DAILY CURRENT AFFAIRS 06-03-2025

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White Island

Syllabus: GS-1; Geography

Context

> The owners of New Zealand's White Island volcano, which erupted in 2019, killing 22 tourists and local guides, have had the conviction against them overturned by the country's High Court recently.

About White Island:

> **Location:** Bay of Plenty, North Island, New Zealand
> **Type:** Active composite stratovolcano (stratovolcano with only the crater visible above water)
> **Last Major Eruption:** December 9, 2019 (caused fatalities and injuries)
> **Formation:** The cone has been built up by continuous volcanic activity over the past 150,000 years.
> **Size:** Covers around **325 hectares**, but this is only **30% of the volcano's mass**—the rest is underwater.

- ➢ **Dimensions: 2 km in diameter**, with its peak rising **321 m above sea level**.
- ➢ **Historical Discovery:** Sighted and named by **Captain James Cook in 1769**.
- ➢ **Geothermal Features:** Contains numerous **hot springs, geysers, and fumaroles**.
- ➢ **Ownership:** Privately owned; declared a **private scenic reserve** in 1953. It has been a center for **tourism and scientific studies**.

Geological Features:

- ➢ **Whakaari/White Island** is New Zealand's most active **cone volcano**, located **48 km off the coast of Whakatāne**.
- ➢ **Volcanic Activity:** Characterized by **fumaroles, hot springs, crater lakes**, and high levels of **volcanic gases**.
- ➢ **Composition:** Primarily **andesite rock**, with ongoing **hydrothermal activity**.

Eruption History:

- ➢ **December 9, 2019:** A **phreatic eruption** (steam-driven explosion) occurred unexpectedly, spewing **ash, gases, and rocks**. The eruption was sudden, with **47 tourists on the island at the time**; **22 people lost their lives**.
- ➢ **Previous Eruptions:** Recorded in **1914** (causing a mining disaster), the **1980s, 2000s**, and minor activity before the **2019 eruption**.

Aadhaar Good Governance portal

Syllabus: GS-2; Governance

Context

- ➢ The Ministry of Electronics and Information Technology (MeitY) has launched the Aadhaar Good Governance portal to streamline the approval process for Aadhaar authentication requests.

Key Highlights

Objective:

- ➢ The portal simplifies the approval process for Aadhaar authentication requests from government and private entities, ensuring faster and more efficient identity verification.

Legal Framework:

➢ The portal operates under the **Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits, and Services) Act, 2016**, as amended in **January 2025**.

Key Benefits & Use Cases

➢ The Aadhaar Good Governance portal enables Aadhaar authentication for public interest services across multiple sectors:
➢ **Healthcare** – Quick patient verification for seamless medical services
➢ **Education** – Secure student authentication for exams and admissions
➢ **E-commerce & Aggregators** – Simplified e-KYC for secure transactions
➢ **Credit & Financial Services** – Efficient identity verification for loans and financial products
➢ **Workplace Management** – Streamlined attendance tracking and HR verification

How to Use the Portal

The portal provides a step-by-step guide for organizations to apply for Aadhaar authentication services:

1. **Visit the Portal** – Access swik.meity.gov.in.
2. **Register as an Entity** – Open to government departments, private companies, and other organizations.
3. **Submit Application** – Specify the purpose and necessity of Aadhaar authentication.
4. **Approval Process** – The system evaluates requests as per regulatory guidelines.
5. **Integration** – Approved entities can integrate Aadhaar authentication into their apps and systems.

Government Insights & Future Developments

Significance

➢ This platform will accelerate the adoption of Aadhaar authentication in governance and improve ease of living.
➢ The portal simplifies the submission and approval of authentication requests, making the process more efficient.

Upcoming Feature:

➢ The portal is expected to introduce **face authentication**, allowing private entities to offer seamless, anytime-anywhere identity verification within customer-facing applications.

Neonatal Sepsis

Syllabus: GS-3; Science & Tech

Context

➢ Recently, the Lancet Global Health journal study said that more than a third of newborns diagnosed with sepsis could die.

What is Neonatal Sepsis?

➢ **Definition**: Neonatal sepsis is a **life-threatening infection** occurring in newborns **within the first 28 days of life**.
➢ **Causes**: Bacterial, viral, or fungal infections that spread through the bloodstream.
➢ **Common Pathogens**: *Escherichia coli (E. coli), Group B Streptococcus (GBS), Klebsiella pneumoniae, Staphylococcus aureus, Candida species.*

Types of Neonatal Sepsis

➢ **Early-Onset Sepsis (EOS)** (within the first 72 hours of birth)
  o **Cause**: Infection from mother (via placenta, birth canal, amniotic fluid).
  o **Common Risk Factors**:
    ▪ Premature birth
    ▪ Prolonged rupture of membranes
    ▪ Maternal infections (chorioamnionitis, UTIs)
    ▪ Low birth weight
➢ **Late-Onset Sepsis (LOS)** (after 72 hours, up to 28 days)
  o **Cause**: Infection from external environment (hospital, caregivers, community).
  o **Common Risk Factors**:
    ▪ Prolonged hospital stay
    ▪ Use of invasive devices (IV lines, catheters)
    ▪ Poor hygiene and sanitation

Symptoms of Neonatal Sepsis

- Fever or hypothermia
- Lethargy, poor feeding
- Breathing difficulties (grunting, apnea)
- Rapid heart rate or low blood pressure
- Jaundice

