



DAILY CURRENT AFFAIRS 06-10-2025

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Critical Minerals

Syllabus: GS-1: Resource Geography – Critical Minerals.

Context:

- India's **first auction of deep-sea blocks of critical minerals**—vital for EVs, defence, and renewable energy—has been **delayed indefinitely** due to **poor response from bidders**.
- Indicates challenges in India's strategy to secure **supply chain resilience** and **mineral self-reliance**.

About Critical Minerals

Definition

- Minerals essential for **modern technologies and national security** but face **supply chain risks** due to limited availability or **geographical concentration**.
- Their **criticality** is dynamic—changes with **technological demand** and **supply conditions**.

Applications

- **Advanced technologies:** Mobile phones, semiconductors, fibre optics, banknotes, aerospace, defence, and medical devices.
- **Green technologies:** Electric vehicles, wind turbines, solar panels, and rechargeable batteries.
- **Industrial uses:** Stainless steel, electronics, and catalysts.

Global Production & Supply

- **Top Producers:** Chile, Indonesia, Congo, China, Australia, South Africa.
- **Supply Risk:** Many critical minerals have **monopolistic or concentrated sources**—for example,
 - **Cobalt** (DR Congo),
 - **Rare Earth Elements (REEs)** (China),
 - **Lithium** (Chile, Australia).

India's Critical Mineral List (2023)

- **30 Critical Minerals** identified by the Ministry of Mines, including: Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium, Cadmium.

➤ **Legal Backing:**

- 24 minerals added to **Part D, Schedule I of the MMDR Act, 1957**, giving the **Central Government** exclusive auction powers.

Institutional Framework

1. Centre of Excellence for Critical Minerals (CECM)

- Tasked with **reviewing the critical mineral list** and **advising policies** periodically.

2. National Critical Mineral Mission (NCMM) (*Launched in 2025*)

Aimed at **self-reliance** and **value chain development** in the critical minerals sector.

Key Components of NCMM

Component	Objectives / Targets
Exploration	GSI to conduct 1,200 exploration projects (2024–31) for minerals like graphite, lithium, potash, REEs. Aim: domestic production of 15 critical minerals .
Global Acquisitions	Indian companies to acquire 50 mining assets abroad .
Regulatory Reforms	Fast-track approvals for mining & processing projects.
Recycling	Incentive scheme with ₹1,500 crore budget; target 400 kt of recycled material.
Stockpiling	Creation of National Critical Minerals Stockpile for at least 5 minerals to manage supply disruptions.
Research & Innovation	Self-sufficiency in processing 5 minerals , 1,000 patents by 2031. Establish 4 regional processing parks and 3 Centres of Excellence .
Governance	Empowered Committee on Critical Minerals for inter-ministerial coordination and implementation.

Challenges

- **Low investor response** to auctions due to high risk and unclear commercial viability.
- **Technological and financial constraints** in deep-sea mining.
- **Global competition** for access to critical mineral assets.
- **Environmental concerns** associated with seabed mining.

- **Dependence on imports** for high-end processing technologies.

Way Forward

- Strengthen **public-private partnerships** for exploration and processing.
- Develop **domestic refining and recycling capacity**.
- Enhance **international cooperation** (e.g., with Australia, Japan, US under the Quad's Critical Minerals Working Group).
- Promote **research & innovation** for sustainable extraction and reuse.

