DAILY CURRENT AFFAIRS 28-03-2025

GS-1

1. **South Island**

GS-3

2. **Gold Monetisation Scheme**
3. **Commission on Genetic Resources for Food and Agriculture**
4. **Euclid Space Telescope**
5. **Bhadra Wildlife Sanctuary**

South Island

Syllabus: GS-1; Geography- Earthquake, Mapping

Context

Magnitude 6.7 quake shakes New Zealand's South Island

About

- **Location**: Southern part of New Zealand, separated from the North Island by the **Cook Strait**.
- **Area**: ~150,000 sq km (larger than North Island but less populated).
- **Population**: ~1.2 million (less dense compared to the North Island).
- **Major Cities**: Christchurch (largest city), Dunedin, Queenstown, Invercargill.
- **Maori Name**: **Te Waipounamu** (meaning "The Waters of Greenstone").

Geographical Features

- **Southern Alps**: A major mountain range running along the western side, with **Aoraki/Mount Cook** (3,724 m) as the highest peak.
- **Fiords**: **Milford Sound** (a UNESCO World Heritage Site in **Fiordland National Park**) is famous for its stunning landscapes.
- **Glaciers**: **Franz Josef Glacier** and **Fox Glacier** are notable temperate glaciers.
- **Lakes**: **Lake Wakatipu, Lake Tekapo, Lake Pukaki** (known for turquoise waters).
- **Plains**: **Canterbury Plains** (one of New Zealand's largest flat areas, suitable for agriculture).

Climate & Biodiversity

- **Climate**: Temperate maritime climate (cooler than North Island). West Coast is wetter due to orographic rainfall.
- **Unique Wildlife**:
  - **Kea** (world's only alpine parrot).
  - **Kiwi** (flightless bird, national symbol).
  - **Yellow-eyed penguin** (rarest penguin species).
- **Conservation Areas**:
  - **Aoraki/Mount Cook National Park**.
  - **Fiordland National Park** (part of **Te Wahipounamu** UNESCO site).
  - **Westland Tai Poutini National Park**.

Economic Significance

- **Agriculture**: Dairy farming, sheep rearing (Canterbury & Southland regions).
- **Tourism**: Adventure tourism (Queenstown is the "Adventure Capital of the World" for bungee jumping, skiing, etc.).
- **Hydroelectric Power**: Major dams like **Manapouri Power Station** support NZ's energy needs.

Environmental Concerns

- **Glacial Retreat**: Due to climate change (Franz Josef & Fox glaciers are receding rapidly).

- **Invasive Species**: Threats from possums, rats, and stoats harming native birds.
- **Earthquake Activity**: Part of the **Pacific Ring of Fire** (Christchurch faced major quakes in 2010-11).

Cultural & Tourism Highlights

- **Māori Heritage**: The Ngāi Tahu tribe is the principal Māori group in the South Island.
- **Tourist Attractions**:
    - **Milford Sound** (called the "8th Wonder of the World" by Rudyard Kipling).
    - **Trans-Alpine Railway** (scenic train journey from Christchurch to Greymouth).
    - **Dark Sky Reserve** (Lake Tekapo is part of a UNESCO Dark Sky Reserve for stargazing).

Know more

What is an Earthquake?

An earthquake is a sudden release of energy in the Earth's lithosphere, causing seismic waves that result in ground shaking.

Key Terms:

- **Focus (Hypocenter)**: The point inside Earth where the earthquake originates.
- **Epicenter**: The point on the Earth's surface directly above the focus.
- **Seismic Waves**: Energy waves generated by earthquakes (Primary (P), Secondary (S), Surface (L) waves).

Causes of Earthquakes

(A) Natural Causes

1. **Tectonic Plate Movements (Most Common)**
    - **Divergent Boundaries** (e.g., Mid-Atlantic Ridge).
    - **Convergent Boundaries** (e.g., Himalayas, Japan).
    - **Transform Boundaries** (e.g., San Andreas Fault, California).
2. **Volcanic Eruptions** (e.g., Pacific Ring of Fire).
3. **Human-Induced (Anthropogenic) Causes**
    - Reservoir-induced seismicity (e.g., Koyna Dam, India).
    - Mining, fracking, and underground nuclear tests.

India's Seismic Zones (as per IS 1893-2016)

Zone	Risk Level	Regions Covered
Zone V (Highest)	Very High	Kashmir, Western & Central Himalayas, North-East India, Rann of Kutch
Zone IV	High	Delhi, Mumbai, Patna, Srinagar
Zone III	Moderate	Bangalore, Chennai, Hyderabad
Zone II	Low	Most stable regions (e.g., Karnataka Plateau)

Measurement of Earthquakes

(A) Richter Scale

- Measures **magnitude** (energy released).
- Logarithmic scale (e.g., a 6.0 quake is 10x stronger than a 5.0).

(B) Modified Mercalli Intensity (MMI) Scale

- Measures **intensity** (observed effects on humans & structures).
- Ranges from I (not felt) to XII (total destruction).

(C) Moment Magnitude Scale (Mw)

- Most accurate for large earthquakes (replaces Richter for major quakes).