- Seizures

Diagnosis

- **Blood Culture & Sensitivity Test** (Gold standard)
- **Complete Blood Count (CBC)**
- **C-reactive protein (CRP) & Procalcitonin** (Inflammatory markers)
- **Lumbar Puncture (CSF Analysis)** (for suspected meningitis)

Treatment

- **Empirical Antibiotic Therapy**:
    o **First-line**: Ampicillin + Gentamicin
    o **For resistant cases**: Third-generation cephalosporins (Cefotaxime) or Meropenem
- **Antifungal Therapy** (if fungal infection suspected)
- **Supportive Care**: Oxygen therapy, IV fluids, nutritional support

Prevention Strategies

- **Maternal Screening & Treatment** (for infections like GBS, UTIs)
- **Strict Hygiene Practices** in hospitals (handwashing, sterile equipment)
- **Early Breastfeeding** to boost immunity
- **Timely Vaccinations** (e.g., BCG, Hepatitis B, OPV at birth)

Public Health Impact

- **High Neonatal Mortality**: Sepsis is a major contributor to neonatal deaths in India.
- **Burden on Healthcare System**: High treatment costs, prolonged hospital stays.
- **Antimicrobial Resistance (AMR)**: Overuse of antibiotics leading to resistant strains.

Government Initiatives & Policies

- ➢ **India Newborn Action Plan (INAP)**: Aims to reduce neonatal mortality to **≤12 per 1,000 live births** by 2030.
- ➢ **Facility-Based Newborn Care (FBNC)**: Strengthening neonatal ICUs in government hospitals.
- ➢ **Rashtriya Bal Swasthya Karyakram (RBSK)**: Screening of newborns for infections and other health issues.
- ➢ **Janani Suraksha Yojana (JSY) & Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)**: Promotes institutional deliveries to prevent neonatal infections.

Blue Ghost

Syllabus: GS-3; Space Technology

Context

- ➢ Private lander Blue Ghost successfully touches down on moon with NASA equipment

About

- ➢ Firefly Aerospace's Blue Ghost Mission 1 is a significant private lunar exploration endeavor under NASA's Commercial Lunar Payload Services (CLPS) program.
- ➢ Launched aboard a SpaceX Falcon 9 rocket, the mission successfully soft-landed on the Moon's Mare Crisium region, making Firefly Aerospace the second private company to achieve such a feat.

Mission Objectives:

- ➢ **Scientific Investigations:** The lander carries 10 scientific instruments designed to study various aspects of the lunar environment, including:
    - o Heat flow from the Moon's interior to understand its thermal evolution.
    - o Lunar soil analysis and radiation measurements.
    - o Magnetic and electric field data collection to gain insights into the Moon's geological history.
- ➢ **Technological Demonstrations:** The mission aims to test and validate technologies crucial for future lunar explorations, such as:
    - o A radiation-tolerant computer.
    - o A GPS-based navigation experiment to assess the feasibility of using satellite navigation on the Moon.

Mission Duration and Activities:

➢ The lander is designed to operate for approximately 14 Earth days (one lunar day).
➢ During this period, it will conduct scientific investigations and technology demonstrations.
➢ Notably, it is equipped with a high-definition imaging system to capture significant lunar events, such as a total lunar eclipse on March 14, 2025, and the lunar sunset on March 16, 2025.

Kawal Tiger Reserve

Syllabus: GS-3; Biodiversity

Context

➢ Forest fires damage precious habitat in Kawal Tiger Reserve

Overview:

➢ **Location:** Telangana, India
➢ **Established:** Declared a tiger reserve in 2012
➢ **Total Area:** 2,015.44 sq. km (Core: 893 sq. km, Buffer: 1,122.44 sq. km)
➢ **Protected Under:** Wildlife Protection Act, 1972

Geographical Features:

- ➢ Lies in the **Deccan Plateau region**
- ➢ Surrounded by **dense deciduous forests**
- ➢ Major rivers: **Kadam, Godavari**
- ➢ Climate: Tropical with hot summers and moderate rainfall

Flora & Fauna:

- ➢ **Flora:** Dry deciduous forests with teak, bamboo, tendu, and other tropical trees.
- ➢ **Fauna:**
  - o **Mammals:** Tigers, leopards, sloth bears, wild dogs, Indian bison (gaur), sambar deer, nilgai, chital, and wild boars.
  - o **Birds:** Peacocks, owls, eagles, and vultures.
  - o **Reptiles:** Pythons, cobras, and monitor lizards.

Conservation Status & Challenges:

- ➢ **Tiger Population:** Low; efforts are ongoing to increase tiger numbers.
- ➢ **Threats:**
  - o Deforestation & encroachment
  - o Poaching & illegal hunting
  - o Human-wildlife conflict
  - o Habitat fragmentation

Government Initiatives for Protection:

- ➢ Part of **Project Tiger** (2012)
- ➢ **Eco-tourism initiatives** to generate awareness
- ➢ **Relocation of villages** to reduce human-animal conflict
- ➢ Strengthening **anti-poaching measures**
- ➢ Afforestation and habitat restoration projects

Significance:

- ➢ Crucial for **biodiversity conservation** in Telangana
- ➢ Provides **ecological balance** and a habitat for endangered species
- ➢ Supports **river ecosystems** and maintains local climate