



WORLD
ENVIRONMENT
DAY



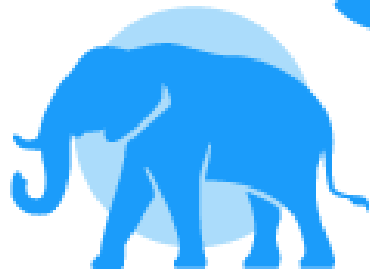
ജാസ്റ്റിക് മലിനീകരണം അവസാനിപ്പിക്കുക

If you can't reuse it, refuse it

ബ്ലൈ.പി
ശാസ്ത്ര സമൂഹ കേന്ദ്രം
കസാറ്റ്

PLENTIFUL PLASTIC

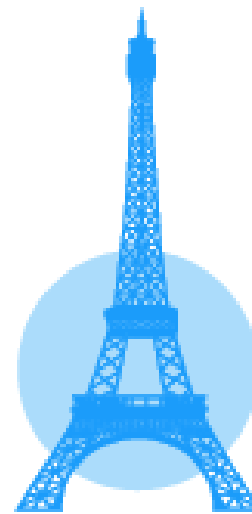
18.2 trillion pounds of plastic has been produced worldwide since the 1950s. That's equivalent to:



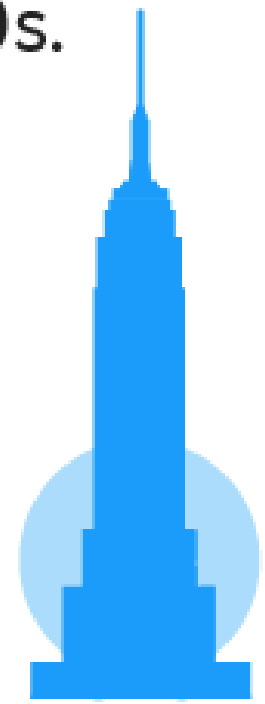
1 billion
Elephants



80 million
Blue
Whales



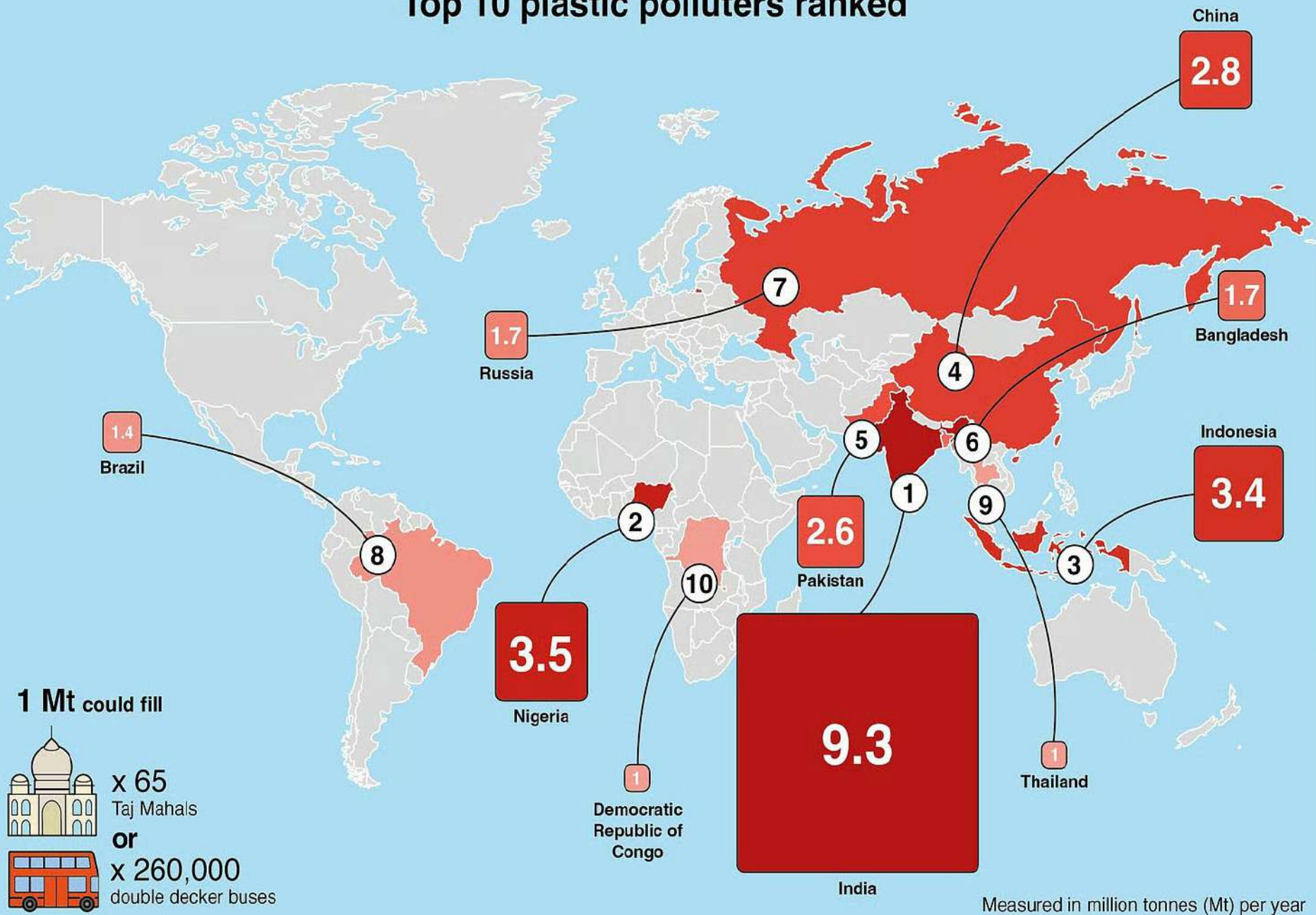
822,000
Eiffel
Towers



25,000
Empire
State
Buildings

SOURCE University of Georgia /

Top 10 plastic polluters ranked



MENACE OF PLASTIC WASTE IN INDIA

INDIA
TODAY
GROUP

LESS THAN 15% PLASTIC WASTE GET RECYCLED



Mismanaged:

Waste leaking directly into environment



Landfill:

Waste disposal through burial



Incinerated:

Waste getting directly burnt



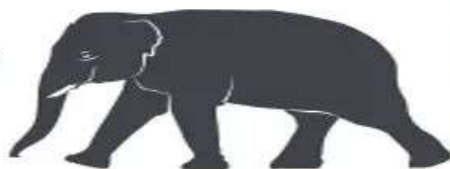
Recycling:

Waste converted into reusable item



Waste Side Story*

India generates
25,940 tonnes*
of plastic waste every day



This is close to
the weight of
9,000
Asian
elephants



86
