Green Alert

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The focus of Environmental Information, Awareness, Capacity Building & Livelihood Programme (EIACP) scheme is to disseminate environmental information to decision makers, policy planners, scientists and researchers across the world.

CERC-EIACP, Programme Centre - Resource Partner to MoEF&CC works on the thematic mandate of 'Environment Literacy - Eco-labelling & Eco-friendly Products'. This bi-monthly e-bulletin features latest of Environment, developments and innovations.

Eco-Product

Plastic Pollution

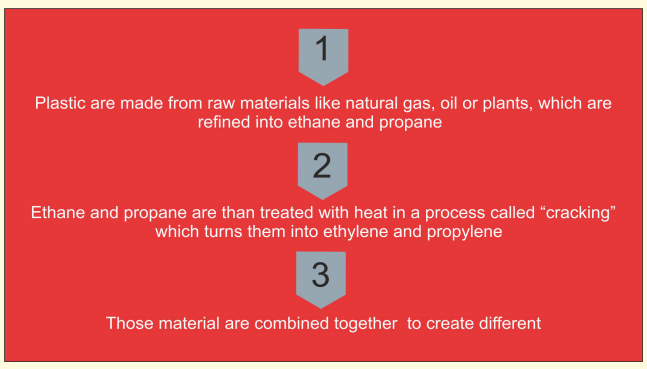
With elevated willingness to tackle plastic pollution in the society, many companies have started coming up with alternative products to single use plastic products. Some of them are listed here. Shopping these eco-friendly products has become very easy with online shopping apps and eco-friendly products shops. As the demand for these products is increasing, regular provisional stores and malls have started stocking-up their shelves with eco-friendly options. We must encourage our friends, families and neighbors to use such products to reduce our plastic footprint.

Alternatives to single use plastic items
(From left to right: Metal straws, Bamboo Toothbrush, Cotton Tote bags, Steel Lunchbox, Glass Bottles)

Green Issue

Plastics

Plastics originally meant "Pliable and easily shaped". They are Made up of different polymers (*Poly*, meaning many, and *meros*, meaning parts or Unit), and have a quality of being molded or shaped, usually by the application of heat and pressure. Thisproperty in addition to other specialties like low density, low electrical conductivity and toughness makes it a great option for wide variety of packaging and storage materials like bottles for beverages, food containers, and even water pipes. However, plastic is not only useful, but also highly problematic for the environment.



Recycling of Plastics is possible, but it is a complicated process with a lot of variables like market demand, price determinations, local regulations, etc. which may or may not bring a lot of value to the ultimate result.

Plastic codes

The Society of the Plastic Industry (SPI) established a classification system in 1988 to allow consumers and recyclers to identify different types of plastic. This system assigns codes to different types of plastic as a standard. It is a uniform coding system used worldwide. There is a way to identify the type of plastic in many everyday products, especially food storage containers and packaging. Such plastic products have a number – "resin identification code" surrounded by a solid equilateral triangle. The symbol should be molded or embossed into thebase and positioned as close to the centre as possible. The recommended size is between one-half inch and one inch, depending on the size of the container. The measurements are for the symbol alone, not including letters. The code indicates the type of plastic that an item is made from.

PLASTIC RESIN IDENTIFICATION CODES

1	PETE	Polyethylene Terephthalate	soft drink and water bottles, food packaging, fruit, juice containers and cooking oil, shampoo bottles	Recycable
2	HDPE	High Density Polyethylene	milk, water, juice jugs, yogurt pots, soap dipenser, cleaning products, grocery bags	Recycable
3	PVC	Polyvinyl Chloride	pipe and window fitting, thermal insulation, car parts, trays for sweets, bubble foil, food foil	Non-recycable
4	LDPE	Low Density Polyethylene	frozen food bags, bread bags, food bags, shopping bags, magazine wrapping	Non-recycable
5	PP	Polypropylene	ketchup bottles, microwave meal trays, wall covering, syrup bottle, yogurt container	Recycable
6	PS	Polystyrene	cosmetic bag, plates and cups, CD cases, egg cartones, protective packaging	Non-recycable
7	OTHER	Other	5-gallon water bottles, other plastic including acrylicnylon, fiberglass, baby bottle	Non-recycable

Plastic Pollution

- Plastics take from around 450 to 1000 years to decompose. Which means all the plastic waste that will be or was generated, fills up either lands or oceans throughout the globe.
- The National oceanic and Atmospheric administration of US Government has identified a large patch of plastic and other debris in North Pacific Ocean which is caught in the gyre. It continues to swirl in the ocean like an endless cycle, ultimately causing fragmentation of larges pieces. Debris found in any region of the ocean can easily be ingested by marine species causing choking, starvation, and other impairments.
- Plastics molecules does not breakdown as such, but the physical structure crumbles down to small pieces which are not even visible by naked eyes. These tiny plastics are smaller than 5mm and are commonly called *Microplastics.* It is now understood that micro-plastics are present on the top of Mount Everest, the deepest bottom of the oceans, Polar Regions, in the bodies of commercially important fishes, in human lungs and even placenta.
- Understanding of consequences due to micro-plastic pollution is still at the nascent stage. According to a recently published research in the *Journal of Hazardous Materials***,** scientists have provided first record of plastic related fibrosis in the Gut of a seabird species called Flesh-footed shearwater. The disease is named **Plasticosis.** Humans also ingest micro-plastic particles via food and water.

Solutions

- To fight against the plastic pollution, many of the countries across the world have already banned the use of plastic bags or either imposed heavy taxes on it. Following their footsteps, Government of India enforced a ban on identified single use plastic items, like ear-buds with plastic sticks, plastic sticks for balloon, polystyrene for decoration, plastic plates, cups, glasses, cutlery such as forks, spoons, knives, straws, trays, wrapping or packing films around sweet boxes, invitation cards, cigarette packets, plastic or PVC banners less than 100 microns, and stirrers.
- Increasing awareness and innovative technologies has inspired to look for newer solutions to tackle plastic pollution. Either be it a waste collecting robot placed in the rivers of London which could collect around 500 kgs of waste, or making biopolymers using microscopic algae to replace plastic polymers, are some of the small battles in the big war against plastic pollution.

Sources:
1. https://marinedebris.noaa.gov/info/patch.html
2. Hayley S. Charlton-Howard, Alexander L. Bond, Jack Rivers-Auty, Jennifer L. Lavers, 2023;
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Eco-Tips

Say no to single use plastic
Cut the packaging bags used for milk, buttermilk,etc., only partially to avoid plastic bits from mixing into biodegradable waste

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