

## UPSC Daily Current Affairs | Prelim Bits 12-09-2024

### Teal Carbon

Recently, India's first study on 'teal carbon' was undertaken at Keoladeo National Park (KNP) in Rajasthan.

- **Teal Carbon** - It is the organic carbon stored in ***non-tidal freshwater wetlands***.
- It is colour-based terminology that reflects the classification of the organic carbon based on its ***functions and location*** rather than its physical properties.
- **Components** - It encompasses carbon sequestered in ***vegetation, microbial biomass, and dissolved and particulate organic matter***.
- **Sources** - Peatlands, freshwater swamps, and natural freshwater marshes account for significant amount of this storage.
- **Global level storage** - Across the ecosystems, 500.21 petagrams of teal carbon (PgC) is stored.

*Petagrams of carbon (PgC) is a unit to measure carbon and it is equivalent to  $10^{15}$  grams.*

- **Climate Mitigation Tool** - It can be used as a tool to mitigate climate change caused by anthropogenic pollution in the wetlands.
- **Benefits of teal carbon ecosystem** - Increase in the ground water level, flood mitigation and heat island reduction, supporting a sustainable urban adaptation.
  - **Regulating GHG** - Equivalent to coastal wetlands, they have the capacity to regulate greenhouse gases.
- **Other Carbon Forms**
  - **Black and Brown carbons** - They are primarily produced by incomplete combustion of organic matter from sources such as wild fires, fossil fuel combustion, and industrial activities.
  - **Blue carbon** - It is the carbon stored in coastal and marine ecosystems.
  - Coastal wetlands, including seagrass meadows, mangroves and tidal marshes, are major blue carbon ecosystems and are often termed "blue forests".

### References

[The Hindu | India's first 'teal carbon' study](#)

## PresVu

Recently, a Mumbai-based company has developed a new eye drop to reduce dependency on reading glasses for individuals affected by presbyopia.

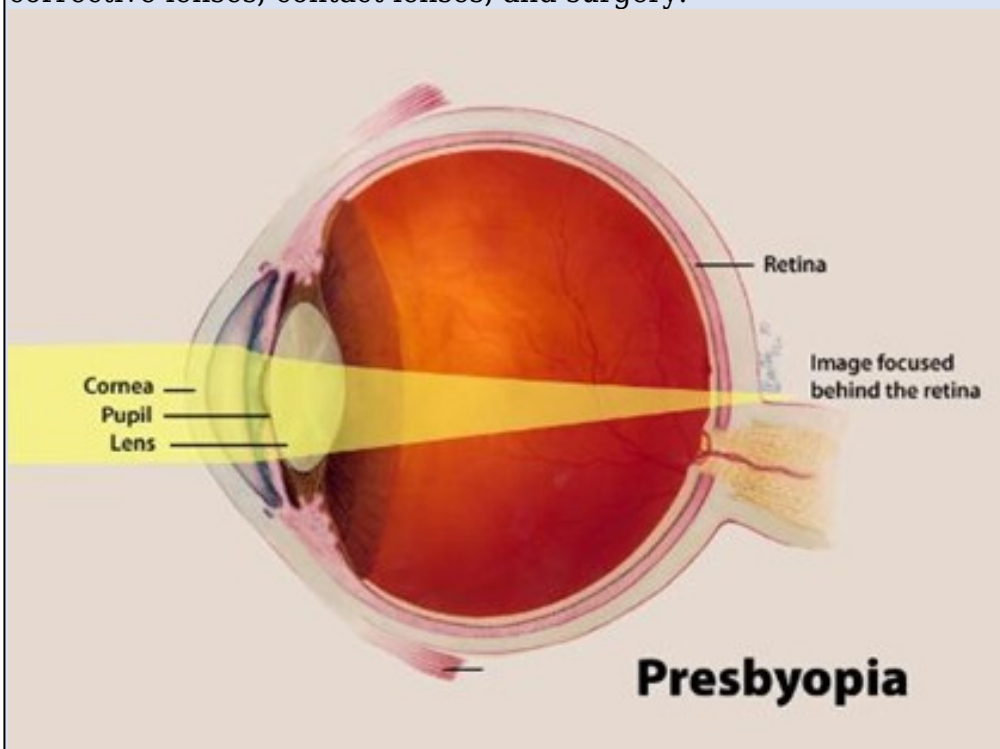
- **PresVu** - It is a first of its kind eyedrop in India to treat presbyopia.
- **Developed by** - Entod, Mumbai-based pharmaceuticals company.
- **Active Ingredient** - PresVu contains 1.25% concentration of Pilocarpine.

*In India, the government decides on the ceiling price of pilocarpine in 4% and 2% concentrations.*

- **Working** - The compound contracts the iris muscles, which control the size of the pupil, to focus better on nearby objects.
- It uses advanced dynamic buffer technology essentially, a base solution, to adapt to the pH level of tears.
- This ensures that the eye drop has consistent efficacy and safety for extended use.
- **Side effects** - PresVu is a prescription-only medicine and its impact is unlikely to last beyond four to six hours.
- Regular use of PresVu may lead to itching and redness, eyebrow pain, and muscle spasms in the eyes.

## Presbyopia

- It is an **age-related farsightedness** condition in which the eyes gradually **lose the ability to focus on nearby objects**.
- People usually start to develop presbyopia at around the age of 40.
- **Symptoms** - Blurry close-up vision, headaches, and eye strain.
- **No Cure** - There's no cure for presbyopia, but there are several treatments, including corrective lenses, contact lenses, and surgery.



