DAILY CURRENT AFFAIRS 25-05-2026

Mapping Perspective

1. **China's Hainan Free Trade Port (FTP)**

Prelims Perspective

2. **Uju and Rangkang**
3. **Actinarctus odissi**

Mains Perspective

4. **India's Cold Water Fisheries**
5. **ULPGM-V3**

China's Hainan Free Trade Port (FTP)

Syllabus: GS-1; Mapping, GS-3-Economy

Context

- China's southernmost province, **Hainan Island**, officially operationalised its island-wide **Free Trade Port (FTP)** with special customs operations in December 2025.
- The initiative is being projected as a major hub for trade, tourism, logistics, and strategic influence in the **South China Sea (SCS)**.

Location of Hainan

Where is Hainan?

- Hainan is an island province of China located in the **South China Sea**.
- It lies:
  - South of mainland China
  - Near the **Gulf of Tonkin**
  - East of Vietnam
  - North of the disputed Spratly and Paracel island regions

Important Water Bodies Around Hainan

Direction	Water Body
North	Qiongzhou Strait
West	Gulf of Tonkin

Direction	Water Body
East & South	South China Sea

Why Hainan Matters Geopolitically?

1. Strategic Location

- Located at the northern edge of the South China Sea
- Gives China:
  - Maritime dominance
  - Trade route control
  - Naval projection capability

2. Link to Maritime Silk Route (MSR)

- Hainan can function as:
  - Logistics hub
  - Port connectivity centre
  - Trade gateway for Southeast Asia

3. Military Importance

- Hainan hosts:
  - Naval bases
  - Submarine facilities
  - PLA Navy operations in the South China Sea

Important Base

- **Yulin Naval Base (near Sanya)**
  - Strategic submarine base
  - Important for China's nuclear submarine fleet

Hainan FTP -Economic Geography Perspective

Special Features

Feature	Significance
Zero tariffs	Encourages global trade

Feature	Significance
Low taxes	Attracts foreign investment
Visa-free entry	Tourism promotion
Simplified customs	Ease of doing business
Free data flow	Digital economy support

Hainan vs Hong Kong

Hainan	Hong Kong
Fully under mainland Chinese system	Special Administrative Region
Experimental economic zone	Global financial hub
Focus on trade + tourism + logistics	Finance + international capital
Located in South China Sea	Pearl River Delta

Analytical Point

China is trying to create an alternative international economic hub without the political sensitivities associated with Hong Kong.

Importance for India

Strategic Concerns

- Expands Chinese influence in the South China Sea
- Strengthens Chinese maritime presence near Indo-Pacific sea lanes

Economic Angle

- Could emerge as a competitor to:
  - Singapore
  - Hong Kong
  - Regional trade hubs

India's Interest

India supports:

- Freedom of navigation
- UNCLOS-based maritime order
- Open Indo-Pacific

Uju and Rangkang

Syllabus: GS-3; Environment and Ecology

Context

- The Anal Naga Tribe has drawn attention for preserving forests through traditional community-led systems known as **Uju** and **Rangkang**, which promote sustainable use of natural resources and biodiversity conservation in Manipur.

Traditional Forest Conservation Systems

1. Uju

Meaning

- Community-managed reserved forests located near villages.

Features

- Managed collectively under village elders and traditional authorities.
- Rules are decided during annual community assemblies.
- Commercial logging is prohibited.
- Cutting trees requires permission.
- Sustainable collection of:
    - Mushrooms
    - Herbs
    - Wild vegetables
    - Fruits and medicinal plants is allowed only for household use.

Importance

- Conserves biodiversity.
- Protects water sources.
- Ensures sustainable resource use.
- Strengthens community participation in environmental governance.

2. Rangkang

Meaning

- Sacred/untouched forest zones located deep inside jhum landscapes.

Features

- Left largely undisturbed for generations.
- Communities intentionally avoid cultivation in these areas.
- Natural ecosystems regenerate without human interference.

Importance

- Acts as biodiversity reservoirs.
- Helps ecological regeneration.
- Supports climate resilience and soil conservation.

Significance

- Example of **community-based forest management**.
- Linked to:
  - Biodiversity conservation
  - Traditional ecological knowledge
  - Sustainable development
  - Tribal governance systems

About Anal Naga Tribe

- Indigenous **Tibeto-Burman ethnic group** found in:
  - Manipur
  - Myanmar
- Considered among the earliest settlers of the **19 Naga tribes of Manipur**.
- Mainly concentrated in Chandel District.
- Recognized as a **Scheduled Tribe (ST)** in India.
- Population (2011 Census): **24,301**.
- Language:
  - Speak the **Anāl language**, belonging to the **Northern Kukish branch** of the **Sino-Tibetan language family**.

Religion

- Traditional faith: **Animism** (nature worship).
- Presently, most members follow **Christianity**.

