



Plastic : BOON-BANE

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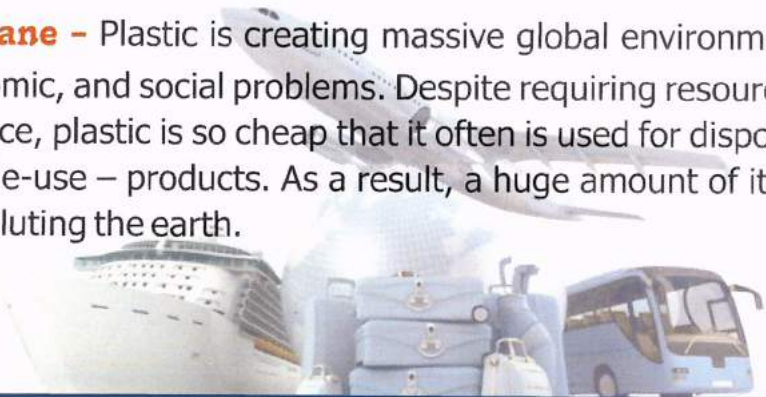


A Boon - Plastic is an amazing material, it has become embedded and almost essential in all human endeavors. The invention of plastic in 1907 by Alexander Parkes was considered a breakthrough. Plastic products soon became omnipresent in our daily lives.



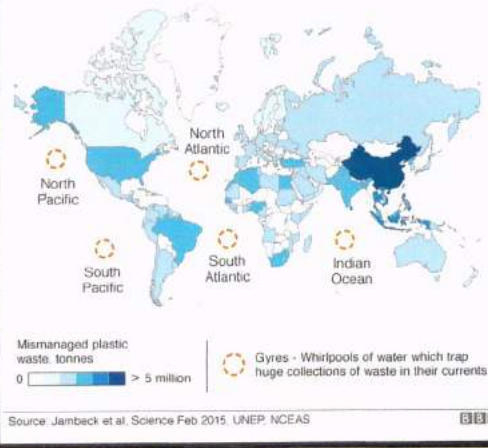
Alexander Parkes

A Bane - Plastic is creating massive global environmental, economic, and social problems. Despite requiring resources to produce, plastic is so cheap that it often is used for disposable - single-use - products. As a result, a huge amount of it ends up polluting the earth.



- As of 2015, approximately 6300 Mt of plastic waste had been generated
- Around 9% of which had been recycled
- 12% was incinerated

Ocean plastic



- And 79% was accumulated in landfills or the natural environment
- If current production and waste management trends continue, roughly 12,000 Mt of plastic waste will be in landfills or in the natural environment by 2050

**U.S. CONSUMPTION = ENOUGH STRAWS
TO WRAP AROUND THE
EARTH'S CIRCUMFERENCE
2.5 TIMES A DAY!**



Plastic straws are in fact, no small problem. Worldwide, we produce over 500,000,000 straws daily, that's a lot of straws and a lot of plastic, much of it ending up in the ocean.

Drinks bottles

A rising tide of plastic



1,000,000 are bought every minute
or 20,000 per second

480bn sold in 2016
110bn of those made by Coca Cola

Less than 50% collected for recycling

7% turned into new bottles

Source: Euromonitor

What Do These Numbers Mean?



PETE

PET (Polyethylene terephthalate) PET is used in the production of soft drink bottles, peanut butter jars etc. PET can be recycled into fiberfill for sleeping bags, carpet fibers, rope, pillows etc.



HDPE

HDPE (High-density polyethylene) is found in milk jugs, butter tubs, detergent bottles, motor oil bottles etc. HDPE can be recycled into flower pots, trash cans, traffic barrier cones, detergent bottles etc.



PVC

PVC (Poly vinyl chloride) is used in shampoo bottles, cooking oil bottles, fast food service items... PVC can be recycled into drainage and irrigation pipes...



LDPE

LDPE (Low-density polyethylene) is found in grocery bags, bread bags, shrink wrap, margarine tub tops, etc. LDPE can be recycled into new grocery bags, but in general, it is not recommended to put plastic bags in your recycling bin. Take your used shopping bags to a supermarket that offers plastic bag collecting services.



PP

PP (Polypropylene) PP is used in most yogurt containers, straws, pancake syrup bottles, bottle caps etc. PP can be recycled into plastic lumber, car battery cases, manhole steps etc.



PS

PS (Polystyrene) PS is found in disposable hot cups, packaging materials (peanuts) and meat trays etc. PS can be recycled into plastic lumber, cassette tape boxes, flower pots etc.



Other

OTHER This is usually a mixture of various plastics, like squeeze ketchup bottles, "microwaveable" dishes etc. Other (number 7) is usually not recycled because it is a mixture of different types of plastics.



Why plastic is a problem?

Plastics are a problem mostly due to improper disposal and their non biodegradable nature.

