


# BREAKING THE PLASTIC CYCLE IN ASIA

## ASIA PACIFIC REGIONAL CASE STUDY

Australia, Bangladesh, Malaysia, Nepal, Sri Lanka

April 2021

CENTRE FOR ENVIRONMENTAL JUSTICE

CEJ
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Friends of the Earth International

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Figure: Top Plastic polluters in the world | Source: Eco-Business.com

# Foreword

Asia is drowning in plastic, with national production and imports from the global north resulting in devastating environmental and human health impacts. Most South and East Asian Countries, including Sri Lanka, do not have proper waste management strategies, regulations nor facilities. They therefore resort to open dumping and burning which is harmful to human health, oceans and the environment.

Plastic is a low-cost and flexible byproduct of the fossil fuel industry that takes thousands of years to break down and whose disposal is often toxic. Single-use plastics such as sachet packets, plastic bags, lunch sheets, wrappers, straws, polystyrene boxes and cups have all become almost 30% of urban waste. Additionally, only 15-20% of plastics are recycled globally, with much being burnt or ending up in landfill, wetlands and oceans.

The plastic problem is global in production, trade and impact. In 2016, about half of all plastic waste intended for recycling was exported (14.1 million MT), of which over 70% was being exported to China and Hong Kong (1992-2016). In 2017, China, fed up with being the Global North's dumping ground, notified the World Trade Organization that it intended to ban imports of plastic waste. The ban came into force in March 2018, setting off a chain reaction in the global plastic waste system. Numerous countries in the Global North have been unable to cope since, resulting in dramatic price increases for exporting, and more plastic being incinerated, sent to landfill or stockpiled. Indonesia, Malaysia, Vietnam, India, Taiwan and Thailand are facing rapid increases in plastic waste imports, resulting in polluted waterways, fires and illegal dumping, to name just a few issues.

Yet there is a global movement fighting to break free from the plastic crisis and there is an opportunity for change. Countries as diverse as Kenya, Australia, Malaysia and the European Union (EU) have brought in new laws to ban plastic bags, control the import of waste and aim to build a circular economy. AAt the international level, as a result of a proposal made by Norway, a small but vital modification has been made to the Basel Convention on Transboundary Movements of Hazardous Wastes and their Disposal. The change to "explicitly include plastic waste in the scope of the treaty" will help to prevent mismanagement of plastic waste. One crucial outcome would be that exporters of plastic waste would need prior informed consent from recipient countries. Japan, Sri Lanka and other EU countries have together sought to strengthen international cooperation and coordination on marine plastic litter and micro plastics, including through the consideration of a possible new legally binding agreement at the United Nations Environment Assembly (UNEA-4).

Many Friends of the Earth groups, environmental movements and the general public are campaigning to end single-use plastics through awareness, the development of alternatives, and the introduction of legislation to regulate plastic production, trade and usage. Through this project Breaking the plastic cycle in Asia, the Centre for Environmental Justice (CEJ), aims to support the global movement by working with other countries to share experiences and create a model law to fight plastic pollution in their countries.

This is not an easy fight, and it is against multinational companies and cooperates, billionaires and governments. This legislation, combined with strong environmental laws, will strengthen the ability of citizens and groups to build court cases against the government and larger corporations for breaking environmental protection measures.

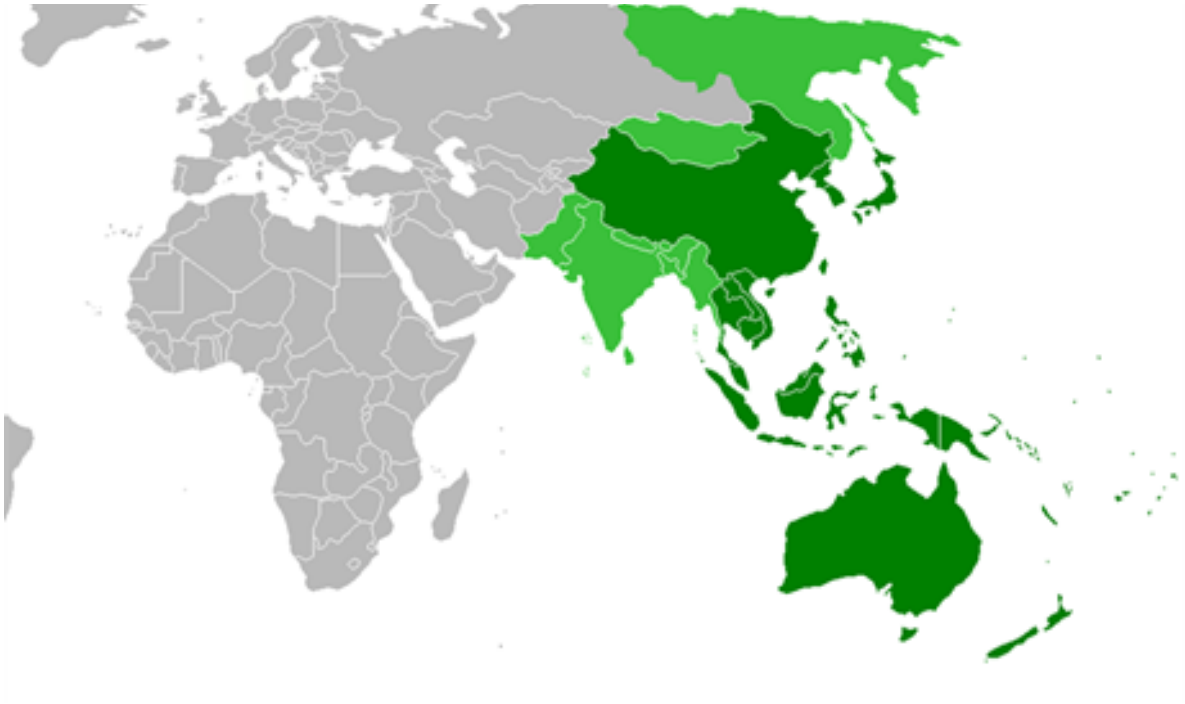
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# 1. Introduction



## Asia and the Pacific region

Asia and the Pacific region is in the Earth's largest and most populous continent, located primarily in the Eastern and Northern Hemispheres. Asia covers an area of 2.8 billion hectares of land area, about 22% of Earth's total land area.

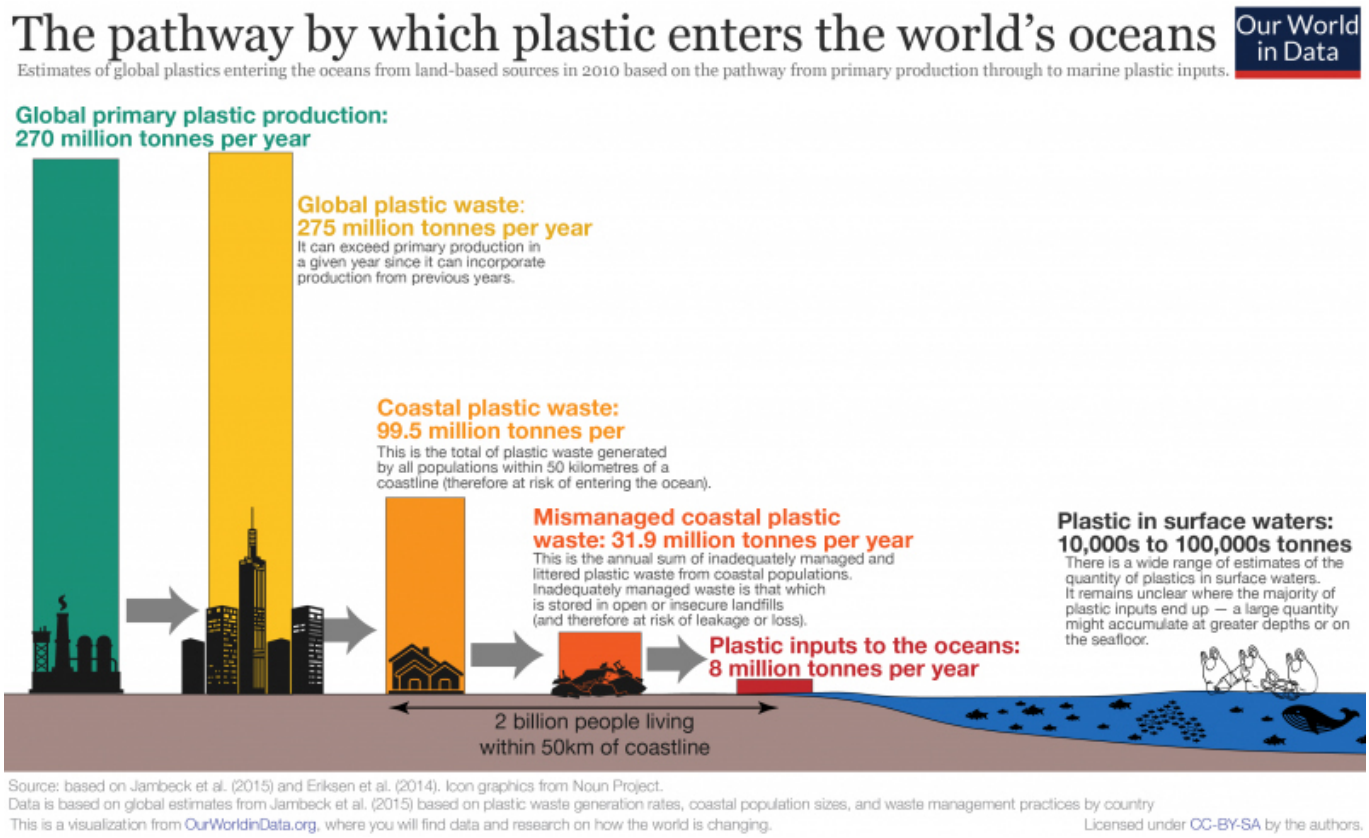
The continent, which has long been home to the majority of the human population, was the site of many of the first civilizations. Asia is notable for not only its overall large size and population, but also dense and large settlements, as well as vast barely populated regions. Its 4.5 billion people (as of June 2019) constitute roughly 60% of the world's population. In general terms, Asia is bounded on the east by the Pacific Ocean, on the south by the Indian Ocean, and on the north by the Arctic Ocean.

