



# PLASTIC POLLUTION IN INDIA

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## ABSTRACT

Plastic Pollution is the accumulation of plastic objects and particles (e.g. a plastic bottles, bags and microbeads) in the Earth's Environment that adversely affects wildlife, wildlife habitat, and humans. Plastics that act as pollutants are categorized by size into micro-meso – or macro debris. Plastics are inexpensive and durable making them very adaptable for different uses : as a result humans produce a lot of plastic. However, the chemical structure of most plastics renders them resistant to many natural processes of degradation and as a result they are slow to degrade. Together, these two factors allow large volumes of plastic to enter the environment as mismanaged waste and for it to persist in the ecosystem. Plastic is a cost effective, durable and easy to manufacture material and its usefulness and convenience has resulted in its ever – increasing demand, The demand for plastics has also been fuelled by the rise of the use-and-throw culture resulting in much of the plastic being designed to be disposed after just one use. These single – use plastics, mostly used as packaging material, account for a substantial chunk of the total plastic manufactured today. However, most plastic is non-biodegradable and it takes up to a thousand years for certain types of plastics to decompose resulting in accumulation of plastic waste.

## Introduction :-

Plastic Pollution can afflict land, waterways and oceans,. It is estimated that 1.1 to 8.8 million tonnes of plastic waste enters the ocean from coastal communities each year. It is estimated that there is a stock of 86 million tons of plastic marine debris in the worldwide ocean as of the end of 2012. with an assumption that 1.4% of global plastics

produced from 1950 to 2013 has entered the ocean and has accumulated there. Some reaserchers suggest that by 2050 there could be more plastic than fish in the oceans by weight.

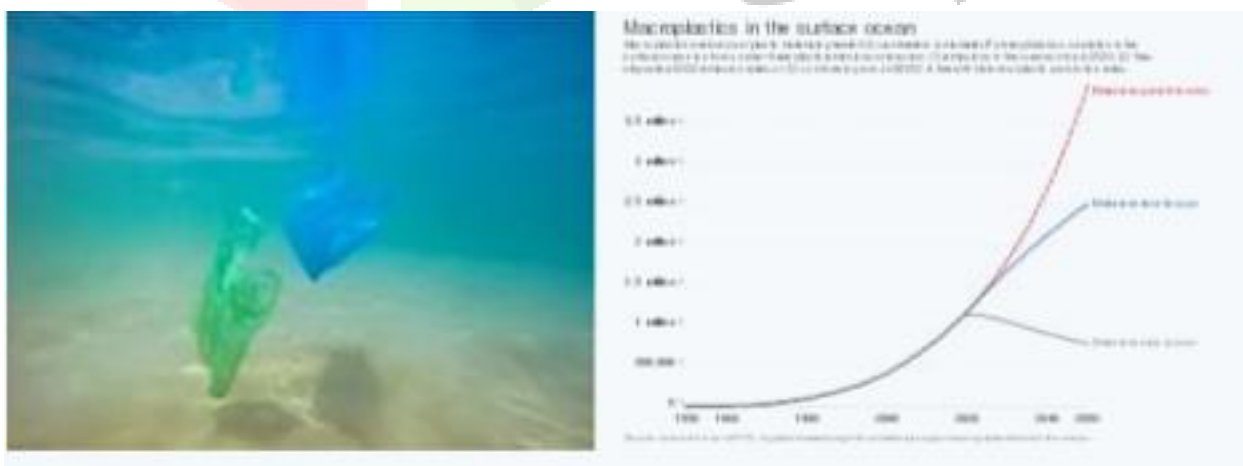
**Causes :-**

The trade is plastic waste has been identified as a main culprit of marine litter. Countries importing the waste plastic often lack the capacity to process all the mateiral. as a result, the united national has imposed a ban on waste plastic trade unless it meets certain criteria.