Gold Monetisation Scheme

Syllabus: GS-3; Economy

Context

- The Government of India has discontinued Medium-Term and Long-Term Government Deposits (MLTGD) under the Gold Monetisation Scheme (GMS).

About

- The **Gold Monetisation Scheme (GMS)** is a government initiative launched in **November 2015** to mobilize idle gold held by households, institutions, and temples into the formal financial system. It replaced the earlier **Gold Deposit Scheme (GDS)** and **Gold Metal Loan (GML) Scheme** with improved features.

Key Features of GMS:

1. **Objective:**
   - Encourage individuals and institutions to deposit idle gold (jewellery, coins, bars) with banks instead of storing it in lockers.
   - Reduce reliance on gold imports by reusing domestic gold, thus helping control the **Current Account Deficit (CAD)**.
   - Bring gold into the formal economy and support monetary policy.
2. **Eligibility:**
   - Individuals, HUFs, trusts, companies, and government entities can deposit gold.
   - Minimum deposit: **30 grams** (raw gold, jewellery, coins, or bars).
3. **Types of Deposits & Tenure:**

Deposit Type	Tenure	Redemption Options	Usage
Short-Term Gold Deposit (STGD)	1-3 years	Cash or gold (bars/coins)	Banks use for lending or domestic needs
Medium-Term Gold Deposit (MTGD)	5-7 years	**Only cash**	Used by RBI & govt. for reserves
Long-Term Gold Deposit (LTGD)	7-12 years	**Only cash**	Used for monetary policy

4. **Interest Earnings:**
   - Depositors earn **interest on gold value** (calculated in grams).
   - Interest rates vary based on deposit tenure (e.g., 2.25%-2.50% for STGD).
5. **Redemption:**
   - **Not in original form** (e.g., jewellery deposited cannot be taken back as jewellery).
   - Redeemable in **cash, gold bars, or coins** (only STGD allows gold redemption).
6. **Tax Benefits:**
   - **No capital gains tax** if redeemed in gold.
   - Interest earned is **taxable**.

Other Related Schemes:

- **Sovereign Gold Bonds (SGBs):**
  - **Discontinued** (earlier allowed investments in gold bonds instead of physical gold).
  - Issued in denominations of 5g, 10g, 50g, and 100g.
- **Indian Gold Coin:**
  - First national gold coin with **Ashoka Chakra**, launched alongside GMS.

Benefits of GMS:

- Reduces **gold imports**, helping the economy.
- Earns **interest on idle gold**.
- Supports **bank lending** and **RBI's gold reserves**.

Drawbacks:

- Low awareness and reluctance to part with sentimental jewellery.
- No option to get back the **same jewellery** after redemption.

Commission on Genetic Resources for Food and Agriculture

Syllabus: GS-3: Indian Agriculture – Organisations and Institutions.

Context:

- The **20th meeting of the CGRFA** has commenced in **Rome**, where global leaders will discuss strategies for conserving plant and forest genetic resources.
- Two major **global reports** on genetic resources are set to be released.

About the Commission on Genetic Resources for Food and Agriculture (CGRFA)

What is CGRFA?

- A **permanent intergovernmental body** under the **Food and Agriculture Organization (FAO)** of the **United Nations**.

- Focuses on **conserving and sustainably using biodiversity** essential for **food security and agriculture**.

Establishment and Evolution:

- **Founded:** 1983 as the **Commission on Plant Genetic Resources**.
- **Expanded in 1995** to cover all genetic resources relevant to **food and agriculture**.

Headquarters:

- Rome, Italy.

Parent Organization:

- **Food and Agriculture Organization (FAO)** of the **United Nations**.

Objectives of CGRFA

- **Promote sustainable use** of biodiversity for **food, agriculture, and human well-being**.
- **Foster global cooperation** in conserving **genetic resources** to enhance **food security**.
- **Ensure fair and equitable sharing** of benefits derived from the use of **genetic resources**.

Key Functions of CGRFA

- **Global Policy Development:**
  - Formulates **international policies** and **strategies** for biodiversity conservation in **food and agriculture**.
- **Monitoring and Coordination:**
  - Oversees **implementation of conservation policies**.
  - **Coordinates efforts** between **member nations**.
- **Negotiation of Key Treaties:**
  - Played a key role in negotiating the **International Treaty on Plant Genetic Resources for Food and Agriculture**.
- **Biodiversity Data Management:**
  - Supports the development of **global databases** and **information systems** for efficient **resource management**.

- **Biennial Meetings:**
  - Holds **regular sessions every two years**.
  - Conducts **special sessions** when required.

Significance of CGRFA

- Ensures **global food security** by conserving **plant, animal, and microbial genetic resources**.
- Helps countries **develop policies** for **sustainable agriculture and biodiversity conservation**.
- Promotes **global cooperation** in **equitable sharing** of genetic resources and benefits.

Euclid Space Telescope

Syllabus: GS-3: Science and Technology – Space.

Context:

- Euclid, a European space telescope, just captured 26 million galaxies to reveal the secrets of the dark universe.