## Reference

[Indian Express | PresVu](#)

## Sakthan Thampuran

*Recently, Minister of State for Tourism pledged to renew the statue of Sakthan Thampuran.*

- **Sakthan Thampuran** - Raja Rama Varma Kunjipillai or Rama Varma IX, is called as Sakthan Thampuran.
- **Kingdom** - Cochin
- **Ruling Period** - 1790 to 1805.
- **Birth** - 1751
- **Parents** - Ambika Thampuran and Chendose Aniyam Namboodiri of the Cochin royal family.
- **Sakthan** - He was raised by an aunt who called him Sakthan, meaning 'powerful'.
- **Cochin kingdom** - It was part of the Late Chera Empire, covered the regions between Ponnani in Malappuram and Thottappally in Alappuzha.



- **Heir apparent** - Sakthan Thampuran became heir apparent in 1769 as an 18-year-old.
- **Strategist** - He advised his king to maintain friendly relations with both the Dutch and the English.
- **Travancore Invasion** - Sakthan is said to have orchestrated Mysore's attempt to invade the Travancore kingdom.
- **Powney treaty** - This would result in the Powney treaty which freed the Cochin kingdom from its allegiance to Mysore, and helped formalise its relations with the British.

- **Ending Yogiattirippads** - He ended the institution of the Yogiattirippads — the erstwhile spiritual heads of the Vadakkumnathan and Perumanam temples.
- He entrusted temple management to the government from Yogiattirippads.
- **Capital Transfer** - He transferred the seat of the Cochin kingdom from Thrippunithura to modern-day Thrissur.
- **Trade Encouragement** - The king encouraged merchants of all religions and British officials to relocate to the city.
- **Revenue Management** - He also overhauled and firmed up the kingdom's finances, personally overseeing revenue management.
- **Thrissur Pooram** - He started the Thrissur Pooram in 1797 as an alternative to the Arattupuzha Pooram.
- The Thrissur Pooram was conceived as an opportunity for the major temples in Thrissur to come to pay their respects to Lord Shiva, the presiding deity at the Vadakkumnathan Temple.

## Reference

[Indian Express | Sakthan Thampuran](#)

## Global guidance on antibiotics pollution from manufacturing

*Recently WHO released first ever global guidance to tackle antibiotic pollution from manufacturing processes.*

- **Guideline** - Guidance on ***wastewater and solid waste management*** for manufacturing of antibiotics.
- **Released by** - World Health Organization (WHO)
- **Aim** - Foster a collective effort to mitigate the environmental impact of antibiotic manufacturing.
- **Framework** - It offers a scientific framework for regulators, industry players and other stakeholders to implement effective controls against antibiotic pollution.
- **Comprehensive Approach** - It covers all steps from the manufacturing of active pharmaceutical ingredients (APIs) and formulation into finished products, including primary packaging.
- **Antibiotic pollution control standards** - It provides scientific basis for regulators, procurers, inspectors and industries to include robust antibiotic pollution control in their standards.
- **3 Core elements** - It outlines three core elements and the parties responsible for implementing each one.
  - **Targets** - Defining targets for resistance selection and ecological effects, based on exposure and risk assessments.
  - **Risk Management** - Establishing risk management processes to achieve these targets
  - It is done by tools such as hazard analysis and critical control points, alongside internal audits and public communications.
  - **Audits** - Conducting independent audits to verify that targets are being met.

## • Guiding Principles

- Precautionary approach for target setting
- Progressive improvement towards meeting these targets.

### Anti-Microbial Resistance (AMR)

- AMR occurs when bacteria, viruses, fungi, and parasites no longer respond to medicines.
- It makes people sicker and increasing the risk of spread of infections that are difficult to treat, illness and deaths.
- **Causative factors** - AMR is driven largely by the misuse and overuse of antimicrobials.
- The emergence and spread of AMR caused by antibiotic pollution could undermine the effectiveness of antibiotics globally.
- **Antibiotic Pollution** - Pharmaceutical waste from antibiotic manufacturing can facilitate the emergence of new drug-resistant bacteria.
- It includes the medicines produced at the manufacturing sites and the unscientific disposal of them as waste after use.
- High levels of antibiotics in water bodies downstream of manufacturing sites have been widely documented.
- Currently, antibiotic pollution from manufacturing is largely unregulated and quality assurance criteria typically do not address environmental emissions.

## Reference

[DownToEarth | WHO global guidance on antibiotic pollution](#)

## Operation Bhediya

*Recently 5th wolves were trapped in Bahraich after deadly attacks.*

- **Operation Bhediya** - It is the effort of Uttar Pradesh department forest department to capture wild wolves in the Bahraich region.
- It has been carried out in about 35 villages in Bahraich District under threat of wolf attacks.
- **Launched by** - Forest Department of Bahraich District, Uttar Pradesh.
- **Measures Taken** - The operation includes increased monitoring of known wolf habitats and areas with frequent attacks to track their movements and prevent further incidents.
  - **Wildlife management** - Improve overall wildlife management practices, including better waste management.
  - **Prevention** - Creation of barriers to prevent wolves from entering human settlements.
  - **Thermal drones** - They are being deployed to track the wolf's movements.
  - **Camera Traps** - They were installed to automatically trigger by motion in its vicinity by the presence of the animal.
  - **Pugmarks** - Identifying pugmarks and gathering intelligence from residents.
  - **Tranquilise** - Permission to tranquilise the animals has also been granted by the Chief Wildlife Warden.

- **Wildlife Disaster area** - Uttar Pradesh government has declared the Bahraich district as a 'Wildlife Disaster' affected area.
- It will expedite the ongoing 'Operation Bhediya' to catch the animals involved in the attack on humans and help the affected families to get an ex-gratia amount without much trouble.

To Know more about the wolves , Click [Here](#)

## Reference

[Hindustan Times | Operation Bhediya](#)

