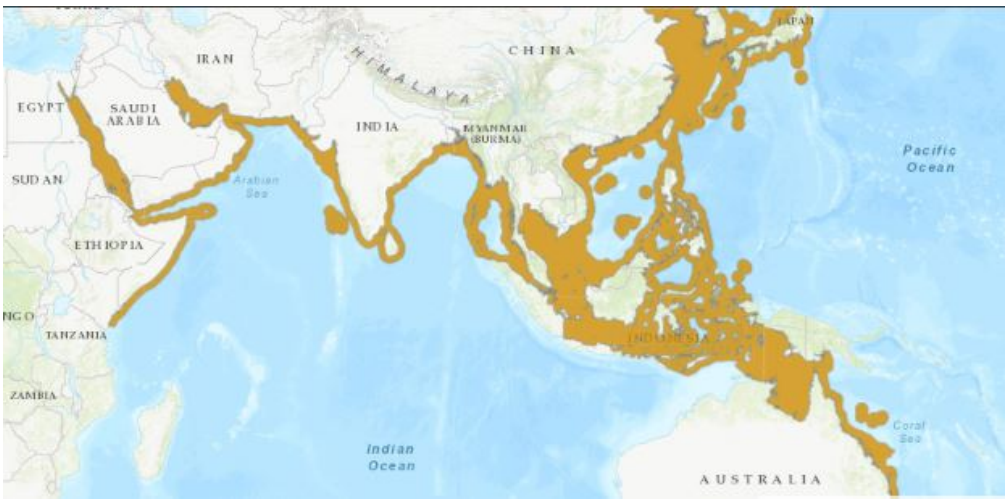
Prelim Bits 05-03-2023 & 06-03-2023 | UPSC Daily Current Affairs

Great Seahorses

The great seahorse could be migrating laboriously toward Odisha due to extensive fishing off the Coromandel Coast.

- Seahorses belong to the family *syngnathid*.
- They are known for their unusual body shape and biology.
- In seahorses males incubate the fertilized eggs, sometimes up to 1,500 in a brood pouch.
- **Distribution** - There are 46 species of seahorses reported worldwide.
- 12 species of seahorses are found in the Indo-Pacific region, one of the hotspots of seahorse populations.



- **In India** - The coastal ecosystems of India house 9 species, distributed along the coastal regions of India.
- **Habitat** - Seahorse populations are distributed across diverse ecosystems such as seagrass, mangroves, macro algal beds, and coral reefs.
- **Migration** - Seahorses are poor swimmers but migrate by rafting.
- They cling on to floating substrata such as macro algae or plastic debris for dispersal by ocean currents.
- **Threats** - Overexploitation for traditional Chinese medicines and as ornamental fish, general destructive fishing and fisheries bycatch.

In 2001 all the seahorse species found in India was kept in Schedule I of WLPA, 1972 and from then on fishing and trading activities on seahorses were banned in India.

- **Conservation Status -** Great Seahorse (*Hippocampus kelloggi*)

Protection Status	
Wildlife (Protection) Act, 1972	Schedule I
IUCN Red List Status	Vulnerable
CITES	Appendix II