Boeing 747 jets

Of this, **10,376 tonnes a day** is uncollected plastic

1/6th of plastic waste
generated by 60 cities

Half of this comes from

**Delhi, Mumbai,
Bengaluru, Chennai
& Kolkata**

© BOOL 2025. ALL RIGHTS RESERVED.

*Source: Central Pollution Control Board



HEALTH HAZARDS OF PLASTICS



Humans



- Cancer
- Endocrine problems
- Skin Problems
- Disruption in sexual fertility
- Hypothyroidism

Animals

- Chokes sea animals
- Ulcers, infections or death in birds



KNOW YOUR MICROPLASTICS

**MICROPLASTICS ARE PIECES OF PLASTIC
5 MILLIMETRES OR SMALLER.**

5 mm
scale

COMMON MICROPLASTICS:

FRAGMENTS



Small pieces of a larger plastic object.

FIBRES



The most common type of microplastic. Plastic strands from clothing.

FOAM



Pieces of food containers and coffee cups.

NURDLES



Plastic pellets usually used in manufacturing.

MICROBEADS



Beads used in soaps and cosmetics. Now labelled "toxic" in Canada, soon to be banned in personal care products. Look for "poly" on the label.



MACROPLASTICS ARE ANY PLASTICS LARGER THAN 5 MILLIMETRES.