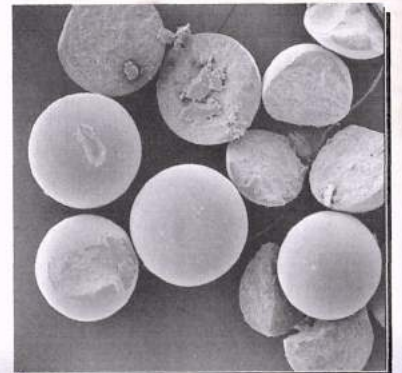
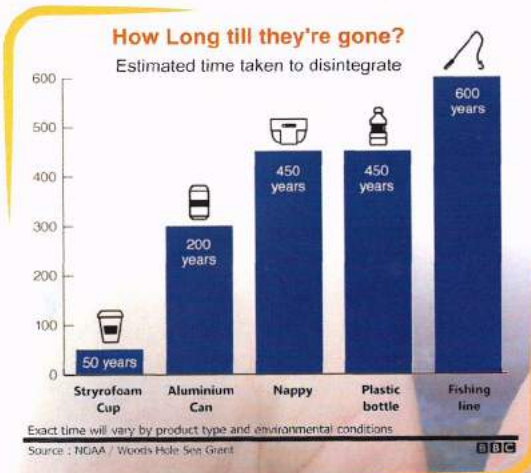
One of the great advantages of many types of plastic is that they're designed to last for a very long time. And nearly all the plastic ever created still exists in some form today and has become toxic particulate matter. Moreover plastic is a material that the Earth cannot digest.

Disposable plastics are the main source of plastic pollution:

Consumption of disposable plastics such as carry bags, bottles, straws, disposable cups and plates, film, food packaging etc. are spiraled out of control. These items are used for seconds, hours or days, but they remain forever in the environment .



This Plastic cup thrown out in 1976 shows us just how long plastic stays in the environment.



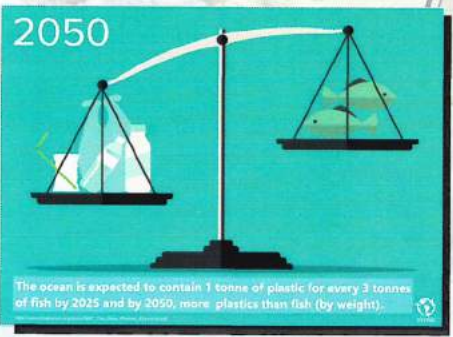
Polyethylene beads such as these, extracted from a cosmetic product and shown in an electron micrograph, tend to pass through sewage treatment plants and end up in natural waters.





Plastic debris has been found in all major ocean basins

60 to 80% of marine debris is estimated to be plastic. There are an estimated 270,000 tons of plastic floating on the surface of the ocean and according to a recent study authored by researchers at Plymouth University, a staggering 700 different marine species are threatened by its presence.



A study also found that hundreds of species of cetaceans have been negatively impacted by plastic pollution in the past two decades.



Plastic is killing our Rivers

- Out of the ten rivers that drain over 90% of the total plastic debris into the sea globally, there are three flowing through India – the Indus, Ganga and Brahmaputra
- While the Indus carries the second highest amount of mismanaged plastic debris to the sea, both Brahmaputra and Ganga together carry the sixth highest
- These plastic wastes originate not only from cities but also from villages along these riverine systems

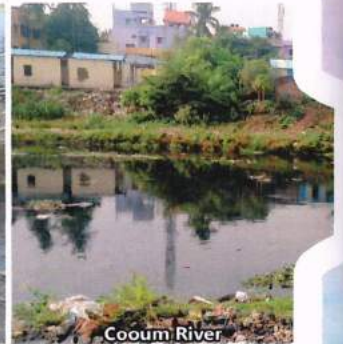
"The **Wars** of the future will not be fought about oil, the wars of the future is going to be fought about **Water**."



Virshabhavathi River



Cauvery River



Cooum River



Ganga River



Plastic is a petroleum product. It is created from petroleum just like refined gasoline. The Environmental Protection Agency (EPA) estimates that production of plastic products account for an estimated 8% of global oil production. The drilling of oil and processing into plastic releases harmful gas emissions into the environment including carbon monoxide, hydrogen sulfide, ozone, benzene, and methane (a greenhouse gas that causes a greater warming effect than carbon dioxide).



Wasteful

450

years to decompose

Polluting

plastic > fish

by 2050

Climate Impact

100g CO₂

emissions per
1 litre bottle produced



UV Rays

Ozone Layer
Protection
from UV Rays



Environmentally, plastic is a growing disaster. Most plastics are made from petroleum or natural gas; non-renewable resources extracted and processed using energy-intensive techniques that destroy fragile ecosystems.

The manufacture of plastic, as well as its destruction by incineration pollutes air, land and water and exposes workers to toxic chemicals, including carcinogens.



Why should you recycle?

Recycling produces environmental and economic benefits. It reduces energy consumption and the need for new material to be used while slowing the rate of resource depletion. It decreases pollution from industrial waste and limits the amount of waste sent to the landfill.



