



POSITION PAPER

WHY SRI LANKA SHOULD BAN SINGLE USE PLASTICS?

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Centre For Environmental Justice/Friends of the Earth Sri Lanka

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INTRODUCTION

Plastic is a byproduct of the petrochemical industry. When Bakelite, the first plastic invented in 1907 it was identified as a miracle. But few decades later it became a global menace and killer of ecosystems, oceans and our own body. However, varieties of the plastics invented around the world has many uses to the human population.

Plastics are the product of petrochemical processes and part of the fossil fuels economy that has created climate change. Plastic is material consisting of wide range of synthetic or semi-synthetic organic compounds that can be moulded into solid objects. However there are variants are made from renewable materials such as polylactic acid from corn or cellulose from cotton linters.

Due to their low cost, ease of manufacture, versatility, plastics are used in a multitude of products of different scale, including paper clips and spacecraft. They have prevailed over traditional materials, such as wood, stone, horn and bone, leather, metal, glass, and ceramic, in some products previously left to natural materials.

The world's first fully synthetic plastic was Bakelite, invented in New York in 1907 by Leo Baekeland who named it as 'plastics' due to its plasticity qualities. Since then many other plastics invented including mostly common ones such as Polyethylene, Polypropylene, Polystyrene, Polyester, Polyvinyl chloride(PVC)etc.

In developed economies, about a 30% of plastic is used in packaging and about 30% in building applications such as piping, plumbing or vinyl boards. Other uses include automobiles, furniture, and toys etc. Plastics have many uses in the medical field as well, with the introduction of polymer implants and other medical devices derived at least partially from plastic.

Plastic still plays a critical role in saving the forests. We would have cut more trees and conduct more mining if there is no some plastics for building industry, furniture or even vehicle production.

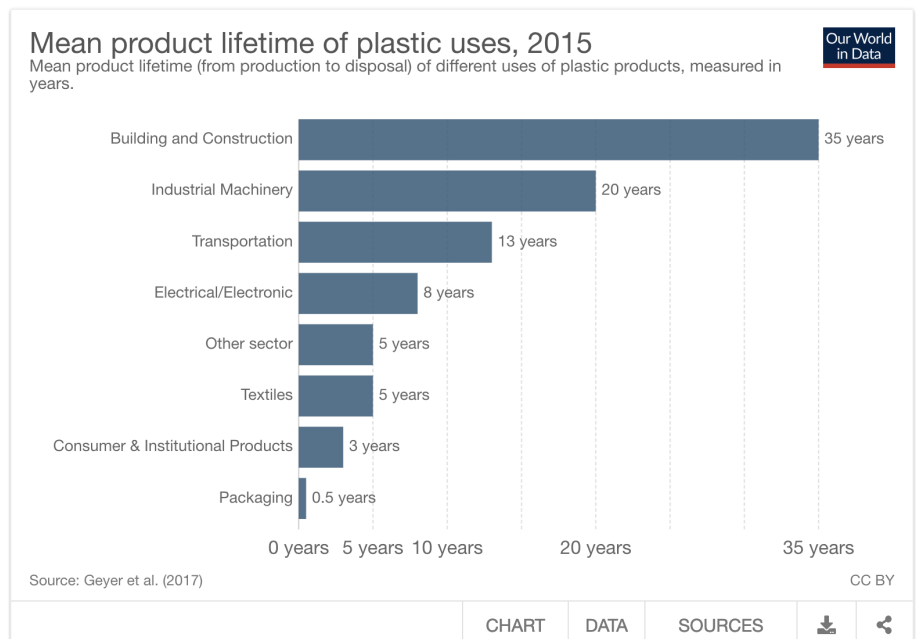
The success and dominance of plastics starting in the early 20th century led to environmental concerns regarding its slow decomposition rate after being discarded as trash due to its composition of large molecules. Although recycling was introduced to resolve this issue only 15-20% of plastics goes through the recycling globally.

Although much attention has been given to the single use plastics, all the plastics have created a global crisis in 100 years later finding the first plastic. However, single use plastics around the world has become a major crisis to ecosystems, people and the planet.

SINGLE USE PLASTICS

Plastic problem is not only single use plastics. However, plastics used in the building industry, automobile industry have a longer life span.

However, Single use plastics such as plastic bags, lunch sheets, wrappers, straws, polystyrene boxes, cups, cutlery have almost become 15 percent of the urban waste. According to the United States Environmental Protection Agency, in 2015, plastic products generation was 34.5 million tons, or 13.1 percent of generation. Plastics generation has grown from 8.2 percent of generation in 1990 to 13.1 percent in 2015. According to



the latest data, plastic in the waste collected in Sri Lanka comes to about 8 percent.