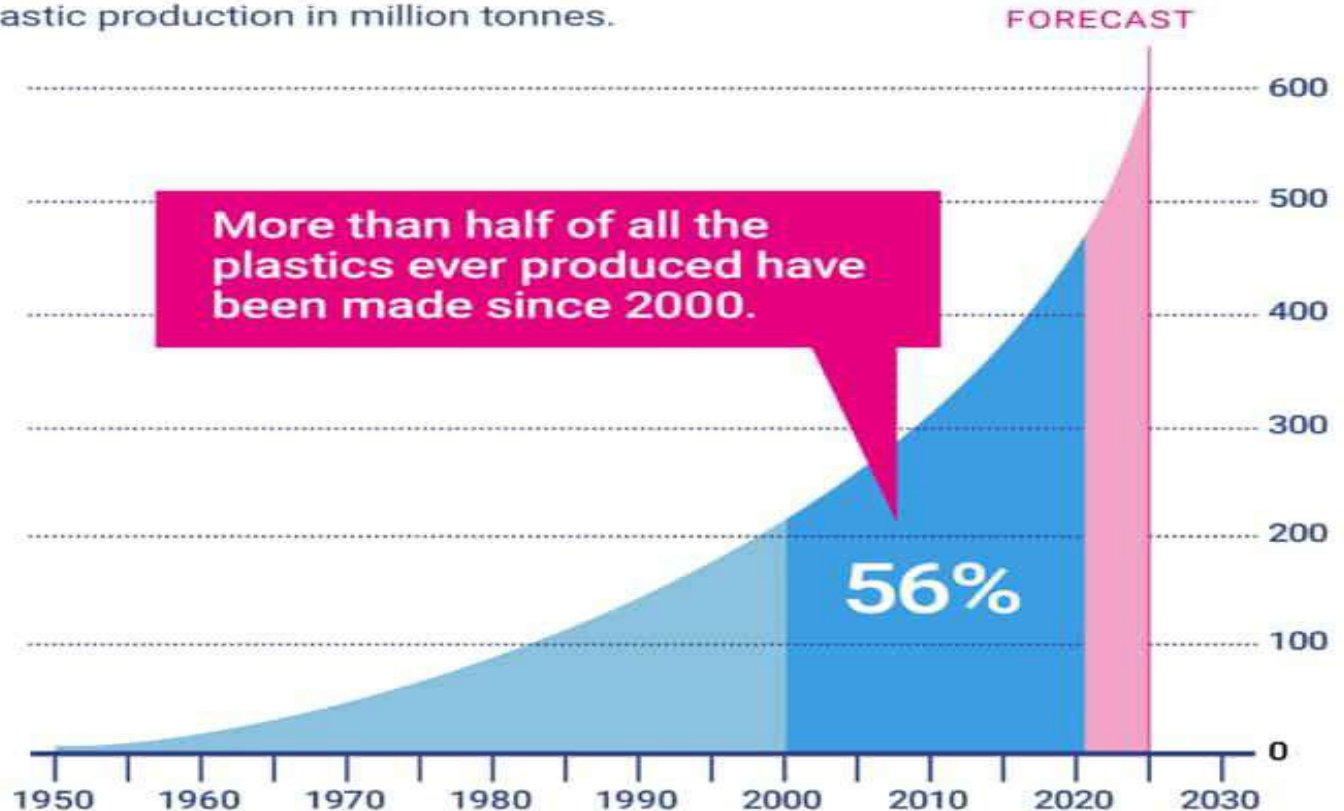
Examples: plastics bags, bottle lids, bottles, food wrappers, etc.

പ്ലാസ്റ്റിക് ഉപയോഗം: മാരേണ്ട ശീലങ്ങൾ

“ശീലങ്ങൾ തുടക്കത്തിൽ ചിലന്തിവലപോലെ ലോലവും കാലക്രമത്തിൽ ഉറുക്കുവടം പോലെ ദൃഢവുമാണ്”

PRODUCTION OF PLASTIC

Global annual plastic production in million tonnes.



