



Coral Reef Breakthrough

For Prelims: Coral Reef Breakthrough, Global Fund for Coral Reefs , [Coral Reefs](#)

For Mains: Importance of Coral Reefs, Prevention & Control of Pollution & Degradation

[Source: ICRI](#)

Why in News?

The **International Coral Reef Initiative (ICRI)**, has launched the **Coral Reef Breakthrough** in partnership with the **Global Fund for Coral Reefs (GFCR)** and the **High-Level Climate Champions (HLCC)**.

- The Initiative was launched at the **37th ICRI General Meeting, 2023**.

What is the Coral Reef Breakthrough?

- The Coral Reef Breakthrough is a science-based initiative with clear goals for the state and non-state actors to collectively conserve, protect, and restore [coral reefs](#), safeguarding their vital contributions to humanity's future.
- The Coral Reef Breakthrough aims to secure the future of at least **125,000 km² of shallow-water tropical coral reefs** with investments of **at least USD 12 billion** to support the resilience of more than half a billion people globally **by 2030**.
- The initiative is based on **four action points**:
 - **Action point 1:**
 - Mitigate **local drivers of loss** including land-based sources of pollution, destructive coastal development, and overfishing.
 - **Action point 2:**
 - **Double the area of coral reefs under effective protection:** Bolster resilience-based coral reef conservation efforts by aligning with and transcending global coastal protection targets including **30by30**.
 - 30 by 30 is a global initiative to **protect at least 30% of the Earth's land and ocean area by 2030**. It was proposed during the [UNCCD Conference of Parties \(COP15\)](#).
 - **Action point 3:**
 - Assist the development and implementation of innovative solutions at scale and climate-smart designs that support coral adaptation to impact 30% of degraded reefs by **2030**.
 - **Action point 4:**
 - Secure investments of at least USD 12 billion by 2030 from public and private sources to conserve and restore these crucial ecosystems.
- Meeting the targets of the Coral Breakthrough will be instrumental in achieving the [Sustainable Development Goals \(SDGs\)](#), particularly **SDG14, Life Below Water**.

International Coral Reef Initiative (ICRI)

- It is a global partnership between Nations and organizations that strives to preserve coral reefs and related ecosystems around the world.
- The Initiative was founded in **1994 by eight governments: Australia, France, Japan, Jamaica, the Philippines, Sweden, the United Kingdom, and the United States of America.**
 - It was announced at the **First Conference of the Parties of the Convention on Biological Diversity, 1994.**
- ICRI has **101 members, including 45 countries (India is one of them).**