- Wildlife become entangled in plastic - they eat it or mistake it for food and feed it to their young
- Invertebrates, turtles, fish, seabirds and mammals have been reported to ingest or become entangled in plastic debris, resulting in impaired movement and feeding, reduced reproductive output, lacerations, ulcers and death

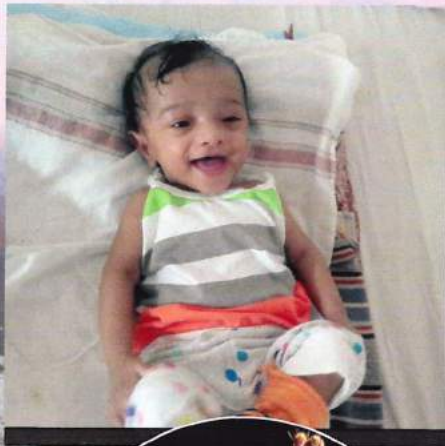




OBSESITY

Scientific studies have linked Bisphenol A (BPA) to health problems that include chromosomal and reproductive system abnormalities, impaired brain and neurological functions, cancer, cardiovascular system damage, adult-onset diabetes, early puberty, obesity and resistance to chemotherapy.

Plastic impacts our health and wellbeing. We have all contributed to this problem – mostly unknowingly – and we must work to reduce and ultimately Beat Plastic Pollution.



Plastic is poisoning our food chain

Plastic never fully degrades, over time it breaks into smaller and smaller pieces. Eventually it becomes small enough to enter the bloodstream of marine organisms. Since the organisms cannot ever digest or process the plastic, it remains present until the organism is eaten. This passes all the plastic on to its predator, which is usually fish. If that fish is caught, then the plastics will be passed on to whichever human consumes it.

Exposure to BPA at a young age can cause genetic damage, and BPA has been linked to recurrent miscarriage in women.



The health risks of plastic are significantly amplified in children, whose immune and organ systems are developing and are more vulnerable.



Plastic clogs cities' sewer systems and increases the risk of flooding. Larger pieces can fill with rainwater, providing a breeding ground for disease-spreading mosquitoes.





1. Reduce - Use Less

Cut down on your consumption of goods that contain excessive plastic packaging and parts. If it will leave behind plastic trash, don't buy it.



2. Refuse - Say No To Single Use Plastic Items

Choose items that are not packaged in plastic, and carry your own bags, containers and utensils. Say 'no straw, please.' Consider purchasing items made of natural fibers, when possible.



Reduce



Refuse



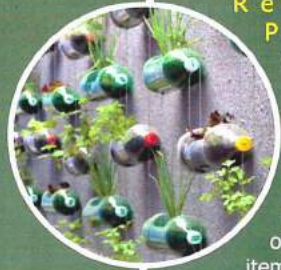
Reuse



Recycle



Remove



3. Reuse - Ask For Reusable Products.

Reuse durable, non-toxic straws, utensils, to-go containers, bottles, bags, and other everyday items.



4. Recycle - what you can't refuse, reduce or reuse.

Pay attention to the entire life cycle of items you bring into your life, from source to manufacturing to distribution to disposal.



5. Remove - Pick Up Trash & Recyclables & Put In The Right Places.

Pick up trash -especially plastics- whenever you see it, especially in ponds, streams, rivers, beaches, when possible. **Participate in organized clean-up activities as much as you can.**



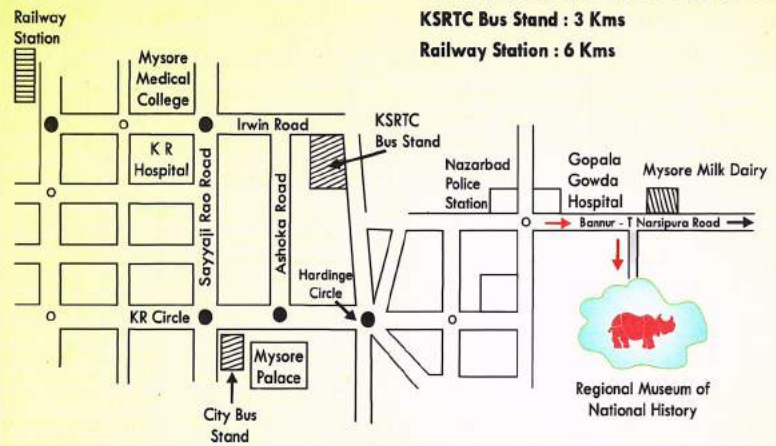
Way to Museum

City Bus Stand : 5 Kms

Bus No. : 6, 80, 75, 180, 181, 333, 335, 336

KSRTC Bus Stand : 3 Kms

Railway Station : 6 Kms



GALLERIES

10:00 am to 06:00 pm
On all days except
Mondays and National Holidays

FILM SHOWS

11:00 am to 12:00 noon
03:00 pm to 04:00 pm



REGIONAL MUSEUM OF NATURAL HISTORY

A Regional Centre of the National Museum of Natural History, New Delhi
(Ministry of Environment, Forest & Climate Change, Government of India)

Siddarthanagar, Mysore - 570 011. Ph : 2447046

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2018

