

Argasia Education PVT. Ltd. (GST NO-09AAPCA1478E1ZH)
 Address: Basement C59 Noida, opposite to Priyagold Building gate, Sector 2, Pocket I, Noida, Uttar Pradesh 201301,
 CONTACT NO- 8448440231

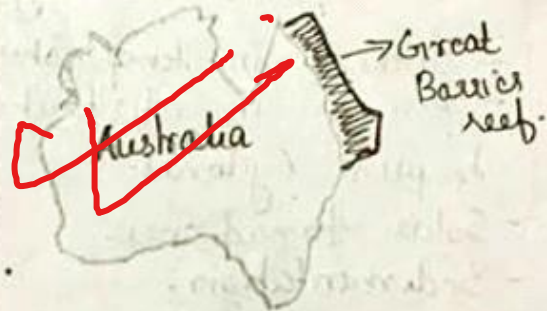
1) Recent data has shown that the Great Barrier reef has been destroyed by over 50% in the last 25 years. In this context, discuss threats faced by corals, their significance and approach towards their preservation.

The Great Barrier Reef is the world's largest coral reef system. With over 2,900 individual reefs and 900 islands, it is selected as the World's Heritage Site in 1981. As reported in a paper published in April 2018, in journal 'Nature', Great Barrier Reef of Australia suffered large scale coral bleaching due to 2016 marine heatwave.

Keep it a bit short.

Can you remember this data.

- The reef is located in the Coral Sea, off the coast of Queensland, Australia.



~~Narrow range of~~

Temperature
(25 - 27°C)

Clear water.
(for photosynthesis.)

Narrow range of environmental conditions for coral reefs.

Ocean water salinity
(32-35 parts per thousand)

Depth of water
(Corals cannot survive beyond photic zone)
best shallow water depth is 60-80m.

So, when various environmental conditions change, it faces certain kind of threats. Some of the threats faced are as follows:

Natural factors

- * Coral bleaching
- Coral polyps expel the Zooxanthellae algae from it. This causes the coral polyps to undergo discoloration.
- [climate change.
- [depletion of essential symbionts
- Rise in sea level due to global warming
- Increase in temperature
- Increase in destructive tropical cyclones.
- Solar irradiance.
- Sedimentation.
- Sub-aerial exposure.

Anthropogenic factors

- marine & Coastal pollution.
- Overfishing & destructive fishing practices.
- Unsustainable tourism.
- Coral mining.
- Ocean acidification
- Thermal pollution.

Significance

- * provide habitat to fisheries.
 - * It protect the coastal area due to breaking down of waves, especially during natural disasters.
 - * It act as the source of medicinal plants.
 - * largest biogenic calcium carbonate producer.
 - * nutrient recycling for marine food chains.
- Despite a limitation of actions taken to prevent coral destruction, there are few conventions & agreements & they are as follows:

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- * The International Coral Reef Initiative (ICRI) and the Global Reef monitoring Network (GCRMN)
Conceived by at the UN Conference on Sustainable Development of Small Island Developing States in Barbados in 1994.
 - * The Coral Triangle Initiative.
- Signed in 2006 by the Govt of Indonesia, Philippines, Malaysia, Papua, New Guinea, the Solomons & Timor Leste.
 - * 50 Reefs.
 - * International year of the Reef, 2018.
 - * Bio-rocking technology
- Despite all this effort, protection of Coral Reefs are getting difficult day by day. The destruction continues in such scale, ~~almost~~ the Great Barrier reef will be completely destroyed by 2035. Save the Coral reefs, save the rainforest of the Ocean.

