

## 9. Usage of eco-friendly technologies, lesser use of plastics etc.

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Garbage choking marine life: study - KERALA - The Hindu

**THE HINDU**

» TODAY'S PAPER » KERALA

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### Garbage choking marine life: study

• [K.S. Sudhi](#)

*Beaches in Maharashtra top the list with an average of 6.7 kg litter per 10 sq m*

Litter is choking the marine ecosystem, besides defacing the beaches, in southern India.

An assessment carried out by the Centre for Marine Fisheries Research Institute (CMFRI), Kochi, across 150 beaches in Kerala, Karnataka, Tamil Nadu and Andhra Pradesh has brought to shore disturbing results of marine pollution. The study also covered some beaches in Maharashtra.

Incidentally, the United Nations Environment Programme had pointed out that pollution was posing threat to marine life, tourism, fisheries and businesses.

Beaches in Maharashtra topped the list with an average of 6.7 kg litter per 10 sq m. On the Karnataka beaches, litter weighing 3 g to 856 g were found in one sq m. The Mulki Beach in the State recorded the highest rate of littering as 1,788 g litter was collected from one sq m.

The Kerala average was found to be in the range of 4 g to 22 g. Plastic bottles, pouches and bottles formed major components of the refuse.

**TN relatively clean**

Tamil Nadu painted a relatively clean picture as the State average was in the range of 1 to 2.94 g per sq m and pieces of fishing nets dominated the rubbish there.

While liquor bottles outweighed all other pollutants, polythene carry bags, milk covers, styrene dining plates and polyurethane foam used as insulators in refrigerators and freezers were found strewn across the sandy stretches.

More beaches will be surveyed shortly, researchers said.

**Impaired feeding**

Garbage on the beaches, floating in sea and settled on the seafloor poses threat to marine biota through ingestion or impaired feeding and digestion of the animals, pointed out V. Kripa, Head of the Fishery Environment and Management Division of the Institute.

The rubbish also impairs the movement of marine animals and prevents their escape from predators. Sunken debris spoils marine habitats including the feeding and breeding grounds of a number of species and hits the sustainable production of marine resources, Dr. Kripa said.

**E-waste**

E-waste including mobile phone chargers, CFL bulbs, toys and fish nets were found among the litter, said P. Kaladharan, Principal Investigator of the project.

The research team included V.V. Singh, P.S. Asha, K. Vijayakumar, E. Loveson, Bindu Sulochana N.D. Prema, and R. Jeyabhasker.

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The Central Marine Fisheries Research Institute, in its journey towards establishing an Open access Institutional Digital Repository in the library, has uploaded about 7,000 scientific papers of their staff members published since 1953, which was launched as “eprints@cmfri on 26th November 2010 by the Honourable Dr.S.Ayyappan, Secretary, DARE and Director General, ICAR.

“eprints@cmfri is the Open Access research outputs repository of Central Marine Fisheries Research Institute, which includes the publication of the Institute’s staff members in the journals, conferences, seminars, symposia, technical reports, theses, patents and related publications. This has placed CMFRI as the first ICAR Institute to reach this stage. CMFRI also ranks first at national level and fifth at global level among the open access repositories on marine sciences.

The screenshot shows a web browser window displaying the ICAR website. The address bar shows [www.icar.org.in/en/node/2305](http://www.icar.org.in/en/node/2305). The page features the ICAR logo and a navigation menu with items like Home, Speeches, Circulars, Tenders, Events, Innovations, Publications, Contact us, Search, Webmail, and Downloads. The main content area has a green header with the text "Indian Council of Agricultural Research". Below this, there is a news article titled "Central Marine Fisheries Research Institute, Cochin launches the Open Access Institutional Repository (eprints@cmfri) in their". The article text states: "The Central Marine Fisheries Research Institute, in its journey towards establishing an Open access Institutional Digital Repository in the library, has uploaded about 7,000 scientific papers of their staff members published since 1953, which was launched as 'eprints@cmfri on 26th November 2010 by the Honourable Dr.S.Ayyappan, Secretary, DARE and Director General, ICAR." It further explains that "Eprints@cmfri is the Open Access research outputs repository of Central Marine Fisheries Research Institute, which includes the publication of the Institute's staff members in the journals, conferences, seminars, symposia, technical reports, theses, patents and related publications. This has placed CMFRI as the first ICAR Institute to reach this stage. CMFRI also ranks first at national level and fifth at global level among the open access repositories on marine sciences." A small photo shows a man speaking at a podium. The source is cited as "(Source:CMFRI, Cochin)". On the left, there is a sidebar with "ICAR at a Glance" and "Divisions" sections. On the right, there is a search bar, language options (English, हिन्दी), and a "News" section. At the bottom, there are social media icons for Facebook, YouTube, and Twitter, and a link to "E Books - Ministry of Agriculture & Farmers". The Windows taskbar at the bottom shows the time as 2:29 PM on 11/5/2016.

<http://www.icar.org.in/en/node/2305>

Cadalmin™ GMe contains 100% natural marine bioactive anti-inflammatory ingredients extracted from green mussel *Perna viridis*. The product is **effective to combat chronic joint pain, arthritis/ inflammatory diseases**, and improves cardiovascular functioning. It is an effective green alternative to synthetic non steroidal anti-inflammatory drugs (*viz.*, aspirin containing drugs having undesirable side effects).

