



Food and Agriculture
Organization of the
United Nations

Marine litter

Assessing the distribution and impact of marine litter in Africa and the Bay of Bengal

AN INITIATIVE OF THE EAF-NANSEN PROGRAMME



Marine litter

Marine litter consists of any persistent, manufactured or processed solid material discarded, disposed of, or abandoned in the marine and coastal environment as a result of human activity. Some litter enters the ocean directly from activities at sea, such as shipping and fisheries, although most originates on land and leaks into the ocean via rivers, drains and shoreline activities. Surveys conducted globally commonly show approximately 80% of marine litter is composed of plastic, reflecting the rapid increase in the use of plastic in all aspects of daily life.

Plastic is inexpensive and durable, and many plastic items, such as shopping bags, water sachets and drinks bottles, often are only used once before being discarded. Unfortunately, many countries lack adequate infrastructure and resources to manage waste effectively, with the result that increasing quantities of waste are leaking into the environment and having a significant impact on livelihoods, human health and biodiversity.

Urgent action is needed to reduce the leakage of plastics to the ocean. To do this we need more information on the quantities and types of litter that have leaked, especially from regions and countries where data are scarce or lacking. With more knowledge, we will also be able to estimate the risk to local fishing communities in terms of social health well-being and economic resilience. In addition, we will be better placed to assess the impact of litter on key maritime sectors, such as fisheries, as well as on key environmental indicators such as breeding grounds and sensitive habitats.

The EAF-Nansen Programme has been running two studies on marine litter. The first involves recording the litter retrieved in the demersal trawl, during surveys with the research vessel (R/V) *Dr. Fridtjof Nansen*, in the period 2011–2023. The second study examined the impact of marine litter on the beach seine fishery of four countries in the Gulf of Guinea.

Seafloor litter

Demersal trawls are used extensively in resources surveys using the R/V *Dr. Fridtjof Nansen*. The fishing net sometimes contains litter from the seafloor. Since 2011, the quantity of litter retrieved in 360 trawls has been recorded. This has allowed the distribution of seafloor litter to be mapped around West and East Africa and in the Bay of Bengal. Overall plastics were most abundant (46 %) although the quantity and type of litter varies geographically, with litter 'hot spots' found off Morocco, Ghana, Namibia, Angola, and Myanmar.

Abandoned Lost or otherwise Discarded Fishing Gear (ALDFG) was the second most abundant category, with higher quantities in the Bay of Bengal and in the southern Atlantic Ocean. The highest concentrations occurred in the 100–300 metres depth zone.

An improved marine litter sampling protocol has been developed and used on fishing surveys since 2022. This is providing more detailed information on the type of litter, identify potential sources and help target future interventions to reduce inputs.



Contents of a demersal trawl from a marine litter 'hot-spot' in the Gulf of Guinea

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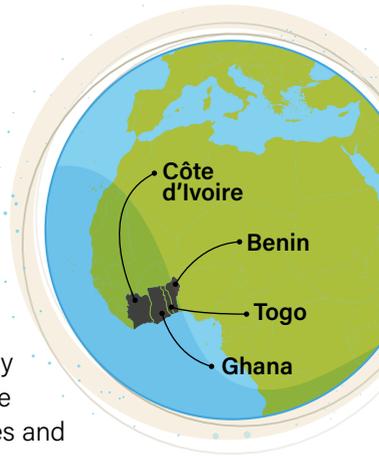


Marine litter and the beach seine fishery

The beach seine fishery contributes to food security and provides a livelihood for many families within the coastal communities in Côte d'Ivoire, Ghana, Togo and Benin. Beach seine fisheries management plans have been developed to improve the sustainability of this important activity.

Today, this artisanal activity is threatened because many coastal and marine resources are overexploited, and the marine habitats are highly degraded by human activities and increasing pollution, including marine litter.

Anecdotal evidence had suggested that litter was increasing in the local environment and that this was having an impact on the fishery. A study was conducted to record the quantities and types of litter both caught in the seines and lying on the shoreline, and the social and economic impacts of litter on the fishery, as reported by the fisherfolk.



Marine litter impacts:

- Loss of income
- Loss of food source

Due to:

- Reduced fish catch
- Increased time to sort fish
- Increased time to clean net
- Reduced value of fish
- Fewer beach seine operations
- Loss of fishing gear





The two studies of marine litter summarised in this brochure contribute to the expected results of the EAF-Nansen Programme, in particular that fishery research organisations provide relevant and timely scientific advice for management and, fisheries management institutions manage fisheries according to the principles of the ecosystem approach to fisheries (EAF) and related indicators.

The projects contribute also towards achieving FAO's vision for Blue Transformation of aquatic food systems, the objectives of the UN Decade of Ocean Science, and the United Nations Sustainable Development Goals 1 (No Poverty), 2 (Zero Hunger), 5 (Gender Equality), 13 (Climate Action) and 14 (Life Below Water).



For further information about the seafloor litter study see:

Buhl-Mortensen et al. 2022. Litter on the seafloor along the African coast and in the Bay of Bengal based on trawl bycatches from 2011 to 2020. *Marine Pollution Bulletin*, 184: 114094. <https://doi.org/10.1016/j.marpolbul.2022.114094>

For further information about the beach seine study see:

Souhou, S. & Abrokwhah, S. 2024. The impact of marine litter on the beach seine fishery of four countries in the Gulf of Guinea: Benin, Côte d'Ivoire, Ghana and Togo – A preliminary investigation of the social and economic impacts of marine litter on fishing communities. FAO EAF-Nansen Programme Report No. ...

The studies on marine litter are part of the EAF-Nansen Programme. The long-term objective of the Programme is to support sustainable fisheries to improve food and nutrition security for people in partner countries.

The programme is executed by the Food and Agriculture Organization of the United Nations (FAO), in close collaboration with the Institute of Marine Research (IMR) in Norway, and funded by the Norwegian Agency for Development Cooperation (Norad).



For more information:

EAF-NANSEN PROGRAMME

Fisheries and Aquaculture Division

Natural Resources and Sustainable Production

Food and Agriculture Organization of the United Nations

www.fao.org/in-action/eaf-nansen/

eaf-nansen@fao.org

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