



## **DAILY CURRENT AFFAIRS 21-03-2026**

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## South Shetland Islands

Syllabus: Prelims Bits – Mapping.

Context:

- A **magnitude 6.7 earthquake** struck the **South Shetland Islands (Antarctica)**.
- Reported by the **German Research Centre for Geosciences (GFZ)**, highlighting tectonic activity in polar regions.

Background

- **Location:** Archipelago ~120 km north of the **Antarctic Peninsula**.
- Discovered in **1819** by **William Smith**.
- Part of the **Antarctic Treaty System** governance framework.
- Known as the **“Jewel of Antarctica’s Crown”** due to ecological richness.



Key Features/Provisions/Data

- **Geology:**
  - Formed by **volcanic activity**; part of the **Scotia Arc tectonic system**.
  - **Deception Island:** Active volcano with a **flooded caldera (natural harbour)**.
- **Cryosphere:**

- **>80% ice-covered**; sensitive to climate change.
- **Human Presence:**
  - **No permanent population**; seasonal **research stations** by multiple countries.
- **Biodiversity:**
  - **Birds:** Gentoo, Chinstrap, Adélie, Macaroni penguins.
  - **Marine mammals:** Leopard, Weddell, Crabeater seals; whales (Fin, Humpback, Southern Right).

### Significance/Implications

- **Scientific Importance:**
  - Key site for **glaciology, volcanology, and seismology** research.
- **Climate Change Indicator:**
  - Ice cover and fauna shifts act as **early warning systems**.
- **Geopolitical Relevance:**
  - Strategic under **Antarctic Treaty (1959)** ensuring peaceful use.
- **Disaster Awareness:**
  - Earthquake highlights **polar seismic risks** and monitoring gaps.

### Challenges/Issues

- **Extreme Environment:** Limits infrastructure and rapid response.
- **Climate Vulnerability:** Ice melt, ecosystem disruption.
- **Logistical Constraints:** Remote location increases research costs.
- **Limited Monitoring:** Sparse seismic stations in Antarctica.

### Way Forward

- Strengthen **international collaboration** under Antarctic Treaty.
- Expand **seismic and climate monitoring networks**.
- Promote **sustainable research practices** (Madrid Protocol on Environmental Protection).
- Use satellite-based observation (e.g., ISRO-NASA missions).

### Prelims Facts

- **Deception Island:** One of the few **active Antarctic volcanoes**.

- **Scotia Plate:** Tectonic plate influencing seismicity in region.
- **Antarctic Treaty (1959):** Prohibits military activity; promotes science.
- **No Indigenous Population** in Antarctica.

## **World Happiness Report**

### **Syllabus: GS-3: Growth and Development.**

#### **Context:**

- U.N.-backed **World Happiness Report 2026** highlights that **heavy social media usage is negatively impacting youth well-being globally.**
- India's rank improved from **126 (2024) to 118 (2025).**

#### **Background/Context**

- Annual global report on well-being published by:
  - **University of Oxford's Wellbeing Research Centre**
  - **Gallup**
  - **UN Sustainable Development Solutions Network (UN SDSN)**
- Measures **subjective well-being** using:
  - **Cantril Ladder (0-10 scale)**

#### **Key Features / Data**

- Based on responses of **~100,000 people across 140 countries.**
- **Key Indicators:**
  - GDP per capita
  - Healthy life expectancy
  - Social support
  - Freedom to make life choices
  - Generosity
  - Perception of corruption
- **Top 5 Happiest Countries (2026):**
  - Finland, Iceland, Denmark, Costa Rica, Sweden
- **Least Happy Countries:**

- Afghanistan, Sierra Leone, Malawi, Zimbabwe

➤ **Key Finding:**

- Excessive **social media usage linked to lower mental well-being among youth.**

**Significance / Implications**

- Shifts focus from **economic growth** → **holistic well-being.**
- Supports **SDG-3 (Good Health & Well-being)** and **SDG-16 (Institutions & trust).**
- Provides **policy direction for mental health, social cohesion, and governance reforms.**
- Highlights **importance of digital well-being** in modern societies.