Some of the largest countries in the region are China, India and Russia, and some of the smallest countries are Kiribati and Vanuatu. Countries such as the Philippines and the Indonesian archipelago have many small islands.
Asia has the largest continental economy in the world by both GDP Nominal and GDP purchasing power parity (PPP), and is the fastest growing economic region. As of 2018, the largest economies in Asia are China, Japan, India, Russia, South Korea, Indonesia and Turkey (based on GDP in both nominal and PPP).

As a fast growing region, Asia's contribution to the plastic crisis is very significant. This report studies the region's contribution to the global plastic crisis by producing five case studies conducted in Malaysia, Australia, Sri Lanka, Nepal and Bangladesh.

Among the studied countries, Sri Lanka, Nepal and Bangladesh belong to the South Asian region, whereas Malaysia is located in Southeastern region.

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# Global Plastic Crisis

Plastic is a byproduct of the petrochemical industry. In 1950 the world produced only 2 million tonnes per year. Since then, annual production has increased nearly 200-fold, reaching 381 million tonnes in 2015.

According to available data, only 9% of plastic is recycled around the world. 79% of plastic goes to landfill. Another 12% is incinerated. This means that there is an estimated 8.3 billion tonnes of plastic existing in the natural world.

The United States produces an astounding 37.83 million tons of plastic waste per year, making it the country with the highest political waste per capita ratio. China ranks the highest in overall plastic waste disposal, generating an average of around 59.08 million tons of plastic per year. Other Southeast Asian countries such as Indonesia, Vietnam, and the Philippines dispose between 2.5 and 5 million tons of plastic according to the Borgen project.

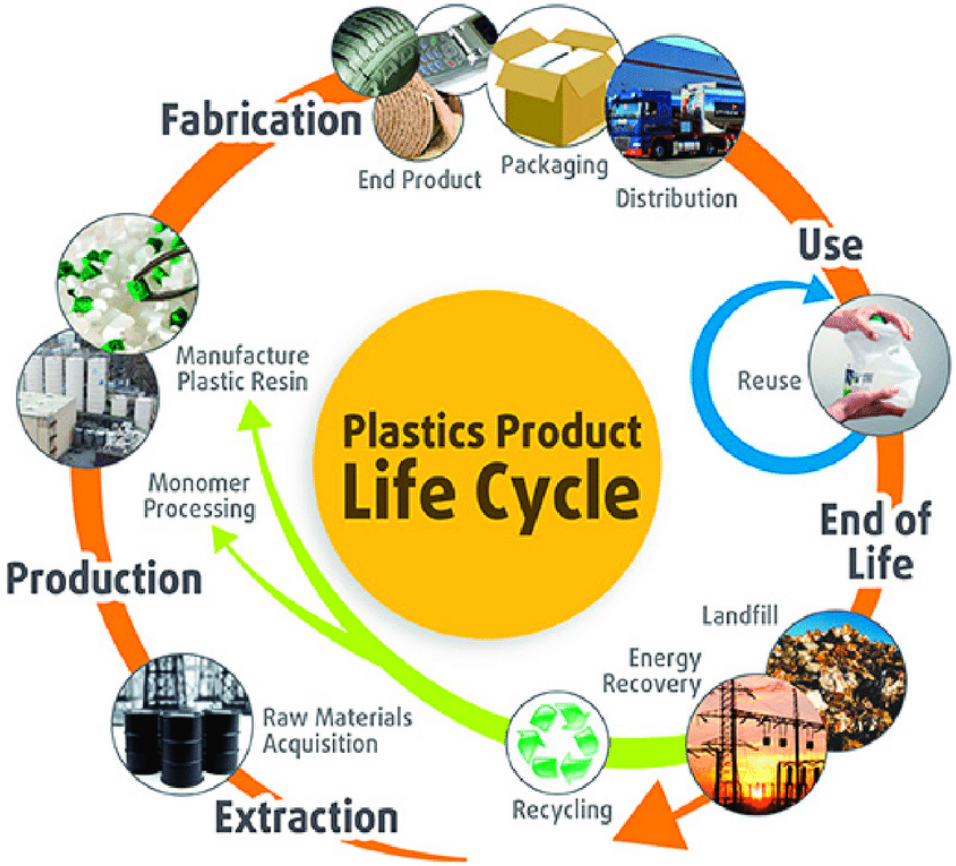
Most plastic use is in the packaging industry. More than 55% of plastics are unbranded, while about 45% are used in branded products.

While Southeast Asian countries are accused for mismanaged plastic waste and contamination of the world's oceans, they also import more plastic waste than any other region in the world.

Before its ban on plastic, China imported 6.4 million tons of plastic waste in 2017. In the last quarter of 2018, the UK alone exported nearly 18,000 tons of plastic waste to Malaysia. Thailand, Indonesia, Philippines are also countries used for dumping plastic waste. With the recent rollbacks on plastic imports to the poorly regulated shores of Southeast Asia, researchers believe China's ban alone displaced 120 million tons of plastic in 2017.

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# 2. Policy and Legal Interventions




*Graphic Source: Devasahayam, Sheila & Raman et al* [2]

Management of post consumer plastic waste is a challenging problem in every country which needs multiple approaches. Legislation and policy level discussions can provide important changes in decision making, infrastructure development for plastic waste management and consumer behaviours. Policy and legal interventions taken in the selected five countries are explained below.

**Bangladesh**

Rising quality of life and high rates of resource consumption have had an unintended and negative impact on urban generation of waste, now far beyond the handling capacities urban government and agencies in Bangladesh. The City Corporation (CC) is primarily responsible for collecting and managing waste. A significant amount of waste in the city is not collected due to lack of infrastructure, funds and collection vehicles. Despite limited waste management services, community based door-to-door waste collection from households to local waste bins is considered as a success. Informal waste recycling systems are also highly effective in waste recycling and job creation for the poor.[5]

Household waste is typically collected in a non segregated manner and placed into slender containers in households. Organizations outsourced CC collect the waste in vans and transfer it to secondary collection points (containers or designated sites).

Subsequently, the waste is transported in various sizes of trucks (owned by City Corporation or private organisation authorized by the CC) to landfill sites situated at Matuail and Amin Bazaar for disposal at these final destinations. Here, an informal market operates to recycle a significant portion of the solid waste.

[2]Graphic Source: Devasahayam, Sheila & Raman, R & Chennakesavulu, K & Bhattacharya, Sankar. (2019). materials Plastics-Villain or Hero? Polymers and Recycled Polymers in Mineral and Metallurgical Processing-A Review. Materials. 9. 655. 10.3390/ma12040655.

[3]2018. Malaysia's Roadmap Towards Zero Single-Use Plastics 2018-2030. MESTECC https://www.mestecc.gov.my/web/wp-content/uploads/2019/03/Malaysia-Roadmap-Towards-Zero-Single-Use-Plastics-2018-20302.pdf

[4]ECO001 Eco-Labelling Criteria - Biodegradable and compostable plastic packaging materials.

The roles of the "tokais" (scavengers) and hawkers are worth mentioning. Scavengers collect recyclable items from both landfill and open waste bins and sell them to a recycled waste dealer, Bhangari. The items are then washed, dried and sorted by the recycling dealers and traded in the market. Hawkers buy recyclables door-to-door and trade with Bhangari (receivables buyers).

**Malaysia**

In October 2018 Malaysia launched a Roadmap Towards Zero Single-Use Plastics 2018-2030[3]. The vision of this Roadmap is to take a phased, evidence-based and holistic approach by involving all stakeholders in jointly addressing single-use plastics pollution in Malaysia.

Actions included in the Roadmap Towards Zero Single-Use Plastics 2018-2030 are:
- 'No straw by default' practice
- Utilise compostable garbage bags for garden waste collection
- Encouraging customers to bring their own food containers, or food business operators at fixed premises will sell food containers that comply with ECO0014 and ECO0095 to replace polystyrene and plastic food packaging
- Impose a pollution charge at a minimum of RM0.20 for plastic bags by state governments.

