Prelim Bits 09-03-2024 | UPSC Daily Current Affairs

4th Global mass coral bleaching in Great Barrier Reef (GBR)

The US National Oceanic and Atmospheric Administration (NOAA) has said that the world is on the brink of a fourth global mass coral bleaching event which could see many tropical reefs killed by extreme ocean temperatures, including parts of Australia's Great Barrier Reef.

- **Corals -** Marine ***invertebrates*** or animals which do not possess a spine.
- They are the largest living structures on the planet.
- Each coral is called a ***polyp*** and thousands of such polyps live together to form a colony.
- Corals share a symbiotic relationship with single-celled algae called ***zooxanthellae.***
- **Coral Bleaching -** When corals are stressed by changes in conditions such as temperature, light, or nutrients, they expel the symbiotic algae living in their tissues, causing them to turn completely white.
- When a coral bleaches, it is not dead, they are under stress and are subject to mortality.

> *To address a defined need of coral reef managers around the world, NOAA established the Coral Reef Watch (CRW) program in 2000.*

Bleaching in GBR

- The Great Barrier Reef, the largest coral system in the world, is about 2,300km long and is made up of about 3,000 individual reefs.

> *The Great Barrier Reef is one of the natural wonders of the world and was inscribed on the World Heritage List in 1981 for its unique natural attributes and enormous scientific and environmental importance.*

- The current mass bleaching event occurred as a result of El Nino conditions in the Pacific Ocean and elevated ocean temperatures exacerbated by climate change.

> *El Niño is a natural climate cycle characterized by warmer-than-usual waters in the Pacific Ocean, typically increases average air and sea temperatures and can have a significant effect on rainfall, hurricanes and other severe weather.*

- **Previous mass bleaching events** - 1998, 2010 and 2014-2017.
- The World Heritage Committee has threatened to put the reef on a list of in danger global heritage sites.
- **GBRMPA -** The Great Barrier Reef Marine Park Authority (GBRMPA), which was established in 1975, oversees the efforts to preserve and protect the GBR.

The world's most southerly coral reef, at Lord Howe Island off Australia's New South Wales coast, is also being hit by coral bleaching.

References

1. The Guardian – Fifth mass coral bleaching event in 8 years hits GBR
2. BBC – Mass bleaching event hits World Heritage site
3. Down To Earth – Fourth global mass coral bleaching?
4. NOAA – Coral Bleaching

Kalagi

Kalagi town, earlier known as Kaluge, a wonder of Chalukyan architecture now languishes in neglect.

Chalukyas
• The Chalukya dynasty ruled large parts of southern and central India between 6th and 12th centuries as three related yet individual dynasties. • **Chalukyas of Badami** - Ruled from ***Vatapi*** (modern Badami, Karnataka) from the 6th century to middle of the 8th century. • They rose to prominence during the reign of Pulakeshin II. • **Eastern Chalukyas** – After the death of Pulakeshin II, they became an independent kingdom and ruled from ***Vengi*** (modern-day Andhra Pradesh) until about the 11th century. • In the western Deccan, the rise of the Rashtrakutas in the middle of the 8th century eclipsed the Chalukyas of Badami. • **Western Chalukyas** - Rose in the late 10th century as descendants of Badami Chalukyas and ruled from ***Kalyani*** (modern Basavakalyan, Karnataka) until 12th century.

Kalagi

- **Location** - Karnataka.
- **Built during** - The reign of Kalyani Chalukyas (Western Chalukyas).
- **Significance** - The town once has a cluster of 101 temples and more than 30 monuments.

- Most of the temples belong to the Shaiva tradition and were built in Kalagi between the 11th and early 13th centuries.
- The temples at Kalagi follow the variant of Dravidian architecture popularly known as ***Karnata Dravida style.***
- Kalagi was also the capital city of Mahamandaleshwar of a local feudatory.