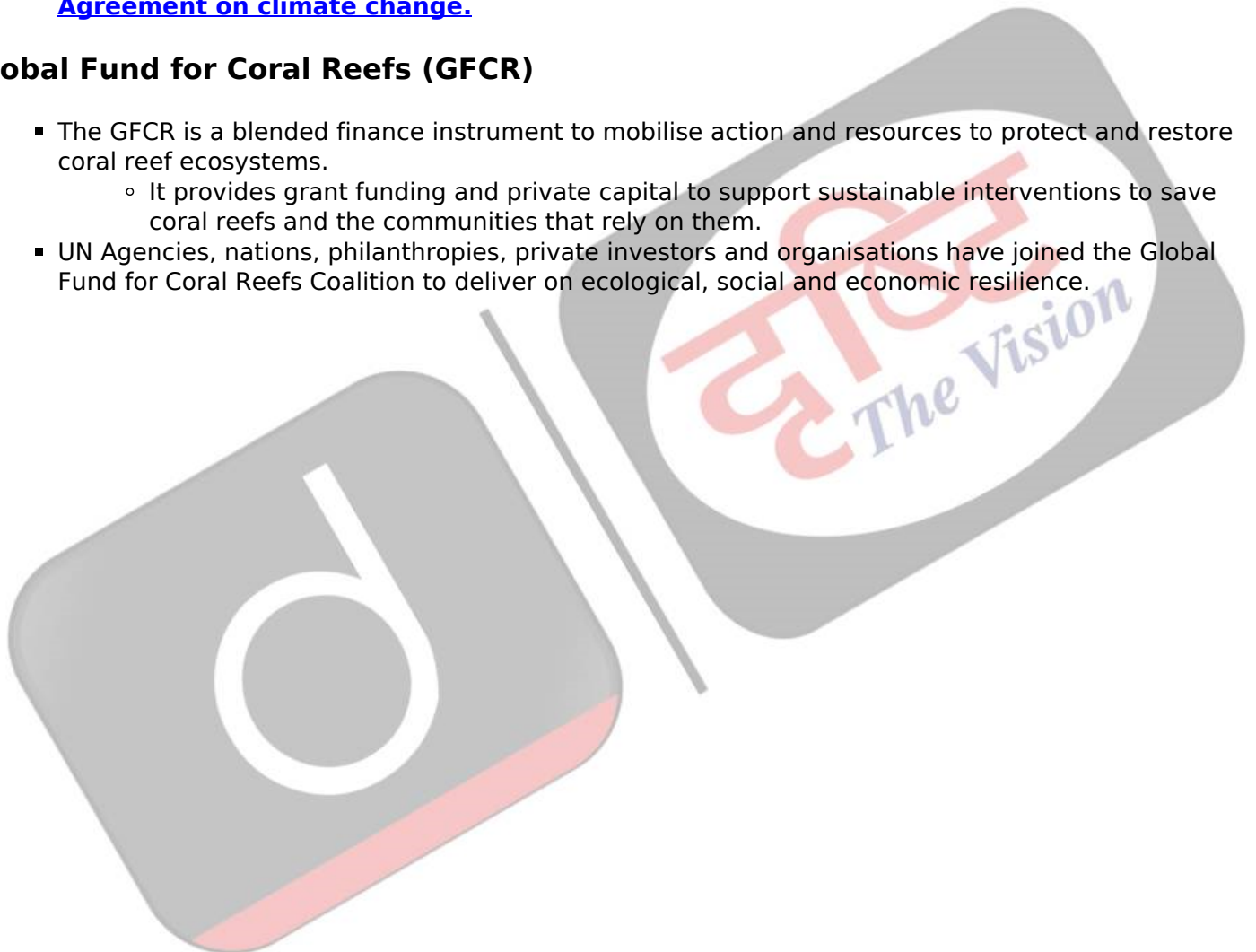
High-Level Climate Champions (HLCC)

- They are appointed by the **United Nations** to facilitate and enhance the engagement of non-state actors such as businesses, cities, regions, and investors in supporting the goals of the [Paris Agreement on climate change](#).

Global Fund for Coral Reefs (GFCR)

- The GFCR is a blended finance instrument to mobilise action and resources to protect and restore coral reef ecosystems.
 - It provides grant funding and private capital to support sustainable interventions to save coral reefs and the communities that rely on them.
- UN Agencies, nations, philanthropies, private investors and organisations have joined the Global Fund for Coral Reefs Coalition to deliver on ecological, social and economic resilience.

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Coral Reefs

(Rainforests of the seas)



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



UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. 1 "Biorock technology" is talked about in which one of the following situations?

- (a) Restoration of damaged coral reefs
- (b) Development of building materials using plant residue
- (c) Identification of areas for exploration/extraction of shale gas
- (d) Providing salt licks for wild animals in forests/protected areas

Ans: (a)

Q.2 Consider the following statements: (2018)

1. Most of the world's coral reefs are in tropical waters.
2. More than one-third of the world's coral reefs are located in the territories of Australia, Indonesia and Philippines.
3. Coral reefs host far more number of animal phyla than those hosted by tropical rainforests.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Q.3 Which of the following have coral reefs? (2014)

1. Andaman and Nicobar Islands
2. Gulf of Kachchh
3. Gulf of Mannar
4. Sunderbans

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only
- (b) 2 and 4 only
- (c) 1 and 3 only
- (d) 1, 2, 3 and 4

Ans: (a)

Mains

Q. Assess the impact of global warming on the coral life system with examples. (2019)