

# Crisis below the waves: The battle for coral reef transparency and survival

DR THOMAS Goreau, a pioneer in marine science, is sounding a clarion call for greater transparency regarding the alarming extent of coral reef damage across the Caribbean amid the extinction threat it faces.

Goreau, a veteran of 70 years of diving in the Jamaican waters, has been an unwavering advocate since the first signs of coral bleaching surfaced in Jamaica in 1987.

In a February 1990 **Gleaner** publication, he warned of the repercussions of inaction, foreseeing a future where coral reefs, once vibrant and thriving, could succumb to irreversible decay.

Fast forward to the present, and Goreau's dire predictions have materialised: The corals, once the guardians of Jamaica's shores, are crumbling, with 95 to 99 per cent gone.

In today's second instalment of a three-part special **Gleaner** series, Goreau exposes the factors behind this devastating decline.



As nations remain “tight-lipped” about the crisis, he sheds light on the urgent need for data transparency and discusses innovative solutions, offering a glimmer of hope for the survival of these irreplaceable underwater ecosystems.

**SEE FULL STORY ON PAGE A2.**

# Silent struggle under the sea

**Goreau wants greater transparency on unseen tragedy of Caribbean's coral crisis**

Asha Wilks/Gleaner Writer

**B**ENEATH THE azure allure of the Caribbean Sea, an ecological tragedy is unfolding, hidden from the casual gaze but echoing in the voice of Dr Thomas J. Goreau, the stalwart president of the Global Coral Reef Alliance.

Driven by an unyielding passion for the underwater realm, Goreau has embarked on a decades-long journey to unravel the mysteries and perils threatening coral reefs, especially in the Caribbean.

His decadeslong quest and lifelong commitment? To break the deafening silence surrounding the extent of coral reef damage across nations – a silence that stretches from governments to non-governmental organisations.

With a constant threat of extinction, Goreau wants greater transparency regarding the extent of coral reef damage across Caribbean nations.

He emphasised that providing more recent data to the information repository would be of great assistance to everyone involved in the field of study, especially so as no international scientific bleaching monitoring network has been established.

Goreau has been following coral bleaching in Jamaica since the first event in 1987.

In a February 1990 edition of *The Gleaner*, he warned Jamaicans about the ominous signs of coral bleaching, noting then, that our future would have been greatly impacted if ignored.

"Since early October 1989, corals in Jamaican reefs have begun to lose their pigmentation (bleach). As in the 1987-88 bleaching event in the Caribbean, all varieties of reef-building corals, ranging from the surface to more than 30 metres depth, are affected," Goreau said back then.

**WIDESPREAD PHENOMENON**

He continued that reports from the divers who frequently ventured to the depths of the sea along the north coast had pointed to a widespread phenomenon that started in late September.

Goreau further stated that in 1987, temperatures had risen before the customary October and November months. He said that since early August of 1989, ocean temperatures along Jamaica's north coast had risen to levels above 30 degrees Celsius.

Finally, he stated: "Repetition of such events will alter food chain of coral reef ecosystem making corals less able to compete with rapid growth of fleshy algae."

"They could ultimately convert coral reefs into algal habitats with severe economic losses from deterioration of reef fisheries, tourism, shore protection," he continued.

In an earlier *Gleaner* publication in January 1990, Goreau revealed that about 80 per cent of the corals were affected with many species showing areas where



Diver Everton Simpson grabs a handful of staghorn, harvested from a coral nursery, to be planted inside the the White River Fish Sanctuary on February 12, 2019, in Ocho Rios, Jamaica. When each stub grows to about the size of a human hand, Simpson collects them in his crate to individually "transplant" onto a reef, a process akin to planting each blade of grass in a lawn separately. Even fast-growing coral species add just a few inches a year. And it's not possible to simply scatter seeds. AP FILE PHOTOS



Diver Everton Simpson untangles lines of staghorn coral at a coral nursery inside the White River Fish Sanctuary on February 11, 2019, in Ocho Rios, Jamaica. On the ocean floor, small coral fragments dangle from suspended ropes, like socks hung on a laundry line. Divers tend to this underwater nursery as gardeners mind a flower bed, slowly and painstakingly plucking off snails and fireworms that feast on immature coral.



Coral planting in the fish sanctuary in Oracabessa, St Mary. FILE



Dr Thomas J. Goreau. FILE

... So, the result of this is that instead of having a growing reef, protecting Jamaica like we used to in the old days, what we now have is a reef that is literally crumbling apart," he added.

For decades, Goreau has been observing the nexus of factors – climatic shifts, human negligence, and a resounding silence that threaten to consign coral reefs to a silent demise.

He has been diving in Jamaica's reefs for 70 years and was introduced to the activity by his father, Dr Thomas F. Goreau, the country's first diving marine scientist who founded the Discovery Bay Marine Laboratory in St Ann.

"When I was a little boy, I used to swim over them (the corals) when he was diving ... and in those days, we had massive coral reefs, 100 per cent coral, essentially, all around Jamaica ... and it was amazing. They were full of fish that we don't see anymore because the whole habitat has changed," he recalled.

## MISMANAGEMENT OF KEY ELEMENTS

He stated that there was mismanagement of the land, the air and the water, such as the introduction of nutrients like nitrogen and phosphorus, which interfere with the growth of marine life; greenhouse gas emissions; improper sewage treatment; and deforestation, to name a few examples of the types of activities that contribute to coral reef degradation.

"Corals really have next to no hope to generate as a functioning ecosystem to protect the shore ... as each year is a little hotter than the year before," he said.

Goreau believes that the fragmentation method, which involves the propagating of pieces of coral that are found, might not be enough in the effort to repair the reefs as the results of such a solution will be affected by poor water quality.

But in the face of despair, Goreau unveils a glimmer of hope – the Biorock method.

"There is a method we invented in Discovery Bay in the late 1980s ... and that is to use low amounts of electricity and that speeds up growth, even in poor-water-quality habitats," he said.

But although this technique pioneered in Jamaica offers a lifeline for reefs in distress, according to Goreau, only one local project has employed it.

He and his team, however, have used it in more than 700 projects in 45 countries throughout the Pacific, Southeast Asia, and the Caribbean.

*'Corals really have next to no hope to generate as a functioning ecosystem to protect the shore ... as each year is a little hotter than the year before.'*

pigmentation completely disappeared, leaving only white skeleton or tissue.

"If we don't stop this, what it means is that in the long run, the reefs will be dead," he told *The Gleaner* then.

Now, the haunting predictions have come true – Jamaica's reefs, once teeming with life, are on the brink of collapse, eroding at an alarming rate.

Goreau, who is based in Cambridge in the American state of Massachusetts, said that while it was too soon to state whether Jamaica was the worst affected island in the region, the country "was right in the bull's-eye of the highest, sustained, elevated temperatures in the world".

## MORE EXAGGERATED

According to a report by the non-profit science research organisation Climate Central, Jamaica had the highest average Climate Shift Index (CSI) of the 175 countries analysed, scoring 4.5 out of a maximum 5.

"In 2023, we saw a continuation of the trends we've been following since the 1980s, but they just have become more accentuated [and] exaggerated as it gets hotter and hotter and the result of that is the ocean circulation is changing everywhere in the world," he said.

"The corals that used to make up the ecosystem are pretty much all gone – 95 to 99 per cent gone

asha.wilks@gleanerjm.com