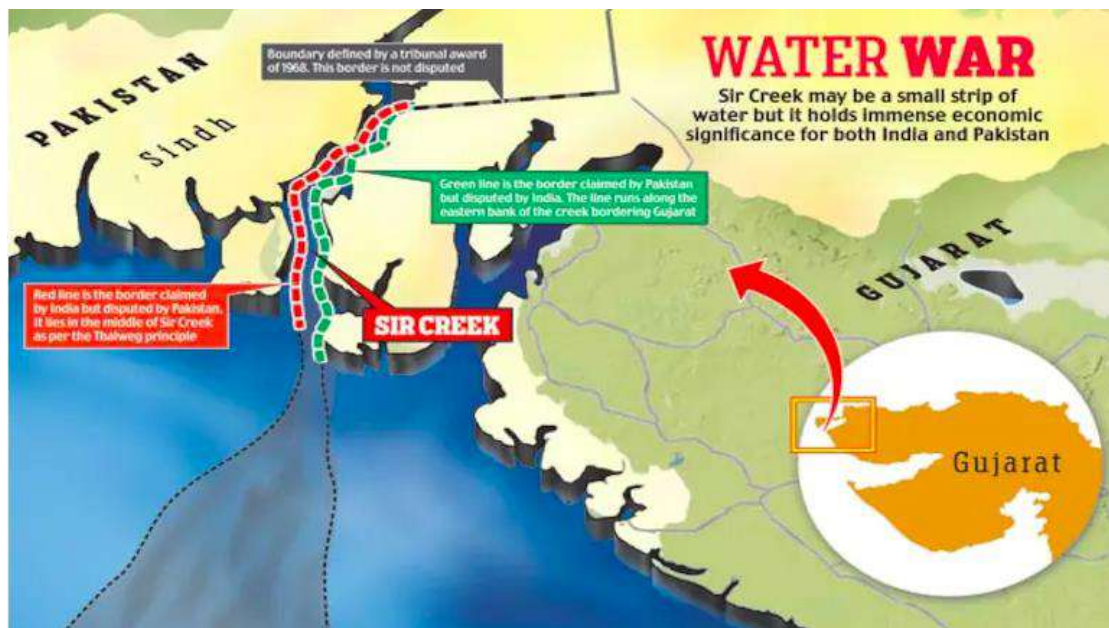
Sir Creek

Syllabus: GS-2: International Relations – Border Dispute.

Context:

- Defence Minister **Rajnath Singh** warned Pakistan over its **military build-up near the Sir Creek region**, calling it a “provocative posture.”
- He stated that any misadventure would invite a response that could “change both history and geography.”
- Pakistan is reportedly expanding **military infrastructure** adjoining Sir Creek, escalating tensions despite India's diplomatic efforts.

About Sir Creek



- **Location:** 96 km strip of water in the marshy **Rann of Kutch**, separating **India's Kutch (Gujarat)** and **Pakistan's Sindh** province.
- **Opens into:** Arabian Sea.
- **Historical Name:** Ban Ganga; renamed "Sir Creek" after a British official.

Nature of the Dispute

- Core issue: **Demarcation of the maritime boundary** between India and Pakistan.
- **Historical background:**
 - Before independence: Part of the **Bombay Presidency**.
 - Post-1947: **Kutch → India, Sindh → Pakistan**.

India's Stand	Pakistan's Stand
Boundary lies along the mid-channel of the creek.	Boundary lies on the eastern bank , giving full control of the creek to Pakistan.
Cites Thalweg Principle (boundary along deepest navigable channel).	Claims the 1914 Bombay Resolution gives it full rights; says creek is non-navigable.
Bases claim on 1925 map and 1924 mid-channel pillars .	Bases claim on Paragraph 9 of the 1914 Resolution.

Origin of the Dispute

- **1908:** Initial dispute over firewood collection between **Rao of Kutch** and **Sindh Government**.
- **1914 Bombay Resolution:**
 - **Para 9:** Boundary east of creek → entire creek to Pakistan's side.
 - **Para 10:** Creek navigable → **Thalweg Principle** applies → boundary through mid-channel.
- Contradiction between Paras 9 and 10 became the core of the modern dispute.

Strategic and Economic Importance

- **Strategic:**
 - Lies near **Rann of Kutch**, a 1965 war theatre.
 - Critical for **maritime surveillance and coastal defence**.
- **Economic:**
 - Rich **fishing grounds**, vital for local livelihoods.

- Potential **oil and gas reserves** under the seabed.
- **Ecological:**
 - Ecologically sensitive zone with **mangroves and migratory birds** (e.g., flamingoes).
 - Important for **biodiversity conservation**.

Attempts at Resolution

Year/Period	Effort	Outcome
Post-1965 War	British PM Harold Wilson's mediation → Tribunal formed	1968 verdict: Pakistan got only 10% of claim.
1997	Discussed under Composite Dialogue	No conclusive outcome.
1999	Pakistani aircraft shot down over Sir Creek	Escalated tensions.
2005-2007	Joint surveys and hydrographic studies	Technical data gathered; no final agreement.