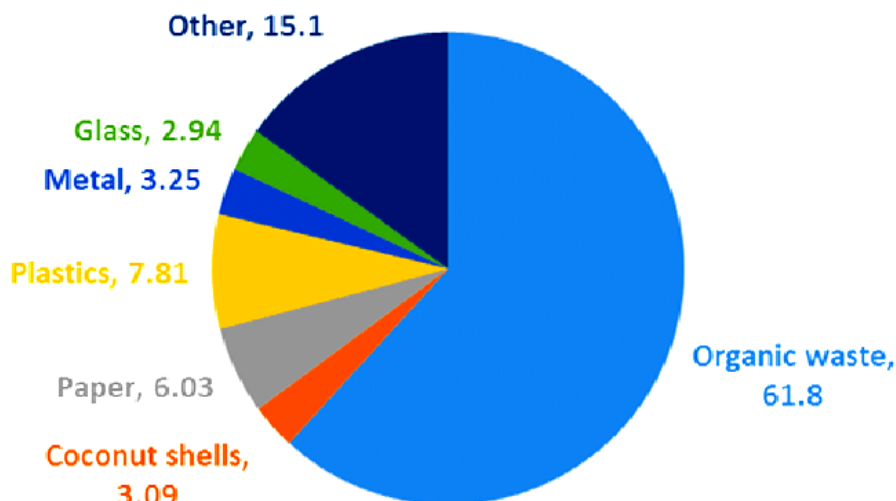
Global production capacity of plastics is set to increase by 2025 unless action is taken. It is widely known fact that many uses of plastics are unnecessary and are fueling our throwaway society and the oil, gas and petrochemical industry.

Each year, nations generate 1.3 billion tons of waste. That's expected to soar to 4 billion tons by 2100, according to Ede Ijjasz-Vasquez, senior director for the World Bank's Social, Urban, Rural and Resilience Global Practice. (<https://www.latimes.com/world/global-development/la-fg-global-trash-20160422-20160421-snap-htmlstory.html>)

The United States, China, Brazil, Japan and Germany are the leading trash generators. The U.S. produced about 228 million tons of waste in 2006, a figure that climbed to 254 tons by 2013. China (with a population around four times larger than that of the U.S.) is close behind, with 190 million tons of waste per year.

Sri Lanka generate at least 7500 tones a day. However, local authorities collect only 3500 tones a day. Rest are dumped in the marshy lands and to the water ways.

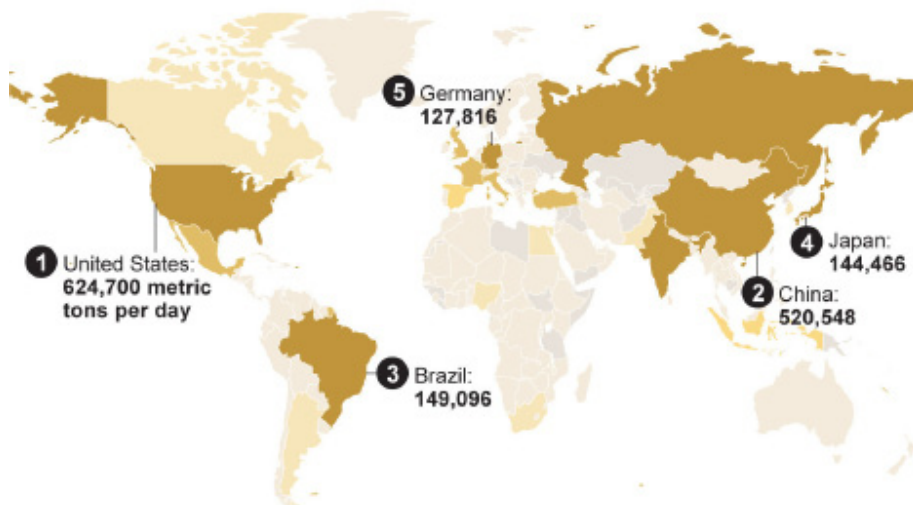
Domestic Waste Composition In Sri Lanka



Who generates the most waste?

Metric tons of solid waste generated each day*

(In thousands)



*Figures are from a 2011 report that compiled data from earlier years.

Source: World Bank

Angelica Quintero / @latimesgraphics

The global production of plastic is currently estimated to be around 300 million tons per year, while plastic pollution in the marine environment alone is estimated to be around 9.5 million tons, with a staggering 1.5 million tons ending up in the ocean annually. (<https://www.iucn.org/news/asia/201801/innovative-and-collaborative-future-plastic-waste-management-sri-lanka>)

China, Indonesia, Philippines, Thailand, and Vietnam are dumping more plastic into oceans than the rest of the world combined

, according to a 2017 report by Ocean Conservancy. The U.S. wasted about 33.6 million tons of plastic, and only 9.5% was recycled. (<https://www.forbes.com/sites/hannahleung/2018/04/21/five-asian-countries-dump-more-plastic-than-anyone-else-combined-how-you-can-help/#10518f401234>)

Plastic recycling around world is less than 15% of the total production. Plastics have polluted beaches and created plastic islands in some oceans and become deadly for ocean species. Moreover, Micro plastics in the oceans, water, soil, food, body and the ecosystems have become a threat to the health of people and the planet.