ശീലങ്ങൾ

- പ്ലാസ്റ്റിക് ഷോപ്പിംഗ് ബാഗുകളുടെ ഉപയോഗം

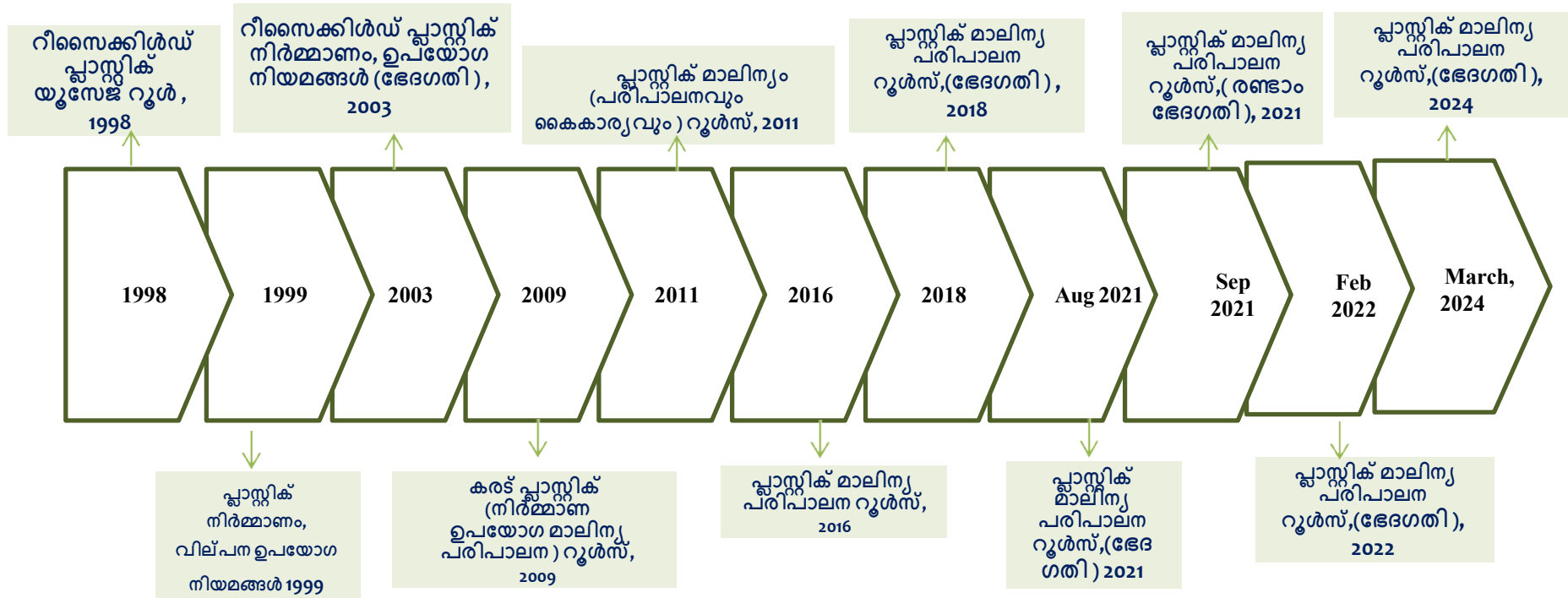
- പ്ലാസ്റ്റിക് കുപ്പികൾ, പാത്രങ്ങൾ ഇവയുടെ ഉപയോഗം

- ആഘോഷങ്ങളിലും ഭക്ഷണ വിൽപ്പനയിലും ഉപയോഗിയ്ക്കുന്ന പ്ലാസ്റ്റിക് വസ്തുക്കൾ

- കളിപ്പാട്ടങ്ങൾ

- പ്ലാസ്റ്റിക് പൊതികൾ

പ്ലാസ്റ്റിക് മാലിന്യ പരിപാലന നിയമത്തിന്റെ ഇന്ത്യൻ നാൾവഴികൾ



നമുക്കെന്ത് ചെയ്യാം ?

Refuse plastic bags, straws, cups, etc.

Reduce what you can't refuse.

Reuse as many times as possible what you can't reduce.

Repurpose things that are used enough.
At the very end segregate your waste and
send it for **Recycling** /downcycling

Resin Identification Codes

1: **polyethylene terephthalate (PET)** (beverage bottles, cups, other packaging, etc.)

2: **high-density polyethylene (HDPE)** (bottles, cups, milk jugs, etc.)

3: **polyvinyl chloride (PVC)** (pipes, siding, flooring, etc.)

4: **low-density polyethylene (LDPE)** (plastic bags, six-pack rings, tubing, etc.)

5: **polypropylene (PP)** (auto parts, industrial fibres, food containers, etc.)