Nationwide implementation is by end of 2021.

Several cities and municipalities have also imposed bans on polystyrene food containers. For example Penang enforced the ban since 2012 whilst the Federal Territories (Kuala Lumpur, Putrajaya, and Labuan) imposed bans on non-biodegradable plastic bags and food containers.

On 1 January 2011, the Penang State Government started implementing the "No Free Plastic Bag Everyday" rule by imposing specific conditions for the renewal of business licenses under Section 107 (2), Local Government Act 1976.

In 2015, the National Solid Waste Management Department (NSWMD) took over the regulation of imports of plastics scrap and issuance of Approved Permits (APs) from the Ministry of International Trade and Industries. The approval permits will have to be applied by the consignee prior to loading of shipment at origin ports. Failure to obtain an approval permit will result in the inability to gate out container from the ports.

Companies applying for these APs must be registered with the NSWMD, have a factory or premises approved by the local authority, and a permit compliance letter from the Department of Environment. Enforcement of the rules for strict control of imports, including on premises and import license, came into effect in 2018.

To avoid the misuse of plastic waste APs by importers, for instance selling the AP to a third party, NSWMD has imposed tighter conditions to all importers. Only plastic waste generated from industrial facilities or post consumer waste that is homogenous and clean is allowed to be imported.

**Nepal**

Nepal was first introduced to plastic bags in the early 1990s, replacing traditional paper and jute bags. According to the report published by Government of Nepal, Environment Statistics of Nepal 2019, there are currently 237 rubber and plastic industries operating in Nepal. In Nepal, 16% of urban waste is comprised of plastic, which is 2.7 tons of daily plastic garbage production in Kathmandu itself. According to ICIMOD, Kathmandu alone uses around 4,700,000 to 4,800,000 plastic bags on a daily basis.

Plastic bags are sold by the kilo and cost only 250-300 Nepal Rupees for a kilo. Retail stores do not charge consumers for such plastic bags. Hence, they are easily accessible and are cheap for both shops and consumers. However Nepal does not import waste from foreign countries. The current annual report on Foreign Trade Statistics of Fiscal Year 2075/76 (2018/19) has shown 11.6% increase in import of Polythene Granules from the previous year.

The Solid Waste Management Act 6 stipulates the responsibilities of the local body to manage solid waste and to segregate and discharge it in landfill. The local body is responsible for managing solid waste by taking necessary steps to encourage the reduction, re-use and recycling use of solid waste, and for issuing necessary directives for its effective implementation. Local Self Governance Act 1999 and Regulation 2000 has granted local bodies the right to ban goods and activities that would damage the environment. Currently the Nepal Government has criminalised crimes against the environment under the Muluki Criminal Code 2017 of Nepal. Strict provisions stipulate that anybody who harms and adversely affects the environment shall be imprisoned and/or fined. It not only criminalises the person who carries out the activity but also the abettor.

There have been many attempts to ban single-use plastics and polythene bags by local governments of Nepal, for example Hetauda Municipality (1998), Mahendra Nagar Municipality (2000), Ilam Municipality (2010) and Kathmandu Metropolitan City (2013).

In 2000, the Government mandated that only plastics thicker than 20 microns be produced, with weight specification labels compulsory for the products. The Plastic Bag Regulation and Control Directive 2011 also prohibits the production, import, sale, distribution and use of plastic bags that are less than 20 microns in thickness.

The Government of Nepal imposed a full or partial ban on goods for export and import, including plastic bags or sheets of less than 30 microns in diameter, incandescent light bulbs, scrap plastic, recycled granules and second-hand goods. Imposition of ban was undertaken by exercising the power conferred by the Export and Import (Control) Act, 19577.

Further, the Department of Environment under the Ministry of Environment Science and Technology banned the import, storage, sale, distribution and use of plastic bags up to 20x35 inches in size, and plastic bags up to 40 microns thickness. This decision was taken by using Section 7 of sub-section (3) of the Environment Protection Act 2053 and was published in Nepal Gazette on April 1, 2015.

The Government took an additional step forward by banning plastic products in the national budget of 2016-17 though this was not continued in subsequent years.

The Nepal Government's Ministry of Forest and Environment developed an action plan to address the problem of environmental pollution. Nepal Clean Environment Campaign 2018 was launched by Prime Minister K.P. Sharma Oli. The main agenda of this campaign is to facilitate cooperation between the community and government to ensure proper disposal of waste products. The Government's main expectation from this campaign is to reduce the use of plastic and increase the use of cloth or paper bags.

Kathmandu Municipality has also developed a program to distrubute cloth bags in order to decrease the use of plastic bags, under the authority of its Environment Department. The Municipality has also allocated budget for the study of solid waste in Kathmandu[8].

[8]Kathmandu Municipality Budget Speech 2076-77, 2076, p.123 http://www.kathmandu.gov.np/sites/kathmandu.gov.np/files/THE%20FINAL%20BUDGET%20BOOK%2076.77.pdf

**Sri Lanka**

Sri Lanka is an island nation with a population of 21.4 million. Sri Lanka generates 7000MT of solid waste per day with the Western Province accounting for nearly 60% of waste generation. The Western Province is the most populated province where the economic capital Colombo is located. The highest waste generation is also recorded in the Western Province. The Colombo Municipal Council collects around 700-800 tons of solid waste daily. The other municipal councils in the Metro Colombo Region - comprising of Dehiwela-Mt. Lavinia Municipal Council (DMMC), Kolonnawa Urban Council (KUC), Sri Jayawardenapura Kotte Municipal Council (SJKMC) and Moratuwa Municipal Council (MMC) - collect about 350-400 tons of solid waste daily.

Around 10% of municipal waste is polythene and plastics. In 2017, Sri Lanka was ranked fifth in the list of countries that release plastic and polythene waste to the ocean. However, this statement is disputed. Plastic waste generation amounts to 1.59 MMT/year, and the percentage of plastic mismanagement is 5.0 in Sri Lanka. Per capita plastic consumption is estimated as 6 kg/person/year.

According to the Sri Lanka Export development Board, currently Sri Lanka has over 400 companies engaged in plastic processing. A total sum of Rs.15 Bn has been invested in plastics processing in Sri Lanka. Almost 50% of this has come through Foreign Direct Investments. Out of this 66 % of total investment is exclusively for processing of plastic products for the export market. Main polymers used for producing single-use plastics are HDPE, LDPE, PET, PP, PS, and EPS.

Around 500,000 metric tonnes of plastic/ polyethylene is imported to Sri Lanka, with 70% used locally. It has been estimated that Sri Lanka earns USD 2 million foreign exchange via imports and exports of plastics where imports make up around 160,000 metric tonnes of plastic raw materials (primary forms) and around 100,000 metric tonnes of finished goods along with intermediate products every year. The capacity of the local plastic processing industry at present is nearly 140,000 MT per annum, with an annual average growth rate of around 10–12%.

Responsibility for waste management in Sri Lanka sits mainly with local authorities of the respective area, either municipal council or urban council (No. 16 of 1947 Municipal Council Ordinance, Urban council (No. 61 of 1939 Urban Council Ordinance), Pradeshiya Sabha (No. 15 of 1987 Pradeshiya Sabha Act ).

The issue of plastic waste is most acute in the Western province. Therefore, the Western Province Waste Management Authority has been established according to the Western Province Waste Management Authority Statute, No. 01 of 2007 (Applicable to the Western Province).

Regulations formulated by the Western Provincial Minister in charge of the subject (Gazette No. 1560/6, dated 30 July 2008, Gazette No. 1713/11, 5) state whether relevant taxes have been levied on the hotels, factories, and privately-owned markets on which tipping fees have been imposed. In addition, the Western Province Waste Management Authority implements and provides technical assistance on several recycling projects in the Western Province.

As a result of the case filed by Centre for Environmental Justice in 2017 (SC FR 152/2017) - Meethotamulla garbage dumping matter - national waste management policy was formulated in 2018. The policy encourages zero waste societies, introducing legal provisions and application of market based tools. The policy also refers to waste tracking

[5]Ahsan T, Zaman AU. Household Waste Management in High-Rise Residential Building in Dhaka, Bangladesh: Users? Perspective. International Journal of Waste Resources. 2014; 4 (1): 1-7,

Hai FI and Ali MA. A study on solid waste management system of Dhaka City Corporation: effect of composting and landfill location. 2005.

and accountability, and prohibits the import of post consumer waste. Therefore Sri Lanka has potential policy level support to reduce plastic waste generation in the country.

In 2006, under the provisions of Section 23W of the National Environmental Act, No. 47 of 1980, Sri Lanka banned the manufacture of polythene or any polythene product of twenty microns or below in thickness for in-country use; and the sale or use of polythene or any polythene product which is twenty microns or below in thickness. "Polythene" means any solid products, bags, material or contrivances manufactured using all forms of polyethylene, polypropylene, polystyrene, poly vinyl chloride, polyethylene terephthalate or any other similar raw material used for the purpose of carrying, packing, wrapping or packaging.