The global release of primary microplastics into the ocean was estimated at 1.5 million tons per year. The overwhelming majority of the losses of primary microplastics (98%) are generated from land based activities. Only 2% is generated from activities at sea. The largest proportion of these particles stem from the laundering of synthetic textiles and from the abrasion of tyres while driving. Most of the releases to the oceans are

occurring from the use of products (49%) or the maintenance of products (28%). The main pathways of these plastics into the ocean are through road runoff (66%), wastewater treatment systems (25%) and wind transfer (7%). (<https://portals.iucn.org/library/sites/library/files/documents/2017-002.pdf>)

MICROBEADS

The plastic crisis has become more serious due to the Microbeads. They are tiny bits of plastic found in exfoliating body washes and facial scrubs. Since their introduction in 1972, they have made their way into more than 100 personal care products sold by companies such as Procter & Gamble, Unilever, and L'Oréal. They are most frequently made of polyethylene but can be of other petrochemical plastics such as polypropylene and polystyrene. All Microbeads end up in the waterways and oceans.

Although most single use plastics come from food grade plastics, recycled plastics cannot be used in the food industry. They always go through down scaling and finally become unusable. Every nation around the world have now understood this fact and trying to control plastics especially single use plastics since China

stopped importation of waste for recycling beginning of 2018. Such approaches are vary from banning certain use of plastics to better manage them.

MAJOR PLASTIC PRODUCERS AROUND THE WORLD

Plastic production is a multi- billion industry. Except very few most producers come from the glolabal north and registered in highly developed countries. According to the Polymer Dada base to 10 plastics and resins manufacturers are:

Dow Chemical- Global sales: \$49 billion. Dow is an American multinational chemical company headquartered in Midland, Michigan.

Lyondell Basell Global sales: \$33 billion. Lyondell Basell is one of the world's largest plastics, chemicals and refining companies incorporated in the Netherlands, and with U.S. operations headquartered in Houston, Texas, and global operations in London, UK.

Exxon Mobil Global sales: \$236 billion. Exxon Mobil Corp. (ExxonMobil) is an American multinational oil, gas and chemical company headquartered in Irving, Texas.

SABIC Global sales: \$35.4 billion. SABIC (Saudi Arabia Basic Industries Corporation) is a public petrochemical company founded in 1976 and based in Riyadh, Saudi Arabia.

INEOS- Global sales: \$60 billion. Ineos Group Limited is a multinational chemicals company headquartered in Rolle, Switzerland. I

BASF- Global sales: \$63.7 billion- BASF is a German multinational chemical company founded in 1865 and headquartered in Ludwigshafen, Germany.

ENI Global sales: \$61.6 billion. Eni S.p.A. (Ente Nazionale Idrocarburi) is an Italian multinational oil and gas company headquartered in Rome.

LG Chem- Global sales: \$17.8 billion. LG Chemical, is the largest Korean chemical company, headquartered in Seoul, South Korea.

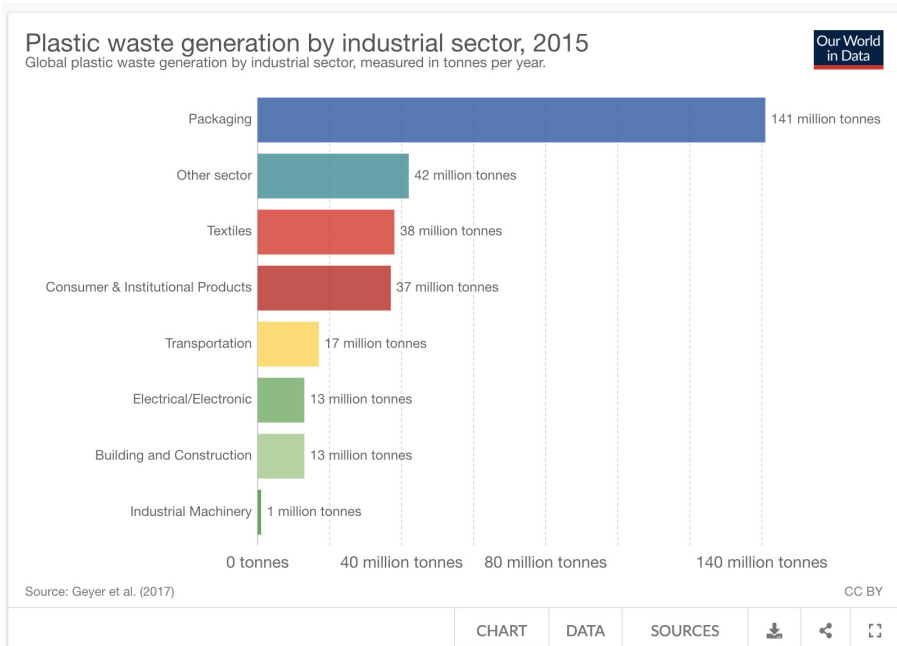
Chevron Phillips -Global sales: \$13.4 billion. Chevron Phillips Chemical is a petrochemical company headquartered in Woodlands, Texas.