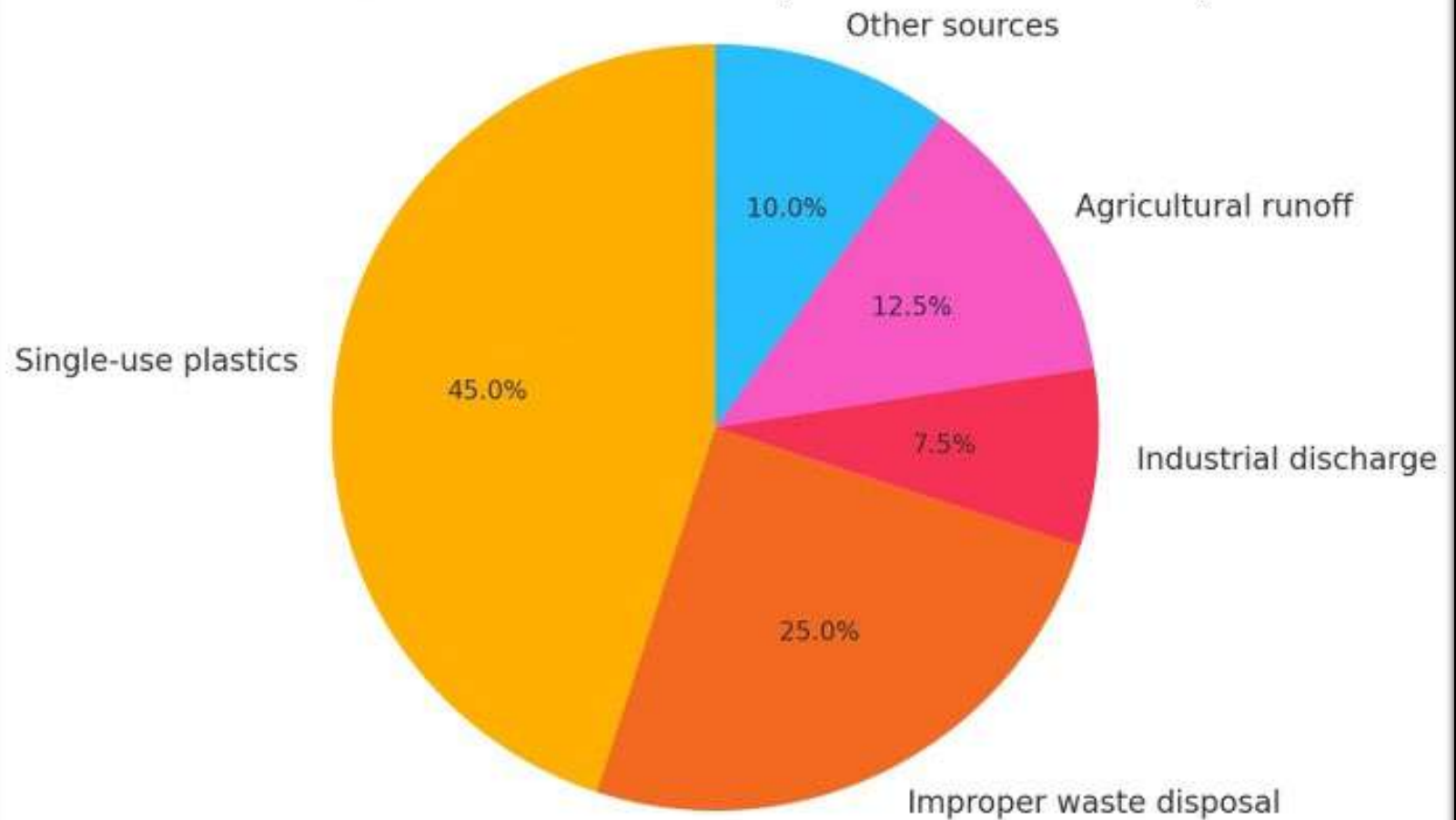
6: **polystyrene (PS)** (plastic utensils, Styrofoam, cafeteria trays, etc.)

7: other plastics, such as acrylic, nylon, polycarbonate, and polylactic acid (PLA).



RIC 4, 5, 6, and 7 largely constitute **SINGLE-USE PLASTICS**.

Sources of Plastic Pollution (Detailed Breakdown)



എന്തുകൊണ്ട് SUPPs?

