



## **DAILY CURRENT AFFAIRS 05-04-2025**

### **GS-1**

1. Naini Lake
2. Heard & McDonald Islands
3. Chile

### **GS-2**

4. Issue of Bail Denial by Trial Courts

### **GS-3**

5. Chandrayaan-3 ChaSTE

## **Naini Lake**

**Syllabus: GS-1; Geography**

### **Context**

- Naini Lake's water level recently dropped to 4.7 feet, a five-year low, raising concerns about drought and ecological impact.



### **About Naini Lake**

- **Location:** Natural freshwater lake in Nainital, Uttarakhand (tectonic origin).
- **Shape:** Crescent/kidney-shaped; perimeter of 2 miles, depth 6–28 meters.
- **Historical Significance:**
  - Discovered by the British (1800s).
  - Mentioned in Skanda Purana as Tri-Rishi-Sarovar.
- **Unique Features:**
  - Mallital (north end) & Tallital (south end)—home to the world's only post office on a lake bridge (with Gandhi's statue).
- **Feeder Streams:** Balia Nala (main source) + 26 other drains.
- **Sister Lakes:** Part of Kumaon's four lakes (Sattal, Bhimtal, Naukuchiyatal).

## **Heard & McDonald Islands**

### **Syllabus: GS-1, Geography-Mapping**

#### **Context**

- The recent news about the **U.S. imposing a 10% tariff** on imports from Heard and McDonald Islands is puzzling, given that the islands have no known exports to the U.S. (or any other country).

#### **Geography & Location**

- **Location:** Southern Indian Ocean, about 4,100 km southwest of Perth (Australia) and 1,600 km north of Antarctica.
- **Territory Status:** An external territory of Australia, governed by the Australian Antarctic Division.
- **Highest Point:** Mawson Peak (2,745 m) on Heard Island, Australia's highest mountain outside the mainland.



#### **Volcanic Activity:**

- One of the most active sub-Antarctic volcanoes (Big Ben on Heard Island).
- McDonald Island erupted in 1992, 2000, and 2005, doubling in size.

#### **Climate & Environment**

- **Climate:** Sub-Antarctic – cold, windy, and heavily glaciated.
- **Glaciers:** Heard Island has 12 major glaciers, but they are rapidly retreating due to climate change.
- **UNESCO World Heritage Site (since 1997)** – Recognized for its pristine ecosystems and geological significance.
- **Strict Nature Reserve (IUCN Category Ia)** – No permanent human presence; access requires a permit.

### Biodiversity & Wildlife

- **No invasive species** – One of the few places on Earth completely free of introduced plants/animals.
- **Key Species:**
  - **Penguins** (King, Gentoo, Macaroni)
  - **Seals** (Southern Elephant Seals, Antarctic Fur Seals)
  - **Seabirds** (Albatrosses, Petrels)
  - **Marine Life** (Orcas, Patagonian Toothfish)

### Human Presence & Research

- **Uninhabited** – No indigenous population; only visited by scientists and rare expeditions.
- **Research Significance:**
  - Climate Change Studies (glacial retreat, ocean warming).
  - Volcanic & Geological Research (unique crustal processes).
  - Ecology (studying pristine ecosystems without human interference).

### Legal & Economic Status

- **No Economic Activity:** No industry, agriculture, or exports.
- **Fishing Restrictions:** The surrounding waters are part of a Marine Reserve, limiting commercial fishing.
- **Australian Law Applies:** Managed under the Heard Island and McDonald Islands Act 1953.

### Recent News (U.S. Tariff Mystery)

- In 2024, the U.S. imposed a 10% tariff on imports from HIMI, despite the islands having no exports.
- Possible explanations:
  - Administrative error (misclassification of territories).

### Why Are These Islands Important?

- A natural **laboratory for science**.
- A critical refuge for **seabirds and marine mammals**.
- A benchmark for studying **climate change impacts** in remote regions.

## **Chile**

### **Syllabus: GS-1; Geography- Mapping, GS-2; International Relations**

#### **Context**

- India and Chile have initiated discussions on a comprehensive trade agreement that aims to enhance economic cooperation.

#### **India-Chile Trade Talks**

- India and Chile have begun discussions on a comprehensive trade agreement to boost economic cooperation.
- The two nations previously had a **Partial Scope Agreement (PSA)** since 2017, which is now being expanded.
- Chile is a key supplier of copper and lithium to India, critical for electronics and electric vehicles.
- Both countries also signed a **Letter of Intent (LoI)** to collaborate on Antarctic research, supporting India's polar missions.

#### **Key Facts About Chile**

##### **Geography & Borders**

- Location: South America (long, narrow shape, avg. width ~178 km).
- Borders: Peru (North), Bolivia (Northeast), Argentina (East), Pacific Ocean (West).
- Overseas Territories: Easter Island, Juan Fernández Archipelago.

##### **Physical Features**

- Dominated by the **Andes Mountains** (longest mountain range).
- **Atacama Desert** (driest non-polar desert).
- Highest Peak: Ojos del Salado (6,893 m, active volcano).
- Seismic Activity: Prone to earthquakes & volcanic eruptions (Pacific Ring of Fire).

##### **Economic Strengths**

- World's top copper producer (key for EVs, electronics).
- Lithium reserves (part of the "Lithium Triangle" with Argentina & Bolivia).
- **Major River:** Loa River (longest in Chile).



### Political & Cultural Aspects

- **Capital:** Santiago
- **Language:** Spanish
- **Government:** Unitary Presidential Republic
- **Cultural Mix:** European, Indigenous, and Spanish influences.
- **Gateway to Antarctica:** Strategic location for polar research.