**Challenges / Issues**

- **Subjective measurement bias** in happiness scoring.
- **Digital addiction & social media impact** on youth mental health.
- Persistent **income inequality and social isolation.**
- Under-reporting in **conflict or low-data regions.**

**Way Forward**

- Promote **mental health policies** (aligned with **National Mental Health Programme - India**).
- Encourage **responsible digital usage & regulation of social media platforms.**
- Strengthen **community networks and social capital.**
- Integrate **well-being indices in governance** (beyond GDP).

## **Methane**

### **Syllabus: GS-3: Environment - Green House Gas**

**Context:**

- Recent satellite data by Carbon Mapper shows **15 of top 25 methane emission sites (2025)** from oil & gas sector are in Turkmenistan.
- Highlights **concentrated high-emission “super-emitters”** and monitoring gaps.

**Background/Context**

- Methane (CH<sub>4</sub>) is a **potent greenhouse gas (GHG)** contributing ~30% of warming since the Industrial Revolution.
- Atmospheric concentration: **~2.5× pre-industrial levels**.
- Short-lived climate pollutant (SLCP) but **high near-term warming impact**.

### Key Features / Provisions / Data

- **Global Warming Potential (GWP):**
  - ~86× stronger than CO<sub>2</sub> (20-year period)
  - ~28× stronger (100-year period)
- **Atmospheric lifetime:** ~12 years
- **Major Sources:**
  - Agriculture (livestock, rice cultivation)
  - Energy (oil, gas leaks, coal mining)
  - Waste (landfills, sewage)
- **Characteristics:** Colourless, odourless, highly flammable (“marsh gas”)
- **Monitoring Tools:** Satellite-based detection (e.g., Carbon Mapper)

### Significance / Implications

- **Rapid climate mitigation opportunity** due to short lifetime
- Reducing methane can **slow near-term global warming quickly**
- Impacts **food security, extreme weather, and air quality (ozone formation)**
- Focus on “super-emitters” yields **high-impact, low-cost mitigation**

### Challenges / Issues

- **Leak detection gaps** in oil & gas infrastructure
- Weak **global regulatory frameworks**
- Agricultural emissions difficult to control
- **Data transparency and reporting issues**
- Developing countries face **technology and finance constraints**

### Way Forward

- Strengthen **Global Methane Pledge (2021)** – 30% reduction by 2030
- Deploy **satellite monitoring + AI-based leak detection**
- Promote **methane capture technologies** (biogas, flaring reduction)

- Reform agriculture: improved **livestock feed, rice irrigation methods**
- Enhance **international cooperation & climate finance**

### Constitutional / Institutional / Reports

- Linked to India's commitments under Paris Agreement
- Guided by IPCC reports on SLCPs
- India: Initiatives under **NAPCC (National Action Plan on Climate Change)**

### Prelims Facts

- Chemical formula: **CH<sub>4</sub>**
- Known as "**Marsh Gas**"
- Primary component of **natural gas (~85-95%)**
- Key contributor to **tropospheric ozone formation**
- Major emitter regions: **Central Asia, USA, Russia**

## Irul Tribe

**Syllabus: GS-1: Human Geography – Tribes in India.**

### Context:

- **Masi Magam festival** recently highlighted the cultural identity and traditions of the **Irul (Irula) tribe** of Tamil Nadu.

### Background

- **Irulas** are a **Dravidian ethnic group** inhabiting the **Nilgiri Hills (Western Ghats)** across **Tamil Nadu and Kerala**.
- Recognised as a **Particularly Vulnerable Tribal Group (PVTG)** in Tamil Nadu.
- Considered among the **oldest indigenous communities** of South India.

### Key Features / Provisions / Data

- **Language:** Speak *Irula*, linked to **Dravidian language family** (Tamil, Kannada).
- **Settlements:** Live in small hamlets called "**mottas**", typically near forests and hill slopes.
- **Religion:**
  - **Pantheistic beliefs** (spirits in nature and objects).
  - Worship **Kanniamma (virgin goddess)** associated with **cobra**.