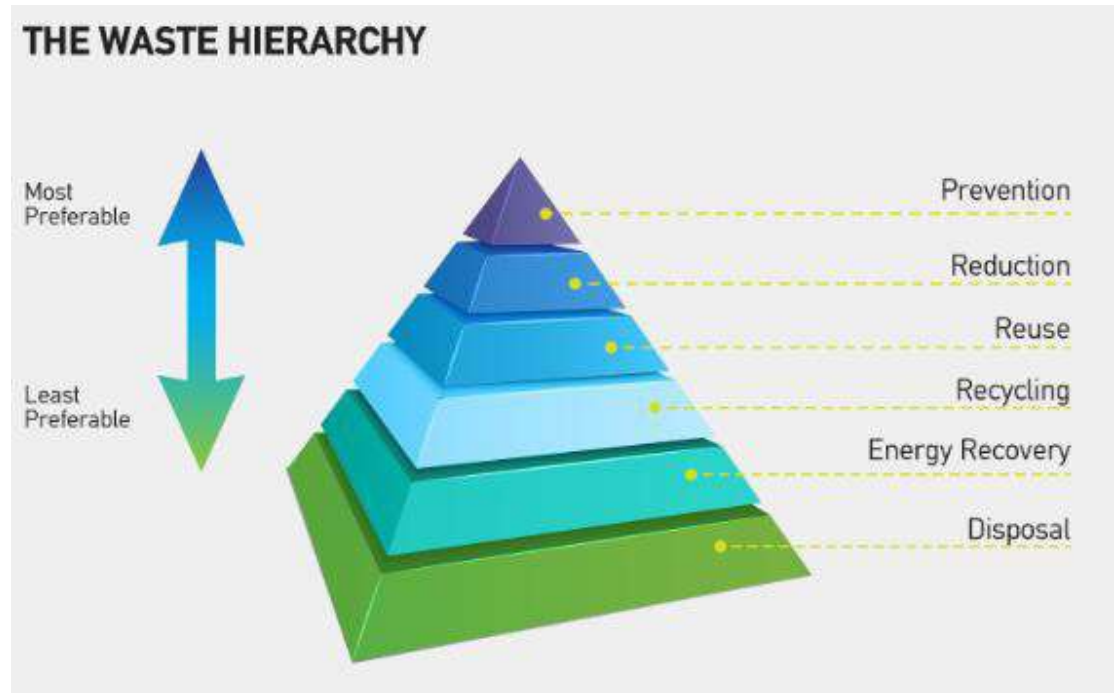
- സൗകര്യം > സുസ്ഥിരത
- ഉപയോഗിച്ച് വലിച്ചെറിയൽ
സംസ്കാരം
- കാഴ്ചയിലില്ല, ചിന്തയിലില്ല
(OUT OF SIGHT, OUT OF MIND)



Let's Say No to Single Use Plastics

Adopt the 5 R's Mantra

- **Refuse**
- **Reduce**
- **Reuse**
- **Recycle**
- **Refine/Rethink**



Single Use Plastic Items to be Banned



Ear buds and plastic stick



Balloon plastic stick



Plastic flags



Candy stick, ice-cream stick and Plastic straws



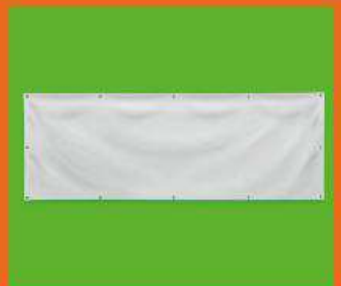
Polystyrene (thermocol) for decoration



Plastic utensils such as plates, cups, glasses, spoons, knives and trays



The plastic sheet used around sweets boxes, invitation cards and cigarette packets





Plastic or PVC banners less than 100 microns



Some alternatives to SUP items

Plastic item	Alternatives
<p>Plastic sticks used in balloons, flags, candy, ice-cream and ear buds</p>	<p>Bamboo & other wooden sticks for ear buds, flags as per the guidelines of concerned authority.</p> <div data-bbox="1052 554 1779 758"></div>
<p>Thermacol that is used in decorations</p>	<p>Decorations with flowers, cloth, papers, & other biodegradable material.</p> <div data-bbox="1099 1043 1676 1253"></div>