Lanxess - Global sales: \$7.9 billion. Lanxess is a German speciality chemicals company based in Cologne, Germany.

(<http://polymerdatabase.com/Polymer%20Brands/Plastic%20Manufacturers.html>)

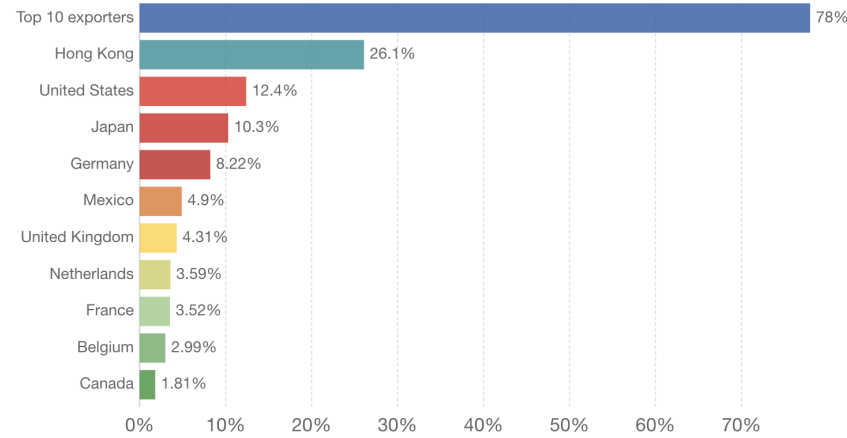
INTERNATIONAL APPROACHES TO MANAGE PLASTICS

Countries such as Rwanda, Bangladesh have banned single use plastics almost a decade ago. Still they are not able to tackle the issue. Countries such as Jamaica, Kenya, Honduras and many other coastal countries also have brought legislations to tackle this problem. Many EU countries and South Korea, Japan New Zealand, USA etc



Share of cumulative plastic exports by top ten exporters (1988-2016)

Share of cumulative plastic exports over the period 1988 to 2016 by the top ten exporting countries.



Source: Brooks et al. (2018)

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CHART DATA SOURCES

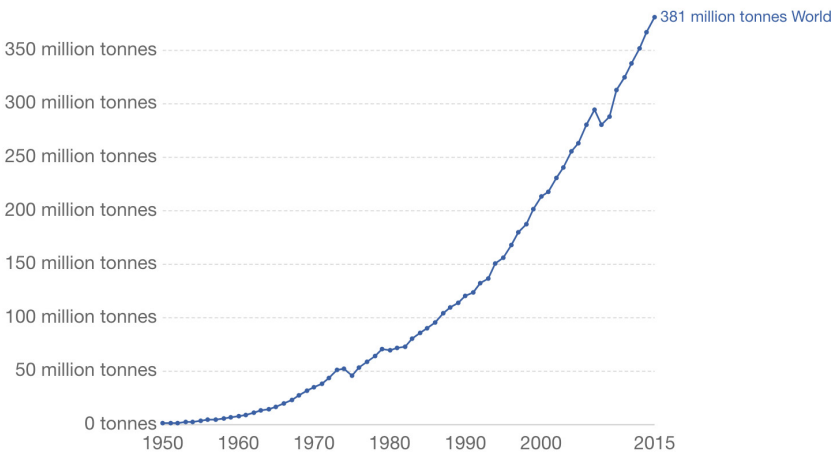
have introduced Extended Producer Responsibility (EPR) many years back to give the responsibility back to the producer to manage own waste including plastics.

The European Parliament has voted to ban a range of single-use plastics such as straws, cotton buds and cutlery and to ensure most bottles are recycled in a bid to curb ocean pollution. Under the proposal, 10 single-use plastic products would be banned by 2021 and EU states obliged to recycle 90% of plastic bottles by 2025.

This approach based on the widely accepted polluter pays principle.

Global plastics production

Annual global polymer resin and fiber production (plastic production), measured in metric tonnes per year.



