



**Coral reefs-an *excruciating* creation of nature**

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**Abstract**

Coral reefs are basically reef building corals which are of paramount importance to human beings not only because they contribute in the livelihood of coastal communities and oceanic production but also provide consequential benefits in the fields of tourism, recreation, coastal protection. They are the indicators to climate change and waste treatment also. India has 8,000 km of coastline and coral reefs play an important role in coastline protection. They are various types of corals that are distributed widely in India Gulf of Kutch to Lakshadweep islands. Coral reefs are significantly important in marine ecosystem because of their importance ecologically and climatologically. It is noted that coral reefs once destroyed its richness and biodiversity cannot be revived. In India there has yet not been a separate legal status of coral conservation and management, thus the need of the hour is awareness and more importantly implementation of strict laws otherwise we would lose a very beautiful gift of the nature because of sheer negligence.

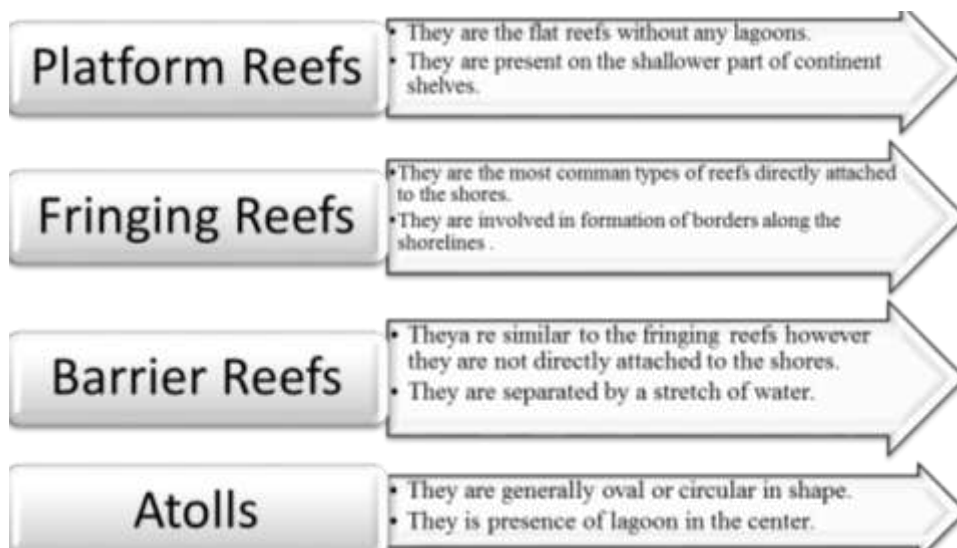
**Keywords:** Coral Reefs (Types and Distribution), Importance, Conservation, Awareness

**Introduction**

The nature is just like an open book, with every page giving us something new to explore and study that eventually increases earth’s scenic beauty, makes it a more beautiful place to stay and contributes to well being of mankind. One such exquisite creation is of the coral reefs. Coral reefs are the diverse and valuable ecosystems found in the tropical waters throughout the world. They are of paramount importance to human beings not only because they contribute in the livelihood of coastal communities and oceanic production but also provide consequential benefits in the fields of tourism, recreation, coastal protection. They are the indicators

to climate change and waste treatment also. India has 8,000 km of coastline and coral reefs play an important role in coastline protection. However, it is noted that coral reefs once destroyed its richness and biodiversity cannot be revived. The major reasons for their destruction can be sedimentation, dredging and coral mining so there conservation has become noteworthy. (Jyoti Saroj; Ravi Kumar Gautam; Arti Joshi and Panja Tehseen, REVIEW OF CORAL REEFS OF INDIA: DISTRIBUTION, STATUS, RESEARCH AND MANAGEMENT, International Journal of Science, Environment and Technology, (2016), 5(5), 3088 – 3098)