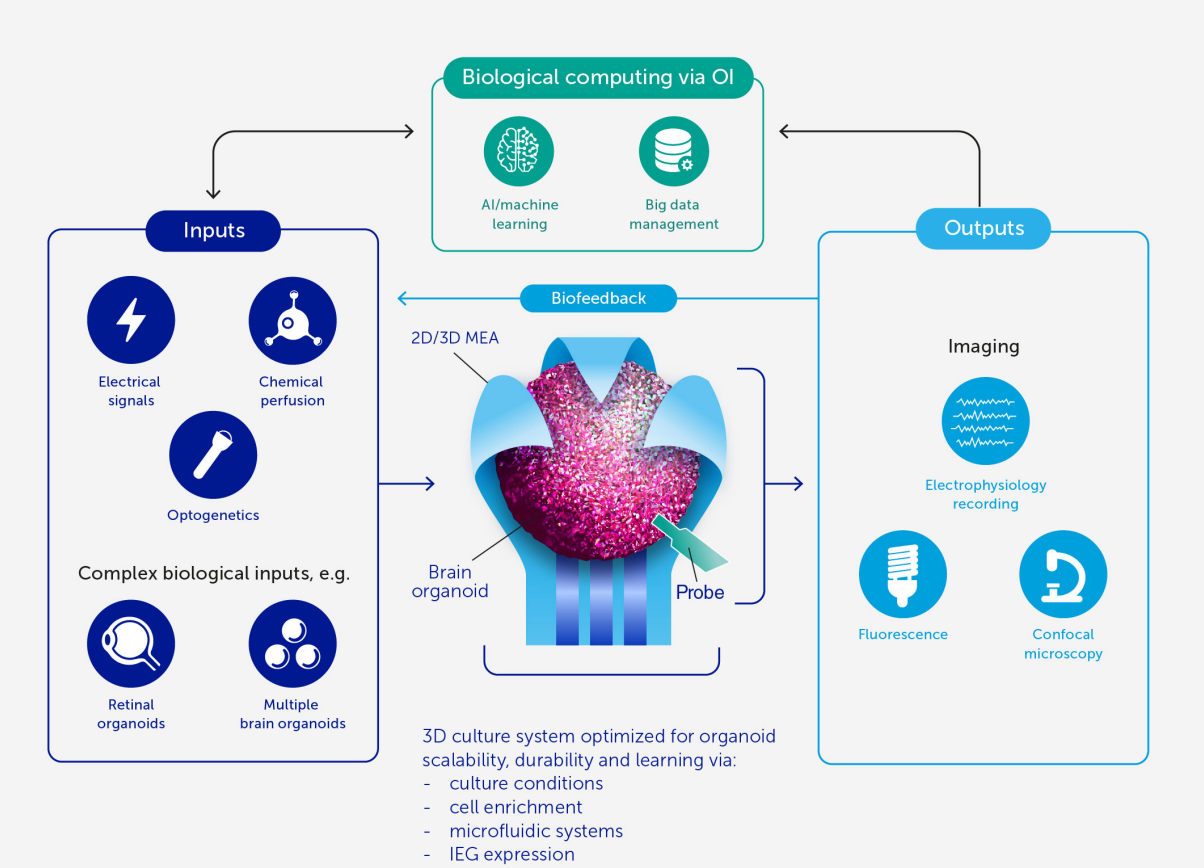
References

1. The Hindu - With overfishing, great seahorses bolt from the Coromandel
2. IUCN - Great Seahorse

Bio-computers

Scientists at Johns Hopkins University (JHU) recently outlined a plan for 'organoid intelligence' (OI), which aims to create 'bio-computers'.

- **Organoids** - The 3D cultures of brain tissue built in the lab are called brain organoids.
- These are of size up to 4 mm and are also called 'mini-brains'.
- They are built using ***human stem cells*** and capture many structural and functional features of a developing human brain.
- **Method** - In bio-computers brain cultures grown in the lab are coupled to real-world sensors and input/output devices.
- The scheme will combine brain organoids with modern computing methods to create 'bio-computers', like coupling the organoids with machine learning.
- Organoids are grown inside flexible structures affixed with multiple electrodes to mimic sensory stimuli.
- **Uses** - Researchers are now using them to study human brain development and test drugs to see how they respond.
- Organoids can reveal the biological basis of human cognition, learning, and memory.
- Help decode the pathology of and drug development for neuro diseases such as Parkinson's disease and microcephaly.
- **Limitations** - The organoids currently don't have sensory inputs and blood circulation.



References

1. The Hindu - What can bio-computers tell us about the human brain?

SWAMIH Investment Fund

SWAMIH investment fund has raised Rs 15,530 crore so far with an aim to provide priority debt financing for distressed projects.

- The Special Window for Affordable and Mid-Income Housing (SWAMIH) Investment Fund I is a ***social impact fund*** specifically formed for completing stressed and stalled residential projects.
- **Inception** - Launched in November 2019, it is considered as the lender of last resort for distressed projects.
- **Funding** - The Fund is sponsored by the Ministry of Finance, Government of India.
- The fund is managed by SBICAP Ventures Ltd. - a State Bank Group company.
- **Aim** - To provide priority debt financing for the completion of stressed, brownfield and RERA-registered residential projects that fall in the affordable, mid-income housing category.
- **Significance** - The Fund has played a critical role in the growth of many ancillary industries in real estate and unlocked liquidity for infrastructure sector.

References

1. PIB - SWAMIH Fund completes 20,557 homes since 2019

2. IE - What is the SWAMIH investment fund

Pump and Dump Scheme

The Securities and Exchange Board of India (SEBI) recently barred 31 entities, including actor Arshad Warsi, his wife from the securities market in a case related to 'Pump and Dump' Scheme.

- SEBI discovered a spike in the price and trading volume of 2 broadcasting firms - Sadhna and Sharpline, and found out the scam.
- Pump and dump is a manipulative scheme in capital market.
- It involves "pumping up" the share price and then "dump" the shares.

> 'Pump and dump' is a 3-step process.
> 1. A person buys a significant holding in any stock.
> 2. Boost the price of stock through fake recommendations based on false, misleading, or exaggerated statements ("pump" people's money).
> 3. When the price rises, the operators sell the stock ("dump" the shares).

- **SEBI's stand** - Pump-and-dump operations are illegal.
- SEBI terms such schemes as fraudulent and unfair trade practices, which can hamper the sanctity of Indian capital markets.
- **Arshad Warsi's case** - Actor Arshad Warsi and his wife were offloading shares of the company while indulging in promotional activities.
- **YouTube channels** - YouTube channels 'The Advisor' and 'Moneywise' spread fake and misleading news recommending investors to buy shares of Sadhna and Sharpline for big profits.
- **MMD** - Under SEBI guidelines, someone who spreads this information is called MMD or a 'misleading message disseminator'.

References

1. BL - How 'pump and dump' was used in the YouTube scam?
2. Economic Times - What is YouTube pump-and-dump scheme?
3. Business Standard - What is Pump and dump scheme?

Jerdon's narrow-mouthed frog

After 89 years, Jerdon's narrow-mouthed frog was rediscovered in Western Ghats.

- Jerdon's narrow-mouthed frog (*Uperodon montanus*) was first identified in 1934 by a British scientist.
- Jerdon's narrow-mouthed frog is endemic to the higher altitudes of Western Ghats.

- **Characteristics** - The frogs have a longish snout.
- It has a shiny brown skin with darker brown, red and golden spots on the back and head.
- Its tadpoles are free-swimming and exotrophic (they feed on other species).
- **Habitat** - They are found in rock pools or tree holes filled with rainwater.
- This frog is considered a montane species and is restricted to higher altitude ranges up to 1700m. Now reported at 1,916 m.
- **Distribution** - They are distributed from near Wayanad south across the Palghat and the Shencottah gaps to the Agasthyamalai hills.
- **Conservation Status** -
    - **IUCN** - Near Threatened

References

1. Down To Earth - Frog endemic to Western Ghats ‘rediscovered’
2. IUCN - Jerdon's Ramanella