Source: Geyer et al. (2017)

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1950 2015 CHART DATA SOURCES

FALSE SOLUTIONS

According to some information every day at least 20 million lunch sheets, 15 million plastic bags and 10 million empty bottles are dumped into the environment in Sri Lanka.

Sri Lanka is the worst consumer of lunch sheets. According to the Our World in Data Sri Lanka is one of the worst country per capita mismanaged plastic waste in 2010.

It is seen that there are many environmental enthusiast engage clean beaches, mountains and cities, Railway stations etc., mostly collect single use plastics. However, they mostly burned or goes back to other dump yards.

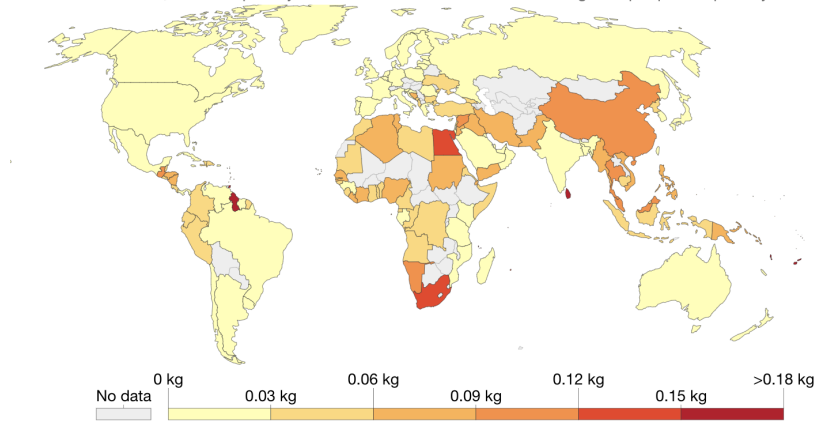
The alternative solutions such as Eco bricks, using for road construction or building construction are false solutions.

In fact using- waste plastic modified asphalt concrete mix increases the micro-plastics which then goes to the waterways and enter into human body though fish and other sea food.

They don't solve the plastics problem and increase the risks to human and other life forms.

Per capita mismanaged plastic waste, 2010

Mismanaged waste is material that is either littered 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 inland waterways, wastewater outflows, and transport by wind or tides. This is measured in kilograms per person per day.



Source: Jambeck et al. (2015)

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CHART MAP DATA SOURCES

WHY SRI LANKA FAILED TO IMPLEMENT THE PLASTIC BAN?

First attempt to regulate Plastics in Sri Lanka came in 1994 during the period of Mrs. Shrimani Athulathmudaly as the Minister of environment with several guidelines and the proposal to ban High density Polyethylene(HDPE) bags with less than 20 microns thickness. However, this did not implemented at all.

In January 2007 a ban was imposed by President Mithripala Sirisena who was Environment Minister at that time. Under section 23W of the National Environmental Act No. 47 of 1980, gazette notification No. 1466/5 was issued banning the use of polythene that is less than 20 microns in thickness. However, this was not effectively enforced since it was not easy to measure the thickness during the raids.

A Conservation levy was introduced for the HDPE bags in 2008, under the Environment Conservation Levy Act, No. 26 of 2008, however it was abandoned after a court order was issued against charging 2 Rupees for a plastic bag in the Supreme Court. The other reason was that the conservation levy was sent to the "Environment Conservation Levy Account" of the Consolidated Fund which was never spent for national recycling efforts of the Central Environmental Authority. The Levy was also imposed on incandescent bulbs and the mobile phone bills.

A set of regulations have been introduced in 2017 to stop HDPE bags, Lunch sheets and polystyrene boxes. The gazette notification for the prohibition of the manufacture and sale of polythene and related products was issued by the President Maithripala Sirisena on Friday, September 1.

According to the gazette

notification No. 2034/33 - September 01, 2017 issued under the National Environmental Act, order prohibits the manufacture of polythene or any polythene product of twenty (20) microns or below in thickness for in country use or the sale, offer for sale, offer free of charge, exhibition or use of polythene or any polythene product which is twenty (20) microns or below in thickness within the country.

