Reviving Coral Reefs with 'Good Sounds'

Source: TH

A study was presented that examined the **use of "healthy reef sounds" to potentially aid in the resettlement of coral polyps** and the **restoration of degraded reefs.**

- **Coral polyps use sound to communicate,** and the study found that **playing healthy reef sounds increased the settlement rate of coral polyps** on degraded reefs.
- The settlement rate was higher closer to the underwater speakers playing the sounds, indicating the impact of the sounds.
- **Coral Reef:**
  - Coral reefs **are marine ecosystems** primarily composed of **coral polyps** that form symbiotic relationships with **zooxanthellae,** photosynthetic algae.
  - The **zooxanthellae provide corals with nutrients and oxygen, while corals offer shelter.** This mutualism is vital for the health and survival of coral reef ecosystems.
- **Climate change** due to the burning of fossil fuels and deforestation is **causing global warming** and rising sea levels, **leading to the destruction of coral reefs** through bleaching events.

Coral Reefs

(Rainforests of the seas)

Drishti IAS

About

- **Large underwater structures** – made of skeletons of **colonial marine invertebrates 'coral'** – individually called **polyp**
- **Symbiotic** Relationship with **algae 'zooxanthellae'** (responsible for beautiful colours of corals)
- Support over 25% of marine biodiversity

Hard Corals vs Soft Corals

- **Hard Corals** - Rigid skeleton **made of $CaCO_3$ - reef-building** corals
- **Soft Corals** - Non reef-building

Great Barrier Reef (Australia)

- Largest Coral Reef in the World
- World Heritage Site (1981)
- Endures Mass Coral Bleaching

Corals in India

- Present in the areas of Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, Lakshadweep Islands and Malvan

Significance

- Coral reefs **protect coastlines from storms/erosion**, provide jobs, offer opportunities for recreation
- Source of **food/medicines**

Threats

- **Natural:** Temperature, Sediment Deposition, Salinity, pH, etc.
- **Anthropogenic:** Mining, Bottom Fishing, Tourism, pollution, etc.

Coral Bleaching

- Corals under stress - expel algae – thus turning white (bleached)
- Bleached corals - not dead – but, more risk of starvation/disease

Initiatives to Protect Corals

Technology

- Cyromesh: Storage of the coral larvae at (-196°C) - Can be later reintroduced to the wild
- Biorock: Creating artificial reefs on which coral can grow rapidly

Global

- International Coral Reef Initiative
- The Global Coral Reef R&D Accelerator Platform

Indian

National Coastal Mission Programme

Read More- Coral Bleaching in Great Barrier Reef, Coral reefs