However in 2017, under the provisions of Section 23W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 2034/34, few exceptions were made for the following use:

1.Use of the following material for the purpose of laminating :-

(a) Polyethylene Terephthalate (PET) whether or not metalized or holographic PET film ;
(b) Polypropylene films whether or not metalized or pearlised ;
(c) Nylon;
(d) Cast polypropylene (CPP) or metalized Cast Polypropylene(CPP) ;
(e) Polyvinyl chloride (PVC);
(f) Polyethylene Terephthalate Glycol (PETG).

2. Use for medical or pharmaceutical purposes in the absence of any other suitable alternative.

In 2017, Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, Sri Lanka banned.

1. Manufacture of food wrappers(lunch sheets) 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.

2. 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.

3. 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.

4. Manufacture of food containers(lunch boxes), 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 is banned.

5. Open burning of refuse or other combustible matters, inclusive of plastics, is banned.

However, enforcement of plastic regulations still remains a big challenge in Sri Lanka. Manufacturers find gaps in the law to continue to use and manufacture plastic products.

National Environment Act No 47 of 1980 does not allow import of any waste material to this country. A prior approval from CEA is needed before any waste/recycled material are imported into Sri Lanka.

Sri Lanka has prohibited the import of post-consumer material. Most recent regulation published in the gazette no. 2044/40 of 09 November, 2017 under the Import and Export Act No 1of 1969.

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[6]Solid Waste Management Act of 2068 (2011)

[7]Government of Nepal, Ministry of Communication and Technology, Nepal Gazette, 17June,2019,https://moics.gov.np/media/EBulletin/media/नकस_पठर_समबनध_मत_२०७६३२_क_नपल_रजपतरक_सचन_sT430Gw.pdf

# 3. Recommendations

1. Government has to clearly define plastic types, uses etc. If there exists ambiguity in terminology, there can exist gaps for abuse.
2. Market Monitoring is established in order to control and to observe the market.
3. All single-use plastic need to be banned or the manufacturer need to be heavily taxed.
4. Regulate the production of plastic within the country and also the import of such products.
5. Global commitments are respected within the country and subsequent laws to be formulated.
6. The coastal areas of the country should be subjected to stringent regulations with regard to use of proper plastic waste management.
7. Encourage local solutions. Appreciate neighborhoods or municipalities where there is citizen concern or demand for improvement and help identify and assess positive experiences addressing solid waste management at the local level.
8. Invest in educating the next generation.
9. Redesign products, packaging, and delivery systems to eliminate the use of single-use plastic products and packaging.
10. Ban plastic microbeads in cosmetics and personal care products.
11. Impose bans on importing plastic waste to prevent the dumping of waste.
12. Mandate Extended Producer Responsibility.
13. Prohibit burning of plastic, whether in the open, in waste incinerators, in cement kilns, in plastic-to-fuel operations, in makeshift furnaces as fuel, or in landfill fires.
14. Improve managerial /political commitment towards minimizing plastic usage.
15. Promote voluntary reduction initiatives or plastic free zones, for example in schools, government offices, hospitals etc.
16. Introduce advanced mechanisms, HS codes to track waste plastic at the Ports.
17. Provide financial support/tax incentives for recycling plants to improve the longevity and competitiveness of this industry.

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# 4. Proposed Roadmap for Sri Lanka

The accumulation of plastic waste in the environment has become a problem throughout the world. A significant component of this is single-use plastics, or those plastics that are intended to be used only once and discarded thereafter. The cost of environmental, social and health issues related to the disposal of plastics in the environment far outweighs the profits earned by companies in manufacturing, selling and using them. It is tempting to reduce the issue to one of consumption and take steps at the consumer level, but a more comprehensive approach is needed to tackle the issue from the manufacturing of goods and the import of plastic goods and raw materials. Most Asian countries including Sri Lanka do not make plastic raw materials, but rely totally on imported raw materials.

The need to regulate and tackle the issue of plastic in the region has been discussed for more than 25 years, but the first measures to regulate and reduce plastic came in much later. Although these measures were brought in to control some products, there are still a whole range of products, including a number of single-use products, that needs to be regulated.

The single-use plastic issue can be broken down in to the following components:

1. Things that are imported as products and distributed and sold for the purpose.

2. Things that are manufactured within the country.

3. Import of raw materials.

4. Parts of products that contain plastics.

5. Wrappings and packaging materials that are discarded once they are within the country.

6. Products that are imported as components of other products. Most of the microplastics that enter Sri Lanka come in this manner.

Another way to address this issue is to look at the usability of the products.

1. Those that can be used repeatedly. The shopping bags are one that can be used repeatedly till they are worn out or torn but discarded nevertheless.
2. Those that can be used for another purpose. This may include things such as PET bottles that can be used for keeping other fluids or for different purposes.
3. Things that cannot be reused. Wrappings fall into this category.
4. Things that come in and are released in the environment without the knowledge of users. Microplastics in products fall into this category.
5. Products that can be recycled easily.
6. Products that are difficult or costly to recycle.

The manner in which plastic products end up in the environment need to be considered.

1. Things that are deliberately dumped (intentionally thrown away) after being used once. Wrappings, bottles, food containers are examples for this.
2. Things that are haphazardly discarded due to social irresponsibility, and selfishness.
3. Things that enter the environment through products without the knowledge of the consumers. Microplastics is the best example for this.

Policy and legal tools need to be developed and used with due consideration to the multi-faceted nature of the problem. Measures must be comprised of short, medium and long-term strategies that look at the issue in its totality. An extended time frame is required to deal with the issues, and therefore measures should not aspire for quick results or short-term solutions.

Sri Lanka has a national solid waste policy in place since 2007, and is being reviewed currently to amend the policy in accordance with the prevailing and emerging scenarios. This deals with the aspect of plastics that end up in waste, but does not have a direct impact on import of raw materials or products or the local manufacture of products.

The direct legal tools available at present are the National Environmental Act and the Consumer Affairs Authority Act. Both these enactments have provisions that can be made use of to make regulations and have been already used to a certain extent to control the issue.

In addition to the two above mentioned acts, there are several enactments that have provisions that can be used to control some other uses and disposal of different products. These include the Food Act, Nuisance Ordinance, Municipal Councils Ordinance, Urban Councils Ordinance, Pradeshiya Sabha Act, Penal Code, Code of Criminal Procedure Act, Pesticide Control Act, Import and Export Control Act, Customs Ordinance, Coast Conservation and Coastal Resources Management Act and the Marine Pollution Prevention Act.

The comprehensive legal framework available to deal with the issue from different approaches favour a carefully formulated plan to co-ordinate and compliment the activities of different government bodies entrusted with the enforcement of these different enactments. This needs a clear action plan that shows the duties, responsibilities and the obligations of the different institutions.

Another aspect considered was whether Sri Lanka needs a new enactment to deal with the issue of plastics. The following factors taken into account:

- Whether there are serious shortcomings in the existing legal framework
- Whether there are gaps that need to be filled with new provisions
- Whether existing laws need to be amended
- Whether regulations could address some of the issues
- Whether the existing institutional framework could handle the different aspects of the issue or whether there is a need to create a new institution to deal exclusively with plastics
- Whether there is a need to bring a new enactment to deal exclusively with the issue of plastics

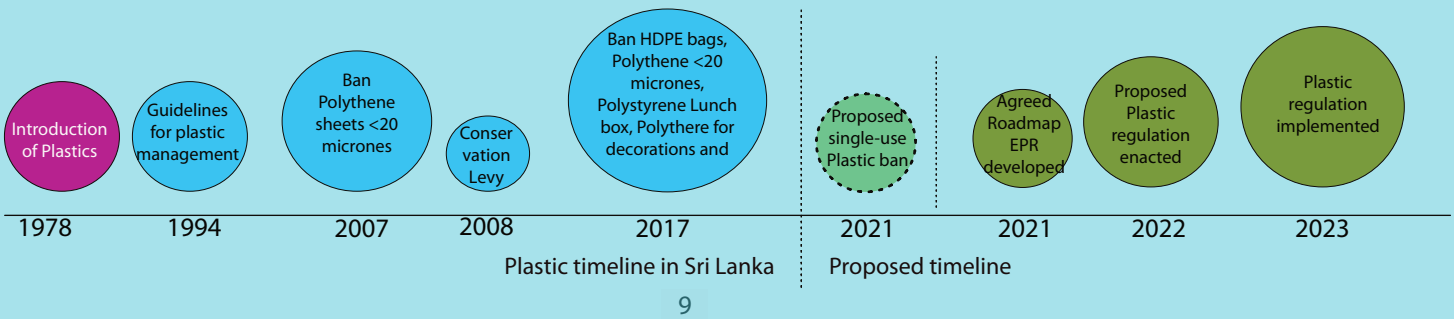
It was observed that there is neither a need for a new enactment nor any need to create a new institution to exclusively deal with the plastic issue, as the existing framework can be used with some changes.