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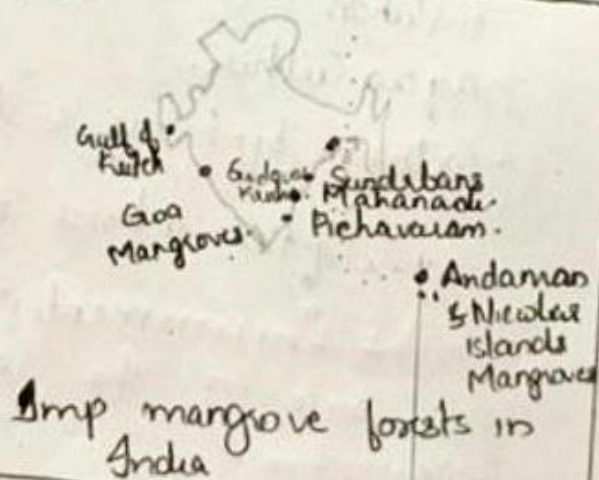
2) During recent cyclone Amphan, significance of Mangroves was realized by coastal Indian states. Critically analyze the approach in management of mangrove forests in India.

As per the Indian State of Forest 2019, the mangrove cover in the country is 4,975 km² whereas India's contribution is 45.8% of the total mangrove cover in South Asia. It is also the home of World's largest mangrove forest of the world - Sundarbans.

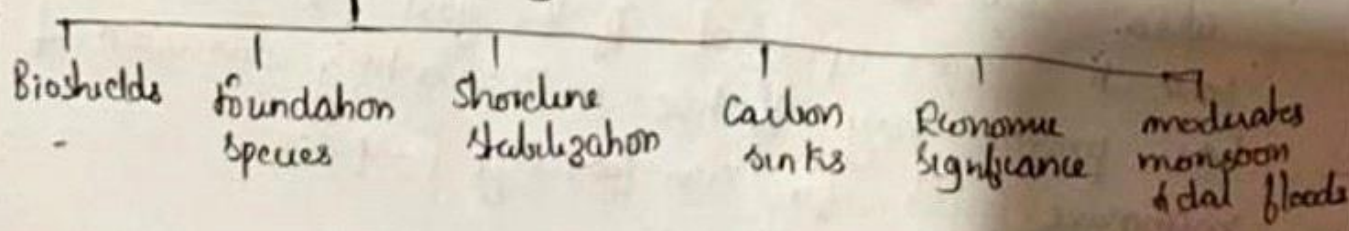
Case study: On May 20, cyclone Amphan made heavy destruction over the coast of WB, Odisha & Bangladesh. When Amphan struck, it flooded coastal communities and pushed water up to 15 km inland in parts of Sundarbans. However, the cyclone wrought much less damage because of the delta's mangroves.

West Bengal has the highest share (2112 Sq. km)

- Followed by Gujarat (1177 Sq km), A&N islands, (616 Sq km), AP (404 Sq km)



Importance of Mangroves



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Despite their importance, mangroves are disappearing at a global level loss rate of 1.38% per year. In India, the total mangrove cover of a country is 4,975 km², which is 0.15% of the country's total geographical area.

2017 - 4,921 sq km

2019 - 4,975 "

Increase in 2019 as compared to 2017 assessment

But some of the major threats faced by Mangroves in India are as follows:

- Deforestation.
- Salinization
- Mining.
- Oil spills.
- River changes
- climate change.
- Pollution
- aquaculture.
- Cyclones, typhoons & strong wave action.

Some of the actions taken by the government are as follows:

- The Environment protection Act, 1986 has had an crucial role in the Conservation & management of mangroves ecosystem.
- The forest Conservation Act, 1980 states that no forest area shall be diverted for any non-forestry purpose without prior approval of the govt of India. This act has proved very effective in preventing diversion of mangrove forest for non-forestry purposes.

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- Mangroves for future (MFF) - global initiative promoting investment in coastal ecosystems for sustainable development

But, most of these actions are not effective both in global & national field. During the Cyclone Amphan, there was a large scale of destruction of Sunderban mangrove forest. Even the poverty of local inhabitants forces them to depend on mangroves.

Therefore, these forests need to be conserved through an individual & government level. Increase in population in coastal area, lack of awareness, improper planning etc are driving forces in individual level. More legislative actions should be taken care for Mangroves.

Way forward

- Increase in legislative action
- Increase in awareness
- Collective action of planting & conserving
- local action towards conservation.

More Mangroves for More Sustainability
of Coastal area.