Karnata Dravida Style Architecture

- The Hoysala kings ruled southern India from their capital ***Belur*** and later ***Halebidu*** in Karnataka and developed a unique idiom of architecture called the ***Hoysala architecture*** in Karnataka.
- This style is described as Karnata Dravida, and is considered an independent architectural tradition with many unique features.
- It is an ***offshoot of the Western Chalukya style*** and shows distinct Dravidian influences.
- Examples of this architecture are *Chennakesava Temple in Belur, Hoysaleswara temple in Halebidu, and the Kesava Temple in Somanathapura.*

Temples in Kalagi
Suryanarayana Temple
• Constructed during the reign of Vikramaditya-VI, the Kalyani Chalukya. • It is a structural temple made from black schist.
Jain Basadis
• In the 5th century CE, many dynasties of the south including Gangas, Kadambas, the Chalukyas and the Rashtrakutas patronised Jainism. • Rashtrakuta kings of Manyakheta (now called as Malkhed, Karnataka) showed a special leaning towards Jaina art and literature. • As the Chalukya dynasty rulers were great patrons of Jainism, the temple town hosted several Jain basadis dedicated to Lord Mahaveera, Adinath, Neminath, Shantinatha and Tirthankara.
Mallikarjuna temple
• The Mallikarjuna temple (earlier known as Gonkeshwara temple) was built by Bana Mahamandaleshwara Vira Gonkarasa in 1163 A.D. • On the right side of Mallikarjun temple is Siddeshwara temple.

Reference

The Hindu – A wonder of Chalukyan architecture now languishes in neglect

Biodiversity Beyond National Jurisdiction (BBNJ) Treaty

The Blue Leaders High-Level Event on Biodiversity Beyond National Jurisdiction was held in Belgium.

- **About** - It is an international agreement for the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.
- This new agreement was developed within the framework of ***UNCLOS.***
- It is also known by the name ***High Seas Treaty.***

The high seas are areas beyond 200 nautical miles from the exclusive economic zones of coastal countries. No country is responsible for the management and protection of resources on the high seas.

- It is a ***legally binding*** instrument with the main international agreement governing human activities at sea that is also known as the constitution of the ocean.

- **Aim -** The treaty aims to increase the percentage of protected areas on the high seas.
- **Provisions -** The treaty will ensure that profits from marine genetic resources (MGR), materials of plant, animal or microbes, are shared equitably and fairly.
- The treaty provides ground rules for Environmental Impact Assessments (EIA), which deal with identifying and evaluating the potential impacts an activity could have on the ocean.
- **Ratification -** The Blue Leaders High-Level Event on BBNJ decided to use the United Nations Ocean Conference to be held in 2025 as a platform to bring the BBNJ Treaty into force.
- So far, 88 countries are signatories to the treaty and only Chile and Palau, have ratified it so far.
- The BBNJ will enter into force when at least 60 countries ratify it.
- The agreement is opened for signature between September 20, 2023 to September 20, 2025. After this deadline, countries can no longer sign.
- **India -** India is ***yet to sign*** the treaty.

The UNOC Conference 2022 was co-hosted by the Governments of Kenya and Portugal.

References

1. Down To Earth – Countries to bring BBNJ/ High Seas treaty by 2025
2. Canada.ca – Canada signs BBNJ Agreement
3. European Commission – Protecting the ocean, time for action

Corbett Tiger Reserve (CTR)

The Supreme Court condemned the illegal felling of over 6,000 trees for eco-tourism at the Jim Corbett National Park.

- **Establishment** - Originally established as ***Hailey National Park*** in 1936, which was renamed in honor of Jim Corbett in 1956.
- **Location -** In the Nainital district of ***Uttarakhand.***
- **Biodiversity** - CTR is not only the 1st national park in India, but also the 1st to come under the Project Tiger initiative.
- It is renowned for having the ***world's highest density of tigers.***
- The Grassland habitats are characterized by open meadows ***(chaurs)*** interspersed with Sal and moist mixed deciduous forests.
- There are several important chaurs abundant in wildlife: Dhikala, Phulai, Khinnanauli, Paterpani, Mohanpani, Bhadhai and Bijrani.
- It is part of the World Wide Fund for Nature's ***Terai Arc Landscape Program,*** aimed at protecting flagship species like the tiger, the Asian elephant, and the great one-horned rhinoceros.

