Monthly Programme Report

The Cochin College BMC

Institution Name: **The Cochin College** BMC Code: **ERM/2022/31**

ProgrameTitle: **Beat Ocean Plastic Pollution**

Program Category: **Awareness program(Seminars/symposia/workshops/others)**	Activity Type: **Action Program**	No.of participants: **30**
Planned Date: **31-01-2024**	Renewed date: **-**	Program Date: **31-01-2024**

Budgeted Amount: **Rs 0/-**	Total expenditure: **Rs 1000/-**	Extra Amount: **Rs 1000/-**

Brief Report

Bhoomitrasena volunteers participated in an awareness campaign at Munambam Harbour to beat ocean plastic pollution. Volunteers played a flashmob to share the idea of protecting our oceans from plastics. They painted the walls of harbour with needs, thoughts and ideas of preventing our oceans being polluted by plastics.

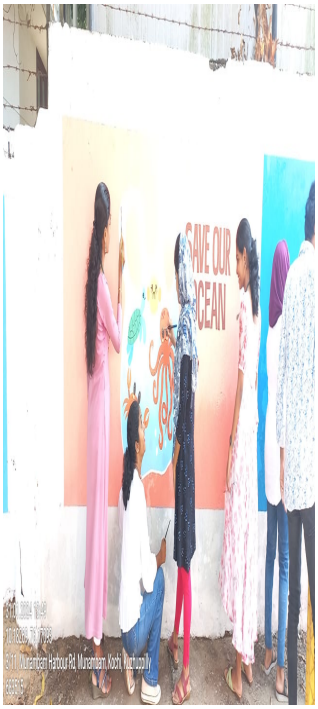
Expenditure Statement

Item	Expenditure	Remarks
TA/DA	Rs 1000	

Budgeted Amount	**Rs 0**
Total Expenditure	**Rs 1000**
Extra Amount	**Rs 1000**

Photographs

Bhoomitrasena Club, Nature Club, Department of Zoology, The Cochin College in association with Planatearth NGO,aluva Fundes by HCLTech conducted a awareness compain "To beat Plastic Pollution" at Munnambam Beach.



Marine invasive species thrive on plastic waste: Kufos study

Harmful Algal Bloom Produces Domoic Acid Toxic To Organisms

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Kochi: Besides choking marine life, the plastic waste in the sea and waterbodies is also serving as a secure platform for invasive species like algal populations to flourish, according to a new study by Kerala University of Fisheries and Ocean Studies (Kufos).

Marine microbiologists at Kufos found that the layers of floating biofilms forming on large plastic sediments are colonised by several algal communities.

The plastics were collected from four stations in Edakochi, Kumbalam, Kannamaly beach, and Chellanam in the Vembanad lake system and Cochin coastal areas, and the study recorded a total of 41 species of phytoplanktons.

A harmful algal bloom (HAB) species invasive to this region called Pseudonitzschia americana was found attached to the plastics seen in central Vembanad Lake and the coastal region of Kochi. They produce domoic acid which is toxic to organisms.

"We picked up different types of large plastic items like bottles, shoes, etc. from the waters and found that there were layers of communities in them. At the lab, we could identify algal and bacterial presence in these materials. There were biofilm layers on them, and they were colonised by microbes," said V P Limna Mol, assistant professor, department of marine biosciences, Kufos, who is conducting the study with research scholar Ayana P P.

Students of Cochin College paint messages to create awareness on plastic pollution on the walls of Munambam harbour. (R) Plastic waste collected from fishing boats stored at Munambam harbour. The waste will be sent for recycling after drying

She said that the fresh sphere of life in the plastics was a new finding in these waters. Plastics are abundant in the sediments of Vembanad Lake and the lake sediment is acting as a sink for various pollutants. "We were looking at whether the floating plastics were getting colonized and found that there is a huge presence of invasive species in the ecosystems," she added.

It is a dangerous development that the plastic debris is providing a substrate for microbes and when they float, they carry these to newer places. The team is now looking at culturing algae on fresh plastic to see how fast these populations grow and colonize on these substrates.

"The samples that we had selected were almost uniformly muddy and dirty and we could not identify how old these plastics were," Limna Mol said.

She said that this emphasises the potential ecological threat posed by certain microalgal species thriving on plastic surfaces. The study establishes a direct relationship between the abundance of microalgal species on plastic substrates and diversity aspects and how important it was for the society to address plastic menace.