➤ **Livelihood:**

- Snake catching, traditional healing, forest produce collection (honey, firewood).
- Cattle rearing and wage labour.

➤ **Traditional Knowledge:**

- Expertise in **snake tracking and venom extraction**; used in anti-venom production.



**Significance / Implications**

- **Biodiversity conservation:** Indigenous ecological knowledge aids forest management.
- **Public health:** Snake venom extraction contributes to **life-saving anti-venom**.
- **Cultural diversity:** Represents India's **tribal heritage and intangible traditions**.
- **Anthropological importance:** Insights into early human adaptation in Western Ghats.

**Challenges / Issues**

- **Marginalisation & poverty;** low human development indicators.
- **Loss of traditional livelihoods** due to forest restrictions and modernization.
- **Land alienation and displacement** from forest areas.
- **Limited access** to education, healthcare, and social security.

**Way Forward**

- Strengthen **PVTG-focused schemes** (housing, nutrition, education).

- Promote **community-based forest rights** under **Forest Rights Act, 2006**.
- Integrate **traditional knowledge** into conservation and healthcare policies.
- Ensure **skill development and livelihood diversification**.

### Relevant Constitutional / Policy Links

- **Article 46:** Promotion of educational and economic interests of Scheduled Tribes.
- **Fifth Schedule:** Administration of Scheduled Areas.
- **Forest Rights Act, 2006** – recognition of tribal land rights.
- **PVTG Development Programme** (Ministry of Tribal Affairs).

### Prelims Facts

- Irula Tribe → PVTG in Tamil Nadu
- Region → Nilgiri Hills, Western Ghats
- Settlement → “Motta” (hamlet)
- Deity → Kanniamma (linked to cobra)
- Special Skill → Snake catching & venom extraction

## Satyamangalam Tiger Reserve

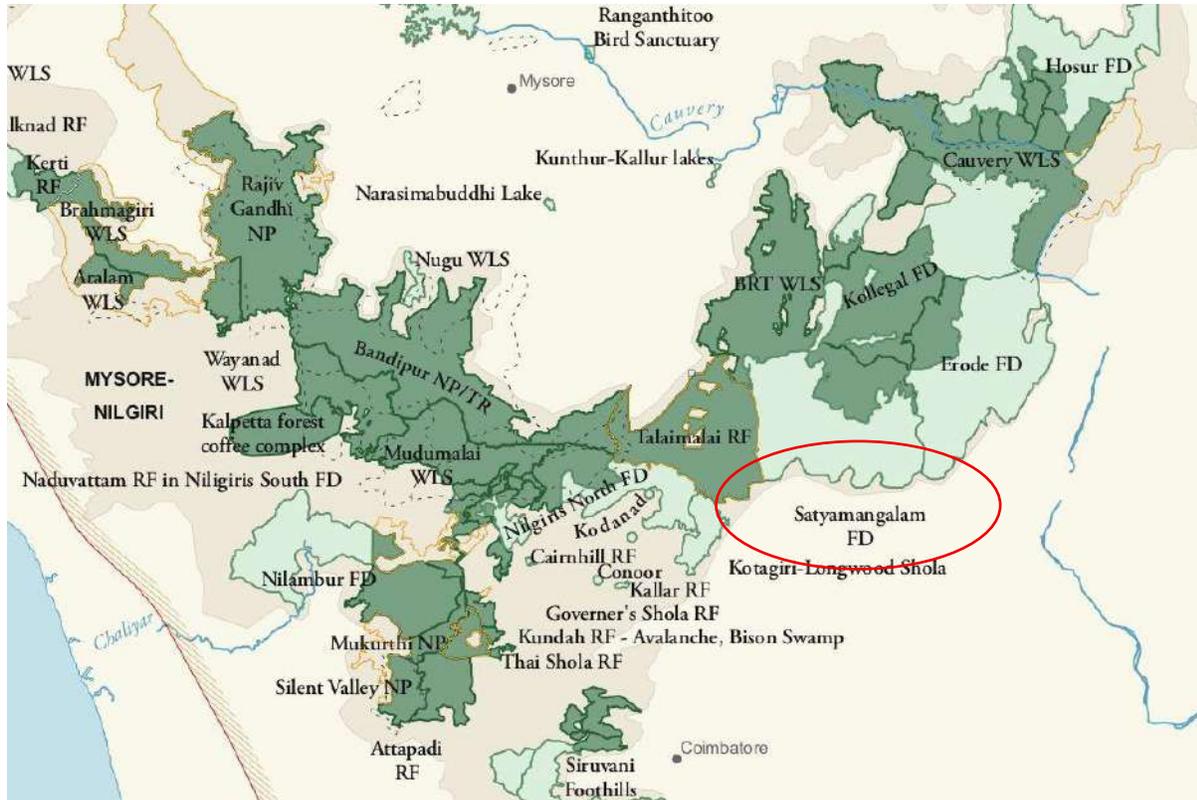
### Syllabus: GS-3: Protected Area – Tiger Reserve.