Some alternatives to SUP items

Plastic item	Alternatives
<p data-bbox="144 311 765 354">Items such as plates, cups, glasses</p>	<p data-bbox="1010 311 1808 504">Glass, ceramic ware, earthenware, stainless-steel tableware for restaurants, dhabas hotels & other dining places as per the guidelines of concerned authority</p> <div data-bbox="1049 521 1742 682">Three images showing alternatives to plastic tableware. The first image shows a collection of earthenware dishes and bowls. The second image shows bamboo and wooden tableware, including plates, bowls, and cutlery. The third image shows a display of stainless steel tableware, including plates, bowls, and cutlery.</div>
<p data-bbox="144 704 954 796">Cutlery such as forks, spoons, knives, straws, trays</p>	<p data-bbox="1010 704 1731 846">Paper, bamboo, wooden, stainless steel straws as per the guidelines of concerned authority.</p> <div data-bbox="1016 868 1763 1120">Three images showing alternatives to plastic cutlery. The first image shows a bundle of bamboo straws tied together. The second image shows a collection of wooden cutlery, including forks, spoons, and knives. The third image shows a collection of stainless steel cutlery, including forks, spoons, and knives.</div>

Some alternatives to SUP items

Plastic item	Alternatives
Non-woven bags below 240 microns	<ul style="list-style-type: none">• Paper bags for light weight products• Cloth bag for heavy products• Jute bag for heavy products• Reusable cotton bags or waste fabric bags 
Plastic banners less than 100 microns in thickness	<ul style="list-style-type: none">• Cloth/fabric banner, canvas banner, paper banner• Eco banners that are PVC free and 100% recyclable as an alternative to traditional PVC Banners. 

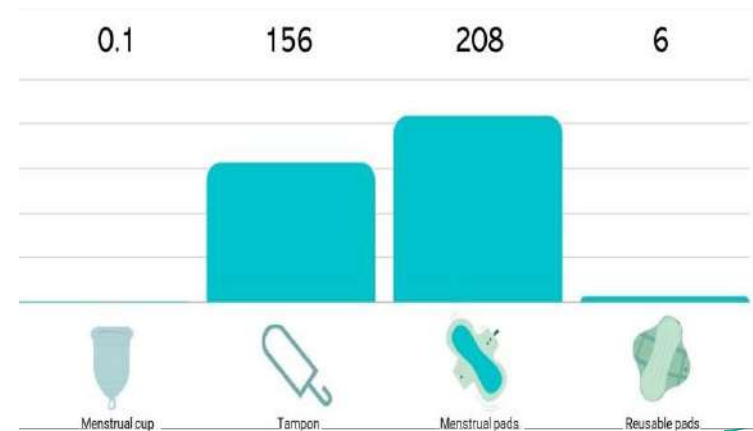
Menstrual Products

<https://www.lifecycleinitiative.org/library/single-use-menstrual-products-and-their-alternatives-recommendations-from-life-cycle-assessments/>

More than 80% of single-use menstrual products in Europe and USA end up in landfills, **taking around 500 years to break down.**




With the menstrual cup having a lifespan of 10 years, a woman would annually **need...**



പ്രകൃതിയിലെ പോളിമറുകൾ

Polymer	Natural occurrence	Common uses
Lignin	Cell walls of plants	Construction, fuel, newsprint
Cellulose	Cell walls of plants and many algae	Clothing, paper, cardboard/paperboard (Kraft paper), raw material for biopolymers
Cutin	Plant cuticles	Raw material for biopolymers
Chitin	Cell walls of fungi Exoskeleton of crustacean and insects	Mycelium-based packaging, conversion to chitosan
Protein fibre (e.g. fibroin, keratin, casein)	Silk, wool, milk	Clothing

Material	Polymer	Common biomass source	Examples of common uses
Cotton	Cellulose	Cotton plant (<i>Gossypium sp.</i>)	Clothing, other fabrics
Hemp	Cellulose	Hemp (<i>Cannabis sativa</i>)	Clothing, other fabrics
Flax/Linen	Cellulose	Flax/linseed (<i>Linum usitatissimum</i>)	Clothing, other fabrics
Jute	Cellulose & lignin	(<i>Corchorus sp.</i>)	Sacks, carpets, clothing, rope, other fabrics