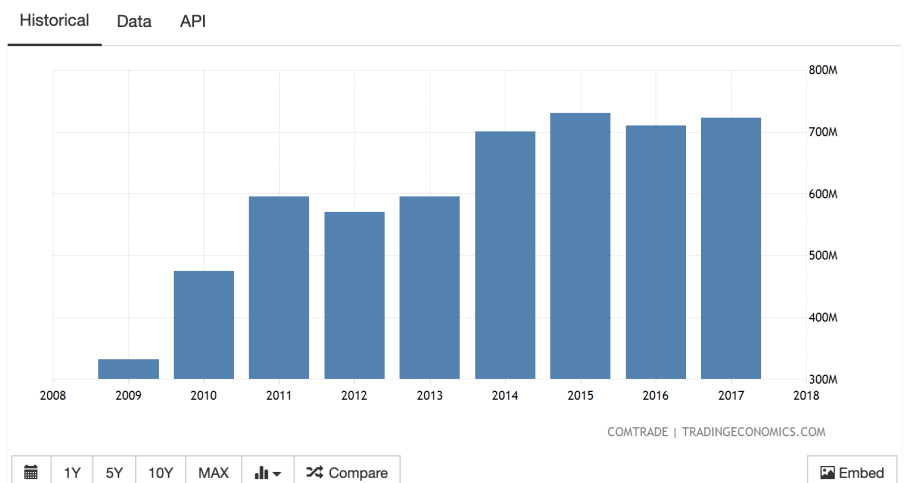
Also Gazette notification No. 2034/34 - September 01, 2017 Order prohibits the manufacture of food wrappers from polythene as a raw material for in country use; and the sale, offer for sale, offer free of charge, exhibition or use of food wrappers manufactured from polythene as a raw material within the country.

For the purposes of this Order "food wrappers" means lunch sheets. "Polythene" includes high density polyethylene, low density polyethylene and polypropylene.

Further, No. 2034/35 - September, 2017 ban manufacture of any bag of high density polyethylene as a raw material for in country use; and sale, offer for sale, offer free of charge, exhibition or use of any bag manufactured from high density polyethylene as a raw material within the country.

No. 2034/36 - September 01, 2017

Import of plastic to Sri Lanka by Year



Prohibits open burning of refuse and other combustible matters inclusive of plastics.

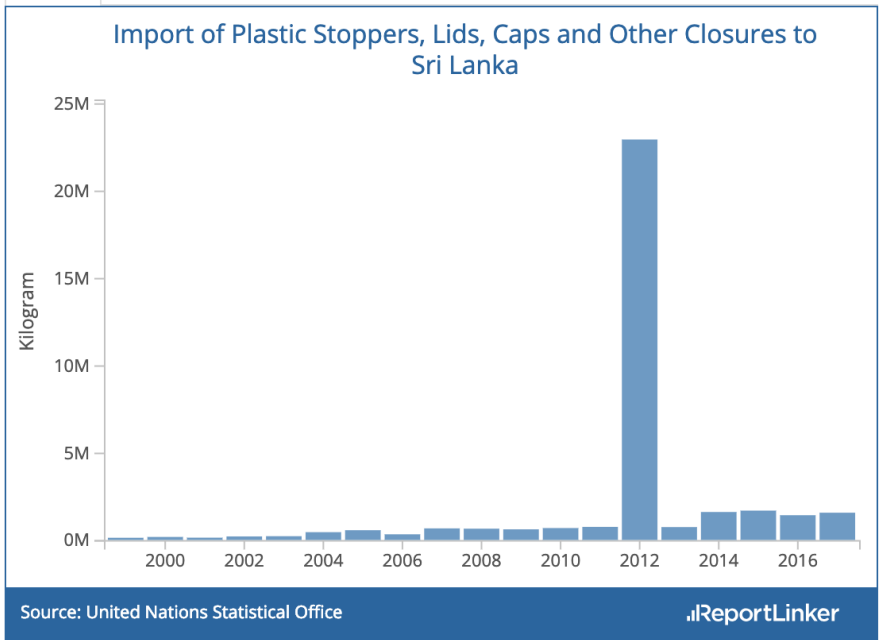
No. 2034/37 - September 01, 2017 prohibit the use of all forms of polyethylene, polypropylene, polyethylene products or Polypropylene products as decoration in political, social, religious, national, cultural or any other event or occasion.

No. 2034/38 - September 01, 2017 ban the manufacture of food containers, plates, cups and spoons from expanded polystyrene for in country use ; and the sale, offer for sale, offer free of charge, exhibition or use of food containers, plates, cups and spoons manufactured from expanded polystyrene within the country.

However, none of these attempts have made a significant impact on the plastic pollution in Sri Lanka. It is mainly due to the lack of correct enforcement mechanism by the government agencies including the Central Environmental Authority.

Also there are some opposition by the restaurant owners and the manufacturers. Although there was an attempt to promote compostable plastics/ biodegradable plastics, the manufacturers mislead this attempt.

They started producing bags using a mixture of HDPE, LDPE



and degradable materials. Some produced Oxo-biodegradable plastics instead.

What most supermarkets provide as biodegradable plastics bags are not biodegradable.

The public attitude on plastic bags and lunch sheets was positive at the beginning, there was adequate awareness and media support to continue to change the attitude. Public are now very much confused about the plastic ban in the country.

Meanwhile promotion of Arruwakkaru sanitary land fill for nonsegregated municipal waste have a negative impact on the plastic ban.

