

Tricolour coral assemblage in Lakshadweep offers insights into climate adaptation research: CMFRI

A natural coral assemblage beneath the sea offering an intriguing view of marine life with a striking resemblance to the Indian tricolour has sparked curiosity and offered critical insights on climate adaptation research. The underwater image captured during a marine mammal survey by the ICAR-Central Marine Fisheries Research Institute (CMFRI) from Minicoy, Lakshadweep shows two coral colonies appearing in tricolour—orange, white and green— come together naturally, creating an underwater tableau reminiscent of the national flag. A scene that could easily be mistaken for an artist's creation, this masterpiece belongs entirely to nature.

The species has been identified as *Lobophyllia corymbosa* with its vibrant orange colour, and *Lobophyllia radians* in white and green colours. Captured by CMFRI research scholar Alvin Anto, the underwater image provides valuable insights on contrasting response of corals to environmental stress. While one *L. radians* colony underwent bleaching after losing its symbiotic algae, its neighbouring colony remains healthy despite growing in close proximity.

Though this assemblage is a symbol of India's rich marine biodiversity, it also carries an urgent message about ocean health. It tells the stark story of resilience and vulnerability to climate stress. While one colony of coral species bleached due to rising sea temperatures, while its direct neighbour of the same species remains healthy and green. This variation in thermal stress tolerance offers crucial insights for the ongoing reef restoration and climate adaptation research, said CMFRI Director Grinson George.

Emphasising the urgent need to tackle these climate impacts, he highlighted measures being taken up by the CMFRI towards coral reef restoration. With the support from the Union Government, CMFRI is on a mission to rapidly scaling up the deployment of Artificial Reefs along coastal waters to revive degraded habitats, enhance coastal biodiversity, and support the livelihoods of artisanal fishers", he added.

Simultaneously, efforts are underway to replenish depleted wild stocks of ecologically and economically vital marine species through marine fish breeding, seed production, and sea ranching programmes, George said. Restoring natural habitats through artificial reefs is expected to support marine ecosystem and build a robust climate resilient marine ecosystem, he said, adding that the coral assemblage serves as a reminder to safeguard fragile coral ecosystems in a warming world.