**Types of Plastic Debris :-**

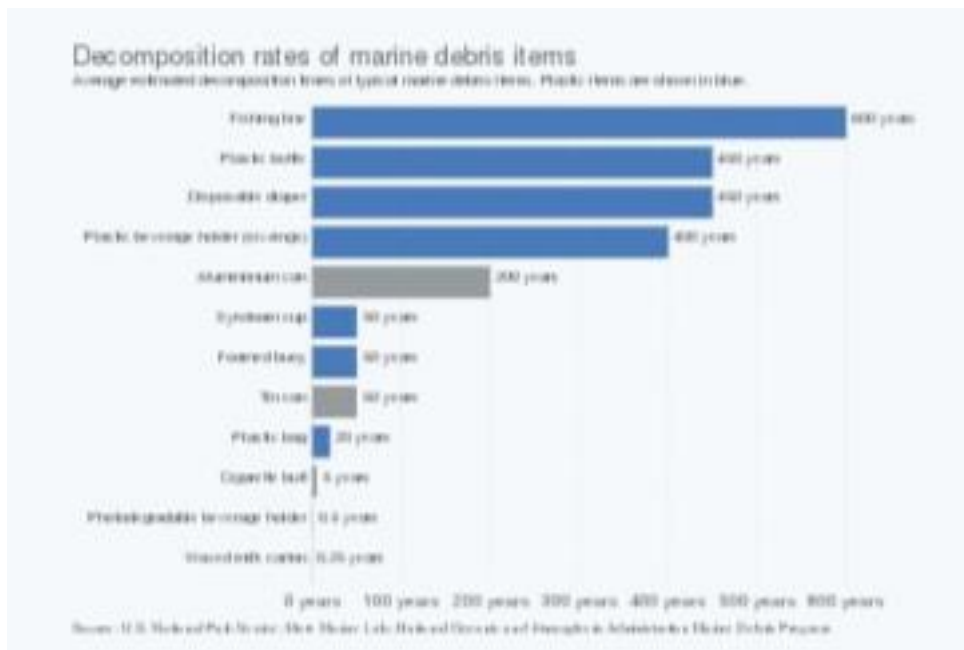
There ae three major forms of plastic that contibute to plastic pollution micro macro and mega – plastics. Mega and micros plastics have accumulated in highest densities in the northern Hemisphere, concentrated around urban centers and water fronts. Plastic ca be found off the coast of some islands because of currents carrying the debris. Both Mega – and macrto plastics are found in packaging, footwear, and other domestic items that have been washed off of ships or discarded in landfills. Fishing related items are more likely to be found around remote islands. These may also be referred to as micro – meso and macro debris.

**Microdebris :-**



Microbebris are plastic pieces between 2 mm and 5 mm in size. Plastic debris that starts off as meso- or macrodebris can become microdebris through degradation and collisions that break it down into smallest pieces.

## Plastic Production :-



Plastics themselves contribute to approximately 10% of discarded waste. Many kinds of plastics exist depending on their precursors and the method for their.

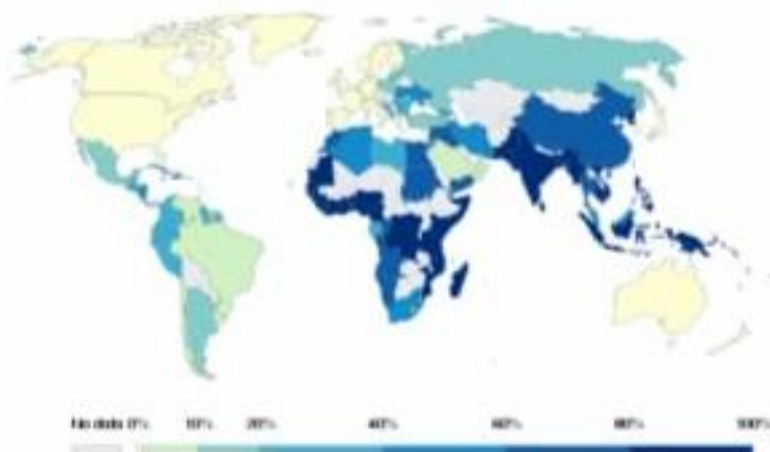
## Persistent organic pollutants :-

It was estimated that global production of plastics is approximately 250 mt./yr. Their abundance has been found to transport persistent organic pollution also known as POPs. These pollutants have been linked to an increased distribution of algae associated with red tides.

# Major plastic Polluter Countries :-

### Share of plastic waste that is inadequately managed, 2010

Inadequately managed waste is not formally managed and includes disposal in dumps or open, uncontrolled landfills, where it is not fully contained. Inadequately managed waste has high risk of polluting streams and oceans.

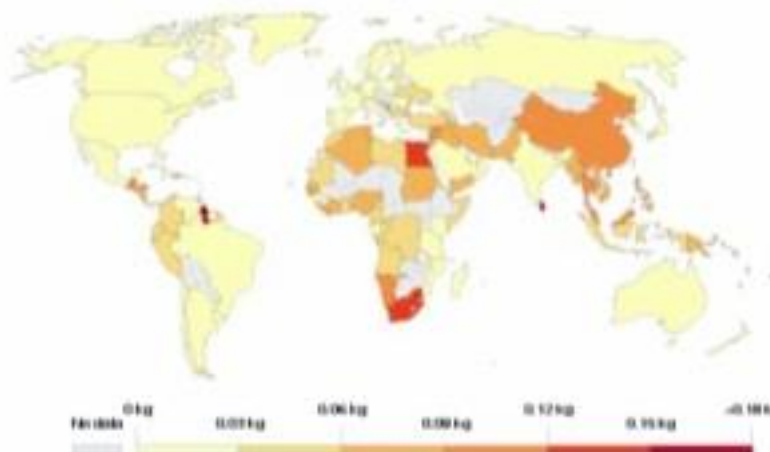


Source: GlobalPlastic (2019)  
Note: This share includes 46% of plastic waste, which is approximately 2% of total waste.