The proposed actions are as follows:

1. Formulate a National Action Plan to deal with plastics with the participation and consultation with all relevant parties, with short, medium and long term actions.
2. Form a National co-ordination committee on plastics to enhance collaboration between different parties.
3. Enforce the existing regulations on single-use plastics efficiently.
4. Revamp the existing regulations to iron out the ambiguities and make them more effective.
5. The implementation of the proposed amendments to the National Environmental Act has to be carried out as a top priority.
6. Bring a set of new regulations to ban the import of all products that have microplastic beads as an ingredient. This has to be time bound, giving enough time for the importers and traders to dispose all existing goods.
7. Bring in a total ban on the import of any type of microplastic beads to be used in industrial activities.
8. Identify the most significant contributors to the waste load of plastics and encourage alternatives that are environmentally friendly.
9. Give tax concessions to those environmentally friendly alternatives to plastics to encourage their production and usage.
10. Increase the taxes for the plastic raw materials that are being used for single-use plastic products.
11. The bringing of new regulations to enforce a phased out ban of all bottles made out of plastics to encourage the use and introduction of re-usable bottles.
12. Charging an environmental levy from the makers of plastic bottles to discourage production.
13. The bringing of new regulations to enforce a phased out withdrawal and an ultimate ban on plastic shopping bags to encourage environmentally friendly alternatives.
14. Bringing regulations to ban the use of plastic drinking straws, cups and cutlery.
15. Bringing amendments to make sure the dumping of waste into sensitive and important ecosystems, protected areas, wetlands, seashore and the sea to a cognizable offences.
16. Provide economic incentives for those who produce environmentally friendly alternatives.
17. Provide facilities and financial incentives for those who want to engage in plastic recycling and upcycling activities.
18. Create a continuous series of public awareness campaigns to educate the public to keep their knowledge updated.
19. Promote and encourage having "no-plastic zones" in state and public sector institutions.
20. Make use of the provisions of the Food Act to phase out the use of plastic products in the food industry.
21. Make use of the Consumer Affairs Authority Act to have a complimentary sets of regulations for all banned or regulated consumer items.
22. Make use of the existing provisions of different enactments to ensure the regulation of plastics.
23. Make use of the existing provisions of different enactments to prevent and control the unauthorised and irregular dumping of waste materials to the environment.
24. Ensure that producers and traders do not engage in unfair trade practices or put burden on consumers under the guise of plastic reduction or environmentally friendly actions.

It is proposed that there should be immediate actions to ban selected single-use plastics and develop a plan to take full control of the plastic by 2022.

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# 4. Proposed Model Law

**Preamble**

Plastics can be considered as an important material in the economy. However most of plastic products are designed to be thrown away after being used only once. After just one use, a plastic bottle would take almost 1000 years to decompose while a plastic bag takes 450 years. Plastic straws remain within the environment for 700 years. Currently, the global production of plastics is estimated as 300 million tonnes per year. This becomes a major crisis to the ecosystem.

Consequently many nations have begun to work on finding solutions on usage of plastics. According to the Legal Limits on Single-Use Plastics and Microplastics: A Global Review of National Laws and Regulations "as of 2018, one hundred and twenty seven (127) out of 192 countries have adopted some form of legislation to ban plastic bags while 8 out of 192 countries have established a bans on microbeads through national laws and regulations."

Even though many countries have attempted on several occasions to ban single-use plastics, lack of correct enforcement mechanisms and the implementation by the government mean that none of these attempts have been successful. Hence, to build an effective law on controlling the usage of plastics, it is necessary to pay attention to following approaches.

There are four main approaches for the restriction/ban of single-use plastics:

1. Approach of Extend Producer Responsibility (EPR) – According to this approach, producers are responsible for the collection, transportation, treatment, and final disposal of the product at the end-of-life stage.
2. Approach of Voluntary Reduction on plastic usage
3. Approach of Social Awareness
4. Policy Approach (Introduction of a ban or levy)

**DRAFT MODEL LAW**
**Regulating the usage of single-use plastics**

Article 1 – **Objectives of the Act**

(1) The purpose of this law is to regulate the manufacture, sale, distribution, usage and importation of single-use and post-consumer plastic products in order to;

(a) bring legislations to regulate single-use and post-consumer plastic production and its usage.
(b) introduce a mechanism to recycle single-use and post-consumer plastic products.
(c) encourage people to re-use and recycle single-use and post-consumer plastic products.
(d) introduce a mechanism to report, monitor and evaluate the usage of single-use plastic products.

Article 2 – **Definitions**

a) **Single-use plastic** – means "Often also referred to as disposable plastics, are commonly used plastic packaging including items intended to be used only once before they are thrown away or recycled, e.g., grocery bags, food packaging, PET bottles, straws, containers, cups, cutlery, etc.

b) **Packaging** - all products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer. 'Non-returnable' items used for the same purposes shall also be considered to constitute packaging."

c) **Carrier bags** – means "With or without handle, made of plastic, which are supplied to consumers at the point of sale of goods or products."

d) **Recycling** – means "Packaging, including plastic bags that can be reprocessed in a production process of the waste materials for the original purpose or for other purposes including organic recycling but excluding energy recovery."

e) **Voluntary Reduction** - means "take steps voluntary and based on choice to reduce single-use plastics"

f) **Post**-consumer plastic- means "an end product (such as a clear water bottle) that has completed its life cycle as a consumer item and would otherwise have been disposed of as a solid waste product".

g) **Listed items** – means "items which have been listed under Article 4 of this proposed Act".

Article 3 – **Prescribed Authorization**

1. The Minister may by regulations make provisions on manufacturing, sale, distribution, usage and importation of single-use and post-consumer plastic products.

2. The Minister may provide relevant provisions for any person who requires manufacturing, sale, distribution and importation of plastic products shall apply for a written approval from the relevant authority.

3. The Minister may create offenses which may be committed by persons who manufacture, sell, distribute, use and import single-use or post-consumer plastic products in the schedule, in breach of this Act and provide for exceptions and defense.

Article 4 – **Extended Producer Responsibility**

1. The Minister may by regulations make provisions on requiring the producers, Brand owners to take the full responsibility on their plastic products /material after consumption.

2. The Minister may provide provisions to design, manage and finance waste and recycling programs by the responsible producer or brand owner.

Article 5- **Consumer Responsibility**

1. The Minister may by regulation make provisions for every consumer to act responsibly and bring back the plastic material to the proper waste recycling path and to prohibit dumping of waste.

Article 6- **Single-use Plastics**

1. This Act applies to regulating single-use plastics products that are manufactured, sold, distributed, used and imported.
2. A list of single-use Plastics which shall be regulated by the Minister are given under the Article 3 of this Act;

(a) Ban the manufacture, sale, distribution and importation of items listed below.
- plastic bags,
- lunch sheets,
- sachet packets,
- plastic biscuit wrappers,
- plastic straws,
- cutlery,
- yoghurt cups,
- cotton buds,
- plastic bottles <500ml plastic bottles (used for water and beverage industry),
- all microplastic containing products

(b) Impose a levy on the following items;
- Food wrappers
- Plastic containers
- >500ml plastic bottles
- Plastic pens

(c) Promote the following items to re-use or product modification;
- >500ml plastic bottles
- Plastic pens
- Plastic containers

(d) Recycle the items listed below;
- Food wrappers
- Plastic containers
- >500ml plastic bottles
- Plastic used pens

(e) Allow single-use plastic for necessary medical purposes in the country.

(3) Except the items listed under Article 2(a), any other single-use plastic products shall be prohibited in the country.

Article 7 – **Levy on Single-use Plastics**

Any person who manufactures, sells, distributes, uses and imports the single-use plastics which are listed under the Article 6(2)(b) of this Act shall be imposed a levy six times higher than the estimated value of the product.

Article 8 – **Voluntary Reduction**

The collaboration of Producers/Retailers and the Government institutions shall promote voluntary reduction agreements/ strategies on plastic usage in the following manner;

1. The single-use plastic products listed under the Article 6(2)(c) of this Act shall be reprocessed by the manufacturing companies and shall set up a mechanism for collecting used plastics.
2. Initiatives shall be taken for raising public awareness on the environmental impacts of single-use plastics and for monitoring.

Article 9 – **Recycling of Post-consumer Plastic Products**

A person who manufactures or imports single-use Plastic products listed under the Article 6(2)(d) of this Act shall follow an appropriate recycle process on their waste plastics as follows;

(a) A collection method of waste shall be introduced by the manufacturer or the importer.

(b) Research shall support the identification and removal of contaminants in plastic waste streams, and make products suitable for re-using and recycling them in an environmentally sound and socially responsible manner.

Article 10 – **Mechanism for reporting, monitoring and evaluation**

1. The relevant government authority shall maintain a (Electronic) Data Reporting System on annual usage of single-use plastics.
2. The relevant government authority shall maintain a monitoring and evaluation mechanism on usage of single-use plastics at provincial level.
3. Producers/Retailers shall maintain individually a DataReporting System on their Annual production/Usage of single-use plastics and report to the relevant government authority.

Article 11 – **Penal Provisions**

Every person who contravenes or fails to comply with any provision of this Act or of any regulation made thereunder shall be guilty of an offense and shall on conviction for an imprisonment of either description for a term not exceeding two years or to a fine not exceeding five hundred thousand rupees or to both such imprisonment and fine.

