Jordan, Egypt, UAE) and non-Arab allies (U.S., U.K., possibly NATO liaison elements).
 - However, no Arab nation has officially agreed to contribute troops.
 - Arab League members have insisted that any deployment must be UN-mandated, not unilateral.
- **Challenges:**
 - **Lack of Legitimacy:**
 - ★ No UN authorisation (Chapter VII) → lacks neutrality and global legitimacy.
 - ★ Risks being seen as a U.S.-Israeli proxy force, undermining credibility among Palestinians and Arab states.



→ **Regional Reluctance:**

- ★ Arab governments oppose sending troops without UN cover, fearing domestic backlash and escalation.
- ★ The Arab League's Bahrain Declaration (2024) explicitly called for a UN peacekeeping mission, not a U.S.-led one.

→ **Political Contradictions:**

- ★ Israel's position: Retains "security buffer zones" in Gaza → contradicts full transfer to ISF.
- ★ Hamas's position: Refuses total disarmament → undermines ISF's disarmament objective.
- ★ The Palestinian Authority demands UN oversight instead of U.S. control.

→ **Operational Risks:**

- ★ Persistent militant resistance and fragmented armed groups could target ISF troops.
- ★ Undefined rules of engagement (ROE) and unclear "deconfliction mechanism" between ISF and IDF create risk of direct clashes.

→ **Governance Ambiguity:**

- ★ ISF's accountability is to the Trump-led Board, not an international legal framework → no external audit or oversight.