## Share of plastic waste that is inadequately managed

### Per capita mismanaged plastic waste, 2010

Mismanaged waste is material that is either informal or inadequately disposed. Inadequately disposed waste is not formally managed and includes disposal in dumps or open, uncontrolled landfills, where it is not fully contained. Mismanaged waste could eventually enter the ocean via street sweepings, roadside rubbish, and transport by wind or tides. This is measured in kilograms per person per day.



Source: GlobalPlastic (2019)

## Per capita mismanaged plastic waste (in kilograms per person per day)

The United states is the world leader in generating plastic waste, Producing an annual 42 million metric tons of plastic waste,. This is more plastic waste than that of all countries of the European union combined.

## **Mismanaged Plastic Waste Polluters :-**

In 2018 approximate 513 million tonnes of plastics wind up in the oceans every year out of which the 83.1 % is from the following 20 countries : China is the most mismanaged plastic waste polluter leaving in the sea the 27.7% of the world total, second indonesia with the 10.1% third philippines with 5.9% fourth vietnam with 5.8% Fifth sri Lanka 5.0% Sixth Thailand with 3.2% seventh Egypt with 3.0% Eighth malaysia with 2.9 Ninth Nigeria with 2.7% Tenth Bangladesh with 2.5%

## **Top Plastic Polluters as of 2010.**

<b>Position</b>	<b>Country</b>	<b>Plastic Pollution (in 1000 tonnes per year)</b>
1	China	8820
2	Indonesia	3220
3	Philippines	1880
4	Vietnam	1830
5	Sri Lanka	1590
6	Thailand	1030
7	Egypt	970
8	Malaysia	940
9	Nigeria	850
10	Bangladesh	790
11	South Africa	630
12	India	600
13	Aleria	520
14	Turkey	490
15	Pakistan	480
16	Brazil	470
17	Myanmar	460
18	Morocco	310
19	North Korea	300
20	United states	280

## Effect on Flooding :-



Volunteers clearing gutters in Ilorin, Nigeria during a volunteer sanitation day. Even when there is adequate infrastructure for sanitation, plastic pollution can prevent drainage and impede sewage flow.

Plastic Waste Can clog storm drains, and such clogging can increase flood damage. Particularly in urban areas. For examples in Bangkok flood risk increases substaitially Because of plastic waste clogging the already overburdened sewer system.

## Effects of Plastic On oceans and seabirds :-



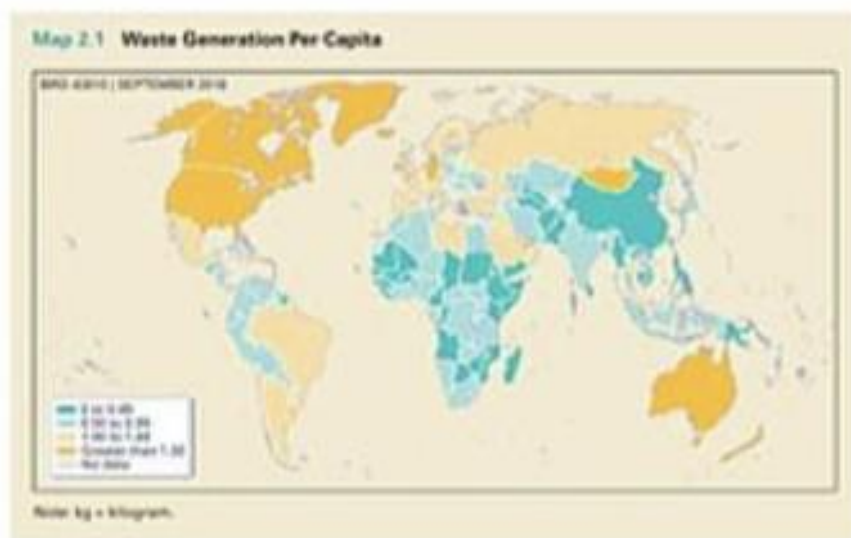
The unaltered stomach contents of a dead albatross chick photographed on Midway Atoll National Wildlife Refuge in the Pacific in September 2009 include plastic marine debris fed the chick by its parents

Marine plastic pollution (or Plastic Pollution in the oceans) is a type of marine pollution by plastics, ranging in size from large original material such as bottles and bags, down to microplastics formed from the fragmentation of plastic material. Marine debris is mainly discarded human rubbish which floats on, or is suspended in the ocean, Eighty percent of marine debris is plastic. Microplastics and

## Reduction Efforts :-



Household items made of various types of plastic.



Waste generation, measured in kilograms per person per day

Efforts to reduce the used of plastic, to promote plastic recycling and to reduce mismanaged plastic waste or plastic pollution have occurred or are ongoing. The first scientific review in the professional ecademic literature about global plastic pollution in general found that the rational response to the global threat would be reduction in consumption of virgin platic materials, along Plastic to reduce pollution.



## **Conclusion :-**

Though plastic is very useful in modern civilisation and provides us with various useful articles, it serves as a serious threat to our environment. So we should try our level best to reduce, reuse and recycle plastic whenever possible to reduce the level of environment pollution caused by plastics.

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