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# 6. National Case Studies

Australia, Bangladesh, Malaysia, Nepal, Sri Lanka




# Australia

**Isabelle Grant,**
Friends of the Earth Melbourne

**State of Affairs**

Many of Australia's waste streams continue to grow. Plastic waste makes up 3.7% of all waste generated in Australia (ABS, 2019). Of this, 35.9% is PET, 32.3% is HDPE and 22.9% of 'other plastics'. An investigative study into plastic waste generation and its life cycle carried out by the Australian Packaging Covenant has demonstrated that only 32% of plastic was recycled in the 2017/18 financial year (Madden & Florin, 2019).

The focus on reducing plastic waste in Australia has been largely driven by growing public awareness of the problem and a ban on imports of plastic waste by China, Malaysia, Thailand, Taiwan and India from mid-2017 onwards. Exported waste is categorised by its material composition, due to the difficulty of mixed plastic processing, so the main plastic exports bans are linked to mixed plastics. The longevity of this waste and its impact on the environment has caused the public to put pressure on the government following on from state-wide legislation on banning of single-use plastics, specifically the banning of plastic bags.

**Plastic Waste Management**

Legislation can provide important changes in Australia, as plastic waste infrastructure is heavily tied to laws on trade and manufacturing. At each level of government, responsibility is given for sorting plastic waste. Primary responsibility is given to the State governments to legislate management of household waste and for ensuring effective implementation of plastic waste policies and principles, including the waste hierarchy, yet local governments play key role in administering the waste system.

These systems are key to management of plastic waste in Australia, and act as an important step in the processing of plastic waste after use. However, lack of infrastructure to further process the sorted waste in-country is an issue that has yet to be addressed, by any state in Australia.

The current management of waste is carried out by a collection of large businesses. Cleanaway, JJ Richards, Remondis, Suez and Veolia dominate the waste management market in Australia. Plastic processing companies include Repla, RED group and Range International. There are 58 reprocessing plants across Australia (Envisage Works and Sustainable Resource Use, 2019), however the supply is currently much greater than the demand due to the low profitability of reprocessing plastics.

Once these companies collect the waste from all other streams the sorted recycling is often sold to operators who use recycled and virgin materials. They can also be sold back to businesses as products such as furniture or recycled plastic pallets, as done with Range International. Unfortunately, many of the major plastic waste companies have suffered financially due to customer mistrust in recyclable products and the higher cost of reprocessed items (Clure, 2019). Repla has avoided the low availability of end markets for recyclable products by partnering only with businesses that will buy back the plastic it has collected in the form of recycled products. Large supermarkets are leaders in building up an essential relationship between the recycling industry in Australia (Lewis, 2017).




Another solution to boosting the recycled products industry is a fee on recycling of virgin materials, to encourage demand for recycled plastic products. The Australian Sustainability Fund, which is funded by landfill levies, could provide the investment needed to build the recycling industry within each state.

There is current backing by many Australian politicians for Waste to Energy (WTE). The provision of energy, largely power (but also some heat projects) are seen as a potential diversification of renewable energy in Australia and have support from the Liberal and National parties in office currently. These proposed solutions are in contradiction with the Waste Hierarchy and Circular Economy principles underlined by the Australian government (Project Drawdown, 2017). By burning plastic waste, we are contributing to greenhouse gas emissions and exacerbating the problem of plastic consumption. WTE has also been linked with a multitude of health problems resulting from the emissions from incineration plants into the surrounding areas (Tait et al., 2019). European nations, such as Sweden, that claim a 99% recycling rate with Waste-to-Energy plants, have had their recycling status redefined by the European Parliament, after subsidies for plastic incineration were halted in 2017 (Zero Waste Europe, 2017). There is a fear that WTE, which was proposed as a temporary solution, will become the default mechanism for dealing with most waste if industries are heavily supported and promoted to the public as a 'clean' renewable energy option.

Large quantities of metals, paper and plastics are also still exported, with Indonesian imports of Australian plastic increasing 250% from 2014 levels (Delaney, 2019) (Department of Environment and Energy, 2018). Recent reports of illegal 'toxic waste' dumped at Indonesian ports further exacerbate the problem of exporting plastic waste from Australia (James Massola, 2019).

**Exporting of plastic waste**

Whilst some waste is imported into Australia for processing, the business of plastic waste is mainly in exports. Data from January 2017 show that around 71% of Australian exports of scrap paper/paperboard and scrap plastics went to China. However, during the full 2017/18 financial year only 16% of exported mixed plastic scrap was sent to China, and even this was falling across the year, with only 8% of exported mixed plastic scrap going to China in June 2018. (Envisage Works and Sustainable Resource Use). Figure 1 shows the extent of waste to China prior to 2017, and the subsequential redirection of waste to Indonesia and Vietnam after. The amount of plastic waste attributed to this waste redirection is exemplified in Figure 2. With limited export destinations and poor quality of processing, recyclable plastics are being stockpiled.

**Progress in legislating Plastic Waste**

**Nationwide**

In order to tackle the plastic waste crisis, all states and territories have implemented a ban on plastic bags. South Australia commenced the first plastic bag ban in 2007 and fines of up to $9000 to retailers, and retailer suppliers $20,000. South Australia have also proposed a bill with a wider ban of single-use straws, cutlery, polystyrene cups in SA (Green Industries SA, 2019).

The Victorian Government has already taken up some state-specific initiatives to target Product Impact Management. These include one on Photovoltaics in Solar Panels, a ban on single-use plastic bags and the beginnings of a National Oversight Group to implement a National Market Development Strategy for Used Tyres between the years of 2017-2022. Meetings between the

Commonwealth government and a working group that represents all states and territories have also singled out plastic oil containers, large energy storage batteries and electrical and electronic products as particular issues. However, since the Product Stewardship Act of 2011, no mandatory schemes have been established to target Product Stewardship issues specifically.

A recent agreement, setting a target of 2025 for all Australian packaging to be sustainable (recyclable, compostable or reusable) was agreed by the Federal and State government in 2018. These categorizations are not specific enough, considering current stockpiling of 'recyclable' materials and the promotion of WTE as waste management solutions in Australia.

With recent governmental reports on the Circular Economy and Plastic Waste, emphasis has been placed on improvement of materials, for example through tackling Planned Obsolescence. Other proposals mentioned also include repair cafes to promote materials with a lower environmental impact and reduce the amount of plastic manufactured. These suggestions would streamline the retention of better materials, and can be promoted through state legislation.

**International and Trade-specific**

The Australian commitment to dealing with international trade in plastic waste was declared at the UN Basel Convention along with 187 other nations, regulating international trade in plastic waste and restricting shipping of plastic waste to developing countries. Australia have also agreed to the banning of exporting waste glass by July 2020, whole tyres and mixed plastic by 2021 and other remaining waste products by mid 2022. (Cox, 2019).
These are big improvements to the current management of trade of waste. Changes to the Basel Convention means that the plastic waste trade will become more transparent and mutually agreed upon. This legislation combined with strong environmental laws, will strengthen the ability of citizens and groups to build court cases against the government and larger corporations for breaking environmental protection laws. We see examples of this in the US, with groups this year suing Pepsi, Coca Cola and Nestle for civil tort violations such as negligence and public nuisance concerning plastic waste (Chan, 2020). Precedent case law in the UK, brought about by the suing of the UK government for breaches to air pollution levels under legally binding EU directives by Client Earth, are some other examples of how law can bring about change and pressure on governmental breaches to environmental protection (Harvey, 2018).

Stronger policies, with legal binding on trade of unsustainable materials are required for effective prevention of plastic waste. A landmark case in Denmark vs European Commission, provides an example of environmental protection over WTO/GATT free-trade legislation (Danish Bottles Case, [1988]). Here, the Danish government was allowed to restrict imports of bottles that were unsuitable for their deposit-return scheme. Under European environmental law, the Danish government argued for better protective measures and were granted these trade restrictions in defense of upholding and improving the country's and EU's high environmental standards.

Binding certifications for sustainable products are also effective as a means to develop trade specific legislation, that can be easily identified, such as European FLEGT program on the trade of forestry products. This style of certification can promote the manufacturing of sustainable products in Australia and build a national bio-economy, tradeable with Europe.