Material	Polymer	Common biomass source	Examples of common uses
Coir fibre	Cellulose & lignin	Coconut (outer shell)	Mats, brushes, sacking, rope, fishing nets
Ramie	Cellulose	China grass (<i>Boehmeria nivea</i>)	Clothing, other fabrics, industrial sewing thread,
Abaca/Manila hemp	Cellulose, lignin & pectin	Banana (<i>Musa textilis</i> , inedible)	Tea bags, banknotes, matting, rope
Piña	Cellulose & lignin	Pineapple leaf (<i>Ananas comosus</i>)	Clothing, other fabrics
Sisal		(<i>Agave sisalana</i>)	Textiles, bags, rope, twine

ബയോ പ്ലാസ്റ്റിക്

Material	Polymer	Common biomass source	Examples of common uses
PHA	Polyhydroxyalkanoates	Biomass-derived sugars	Films, packaging, catering products
PLA	Polylactic acid	Maize, cassava starch	Films, packaging, hygiene products, catering products

ചില ഉത്പന്നങ്ങൾ



Production of Mycofoam™ from agricultural waste, showing the raw material, inoculation by a fungal strain, incubation and pressing. The example shows protective corner mounts, replacing the use of EPS; images courtesy of Ecovative



Bamboo straws, produced by Bali-boo in partnership with a family business in Bali Indonesia; images courtesy of Bali-boo.



Plates and bowls produced from the leaves of the areca palm



Piñatex™



Production of Piñatex™ fibres and products, from harvested pineapple leaves



Food sachets made from seaweed; images courtesy of Evoware



The edible water bottle is a blob-like water container made from sodium alginate gel. The biodegradable blob was created by Skipping Rocks Lab in an attempt to make a more environmentally friendly alternative to single-serving plastic bottles. The container, named "Ooho" by its creators, encloses a small volume of water in a membrane made from brown algae and calcium chloride. The manufacturing process is covered under a Creative Commons license, making the recipe freely distributed and readily available for anyone to use.



Lampshades manufactured from minimally processed brown seaweed (*Fucus* sp.)

Food packaging made from a combination of compostable materials, including paper, cardboard, cellophane and TPS-sugarcane bagasse composite (University of Cambridge catering services)

Plastic free linings

Water-based or plant-based linings make sure Vegware is completely compostable.



Bagasse

Recycled sugarcane fibre is fantastic - it's strong, sleek and sturdy. Microwave and freezer-safe. And we're reusing a waste material!



Eco paper and card

Vegware only uses card and paper from recycled or sustainable sources.



Priority actions to minimize single-use plastics

1

IMPROVE WASTE MANAGEMENT SYSTEMS

Segregation of waste at sources: plastics, organic, metals, paper, etc.

Effective collection of the segregated waste, transport and safe storage

Cost-effective recycling of materials (including plastics)

Less landfilling and dumping in the environment

2

PROMOTE ECO-FRIENDLY ALTERNATIVES TO PHASE OUT SINGLE-USE PLASTICS

Introduce Economic Incentives including tax rebates, research and development funds, technology incubation support, public-private partnerships

Support projects to upscale or recycle single-use items transforming potential wastes into a resource

Stimulate creation of micro-enterprises to drive job creation and economic growth

3

EDUCATE CONSUMERS TO MAKE ENVIRONMENTALLY FRIENDLY CHOICES

School education incorporated in curriculums

Awareness campaigns

Public pressure to drive public and private sector decisions

4

ENABLE VOLUNTARY REDUCTION STRATEGIES

Reduction strategies can lead to fostering the understandings of people, without the forced sudden change.

Promotion and adoption of **reusable bags**, as alternatives to plastic bags

Voluntary agreements between government and retailers/producers

Existence of the raised social awareness and the public pressure would be a pre-condition for the effective reduction strategies.

5

BAN OR INTRODUCE LEVIES ON THE USE AND SALE OF SINGLE-USE PLASTIC ITEMS

Example of policy tools

Regulatory instruments	Ban		
Economic instruments	Levy on suppliers	Levy on retailers	Levy on consumers
Combination of Regulatory and Economic instruments	Ban and levy	Extended Producer Responsibility	

അപ്-സൈക്കിളിൻ തുരുത്തിക്കര



ടേറിൽ കയർ കെട്ടിയുണ്ടാക്കിയ ഇരിപ്പിടം





പറയൂ ..

വേണ്ട...., നന്ദി..!

ഒറ്റത്തവണ ഉപയോഗിച്ച്ക്കുന്ന പ്ലാസ്റ്റിക്കിനോട് ..

നന്ദി