

Recycle and reuse of abandoned fishing nets: Reports from Saurashtra, Gujarat

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Plastic is one of the wonderful materials which make our life better, easier and comfortable. This material significantly influences our life from dawn to dusk. But the problem created by the plastic to our environment is not much pleasant. As it is non-biodegradable, it sticks around for much longer than any other form of garbage. Estimates shows that approximately 80% of derbrises in the sea originate on land either swept in from the coastline or carried to rivers from the streets during heavy rain *via*. storm drains and sewer overflows. As per the estimate by Jambeck *et al.* (2015)., 275 million metric tons (MT) of plastic waste was generated in 192 coastal countries in 2010, with 4.8 to 12.7 million MT entering the ocean.

There are varities of articles which contribute to the plastic pollution in sea. Lost and discarded

nets and lines from fishing vessels are one of the important contributors among them, especially in heavily fished areas (UNEP and NOAA). The abandoned and discarded fishing nets cause many problems throughout the world. These nets may be dumped on beaches, or sea shores which can create a navigational hazard for boats, or settle to the ocean floor to damage sensitive ecosystems. There are many reports showing that every year, tonnes of abandoned and lost fishing nets are dumped up on beaches. United Nations suggest that up to 10% of the trash that collects in our oceans is now comprised of this debris.

Proper disposal of the used net in fishing industry is necessary to reduce marine pollution and resultant ghost fishing. There are several initiative throughout the world to utilize such nets in several industries, including construction

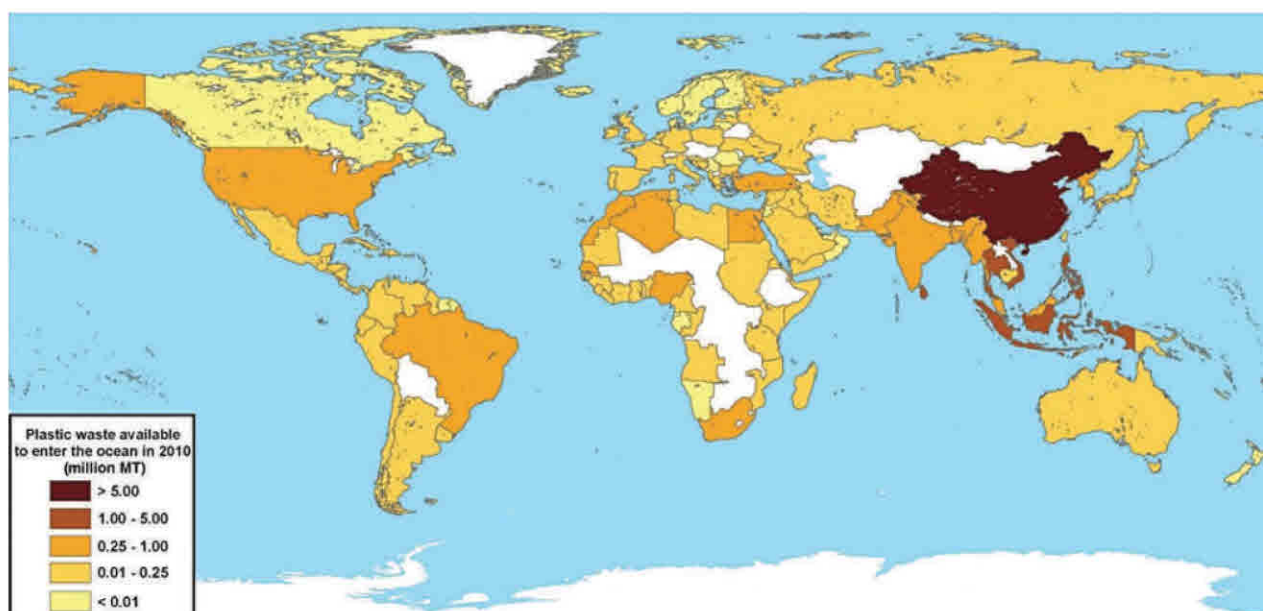


Fig 1. Global map with each country shaded according to the estimated mass of mis-managed plastic waste coast [millions of metric tons (MT)] generated in 2010 by populations living within 50 km of the (Source: Jambeck *et al.*, 2015)

field (Ida Bertelsen, 2016). Nowadays, the idea to transform ocean waste into highly useable, recycled products is gaining attention around the world.

In the coastal region of Saurashtra, Gujarat there are several communities engaged in the collection and recycling of discarded fishing nets. The people engaged in this activity are travelling through the coastal districts mainly during off-fishing season. Recently, we have interviewed such a family from Porbandar, settled in Veraval, Gujarat. Presently four such families are there in the place where we conducted the survey. They put-up their tents and settle by the middle of May, and will stay up to the end of monsoon season. Fishermen carryout the maintenance and fabrication of fishing nets mainly during this season. The old nets are procured from the fishing villages and harbor by giving 300-500 INR per fishing net to the fishermen. The amount is fixed purely based on sensory evaluation, not based on weight or length of the net. Mono and

multifilament nylon nets are mostly preferred for recycling, which are the materials used for the fabrication of gillnets. The big ropes used for tying the boats are also recycled. High Density Polyethylene (HDPE) is not much used for recycling. HDPE nets are normally used directly for fencing in agriculture fields and also used for other household purposes.

After procuring the net, they clean it properly to remove the foulers and borers. 7 am, and taken to an open space for drying. Later on unwinding of the yarn is done. After that, yarns will be passed through a machine and manual hand spinning will be done. This process is similar to the hand spinning of coir yarn. By this process, ropes with various diameters are prepared. In the case of monofilament nets, entire net is twisted suitably around a small rope (core) and made into long thick rope. In a season, more than 500 kg of fishing net is recycled by a family.

Once all the process completed, recycled ropes will be hanged near to their hut for sale. The



Data collection in progress



Collected net for recycling



Collected net



Rope making device



Unwinded yarns under processing



Rope made out of monofilament gillnets



Ropes ready for sale

rate of the processed rope will be in the range of ₹ 100-200/bundle. Price depends on quality and nature of material. A single unit/family earns ₹ 1000-2000 per month which provides subsistence to 10-20 nomadic families. Processed ropes are mainly used for agriculture purposes. Besides the recycling of fishing nets, they are also engaged in making of statues for festivals, knife sharpening, etc.

The recycling of fishing gear will help in reducing plastic pollution in the fishing sector and this will also reduce ghost fishing to some

extent.

References

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