### Why India-Chile Ties Matter

- **Trade:** Chile supplies critical minerals (copper, lithium) for India's green energy push.
- **Antarctic Cooperation:** Joint research supports India's polar ambitions.
- **Strategic FTA:** A full trade deal could deepen economic ties in mining, tech, and renewables.



## **Issue of Bail Denial by Trial Courts**

Syllabus: GS-2: Judiciary.

Context:

- Based on editorial published in Deccan Herald.

### **Introduction**

- The Supreme Court has expressed concern over routine denial of bail by trial courts, even in non-serious cases.
- Despite clear precedents, lower courts continue to resist liberal bail practices.
- This leads to judicial inefficiency, prolonged detention, and violation of civil liberties.

### **Background**

- In a recent case, bail was denied despite the chargesheet being filed and investigation completed.
- Both the trial court and Gujarat High Court rejected the plea.
- Supreme Court observed that two decades ago, such cases wouldn't have reached the apex court, indicating systemic failure.
- Increasing bail petitions before SC show lack of effective bail adjudication at lower levels.

### **Core Legal Principles on Bail**

- **"Bail is the rule, jail is the exception"** – guiding norm of Indian judiciary.
- **Article 21** (Right to Life and Personal Liberty) is violated when bail is unjustly denied.
- In *Satender Kumar Antil v. CBI (2022)*, SC ruled:
  - Arrests should not be mechanical.
  - Liberty must be prioritized.
  - Custody only if absolutely necessary.

### **Key Observations by the Supreme Court**

- Criticized a growing **"police state mindset"** and passive judiciary.
- Liberty must be preserved unless legal grounds mandate custody.
- Reiterated 2022 guidelines: custodial arrest should be an **exception**, not the norm.
- Courts must factor in **cooperation by accused** before ordering custody.

### Judicial Backlog and Bail Overload

- Former CJI D.Y. Chandrachud: Over **21,000 bail applications** filed during his tenure.
- Justice B.R. Gavai: Each SC bench hears **15–20 bail matters** daily.
- This overcrowding **delays constitutional and policy matters**.
- Indicates inefficiency and failure of trial courts to exercise discretion.

### Why Trial Courts Hesitate to Grant Bail?

- **Fear of disciplinary action** by High Courts with administrative control.
- **“Play safe” attitude** to avoid legal or reputational risk.
- Resulting in a **culture of risk-aversion**, contrary to Supreme Court directives.
- Conservative interpretation even when SC promotes a liberal bail regime.

### Misapplication in Stringent Laws

- SC emphasized liberal bail even under stringent laws like **UAPA**.
- Trial courts continue to be overly cautious with such laws.
- Leads to **unjust incarceration without trial**, violating due process.

### Consequences of Bail Denial

- **Violation of Fundamental Rights** – especially Article 21.
- **Judicial inefficiency** – higher courts burdened with routine bail issues.
- **Overcrowded prisons** – a large share of inmates are undertrials.
- **Erosion of public trust** in the fairness of the judiciary.

### Way Forward

- **Judicial Training & Sensitization**
  - Strengthen understanding of constitutional rights and bail jurisprudence.
- **Reform in High Court Oversight**
  - Transparent and supportive review mechanisms; avoid intimidation of trial judges.
- **Legislative Reform**
  - Enact presumptive bail for minor offences.
- **Tech-Driven Bail Monitoring**



- Use AI/legal tech to identify unjustified detentions and automate basic eligibility.

### Conclusion

- Supreme Court's remarks call for **urgent systemic reforms**.
- Without change, the criminal justice system risks violating democratic ideals.
- Bail decisions must be **rights-based**, not risk-averse or arbitrary.
- Ensuring liberty through rational bail policy is essential for justice and rule of law.

## **Chandrayaan-3 ChaSTE**

**Syllabus: GS-3: Science and Technology –Moon Missions.**

### Context:

ChaSTE is the first mission to successfully penetrate the soil of a celestial body to deploy a thermal probe.

### Chandrayaan-3 & ChaSTE: Key Highlights

#### ChaSTE: Chandra's Surface Thermophysical Experiment

- **Objective:** First instrument to measure **in-situ temperatures** near the Moon's south pole.
- **Significance:**
  - Confirmed **higher-than-expected prevalence of water ice** on the Moon.
  - First successful deployment of a **thermal probe** into a celestial body's soil (penetrated **10 cm deep**).
- **Design:**
  - **10 temperature sensors** spaced 1 cm apart.
  - **Rotation-based deployment mechanism** (unlike hammering in past missions).
  - Motor-driven probe detects surface contact via **temperature spikes** and measures resistance to gauge depth.

### Comparison with Past Failed Attempts

- **Philae Lander (ESA, 2014):**
  - Mission: Landed on comet **67P/Churyumov-Gerasimenko**.

- Failure: **Bounced twice**; MUPUS instrument couldn't deploy due to awkward landing.
- **NASA's InSight (2018):**
  - Instrument: **HP3 (Heat Flow Package)** with self-hammering "Mole".
  - Issue: Low friction in Martian soil restricted penetration; **no temperature data** collected (sensors were on a tether, not the Mole).

### Why ChaSTE Succeeded

- **Innovative Mechanism:**
  - Used **rotational force** (not hammering) to push the probe smoothly.
  - Avoided pitfalls of **low friction** (Mars) or **bouncing** (comet).
- **Key Scientist:** Durga Prasad K. (PRL, Ahmedabad) led the ChaSTE team.