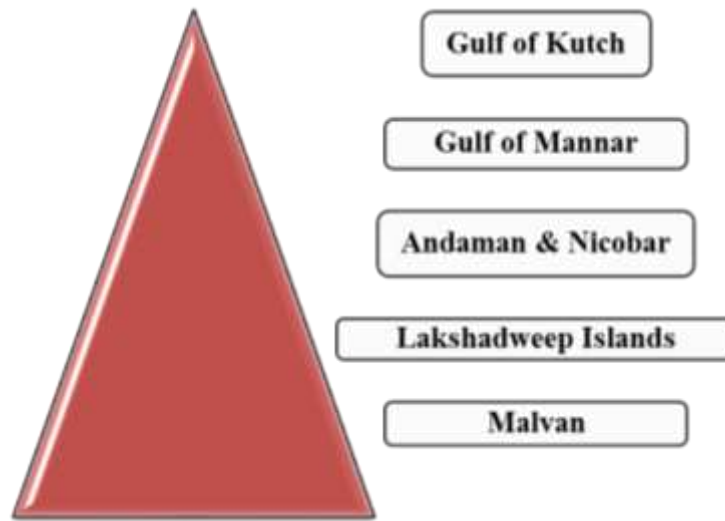
**Major Types of Coral Reefs**



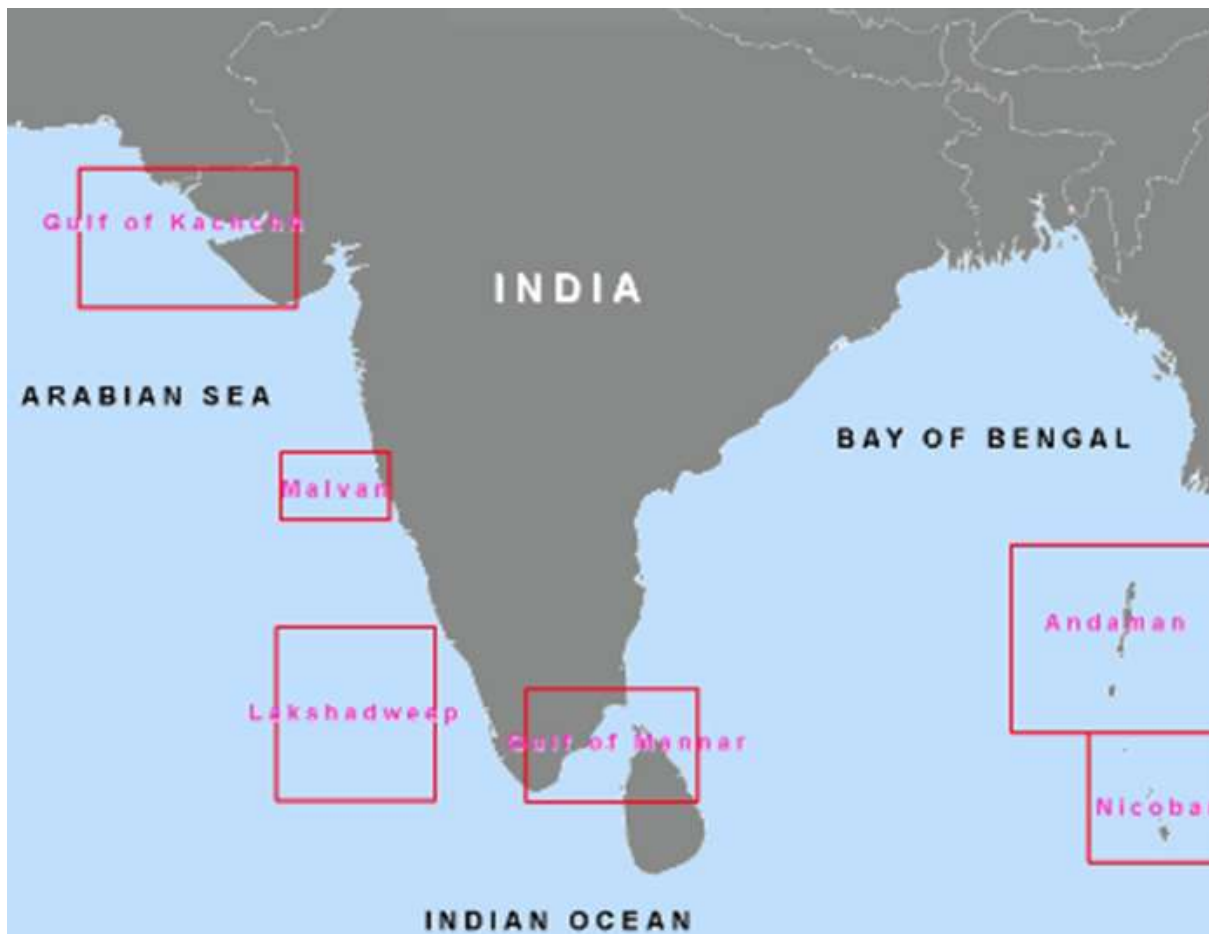
**Fig 1:** Distribution of Major Types of Coral Reefs. (National Ocean Service, National Oceanic and atmospheric administration, U.S Department of Commerce)