*Exports of waste from Australia by financial year, showing the top six recipient destinations*

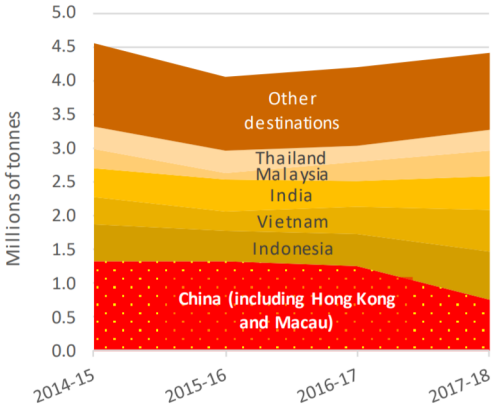



Figure 1. Graph demonstrating the export of all waste from Australia to the main destination countries (Blue Environment report, 2019)

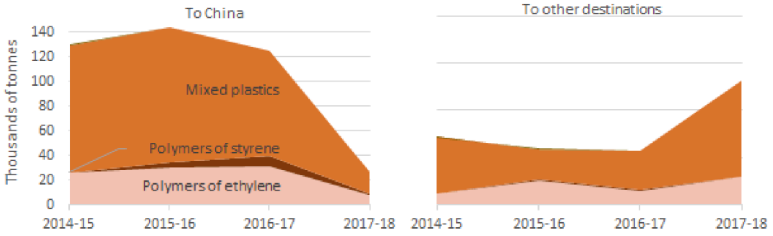



Figure 2. Both graphs represent exports of plastic waste from Australia to China in the financial years from 2014/15 to 2017/18 (Blue Environment, 2019).

Tackling plastic waste trade is starting to look like a reality, dealing with the amount and processing of plastic waste is, however, in its infancy.

**Our Action and Movement for Change**

Friends of the Earth have campaigned outside the Parliament of Victoria, staging a waste protest in response to the plastic waste crisis. This provided a public face for the collective to build support for action on plastic waste. Supporters brought their litter to the steps of Parliament, prompting media coverage. Actions like these are important to hold government to account on lack of support for effective waste management and illegal dumping of waste outside of Australia.

There has been a huge movement for breaking free from plastic within the last couple of years in Australia. Moving away from a reliance on plastic in manufacturing, addressing a 'throw-away' culture and the resurgence of organic materials has added to the desire for communities to break free from plastic. Introduction of repair cafes and the banning of other single-use plastics, as proposed in South Australia will decrease the amount of plastic available to go to landfill.

We are petitioning for the government to uphold their pledge to support the Circular Economy. Transform Waste has argued for systematic change in line with Circular Economy principles, over a focus on individual change.

The Victorian Government has recently launched a four bin kerbside system for household waste collection. This will include the separation of glass from other recyclable products, along with organic waste collection and non-recyclable waste. Municipal waste accounts for 23% of waste in Victoria (Parliament of Victoria, 2019). Friends of the Earth have also successfully advocated for a container deposit scheme in the state of Victoria, which has been announced in early 2020 along with the four bin kerbside collection. This will decrease the amount of plastic litter that ends up in the environment, as well as encouraging recycling and sorting of plastic waste by the public and state government. The state of Victoria is the final state to implement a container deposit scheme in Australia, with the first in South Australia in 1977.

Friends of the Earth also highlight the need for a Product Stewardship Assessment for all products. This would signify the commitment of the Australian government to identifying sustainable materials and gaps in the appropriate processing of these materials. Relevant Life Cycle Thinking and Assessments can aid in creating comprehensive product stewardship assessments.

We also advocate for all products to be legislated under the polluter-pays principle. The current suggestions for advanced disposal fees of materials that are difficult to recycle mean the cost is borne to the consumers. Alternative options are incentives or tax breaks for recycled content and packaging. This follows circular economy thinking and systemic change over individual change that the Transform Waste collective advocates for. Social justice must be valued and considered for worthwhile plastic waste legislation.

Melbourne's Friends of the Earth Co-op that is attached to the Melbourne HQ has a zero-waste shop that sells local wholesale food and drink products, washing products and more. This encourages the use of customer refills and reduces plastic packaging at both ends of the value chain.

**Recommendations**

1. Reduction of plastic and the transforming of the plastic waste system in Australia.
2. Mandatory Product Stewardship Assessments for all products.
3. Incentives or tax breaks for recycled content and packaging
4. Financial support for recycling plants to improve the longevity and competitiveness of this industry.
5. Mandated recycled content in all government products.
6. Ban on unnecessary single-use plastics.
7. Implement the announced ban on the export of plastics by 2021 and engage in the best practice implementation of the Basel Agreement.
8. State-wide oversight of organics recycling (FOGO)

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**Bibliography**


1. Australian Bureau of Statistics (2019). 4602.0.55.005 - Waste Account, Australia, Experimental Estimates, 2016-17. [online] Available at: https://www.abs.gov.au/ausstats/abs@.nsf/mf/4602.0.55.005 [Accessed 3 Mar. 2020].

2. Blue Environment (2019). Data on exports of Australian wastes. Section 3.4. National Waste Report 2018. [online] Available at: https://www.environment.gov.au/system/files/resources/3e7b446f-0c76-492c-93e6-4ad15b473a30/files/data-exports-australian-wastes-issue-3.pdf [Accessed 3 Mar. 2020]

3. Chan, A. (2020). Coke, Pepsi Among Companies Sued For Contribution To Plastic Pollution. [online] IBTimes. Available at: https://www.ibtimes.com/coke-pepsi-among-companies-sued-contribution-plastic-pollution-2931999 [Accessed 6th March 2020

4. Clure, E. (2019). 'Too big to fail' waste company declared insolvent in another blow to recycling. [online] ABC News. Available at: https://www.abc.net.au/news/2019-08-02/skm-recycling-declared-insolvent-by-supreme-court-of-victoria/11377446 [Accessed 4 Mar. 2020].

5. Cox, L. (2019). Waste export ban revealed by environment ministers but 'devil in the details'. [online] The Guardian. Available at: https://www.theguardian.com/environment/2019/nov/09/waste-glass-plastic-paper-and-tyres-to-be-banned-

from-export-but-devil-in-the-details [Accessed 4 Mar. 2020].

6. Danish Bottles Case [1988] C-302/86 (European Court of Justice).

7. Department of Environment and Energy and Blue Environment (2018). National Waste Report 2018. [online] Blue Environment Pty Ltd. Available at: https://www.environment.gov.au/system/files/resources/7381c1de-31d0-429b-912c-91a6dbc83af7/files/national-waste-report-2018.pdf [Accessed 3 Mar. 2020].

8. Envisage Works and Sustainable Resource Use (2019). 2017-18 Australian plastics recycling survey - national report. [online] Reservoir East: Envisage Works. Available at: https://www.environment.gov.au/system/files/resources/3f275bb3-218f-4a3d-ae1d-424ff4cc52cd/files/australian-plastics-recycling-survey-report-2017-18.pdf [Accessed 3 Mar. 2020].

9. Green Industries SA (2019). Single-use and Other Plastic Products (Waste Avoidance) Bill 2019.

10. Harvey, F. (2018) Air pollution: UK government loses third court case as plans ruled 'unlawful' [online] The Guardian. Available at: https://www.theguardian.com/environment/2018/feb/21/high-court-rules-uk-air-pollution-plans-unlawful [Accessed 6th Mar.2020].

11. James Massola, A. (2019). Indonesia rejects 'toxic' Australian plastic recycling. [online] The Sydney Morning Herald. Available at: https://www.smh.com.au/world/asia/indonesia-rejects-toxic-australian-plastic-recycling-20190701-p5235f.html [Accessed 3 Mar. 2020].

12. Lewis, D. (2017). 'Recycling in Australia is dead in the water': three companies tackling our plastic addiction. [online] the Guardian. Available at: https://www.theguardian.com/sustainable-business/2017/may/22/recycling-in-australia-is-dead-in-the-water-three-companies-tackling-our-plastic-addiction [Accessed 3 Mar. 2020].

13. Madden, B. and Florin, N. (2019). Characterising the material flows through the Australian waste packaging system, Institute for Sustainable Futures, University of Technology Sydney

14. Project Drawdown (2017). Electricity Generation Waste-to-Energy. [online] Available at: https://www.drawdown.org/solutions/electricity-generation/waste-to-energy [Accessed 3 Mar. 2020].

15. Parliament of Victoria (2019). Inquiry into recycling and waste management. Environment and Planning Committee.

16. Tait, P., Brew, J., Che, A., Costanzo, A., Danyluk, A., Davis, M., Khalaf, A., McMahon, K., Watson, A., Rowcliff, K. and Bowles, D. (2019). The health impacts of waste incineration: a systematic review. Australian and New Zealand Journal of Public Health, 44(1), pp.40-48.

17. Zero Waste Europe (2017). European Parliament's report calls for halt on harmful subsidies to waste incineration. [online] Available at: https://zerowasteeurope.eu/2017/06/press-release-european-parliaments-report-calls-for-halt-on-harmful-subsidies-to-waste-incineration/ [Accessed 3 Mar. 2020].



# Bangladesh

**Rehmuna Nurain**
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**Introduction**

The plastic industry began its journey in Bangladesh in the 1960s, and still remains reliant on the import of raw materials. In the fiscal year 2017-18, Bangladesh imported 1.3 lakh tonnes of polymer as raw materials for the plastic industry worth Tk 10,614 crore. This is a huge increase from only 10,000 tonnes in 1989. This is due to the fact that the government has special incentive packages for plastic exporting industries. The average plastic consumption in Bangladesh is about 2 kg per person. The plastic industry has been growing at about 20% a year on the back of spiraling demand from domestic and export markets.