Further, promoting three Waste to Energy power plants in Sri Lanka is a negative development in related to the plastic ban.

Government of Sri Lanka interest to sign a bilateral trade agreement with the Government of Sri Lanka will also a negative development as it might open the door for dumping world garbage roaming around the globe looking for dumping yards in Asia since China stopped importing such waste.

HOW MUCH PLASTICS REACHED SRI LANKA?

Sri Lanka has imported plastics and articles worth US\$723.05 Million during 2017, according to the United Nations COMTRADE database on international trade.

China is the number one country that Sri Lanka has imported plastics. Among others Taiwan, Malaysia, Thailand, Thailand, Thailand are some other countries exported plastics to Sri Lanka.

China -	\$115.1 million
Taiwan -	\$ 52.4 million
Malaysia -	\$29.9 million
Thailand -	\$29.7 million
Hongkong -	\$27.6 million
Singapore -	\$26.7 million
UAE -	\$25.6 million
USA -	\$25.7 million
JAPAN -	\$18.7 million
German -	\$13.7 million

CEJ POSITION ON PLASTIC CRISIS

Understanding that there is a global crisis related to plastics with no scientific or political solutions exists Centre for Environmental Justice believe that Sri Lanka is in the midst of the crisis with no effective approach has brought so far.

Therefore, Sri Lankan soil, coast line, rivers, lakes have already

become the dumping ground and polluted due to plastic material and microplastics.

Scientists have found fish and human body already has microplastics which will have serious health impacts unidentified so far.

We also know that plastics have become a serious impacts on the wildlife due to the mismanagement of garbage and the contents of the garbage. Wild elephants, Deer, Samba Deer, Wild boar, Cattle, dogs and many other wild and domesticated animals are in great danger.

Plastics also become the breeding grounds for mosquitos and increasing the risk of Dengi and other vector borne diseases.

Burning plastics, especially PVC emits very toxic fumes including Dioxins and Furans which are responsible for many lung diseases and Cancer. There is no safe methods of burning plastics in Cement Kilns, Incineration or open air.

We understand that the temporary solutions such as using plastic for the road construction, eco bricks etc continue to increase microplastic in the environment, and do not bring any solution to this problem.

Understanding that plastic pollution in Sri Lanka do not have a local solution or single solution, Sri Lanka need to implement very stricter approach based on avoid, minimise, mitigate approach and the polluter pays principle.

It is very clear that there is no 100% effective recycling industry worldwide for plastics.

Meanwhile packaging industry is responsible for 90 % of the single use plastics around the world and in Sri Lanka.

Therefore we propose immediate



Sachet packets

ban of single use plastics including plastic bags, lunch sheets, biscuit wrappers, plastic strew, cutlery, yoghurt cups, cotton buds and use of plastic bottle in the water and beverage industry etc.

Plastic bottles (PET Bottles) an lids use in the water and soft drink/ beverage industry such as Coca-Cola, Pepsi-Cola, Elephant house, American water and many other similar companies is a greater challenge to resolve the plastic crisis.

The data shows that year 2012 huge amount of plastic stoppers,

lids and caps have imported to Sri Lanka.

These companies are well known for charging heavy cost for the plastic bottles which is very cheap for production. They have promised to use that money for the recycling of the bottles which never happened in the past 2 decades.

These bottles can be easily transferred to glass bottles which was the case before. Therefore we demand that use of plastic bottles in the water and beverage industry should be banned immediately.

The small plastic packets of shampoo, toothpaste, washing powders, Samahan, herbal medicines, also known as Sachet packet and small packets of peanuts etc., has identified as one of the greatest challenge to solve the plastic pollution. Therefore, CEJ demand that all Sachet packets should be completely banned immediately.

We also understood that biscuits wrappers of the Manchee, Maliban and others have become a big part of the plastic pollution. They are even found in the places such as Horton Plains, Sri Pada etc .

Plastics toys have also become a serious plastic polluter in Sri Lanka. They are also contaminated with heavy metals such as lead.

Such companies and importers should make accountable for cleaning their plastic waste.

There are some unwise practices such as destroying illegally imported Toys and other items by Sri Lanka Customs in an improper manner also should be discouraged.