Livelihood

- Primarily dependent on:
  - Agriculture
  - Animal husbandry
  - Jhum (shifting) cultivation

Actinarctus odissi

Syllabus: GS-3; Biodiversity

Context

- Scientists discovered a new species of marine tardigrade named **Actinarctus odissi** from the shallow waters of the Bay of Bengal near **Markandi coast, Odisha**.
- First new species of the genus *Actinarctus* discovered in **43 years**.
- Named after Odissi dance form.

Key Features

- Dome-shaped microscopic body.
- Transparent wing-like structures called **alae**.
- Shorter lateral wings than related species.
- Blunt sensory appendages and sculptured back surface.

About Tardigrades

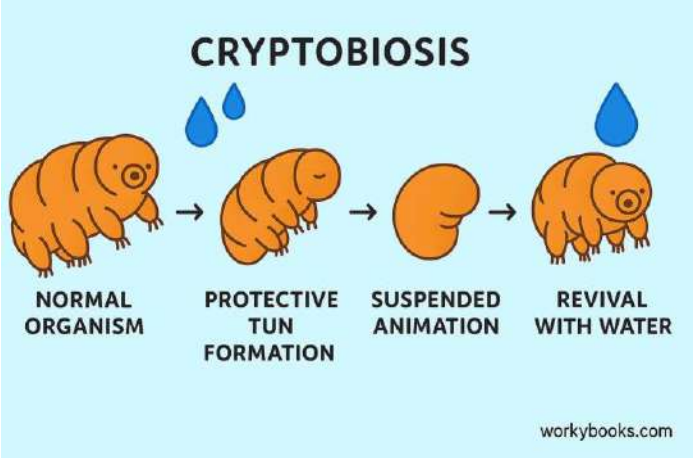
Tardigrade are microscopic animals also called:

- **Water Bears**
- **Moss Piglets**

Important Facts

- Around **1,300 species** identified globally.
- Found in freshwater, moist terrestrial, and marine habitats.
- Marine tardigrades form about **17%** of known species.
- Size: **0.05 mm – 1.2 mm**.
- Have **4 pairs of legs** with claws.

Special Survival Ability



Tardigrades survive extreme conditions through a dormant **"Tun State"**:

- Body dehydrates and curls up.
- Metabolism drops to **0.01%** of normal.
- Can survive extreme heat, cold, radiation, dehydration, and even outer space.

India's Cold Water Fisheries

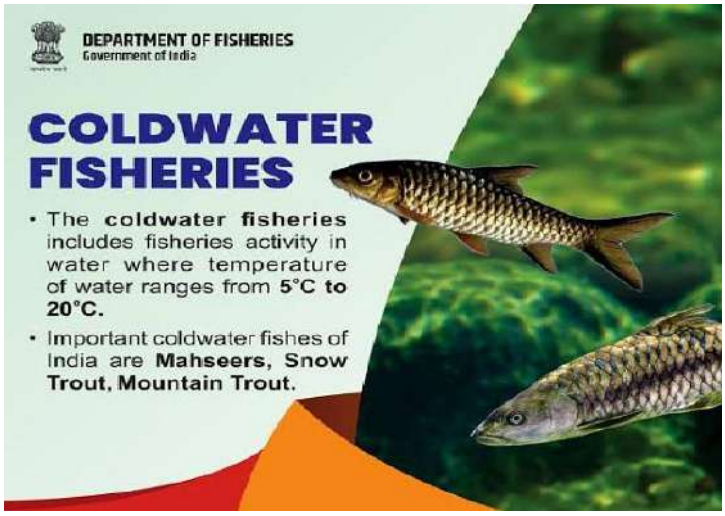
Syllabus: GS-3: Blue Revolution.

Context:

- India's cold water fisheries sector is emerging as an important component of the Blue Economy by generating livelihoods, improving nutrition, promoting eco-tourism, and supporting sustainable mountain development.

About Cold Water Fisheries

- Cold-water fisheries are practiced in high-altitude snow-fed rivers, streams, lakes, and reservoirs with temperatures ranging between 5°C and 25°C, dissolved oxygen above 6 mg/L, and pH levels between 6.5 and 8.0.
- They flourish across Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Sikkim, Meghalaya, and Nagaland, along with hill districts of West Bengal, Kerala, Karnataka, and Tamil Nadu.
- These ecosystems together cover more than 5.33 lakh sq. km. of mountainous terrain.
- India has identified over 278 cold-water fish species.
- Major cultivated species include rainbow trout, golden mahseer, and snow trout using specialized infrastructure such as hatcheries, raceways, Recirculatory Aquaculture Systems (RAS), biofloc systems, and cold chain facilities.
- Trout farming is generally practiced above 1,500 metres altitude, while mahseer culture is suitable at relatively lower elevations.



Current Status and Production

- India's total fish production reached approximately 197.75 lakh tonnes during 2024–25, with cold-water fisheries contributing nearly 3% of inland fish production.
- National cold-water fish production currently stands at around 7,000 metric tonnes.
- Trout production has increased nearly 1.8 times over the last decade to about 6,000 metric tonnes in 2024–25.