Project Tiger
• **Launch**- By the Central government on ***April 1 1973*** in a bid to promote conservation of the tiger. • First launched at the ***Jim Corbett National Park.*** • **Nature -** Centrally Sponsored Scheme • **Ministry -** Ministry of Environment, Forests and Climate Change provide assistance to the tiger States for its conservation in designated tiger reserves.

References

1. The Hindu – Trees in Corbett fell prey to greedy nexus: SC
2. Times of India – SC bans tiger safaris in Jim Corbett National Park
3. Image | Maps of India

Trade Secrets

The 22nd Law Commission headed by Justice Ritu Raj Awasthi has recommended a legislation to protect trade secrets with a provision to protect whistle-blowers.

- **Trade secrets –** According to World Intellectual Property Organization, "Trade secrets are ***intellectual property (IP) rights*** on confidential information which may be sold or licensed".
- Unlike other forms of intellectual property, which are limited in duration, trade secrets can be ***protected indefinitely.***
- **Criteria to qualify a trade secret** – To qualify as a trade secret, the information must be:
    1. Commercially valuable,
    2. Be known only to a limited group of persons,
    3. Be subject to reasonable steps taken by the rightful holder of the information to keep it secret, including the use of confidentiality agreements for business partners and employees.
- The unauthorized acquisition, of such secret information in a manner contrary to honest commercial practices by others is regarded as an unfair practice and a violation of the trade secret protection.
- **Regulation of trade secrets** - Currently, ***India lacks a specific law*** for the protection of trade secrets.
- Instead, they are safeguarded under the general laws governing contracts, common law, criminal law, and principles of breach of confidence and equity.
- ***National Intellectual Property Rights Policy, 2016,*** and the Parliamentary Standing Committee Report have brought back focus on the need for introducing legislation to deal with trade secrets.

> *Law Commission of India is a non-statutory body and is constituted by a notification of the Government of India, Ministry of Law & Justice, Department of Legal Affairs to make recommendations to the Government in the form of Reports.*

References

1. The Indian Express – Law Commission recommends new law for trade secrets
2. The Print – Law panel proposes legislation to protect trade secret
3. Times Now – Law Commission suggests separate legislations for trade secret

Other Important Topics

India's 1st Marine Force

The Tamil Nadu Forest Department has recently launched the country's 'first' marine force in Ramanathapuram.

• The marine elite force is to preserve and protect marine resources against exploitation in the ***Gulf of Mannar and the Palk Bay.***

• It will engage in conservation of precious marine biodiversity such as coral reefs, sea grass, and other marine flora and fauna in the eco-sensitive islands.

• The Gulf of Mannar and Palk Bay are a transboundary area between ***India and Sri Lanka.***

'Measles and Rubella Champion' Award

• **India** has been recently bestowed with the Measles and Rubella Champion Award for Exemplary Efforts in Measles and Rubella Disease Prevention.

• It has been awarded by Measles and Rubella Partnership which comprises a multi-agency planning committee including UNICEF, and WHO.

• Measles and Rubella are vaccine preventable diseases (VPDs) and MR Vaccine is part of India's Universal Immunization Programme since 2017.

*U.S. was the **1st country** to have eliminated the measles in 2015, rubella and congenital rubella in 2016.*

Nyaya Sahayak Program

The Nyaya Sahayak program will be launched in 500 Aspirational blocks in India.

• **Aim -** Nyaya Sahayak act as Community based messengers for generating door to door awareness on legal services and solutions of DoJ in Aspirational Blocks & Districts.

• It would be responsible for conducting and ensuring Door to door delivery of Legal services.

Gramdan

The Maharashtra government recently notified Mendha village as a separate Gram Panchayat under Maharashtra Gramdan Act, 1964.

• Gramdan is a social movement in India began in 1952 that involves the ***voluntary donation of land to a cooperative system***.

