



DAILY CURRENT AFFAIRS 18-07-2025

GS-1

1. Machilipatnam
2. Tanimbar Islands

GS-2

3. Pradhan Mantri Dhan Dhanya Krishi Yojana

GS-3

4. Antimatter
5. Grandala

Machilipatnam

Syllabus: GS-1: Indian History – Art – Culture.

Context:

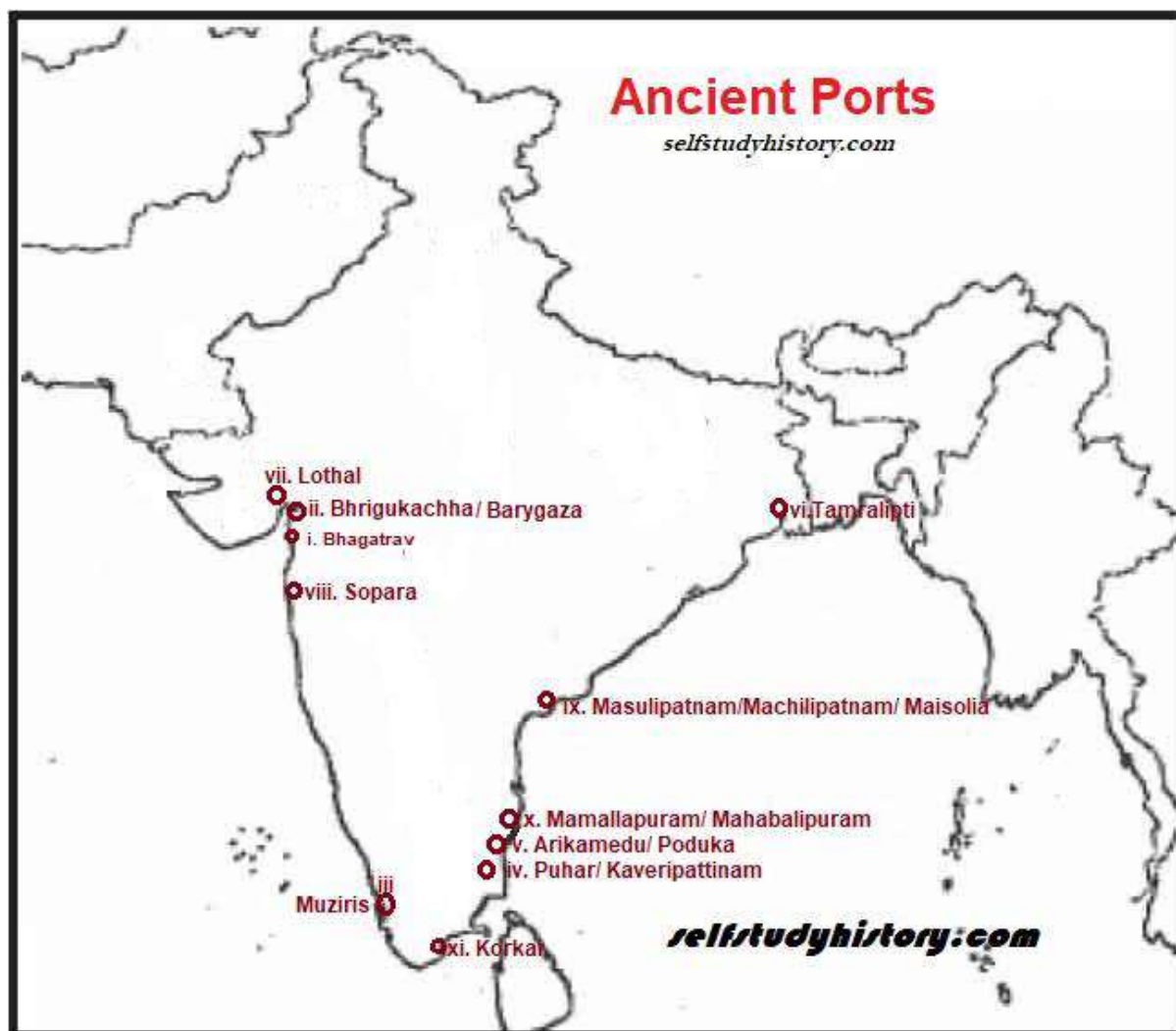
- After being dormant for decades, **Machilipatnam is undergoing a major revival.**
- Around **48% of the new Greenfield Port at Manginapudi (Machilipatnam coast)** has already been completed.
- The new **deep-water port** aims to enhance **coastal infrastructure, trade, and employment.**
- Part of the **Sagarmala Project** to boost port-led development in India.