- Jammu & Kashmir has emerged as India's leading trout-producing region, followed by Himachal Pradesh and Uttarakhand.

Policy Initiatives

Pradhan Mantri Matsya Sampada Yojana (PMMSY)

- During 2020–26, projects worth over ₹5,638.76 crore sanctioned specifically for cold-water states.

Fisheries and Aquaculture Infrastructure Development Fund (FIDF)

- Projects worth ₹7,761.78 crore approved during 2018–26 for hatcheries, training centres, and fisheries infrastructure.

Blue Revolution Scheme (2015–20)

- Laid the foundation for scientific trout farming through support for raceways, hatcheries, and reservoir stocking.

Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)

- With an outlay of ₹6,000 crore, support is being provided for aquaculture insurance, performance grants to fisheries startups/microenterprises, and value chain efficiency.

Model Guidelines for Cold Water Fisheries Development, 2026

- Covers site selection, hatchery standards, disease management, biosecurity, branding, certification, e-trading, and skill development.

International Cooperation

- India is strengthening international collaborations with Norway and Iceland for knowledge exchange.

ULPGM-V3

Syllabus: GS-3: Science and Technology -

Context:

- The Defence Research and Development Organisation (DRDO) successfully completed the final development trials of the UAV-Launched Precision Guided Missile (ULPGM)-V3.

- The trials were conducted in both air-to-ground and air-to-air modes, paving the way for critical user trials by the armed forces.
- The term "deliverable configuration" used by DRDO suggests that not much will change in subsequent trials — signalling near-readiness for induction.

Evolution of ULPGM — From V1 to V3

V1 – Basic Version

- Basic free-fall precision missile.

V2 – Improved Capability

- Added propulsion, longer range, and mid-course target updates.

V3 – Advanced Multi-Role Missile

- Air-to-ground AND air-to-air capability.
- Advanced seekers, multiple warheads, and day-night combat capability.

Significance

- The V3 represents a generational leap — transforming the ULPGM from a basic drone-launched weapon into a highly versatile, multi-role precision missile suited for modern drone warfare.

Key Technical Features of ULPGM-V3

- Fitted with a high-definition dual-channel seeker — an advanced guidance system using multiple sensors to accurately track both ground and aerial targets.
- Equipped with a two-way data link — enabling operators to change or update the target even after launch — critical in fast-moving combat environments.
- Can engage both stationary and moving targets with precision in all-weather, day-and-night conditions.

Operational Versatility

- Can be deployed in both plains and high-altitude regions — suitable for diverse Indian operational theatres including the Himalayan frontier.
- Capable of engaging a wide range of targets:
    - Tanks
    - Armoured vehicles
    - Bunkers and fortified structures
    - Drones
    - Helicopters
    - Other airborne threats

Three Warhead Options

1. Anti-Armour Warhead

- Designed to destroy heavily protected tanks and armoured vehicles.
- Effective against:
    - Rolled Homogeneous Armour (RHA)
    - Explosive Reactive Armour (ERA)

2. Penetration-cum-Blast Warhead

- Designed to pierce and destroy bunkers and fortified structures.
- Important for counter-insurgency and conventional warfare against entrenched positions.

3. Pre-Fragmentation Warhead

- Disperses high-speed metal fragments over a large area to maximise damage.

- Effective against personnel and light vehicles.

Production and Development Ecosystem

Indigenous Development

- Developed and produced entirely within India's defence ecosystem — demonstrating Aatmanirbhar Bharat in defence.

Nodal Development Lab

- Research Centre Imarat (RCI), Hyderabad.

UAV Integration

- Currently integrated on UAVs developed by Newspace Research and Technologies, Bengaluru.
- DRDO is pursuing integration with long-range and high-endurance UAVs from several other Indian companies.

Strategic Significance — Drones in Modern Warfare

The Drone Revolution

- Systems like ULPGM-V3 are increasingly critical as drones are becoming central to modern warfare worldwide.
- Ongoing conflicts — from Ukraine to West Asia — demonstrate the decisive role of drones in:
    - Surveillance
    - Precision strikes
    - Counter-drone operations
    - Conventional and asymmetric warfare

Network-Centric Warfare

- ULPGM-V3 reflects the growing shift toward network-centric warfare — where drones, sensors, and command systems work together in real time for precision targeting.
- The post-launch target update capability is highly valuable in rapidly changing drone combat environments.

Why Drones Are the Future

- Significantly reduced risk to soldiers and pilots.
- Persistent real-time surveillance and precision-strike capability.
- Rapid mass production and scalability compared to conventional manned weapon systems.
- DRDO has identified drone-launched weapon development as a key future focus area.

Key Terms

- **RHA (Rolled Homogeneous Armour):** Strong steel armour used in tanks.
- **ERA (Explosive Reactive Armour):** Armour that explodes outward to neutralise incoming projectiles.
- **Network-Centric Warfare:** Integration of sensors, communication systems, drones, and weapons for real-time battlefield coordination.