Current Significance

- The **unresolved maritime boundary** affects:
 - **Fishermen arrests** due to accidental border crossings.
 - **Delay in exploration** of offshore energy resources.
 - **Military tensions** and border infrastructure race.

Way Forward

- **Technical and Diplomatic Resolution:**
 - Utilize joint survey data; adopt **Thalweg Principle** as per international maritime norms.
- **Humanitarian Confidence-Building:**
 - Bilateral mechanisms for **fishermen release and safety**.
- **Economic Cooperation:**
 - Joint exploration of **fishing and energy resources**.
- **Low-Conflict Settlement:**
 - Sir Creek seen as a **"low-hanging fruit"** among Indo-Pak disputes, potentially improving trust.

Payments Regulatory Board

Syllabus: GS-3 – Economy; GS-2 – Government Policies & Regulatory Bodies

Context:

Recently, the **Reserve Bank of India (RBI)** constituted a **six-member Payments Regulatory Board (PRB)** to strengthen the governance and oversight of payment and settlement systems in India.

Background

- The **Payments Regulatory Board (PRB)** derives its authority from the **Payment and Settlement Systems Act, 2007 (PSS Act)**.
- It **replaces** the earlier **Board for Regulation and Supervision of Payment and Settlement Systems (BPSS)**, which was functioning as a committee of the RBI Central Board.
- The restructuring aligns with recommendations of various expert committees (e.g., **Ratan Watal Committee, 2016**) that suggested an independent and specialized regulatory framework for India's growing digital payments ecosystem.

Composition

Position	Member Type
RBI Governor	Ex-officio Chairperson
Deputy Governor (in charge of Payment Systems)	Ex-officio Member
Executive Director (in charge of Payment Systems)	Ex-officio Member
3 Members nominated by the Central Government	Government Nominees
Principal Legal Adviser of RBI	Permanent Invitee

- **Secretariat:** The **Department of Payment and Settlement Systems (DPSS)** will act as the administrative arm and report directly to the PRB.
- **Meetings:** At least **twice a year**.
- **Decision-making:** By **majority vote**; in case of a tie, the **Chairperson (or Deputy Governor)** has a **casting vote**.

Functions of PRB

- Regulate and supervise **all payment systems** — electronic and non-electronic, domestic and cross-border.

- Frame **policies, standards, and regulations** for payment system participants (banks, fintechs, NPCI, etc.).
- Ensure **security, efficiency, and consumer protection** in payment systems.
- Promote **innovation and competition** while maintaining systemic stability.
- Oversee **settlement risk, interoperability, and resilience** of payment infrastructures.

Significance

- Enhances **independence and accountability** in payment system regulation.
- Aligns with India's vision of becoming a **global digital payments hub**.
- Strengthens **institutional governance** under RBI's umbrella while ensuring **public oversight** through government nominees.
- Supports the **Digital India** and **cashless economy** goals by fostering innovation and trust.

Snow Leopard

Syllabus: GS-3 – Environment, Biodiversity, Conservation

Context

- A new survey by the **Himachal Pradesh Forest Department (2025)** recorded **83 snow leopards** in the state — a rise from **51 in 2021**, indicating success in conservation measures.

Overview



- A **large, elusive wild cat**, often called the “**Ghost of the Mountains**” due to its exceptional camouflage and secretive behaviour.

- It is the **State Animal of Himachal Pradesh** and serves as an **indicator species** for the health of fragile **high-altitude ecosystems**.

Habitat Distribution

- **Global Range:** Found in **12 countries** — including **Afghanistan, China, India, Nepal, and Mongolia** — across the **high mountains of Central and South Asia**.
- **In India:**
 - **Western Himalayas:** Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttarakhand
 - **Eastern Himalayas:** Sikkim, Arunachal Pradesh

Conservation Status

- **IUCN Red List:** *Vulnerable (VU)*
- **CITES:** *Appendix I* (Trade prohibited)
- **Wildlife (Protection) Act, 1972:** *Schedule I* (Highest protection)

Physical & Biological Characteristics

a. Physical Traits:

- **Fur:** Thick, white-grey coat with dark rosettes—provides camouflage in snow and rocks.
- **Adaptations:** Long tail for balance and insulation; large nasal cavities for cold, thin air.
- **Agility:** Powerful hind legs allow leaps **up to six times body length**.

b. Diet:

- Strictly **carnivorous**, preying on **blue sheep (bharal), Himalayan ibex, marmots, pikas, and hares**.

c. Territory:

- Requires **large home ranges** due to low prey density—ranging from **5 sq. miles (Nepal)** to **190 sq. miles (Mongolia)**.