Geographical Significance

- Located in **Krishna District**, Andhra Pradesh.
- Lies on the **southeastern coast** of India, part of the **Coromandel Coast.**
- Coastal city exposed to cyclones due to its **low-lying location** on the **Bay of Bengal.**

Cultural & Economic Importance

- Renowned for the **Kalamkari Art:**
 - Traditional **hand-painted and block-printed textile art.**
 - Known for **mythological themes and intricate motifs.**
- Historically a hub for **Muslin fabric trade.**
- Strong **handloom & textile industry** still thrives.



Historical Timeline of Machilipatnam

Period	Event/Significance
3rd Century BCE	Flourished under Satavahana rule ; port known as <i>Maisolos</i> or <i>Masalia</i> .
1478 CE	Came under the rule of Muhammad Shah Bahmani II .
1515 CE	Sri Krishnadevaraya of Vijayanagara Empire captured the city.
16th Century	Portuguese and Dutch traders established trade centers.
1611 CE	British East India Company set up a factory— first British trading settlement on the Bay of Bengal.

Period	Event/Significance
17th Century	Dutch built the Masulipatnam Fort.
1686–1759 CE	Frequent shifts between French and Dutch control .
1759 CE	British finally captured Machilipatnam and its fort from the French.
1779 CE	Devastating cyclone hit the city, killing ~20,000 and damaging Dutch facilities.

Decline of Machilipatnam

- Repeated **European conflicts** and **natural disasters** stunted the city's development.
- Shift in maritime focus to other major ports like **Chennai, Visakhapatnam**, and **Kolkata**.
- Infrastructure degradation led to **economic decline** and **port inactivity**.

Modern Revival Efforts

- Development of **Machilipatnam Greenfield Port** under:
 - **Sagarmala Programme**.
 - **Public-private partnership model**.
- Focus on:
 - **Logistics and industrial corridors**.
 - **Enhancing port connectivity** with road and rail.
 - Boost to **export-import activities**, especially for **agriculture and marine products**.

UPSC Prelims Pointers

- **Masulipatnam**: First British trading post on Bay of Bengal (1611).
- **Kalamkari art**: Traditional textile craft from Andhra Pradesh.
- **Machilipatnam Port**: Revival under Sagarmala Project.
- **Dutch-built fort**: 17th century; remains of Dutch colonial architecture.

UPSC Mains Analytical Question

Q: “Reviving historical port cities like Machilipatnam is crucial for India’s maritime economy.” Discuss in the context of coastal infrastructure and heritage preservation.(10 marks, 150 words)

Tanimbar Islands

Syllabus: GS-1; Geography

Context

- Earthquake Of 6.8 Magnitude Hits Indonesia's Tanimbar Islands Region.



Location:

- The **Tanimbar Islands** are a group of about 65 islands located in the **Maluku Province** of eastern Indonesia, in the **Arafura Sea**, between **Australia** and **Timor-Leste**.
- They lie **south of the Banda Sea** and **north of Australia**, making them **strategically important** in the **Indo-Pacific region**.

Geopolitical Significance:

- Part of **Indonesia's "outer island chain"**—critical for **maritime security** and **economic zones**.
- **Proximity to Australia** has made it a point of interest in **defense cooperation** between **Indonesia and Australia**.
- As part of the '**Indo-Pacific theatre**', it plays a role in **geopolitical strategies** involving **India, China, Australia, and the US**.

Strategic Importance (Recent News):

- Indonesia is **planning a naval base** on the **Tanimbar Islands** to counter illegal fishing and protect maritime boundaries.
- The islands are also being developed to increase presence in the **South China Sea-adjacent waters**, amidst growing Chinese influence.

Ecological Features:

- The islands are **volcanic and coral in origin**.
- They host **unique biodiversity** and are part of the **Wallacea biogeographical zone**—a transitional area between Asian and Australian fauna.
- Threatened by **deforestation** and **mining activities**.