### Major Distribution of Coral Reefs in India

The major areas in India where coral reefs are present basically includes:-



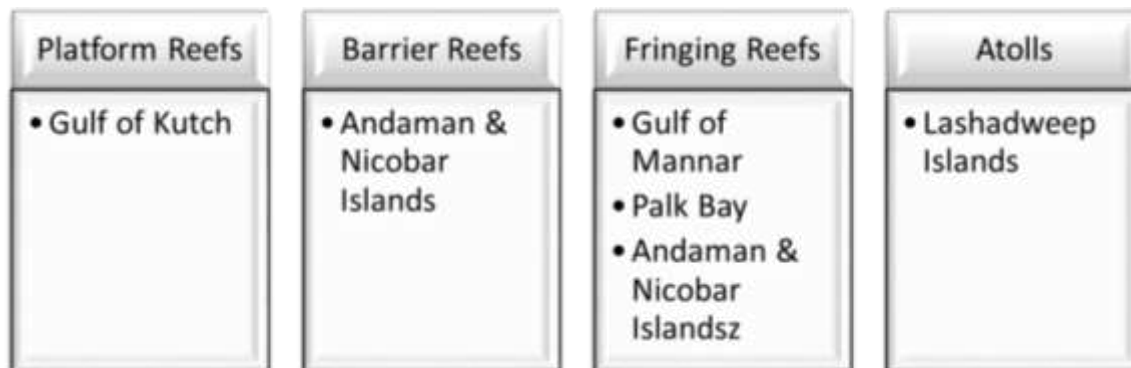
**Fig 2:** Distributions of Coral Reefs in Indian Coastline. (ESSO- Indian National Centre for Ocean Information Services, An Autonomous Body under the Ministry of Earth Sciences, Govt. of India)



**Fig 3:** Distributions of Coral Reefs in India. (ESSO- Indian National Centre for Ocean Information Services, An Autonomous Body under the Ministry of Earth Sciences, Govt. of India)

The absence of coral reefs in Bay of Bengal is mainly attributed to the following reasons of massive amount of freshwater brought by the Ganges, Godavari and Krishna. The distribution of coral reefs in India

is estimated to about 2,347.9 sq km. (E.V. Muley, K. Venkataraman, J.R.B. Alfred, M.V.M. Wafar, Status of coral reefs of India, Proceedings 9th International Coral Reef Symposium, Bali, Indonesia 23-27 October 2000, Vol. 2)



**Fig 4:** Distributions of types of Coral Reefs along the coastline of India. (Jyoti Saroj; Ravi Kumar Gautam; Arti Joshi and Panja Tehseen, REVIEW OF CORAL Reefs of India: Distribution, Status, Research and Management, International Journal of Science, Environment and Technology, (2016), 5(5), 3088 – 3098)

<p><b>Gulf of Mannar</b></p> <ul style="list-style-type: none"> <li>•Area occupied by reef and its associated features is 94.3 sq km.</li> <li>•The common genera of corals present are:- <i>Acropora</i>, <i>Montipora</i> &amp; <i>Porities</i>. Ornamental fishes like <i>Chaetodontidae</i> (Butterfly Fish), <i>Amphiprion</i> spp, <i>Holocentrus</i> spp etc.</li> </ul>
<p><b>Malvan</b></p> <ul style="list-style-type: none"> <li>•The coral reefs present are:- <i>Porites</i>, <i>Coscinaraea</i>, <i>Turbinaria</i>, <i>Favia</i> &amp; <i>Pseudosiderastrea</i>.</li> </ul>
<p><b>Laksadweep Islands</b></p> <ul style="list-style-type: none"> <li>•The coral fauna consists about 105 species and 27 genera.</li> <li>•The species present are <i>Acropora</i> spp, <i>Pocillopora</i> spp, <i>Porities</i> spp. There is presence of massive blue coral <i>Helipora coerulea</i>, <i>Millepora</i> spp.</li> </ul>
<p><b>Andaman &amp; Nicobar Islands</b></p> <ul style="list-style-type: none"> <li>•The fauna present here is quite diverse as compared to other parts of the country.</li> </ul>