Meanwhile we believe there are sustainable options for the packaging industry based on the natural material, which are not going to develop without providing



Plastic Toys

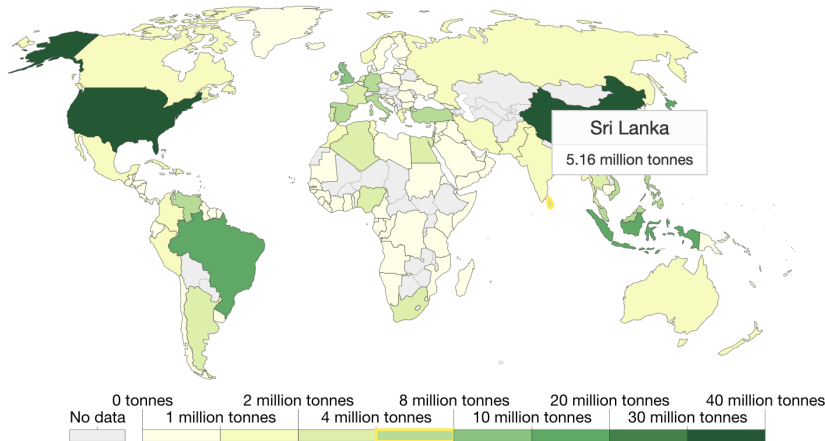


Destroying illegally imported Toys and other items by Sri Lanka Customs

Plastic waste generated by coastal populations, 2010

Annual plastic waste generated by coastal populations, measured in tonnes. This includes plastic waste that is adequately and inadequately managed. This is measured only as the total plastic waste by populations within 50km of the coastline, and therefore defined as high risk of entering the oceans.

Our World
in Data



Source: Jambeck et al. (2015)

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a reasonable space in the market.

Based on the polluter pays principle the packaging industries should develop a mechanism to collect all their plastic material and recycle them in an environmentally sound socially responsible manner.

Its very urgent to revisit the ban imposed in Septemebr 2017 and correct the regulatory measures adopted and build a proper implementation mechnaism to impose the regulation.

It is now understood that, even bioplastics derived from renewable sources (such as corn starch, cassava roots, or sugarcane) or from bacterial fermentation of sugar or lipids (PHA) do not decay do not automatically degrade in the environment and especially not in the ocean. Therefore, Sri Lanka should not encourage such bioplastics.

Extended Producer Responsibility is such mechanism accepted worldwide. Such process is widely in operation in other countries by the Transnational corporations operate in Sri Lanka and they should have equal treatment for Sri Lankan environment and people too.

It is highly unacceptable that

the green washing of these companies under the Corporate Social Responsibility(CSR) initiatives and such other programmes. It is highly unacceptable to mislead and misdefine Extended Producer Responsibility for the corporate interest.

Consumer Affairs Authority and the Central Environmental Authority should be accountable for directing the Industries and the corporation towards this process.

There should be an ongoing dialogue to advocate the new approaches and introduction of a suitable model of Extended Producer Responsibility as a nationally important action for Sri Lanka.

Sri Lanka as an island nation has a serious risk facing the environmental, social and health impacts due to plastic pollution. As our beaches and serene ecosystem have already polluted with plastics and tourism industry is in great danger. We have learned that the hotel industry in some coastal areas are loosing tourist due to this problem.

The relevant national agencies, Ministries, corporations, Police, CSOs and people should build a partnership to find a sustainable solution for the plastic pollution in the country.

We request the relevant agencies to form a multi- stakeholder expert team to develop a lasting sustainable solution for the plastic crisis in Sri Lanka.

There should be a nation wide awareness to educate people around the country to change their attitude on plastics. We believe that all media should play a role in educating people and change the attitude on the plastics on pro bono basis.

CEJ believe that Sri Lanka should play a critical role to manage plastics as part of the global effort to manage increasing plastic crisis in the world. It is also important to completely ban importation of plastic waste for Waste to Energy plants, landfilling or reuse.

Sri Lanka government should support the international efforts to bring plastic waste under Basal convention so that it will be treated as a hazardous waste and handle with care.

This will save the environment and reduce fossil consumption and build local livelihood and economy. We believe that this crisis is a major opportunity to bring a system change.

Plastic is another crisis similar to the climate crisis created by the neo-liberal, fossil based production model. This unsustainable production and consumption model need to end for finding a total solution for this crisis.

Therefore CEJ believes discouraging overproduction, banning single use plastics, bring legislations to regulate plastic production and usage, look for alternatives to the plastics and get public support through awareness is the way forward to minimise the plastic pollution in Sri Lanka and around the world.

About CEJ

CEJ is a national level environmental organization working for the promotion of Environmental Good Governance and Environmental Justice started in 2004 . We engaged in our activities through Law, Science and Advocacy. CEJ has managed number of environmental projects and programs over the last 15 years. Legal aid, Chemicals governance, Forest governance, biodiversity protection, Mangroves and Wetland conservation, Climate Change, Sustainable Development Goals (SDG) and Food sovereignty are among them. We have extensive experience on environment and natural resources management and sustainable development and have been involved on international policy dialogues related to the same. CEJ is a member of FoEI, APMDD, ELAW, IPEN, NGO Forum on ADB, GAIA, Break Free from Plastics etc.

For more Information

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