#### Context:

- Tamil Nadu Government informed the **Madras High Court** that illegal resorts in the eco-sensitive zone (ESZ) of **Sathyamangalam Tiger Reserve** have been **sealed and locked**.
- Highlights enforcement of environmental norms around protected areas.

#### Background/Context

- STR is located in **Tamil Nadu**, at the **junction of Eastern and Western Ghats**.
- Forms part of the **Nilgiri Biosphere Reserve**.
- Acts as a **vital wildlife corridor** connecting:
  - Mudumalai Tiger Reserve
  - Bandipur Tiger Reserve
  - Biligiri Ranganathaswamy Temple Tiger Reserve



### Key Features / Data

- **Terrain:** Hilly, undulating (750–1649 m altitude)
- **Climate:** Subtropical; hot summers, wet monsoons
- **Rivers:** Bhavani, Moyar, Noyyal
- **Vegetation Types:**
  - Dry thorn forests, mixed deciduous, semi-evergreen, riparian forests
- **Flora:** Teak, sandalwood, bamboo, Terminalia, Albizia
- **Fauna:** Tiger, Elephant, Gaur, Sloth bear, Black buck, Nilgiri langur
- **Tribes:** Irula tribe, Kurumba tribe

### Significance / Implications

- **Ecological Corridor:** Ensures **gene flow of tigers and elephants** across landscapes.
- **Biodiversity Hotspot:** Part of Western Ghats (a global biodiversity hotspot).
- **Climate Regulation:** Forest cover aids carbon sequestration.
- **Livelihood Support:** Sustains tribal communities and ecosystem services.
- **Legal Enforcement:** Action against illegal resorts strengthens ESZ governance.

### Challenges / Issues

- **Encroachment & Illegal Tourism** in ESZ areas
- **Human-Wildlife Conflict** (especially elephants)
- **Fragmentation of Corridors** due to infrastructure
- **Pressure on Tribal Livelihoods** vs conservation restrictions

### Way Forward

- **Strict ESZ Implementation** as per **Supreme Court of India** guidelines (minimum 1 km buffer rule)
- **Community-based Conservation** (eco-development committees)
- Sustainable Tourism Regulation
- Corridor Protection & Restoration
- **Use of Technology** (camera traps, GIS monitoring)

### Relevant Provisions / Frameworks

- **Wildlife Protection Act, 1972**
- **Project Tiger (1973)** under **National Tiger Conservation Authority**
- **Eco-Sensitive Zone (ESZ) Guidelines** – MoEFCC
- **Forest Rights Act, 2006** (tribal rights)

### Prelims Facts

- STR declared a Tiger Reserve in **2013**
- Lies at **Eastern–Western Ghats confluence** (unique biogeographic zone)
- Important rivers: **Bhavani (tributary of Cauvery)**
- One of the **largest tiger habitats in South India**