**Fig 5:** Examples of Coral Reefs present along the coastline of India. (E.V. Muley, K. Venkataraman, J.R.B. Alfred, M.V.M. Wafar, Status of coral reefs of India, Proceedings 9th International Coral Reef Symposium, Bali, Indonesia 23-27 October 2000, Vol. 2)

**Importance of Coral Reefs**

Coral reefs are significantly important in marine ecosystem because of their importance ecologically and climatologically. They are predominant ecologically because they are equivalent to the tropical rain forest in terms of species diversity and biological productivity in the Ocean. They help in the formation of essential habitats, fisheries and livelihoods. Coral reefs provide accurate records of seasonal climate variability of many remote tropical oceans. (ESSO- Indian National Centre for Ocean Information Services, An Autonomous Body under the Ministry of Earth Sciences, Govt. of India). According to the report provided by The National Coral Reef Monitoring Program (NCRMP) showcases that each year coral reef contributes about 30 million U.S dollar to the world economics. It is also reported that the

species present in and around coral reefs help in the medical industry as well to form medication for various diseases like cancer, human bacterial infection, arthritis etc. However, about 1 to 8 million species are undiscovered in and around coral reefs thus their conservation is predominantly important. The relation of coral reefs and other species of marine environment is very interesting. The relation between sharks and coral reefs is quite unique as corals provide ecologically favorable environment for the sharks however the counter benefit still remains unclear. (Leonie Sophia van den Hoek, Emad K. Bayoumi, Importance, Destruction and Recovery of Coral Reefs, IOSR Journal of Pharmacy and Biological Sciences (IOSR-JPBS), (2017), 12(2), 59-63)

Conservation of Coral Reefs

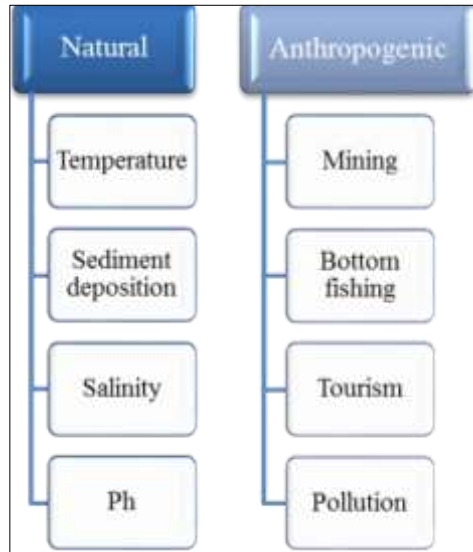


Fig 4: Main reasons for destruction of Coral Reefs.