Introduction

- **Definition**: Euclid Space Telescope is a space-based observatory designed to study the dark universe, focusing on dark matter and dark energy.
- **Developed By**: European Space Agency (ESA) with contributions from NASA.
- **Launch Date**: Launched on July 1, 2023, from Cape Canaveral, Florida, using a SpaceX Falcon 9 rocket.
- **Named After**: Euclid of Alexandria, the Greek mathematician known for his work in geometry, reflecting the mission's focus on the universe's structure.

Objectives

- **Primary Goal**: Investigate the composition and evolution of the dark universe.
- **Dark Matter and Dark Energy**: Aims to understand the role of dark matter (influences gravity) and dark energy (drives cosmic expansion), which together constitute ~95% of the universe.

- **Cosmic Mapping**: Create a 3D map of the universe by observing billions of galaxies up to 10 billion light-years away, covering over one-third of the sky.
- **Cosmic History**: Study the universe's expansion and structure formation over 10 billion years to explore gravity's role.

Instruments:

- **VIS (Visible Instrument)**: 600-megapixel camera to capture visible light, detects tiny distortions in galaxy shapes to study gravity vs. dark energy.
- **NISP (Near-Infrared Spectrometer and Photometer)**: Infrared camera/spectrometer to measure galaxy redshifts and distances, aiding in understanding cosmic expansion.

- **Orbit**: Operates in a halo orbit around Sun-Earth Lagrange Point 2 (L2), 1.5 million km from Earth, ensuring a stable position and clear deep-space view.
- **Mission Duration**: Nominal lifetime of 6 years, extendable based on propulsion fuel.

Scientific Significance

- **Dark Universe Insights**:
  - Dark matter: Detected via gravitational effects, shapes galaxy clusters.
  - Dark energy: Explains the accelerated expansion of the universe, discovered in 1998 via supernova studies.
- **Gravitational Lensing**: Measures distortions in galaxy shapes to map dark matter distribution.
- **Redshift Analysis**: Tracks galaxy movement to study dark energy's influence on cosmic expansion.
- **Cosmic Web**: Explores the formation and distribution of galaxies within the universe's large-scale structure.

Key Achievements (As of March 2025)

- **First Images**: Released in November 2023, showcasing galaxies up to 10 billion light-years away, e.g., Perseus Cluster (1,000 galaxies, 240 million light-years away).
- **Survey Start**: Began its dark universe survey on February 14, 2024, targeting billions of galaxies.

- **Data Release**: First survey data in 2025 revealed 26 million galaxies across three sky regions, providing unprecedented detail.

Collaboration

- **ESA Lead**: Fully European mission, built and operated by ESA.
- **NASA Contribution**: Provided near-infrared detectors for NISP and supports data processing/science teams.
- **Euclid Consortium**: Over 2,000 scientists from 13 European countries, the US, Canada, and Japan contribute to instrument development and data analysis.

Comparison with Other Telescopes

- **James Webb Space Telescope (JWST)**: Focuses on early universe and exoplanets; Euclid targets dark matter/energy mapping.
- **Hubble Space Telescope**: Observes in visible/UV/infrared; Euclid offers sharper, wider cosmic surveys from L2.

Bhadra Wildlife Sanctuary

Syllabus: GS-3; Biodiversity

Context

Karnataka Forest Department to 'soft release' captured jumbos into Bhadra sanctuary to mitigate human-elephant conflict in Hassan, Chikkamagaluru and Kodagu

Basic Information

- **Location**: Chikmagalur and Shimoga districts, **Karnataka** (We
- stern Ghats).
- **Establishment**:
    - Declared a **wildlife sanctuary** in **1974**.
    - Upgraded to **Tiger Reserve** in **1998** under **Project Tiger**.
- **River**: Bhadra River flows through the sanctuary.

Ecological Significance

- Part of the **Western Ghats** (UNESCO **World Heritage Site** & **Biodiversity Hotspot**).
- **Habitat Types**:
    - Tropical **moist deciduous forests**.
    - Semi-evergreen forests.
    - Grasslands and riverine ecosystems.
- **Key Species**:
    - **Mammals**: **Tiger**, Leopard, Elephant, Gaur (Indian Bison), Dhole (Wild Dog), Sloth Bear, Sambar, Spotted Deer.
    - **Birds**: Malabar Trogon, Great Hornbill, Crested Serpent Eagle, Kingfishers.
    - **Reptiles**: King Cobra, Python, Marsh Crocodile.
    - **Butterflies**: Over 250 species recorded.

Conservation Status

- **Project Tiger Reserve** (since 1998).
- Part of the **Mysore Elephant Reserve**.
- **IUCN Category**: IV (Habitat/Species Management Area).

Tribal Communities

- Home to indigenous tribes like **Soligas** and **Kadukurubas** (dependent on forest resources).

Threats & Challenges

- **Human-Wildlife Conflict** (elephants/tigers straying into villages).
- **Deforestation** (historical logging before protection).
- **Tourism Pressure** (regulated but needs monitoring).

Recent Developments

- **Eco-Tourism Initiatives**: Jungle lodges, safari tours.
- **Relocation of Villages**: To reduce human pressure (e.g., **Kalkatte village relocation**).