5. Behaviour & Ecology

- **Lifestyle:** Solitary and territorial; pairs only during mating or while rearing cubs.
- **Habitat:** High-altitude **cold deserts and rugged terrains**, between **3,000 m – 5,500 m**.
- **Activity:** Primarily **nocturnal and crepuscular** (active during dawn/dusk).

- **Elusiveness:** Low population density and camouflage make sightings extremely rare.

Conservation Initiatives in India

- **Project Snow Leopard (2009):**
 - Ministry of Environment, Forest and Climate Change initiative.
 - Focuses on landscape-level conservation across **Himalayan states**.
- **SECURE Himalaya Project:**
 - Joint initiative by **MoEFCC and UNDP**, funded by **GEF**, for sustainable management of snow leopard habitats.
- **National Snow Leopard Population Assessment (NSLPA):**
 - India's first scientific effort to estimate population using camera traps and genetic tools.
- **Snow Leopard Population Increase (Himachal Pradesh 2025):**
 - Reflects improved habitat management and reduced poaching pressures.

Ecological Significance

- **Apex Predator:** Maintains balance in fragile Himalayan ecosystems.
- **Indicator Species:** Health of snow leopard populations reflects ecosystem stability.
- **Cultural Symbol:** Revered in Himalayan folklore and local traditions.

Bhagwan Mahaveer Wildlife Sanctuary

Syllabus: GS-3: Biodiversity – Protected Areas – WLS.

Context:

- Goa's **State Board for Wildlife** has recommended that the proposal for **wildlife clearance for iron ore handling at Kalem railway station**, located within the **Bhagwan Mahaveer Wildlife Sanctuary and National Park**, be placed before the **National Board for Wildlife (NBWL)** for consideration.
- The issue is significant due to concerns over **mining and infrastructure activities** impacting biodiversity and ecological balance within the Western Ghats.

About Bhagwan Mahaveer Wildlife Sanctuary

Location:

- Situated in the **eastern border of Goa**, near the **village of Mollem** in the **Western Ghats**.
- **Area:** ~240 sq. km, of which **170 sq. km forms the core area** — the **Mollem National Park**.

History:

- Initially known as the **Mollem Game Sanctuary**.
- Declared a **Wildlife Sanctuary in 1969** and later renamed **Bhagwan Mahaveer Wildlife Sanctuary**.

Physical & Cultural Features

- Encompasses **Dudhsagar Waterfall**, **Devil's Canyon**, **Tambdi Surla Temple** (Kadamba period), and **Tambdi Falls** — combining **natural and heritage significance**.
- Lies in the **Western Ghats**, a **UNESCO World Heritage Site** and one of the **world's eight hottest biodiversity hotspots**.

Vegetation

- **Types:**
 - West Coast tropical evergreen forests
 - West Coast semi-evergreen forests
 - Moist deciduous forests
- **Dominant species:** Teak, bamboo, cashew, and eucalyptus.

Flora and Fauna

- **Major Fauna:** Leopards, Elephants, Deer, Gaur (Indian Bison).
- **Reptiles:** Abundance of **King Cobras** (key attraction).
- **Avifauna:** ~200 bird species — including Malabar pied hornbill, Great Indian hornbill, Indian black woodpecker, Paradise flycatcher, Kingfishers, Shrikes, Grey jungle fowl.

Conservation Concerns

- Located in an **ecologically sensitive zone** of the Western Ghats.
- **Mining, railway expansion, and tourism pressures** pose major threats.
- The **Kalem railway station project** has triggered environmental debates over wildlife corridor disruption and habitat fragmentation.