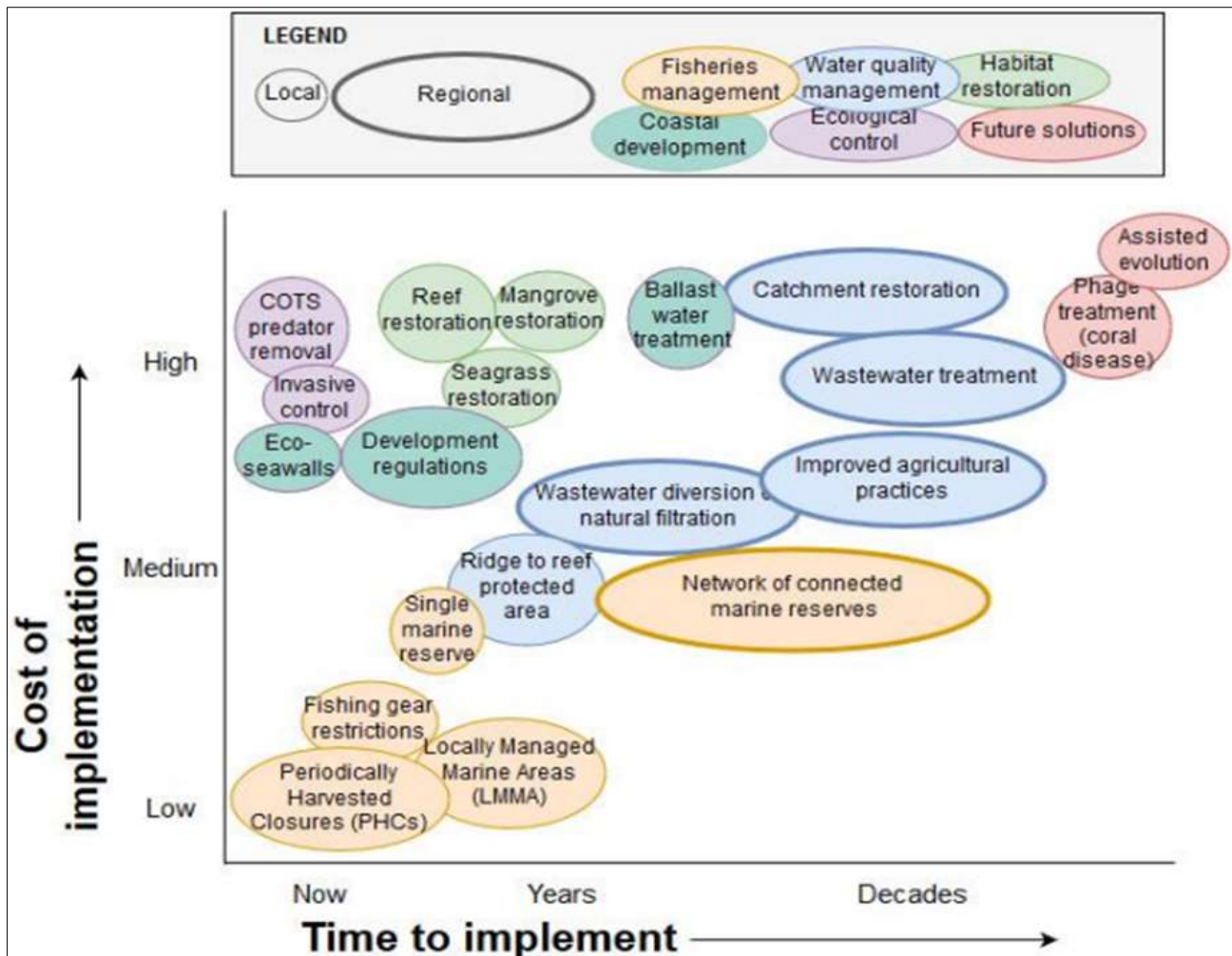


Fig 5: Summary of Coral Reef Conservation using technical tools. (A Wenger, GN Ahmadi, JG Álvarez-Romero, M Barnes, J Blythe, J Brodie, JC Day, HE Fox, D Gill, NA Gomez, GG Gurney, KE Holmes, SD Jupiter, JB Lamb, S Mangubhai, E Matthews, K Matthews, RL Pressey, L Teneva, A Tewfik, S Wells, E Darling, Coral Reef Conservation Solution-Scape White Paper, Wildlife Conservation Society, NY, USA, (2017) [6].

This is the white paper solution primarily focused on coral reef conservation and management. However, in India there has yet not been a separate legal status of coral conservation and management, basically it is carried out under the Wildlife Protection act, 1972 and Environmental Protection Act, 1986 and Coastal Regulation Zone Notification (CRZN) of 1991. Thus, the need of the hour is that strict laws should be enforced by the government and related organizations for the coral conservation. Apart from this people should be educated about this as lack of awareness is the prime cause of the destruction and once destroyed they cannot be revived. (Jyoti Saroj; Ravi Kumar Gautam; Arti Joshi and Panja Tehseen, review of coral reefs of india: distribution, status, research and Management, International Journal of Science, Environment and Technology, (2016), 5(5), 3088 – 3098)

### Conclusion

Coral reefs are very valuable to ecosystems. Their diversity, richness and importance are irreplaceable. Thus, the time has come that people are educated about them and major reforms are taken for their protection and conservation management. More research work should be done on their abundance, distribution, ecological uses etc. Thus, it is high time we use coral reefs as main stream program in educational and research institutes otherwise we would lose a very beautiful gift of the nature because of sheer negligence.

### References

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