• Gramdan - "Gift of village".

• The movement is an expansion of the ***Bhoodan movement***, which was started by Gandhian Vinoba Bhave in 1951.

Bhoodan	**Gramdan**
Redistribution of land from larger landowners to the landless.	The entire village land puts under a common trust.

• The first village to come under gramdan was ***Mangroth in Hamirpur district of Uttar Pradesh.***

• In the Gramdan movement, donors and their descendants can work on the land and reap the benefits but they cannot sell it outside the village or to someone in the village who has not joined Gramdan.

Zero-food children

India has ranked high in a recent study calculating the prevalence of zero-food children across 92 Low and Middle-Income Countries (LMIC).

• Zero-food children are infants or toddlers aged between 6 months and 24 months who have not received any milk or solid or semisolid food over a 24-hour period.

• **Recent Findings -** India ranked ***3rd with 19.3%*** 'zero-food' children after west African countries Guinea (21.8%) and Mali (20.5%).

• The figures are much lower in Bangladesh (5.6%), Pakistan (9.2%), DR Congo (7.4%), Nigeria (8.8%) and Ethiopia (14.8%).

Patagonia Cave Paintings

Archaeologists have discovered the earliest dated cave paintings in South America in Argentine Patagonia, dating back 8,200 years.

• The paintings were found in the ***Huenul 1 cave***, located in the province of Neuquen, Argentina.

• The discovery provides evidence of the artistic ability and cultural transmission of the hunter-gatherer societies inhabited in ***middle Holocene (7,000 to 5,000 years ago).***

• There are other places in South America that could have older cave paintings, but which only have relative dating, like ***Argentina's Cueva de las Manos,*** with cave paintings dating back ***9,500 years.***

Nomination of members to Rajya Sabha

Ms. Sudha Murty was recently nominated as the member of Rajya Sabha by President Droupadi Murmu.

• The President of India nominates ***12 members*** to the Rajya Sabha for a ***6-year term***.

• The nominees must have special knowledge or practical experience in ***art, literature, science, and social service***.

• The purpose of this nomination is to give eminent people a place in the Rajya Sabha without having to go through the election process.

• Nominated members of Rajya Sabha have a right to vote in the election of the Vice-President of India, they are ***not entitled to vote in the election of the President of India.***

Indopria Angulata

A new genus and species of parasitoid wasp has been discovered by a team of researchers at the Zoological Survey of India (ZSI), Kolkata.

• The species named ***Indopria***, with 'Indo' representing India and 'pria' from Latin meaning 'little wasp', ***'angulata'*** (Latin) refers to the specialised characteristic of its wings.

• **Adaptation** - Its specialised wing morphology suggests an adaptation to aquatic habitats.

Advanced Medium Combat Aircraft (AMCA)

Cabinet Committee on Security has recently approved the development of a stealth fighter, the AMCA.

• The Advanced Medium Combat Aircraft (AMCA) is a 5^{th} generation stealth fighter jet capable of achieving supersonic cruise speeds.

• It is being developed by India for the Indian Air Force and Navy.

• The AMCA is a single-seat, twin-engine aircraft with a ***maximum speed of around 2,600 kmph (Mach 2.15) and a combat range of 1,620 km.***

• The AMCA will provide a low radar cross-section and have an internal payload of 1,500 kg and an external payload of 5,500 kg with 6,500 kg of internal fuel.

• In India, the AMCA will follow the progressive induction of the Tejas Mark-1A and Mark-2 jets.

Sharavathi pumped storage project

• The Sharavathi Pumped Storage Project is a proposed hydro project in ***Karnataka*** that aims to increase power generation.
• The project is expected to use the existing ***Talakalale and Gerusoppa reservoirs*** to generate ***2,000 MW*** of power and could take ***5 years*** to implement.
• **Sharavathi river,** originating at Ambutirthha mountain in ***Karnataka***, is a westward flowing river.
• The river forms the famous ***Jog Falls*** before joining the Arabian Sea at Honavara.

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