Demographics & Culture:

- Inhabited by indigenous **Melanesian communities** with rich oral traditions.
- The population practices a mix of **Christianity** (mostly Protestant) and **traditional animist beliefs**.
- Language: **Austronesian languages**.

Economic Activities:

- **Fishing, copra production, and timber** are key economic activities.
- Potential for **natural gas exploration** (some reserves have been identified in the region).

Pradhan Mantri Dhan Dhanya Krishi Yojana

Syllabus: GS-2; Government policies and Interventions

Context

- The central government has approved the Pradhan Mantri Dhan Dhanya Krishi Yojana. This scheme will run for the next 6 years and will cover 100 districts of the country. A budget of Rs 24,000 crore has been fixed for this every year .

1. Key Highlights

- **Objective:** Boost farmers' income through **post-harvest management, irrigation upgrades, and crop diversification**.
- **Target Beneficiaries:** 1.7 crore small/marginal farmers.
- **Scheme Integration:** Merges **36 existing schemes** (e.g., PM-KISAN, PMFBY, NMSA) for efficient implementation.

2. Major Components

A. Post-Harvest Infrastructure

- **Storage Facilities:** Strengthened at **panchayat/block levels** to reduce crop wastage.
- **Market Linkages:** Integration with **e-NAM** for better price realization.

B. Irrigation Modernization

- Focus on **micro-irrigation** (drip/sprinkler) to improve water-use efficiency.
- Convergence with **PM Krishi Sinchayee Yojana (PMKSY)**.

C. Crop Diversification

- Incentivizes **pulses (dhanya) and cereals (dhan)** to reduce import dependency.
- Promotes **sustainable practices** (organic farming, ZBNF).

D. Financial Support

- **Subsidized loans** for farm investments.
- Possible linkage with **PM-KISAN** for direct benefit transfers.

3. Significance

- **Food Security:** Increases production of staples (rice, wheat) and pulses.
- **Economic Growth:** Higher farm incomes → Stronger rural economy.
- **Sustainability:** Reduces water/soil degradation through modern techniques.
- **Atmanirbhar Bharat:** Cuts reliance on imported pulses (currently ~3 million tonnes/year).

4. Implementation Strategy

- **Convergence Approach:** Unified framework for 36 schemes to avoid duplication.
- **Tech-Driven:** Use of **soil health cards**, **digital tools** for monitoring.
- **Focus Districts:** 100 high-potential districts prioritized for phased rollout.

5. Challenges

- **Last-Mile Delivery:** Ensuring benefits reach small farmers.
- **Awareness:** Educating farmers on crop diversification.
- **Fund Utilization:** Preventing leakage via transparent DBT mechanisms.

Antimatter

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

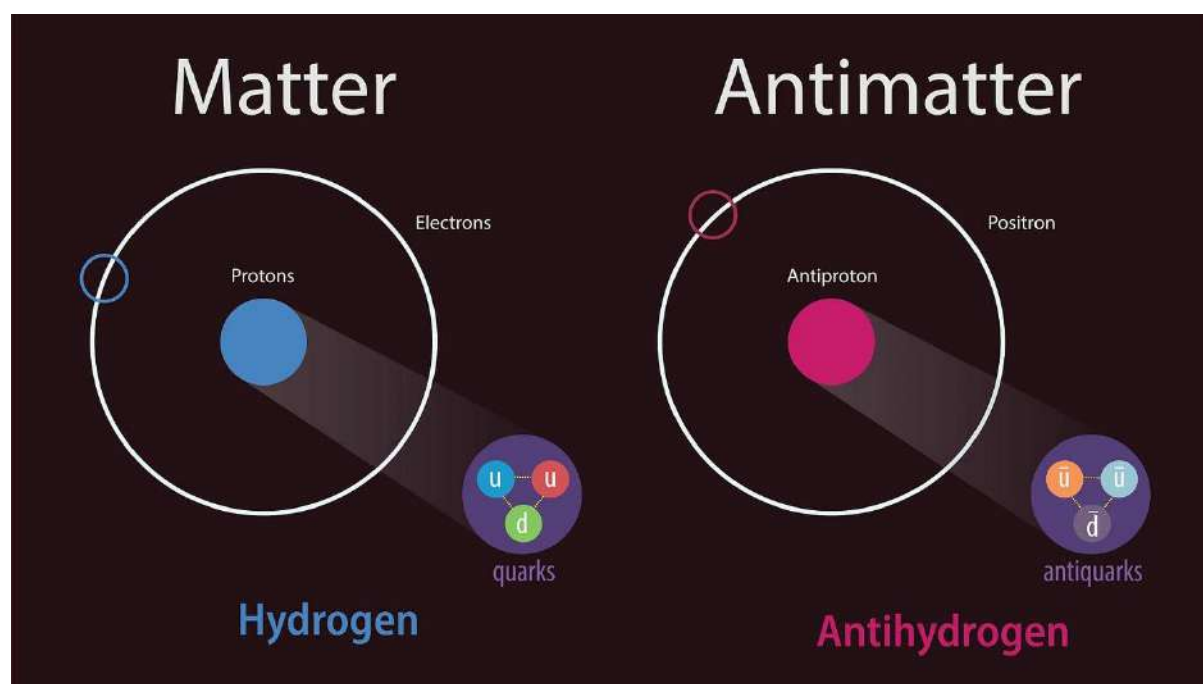
Context:

- An international team of scientists in Europe has, for the **first time**, observed that:
 - **Baryons and their antimatter counterparts decay at different rates.**
 - This suggests a new kind of **matter-antimatter asymmetry**, beyond what was previously known in mesons.

What is Antimatter?

- Antimatter is made of particles **identical in mass** to matter particles but **opposite in electric charge**.
- For every matter particle, there is an **antiparticle**:
 - Electron (e^-) → Positron (e^+)

- Proton (p^+) → Antiproton (p^-)
- Neutron (n) → Antineutron (\bar{n})



Properties of Antimatter

- **Electric charge:** Opposite to corresponding matter particles.
- **Antineutron:** Electrically neutral but has **opposite magnetic moment** compared to neutron.
- When **matter and antimatter collide**, they **annihilate** each other.
 - This releases **gamma rays or other particles** — a source of **huge energy**.

Origin and Scarcity

- **Post-Big Bang:** Equal amounts of matter and antimatter should have formed.
- However, today's **universe is matter-dominated**.
- This imbalance or **asymmetry remains one of the biggest mysteries** in cosmology.

Human Creation of Antimatter

- Scientists can create antimatter using **ultra-high-speed collisions** in **particle accelerators**.
- Example: **Large Hadron Collider (LHC)** near Geneva, operated by **CERN**.

Significance of Latest Discovery

- Asymmetrical decay in **baryons and antibaryons** may help explain:
 - **Why matter survived** after the Big Bang.
 - The **disappearance of antimatter** from the observable universe.

Grandala

Syllabus: GS-3; Biodiversity

Context

- A **rare occurrence** was reported in **Sainj Valley, Himachal Pradesh**, where an **electric-blue Grandala** was recently observed—this is noteworthy as the bird was spotted at **unusually low elevation** for the species



Conservation Status

- IUCN Red List: **Least Concern**
- Protected under: Not listed under **Indian Wildlife (Protection) Act, 1972** (as of now)

Habitat and Distribution

- Found in **Eastern Himalayas, including India (especially in Sikkim, Arunachal Pradesh, Uttarakhand), Bhutan, Nepal, Tibet, and parts of China**
- Prefers alpine and subalpine zones, typically between 3000 to 5000 metres
- Summer: High altitudes
- Winter: Descends to lower altitudes

Ecological Importance

- **Insectivorous and frugivorous** — helps in insect control and seed dispersal
- Indicator species of healthy alpine ecosystems

Miscellaneous Facts

- The Grandala is often spotted in large flocks, especially during migration or seasonal descent
- Culturally admired in birdwatching and eco-tourism circuits in the Himalayas

Sample Prelims Question

Q. With reference to the bird "Grandala", consider the following statements:

1. It is endemic to the Western Ghats
2. It is a high-altitude bird found in the Himalayas
3. The males exhibit bright blue plumage

Which of the statements is or are correct

- A. 2 and 3 only (Correct)
- B. 1 and 2 only
- C. 1 and 3 only
- D. All of the above