The active principle in Cadalmin™ GMe effectively inhibits inflammatory cyclooxygenase-II and lipoxygenase-V, and its activity was found to be comparable to the drugs available in the market. Consuming Cadalmin™ GMe will avoid unfortunate side effect of these synthetic non steroidal anti-inflammatory drugs. This product is a blend of nutraceutical and nutritional elements. Cadalmin™ GMe is designed to find a unique way to prevent the degradation by air, moisture, heat and light and to maximize the activity. The product is free from deleterious *trans* fatty acids, free radicals/free radical adducts, and low molecular weight carbonyl compounds. This product is available as capsules and packaged in food grade polypropylene bottles. Cadalmin™ GMe is an indigenous product, and is highly cost effective with that of the imported products available in the market. Efforts are underway to commercialize this product.

The screenshot shows the ICAR website with a news article titled "CMFRI develops new product Cadalmin™ Green Mussel Extract (GMe) to combat arthritis". The article text states: "Cadalmin™ GMe contains 100% natural marine bioactive anti-inflammatory ingredients extracted from green mussel *Perna viridis*. The product is **effective to combat chronic joint pain, arthritis/ inflammatory diseases**, and improves cardiovascular functioning. It is an effective green alternative to synthetic non steroidal anti-inflammatory drugs (*viz.*, aspirin containing drugs having undesirable side effects). The active principle in Cadalmin™ GMe effectively inhibits inflammatory cyclooxygenase-II and lipoxygenase-V, and its activity was found to be comparable to the drugs available in the market. Consuming Cadalmin™ GMe will avoid unfortunate side effect of these synthetic non steroidal anti-inflammatory drugs. This product is a blend of nutraceutical and nutritional elements. Cadalmin™ GMe is designed to find a unique way to prevent the degradation by air, moisture, heat and light and to maximize the activity. The product is free from deleterious *trans* fatty acids, free radicals/free radical adducts, and low molecular weight carbonyl compounds. This product is available as capsules and packaged in food grade polypropylene bottles. Cadalmin™ GMe is an indigenous product, and is highly cost effective with that of the imported products available in the market. Efforts are underway to commercialize this product." An image of the product packaging and fresh mussels is also visible. The website header includes the ICAR logo and navigation menu. The footer shows the time as 2:30 PM on 11/5/2016.

<http://www.icar.org.in/en/node/1176>

Tree planting in CMFRI and CIFT Research Complex, Visakhapatnam by Dr. S. Ayyappan, Hon'ble DG, ICAR



<http://www.icar.org.in/en/node/2969>

### © Mandapam Regional Centre - Tree plantation programme

On 21<sup>st</sup> and 22<sup>nd</sup> October 2016, the staff of Mandapam Regional Centre actively involved in preparation of pits and planting the saplings. Dr.A.K.Abdul Nazar, Principal Scientist & Scientist-in-Charge initiated the planting programme. Nearly 150 saplings were planted within office premises and residential areas. The tree saplings include:

1. Indian Tulip - (*Thespesia populnea*), *Poovarasu* in Tamil
2. *Malai Vembu* in Tamil (*Melia dubia*)
3. Indian Beech (*Millettia pinnata*), *Pongam* in Tamil
4. Neem (*Azadirachta indica*), *Vembu* in Tamil
5. Indian Almond (*Terminalia catappa*), *Badam* in Tamil
6. Mango (*Mangifera indica*), *Maa* in Tamil



**© Karwar Research Centre of ICAR-CMFRI**



***Planting the tree***

**© Visakhapatnam Regional Centre of ICAR-CMFRI**

20<sup>th</sup> October 2016 : Tree Plantation activity has been done in the surrounding areas of office and staff quarters of VRC of CMFRI, Vizag.



© Mangalore Research Centre of ICAR-CMFRI

Awareness placards, display materials were prepared and displayed. Awareness street plays, Yakshagana's portraying the need to reduce non-biodegradable wastes, make the beaches litter free and ensure sustainable fishery were enacted at Mangaluru Fisheries Harbour. Staff at the Research Centre make a conscience effort to minimize the use of plastic and most of the commonly used plastic materials such as water jugs, tumblers, containers are replaced with eco-friendly biodegradable materials



*Awareness on harbour cleaning*



*Street play by staff*



*Yakshagana at Mangalore Harbour*



*Yakshagana performed by staff*

## Awareness program on maintaining cleanliness and organic farming on 20.10.2016

Staff of CMFRI Mangalore Centre seminars related to making the premises clean, utilization of biodegradable waste to produce manure and also the importance of organic farming. Experts from KVK, Kankanady, Mangalore and organic farming experts from Chennai gave talks to enlighten the staff in these matters.



## © Calicut Research Centre of ICAR-CMFRI

As a part of swatchh bharath programme, installation of Kitchen waste processing unit nearby Canteen of main campus of Calicut, CMFRI for biogas generation for cooking was done on 31<sup>st</sup> October, 2016.



*Installation of Kitchen waste processing unit nearby Canteen of main campus of Calicut, CMFRI for biogas generation for cooking on 31.10.16*