The use of plastic has increased by 80 times in the country in the past 28 years. Use has grown to 1.2 million metric tonnes in 2018 compared to just 15000 metric tonnes in 1990. In fiscal year 2018-2019, the domestic market size of Bangladeshi plastic products hits Tk. 30,000 crore, up from Tk. 25,000 crore in the previous year. According to the Bangladesh Plastic Goods Manufacturers and Exporters Association (BPGMEA) data, currently 300 manufacturers export plastic goods worth nearly BDT 30 billion annually. Currently, this industry produces 2,500 types of plastic products.

There are about 5000 plastic manufacturing units in the plastic sector of which 98% belongs to the Small and Medium Enterprises (SMEs). Of the 5000 plastic enterprises in Bangladesh, 3500 companies are small, 1480 are medium sized companies and around 20 companies are big with international trade links. About 65% of the plastic industries are in Dhaka while 20% are located in the port city of Chittagong. According to Department of Environment sources the highest users of plastics in Bangladesh are the following industries –

- Packaging (39.9%)
- Consumer Products (22.4%)
- Building & Construction (19.7%)
- Automobiles (8.9%)
- Electronics (5.8%)
- Agriculture (3.3%)

**Plastic waste generation rates in the country**

Although general waste in the country has grown by an average of 5.2% per year, plastic waste has increased by an average of 7.5% each year. It is projected that this amount will grow to 48,000 tonnes per day and be close to 17.3 million tons per year by 2025, because of growth in population and an increase in per capita waste generation. According to the Department of Environment (DoE), every day Bangladesh generates around 3,000 tonnes of plastic waste. A joint study, carried out by the Department of Environment and a NGO named Waste Concern, has found that 36 percent of the plastic waste was recycled in informal sector while 39 percent was dumped in landfills and 25 percent leaked to environment which eventually went to the Bay of Bengal through the rivers. According to research findings of National Geographic, 300 different types of plastic goods are ending up in the Bay of Bengal from the river Padma. The National Geographic report that covered 2575 km area, from Padma to the Bay of Bengal has revealed this alarming finding. The United Nations

Environment Programme (UNEP), in the year 2018, has reported the dumping of 73,000 tonnes of plastic waste into the Bay of Bengal through the major rivers like Padma, Jamuna and Meghna rivers.

According to a study by Waste Concern in 2015, a total of 821,250 tonnes of plastic waste were generated in urban hubs of Bangladesh per year while 207,685 tonnes were dumped in marine environments annually. According to this study, 95% of the solid plastic waste generated in Dhaka comprise of poly-packed throwaways, including plastic bottles, polythene bags and sachets of fast food and non-food consumer goods such as toiletries, food items and toothpaste. The study also revealed that per capita annual consumption of plastic products in Dhaka was 5.56 kg in 2005, which has since increased to 17.24 kg in 2017.

The composition of the entire waste stream is about 74.4% organic matter, 9.1% paper, 3.5% plastic, 1.9% textile and wood, 0.8% leather and rubber, 1.5% metal, 0.8% glass and 8% other wastes. The factors that contribute to waste composition are population density, life styles, economic conditions, fruit seasons, climate, recycling, and the waste management system, which is not well organised.

Efforts are underway to improve the system of waste collection, transportation, recycling, incineration and landfill. The major constraints for waste management in Bangladesh are lack of regulations/standard for waste disposal, landfill & use, lack of awareness, improper choice of technology and inadequate financial support.

**Agencies responsible for waste management in the country:**

On a global scale, we currently are facing three major environmental crises: global warming, depletion of resources, and destruction of our ecosystem. These crises are interrelated and connected to waste and waste management. There are several organizations are related to the process of waste management in our country: the Ministry of Environment, Forest and Climate Change, Department of Environment and the Ministry of Local Government Rural Development & Cooperatives. Some NGOs are also engaged in waste management. Local government bodies are the main responsible authorities for waste management including City Corporations, Municipalities and pourashovas..

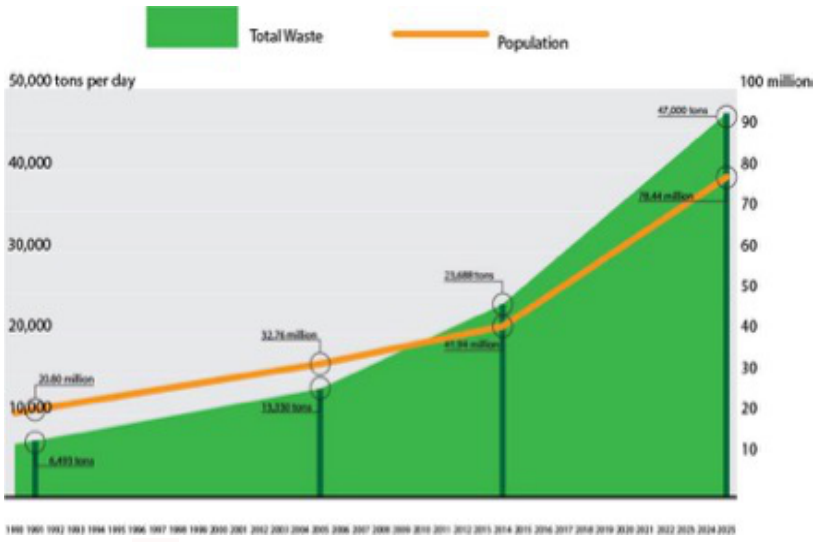
A rising quality of life and high rates resources consumption patterns have had an unintended and negative impact on the urban environment generation of waste far beyond the handling capacities urban government and agencies. The City Corporation (CC) is primarily responsible for collecting and managing waste. A significant amount of waste in the City is not collected due to lack of infrastructure, funds and collection vehicles. Despite of limited waste management service, community based door-to-door waste collection from households to local waste bins is considered as a success. Informal waste recycling systems is also highly effective in waste recycling and job creations for the poor.1

**Techniques used in plastic waste management:**

Two important initiatives have been undertaken for Solid Waste Management (SWM) in Dhaka City. One initiative was undertaken by Japan International Cooperation Agency (JICA) in 2005 with the objectives of formulating a master plan for Dhaka City and developing the capabilities and management skills of the Dhaka City Corporation. Another initiative, 3R Strategy, was undertaken in 2010 by Department of Environment (DoE), Ministry of Environment and Forestry of the Government. The principle of reducing, reusing and recycling of resources and products is often called the 3Rs2. Before 2010, plastic waste was not separated from other waste and it was segregated as solid waste.

**Linear Vs Circular system of plastic waste management:**

In case of household sector, wastes are typically collected in a non-segregated manner and placed into the slender containers at the households. Organizations outsourced by City Corporation (CC) collect the waste in vans through vanmen on payment basis and carry to the secondary




*F*igure-1: Waste Generation vs. Urban Population (Waste Concern, 2014)

collection points (containers or designated sites). Subsequently, the waste is carried by various sizes of trucks (of City Corporation or private organization authorized by the city Corporation) to the landfill sites situated at Matuail and Amin Bazaar to dispose as a final destination. In this connection, an informal market operates to recycle a significant portion of the solid waste. The roles of the Tokai or scavengers and door step, Hawkers are worth mentioning. Scavengers collect the recyclable items from both the landfills and open waste bins and finally sell it to a recycle waste dealer (Bhangari). The items are then washed, dried and sorted by the recycling dealers and traded in the market. Besides the scavengers, the Hawkers buy recyclables from door to door and trade with the Bhangari (receivables buyers).

**Existing recycling process in the country:**

Around 36-40% of plastic waste in total is recycled while around 70% of PET bottle is recycled or reused through both formal and informal sectors[3]. According to the studies of Waste Concern, total plastic waste which was available for recycling was about 50,213 tonnes[4].

Banned plastic items:

The negative impact of use of plastic bags in Bangladesh has been amply stated in a Study titled Plastic Bags as a Burning Environmental Hazard for Bangladesh[6] that has noted the following:

"Due to the lightweight structure, plastic bags can litter the land, our waterways, streets, and air. One of the major impacts of plastic bags in Bangladesh is their impact on the storm water drainage system. Drainage systems blocked by plastic bags have been identified as a major cause of flooding in Bangladesh during monsoon season. Following the 1998 flood it was estimated that up to 80% of the city's water logging was caused by polyethylene blocking drains".

Polythene disturbs the flow of nutrients in the soil and reduces the infiltration of sunlight and water. Polythene destroys beneficial bacteria in the soil, depleting its fertility which directly affects agriculture. The improper disposal of plastic bags is threatened public health in Bangladesh as they increase the incidence of mosquito borne diseases such as dengue and malaria[7]. The blockage of drains and the sewage system by plastic waste increases the amount of standing water which acts as a breeding ground for mosquitoes[8]. Polythene is also an agent of cancer, skin diseases, and other problems. Improperly disposed of bags end up in the sewer creating blockages and water logging and the resultant ponds contain raw sewage and a variety of other materials disposed of via the sewer. The decomposition of sewage materials in sunlight causes these ponds to emit toxic gases in an alarming rate (Hossain, 2009). As plastic takes 20 to 1000 years to degrade (Derraik, 2002), it poses a long-term challenge for managing drainage infrastructure in Bangladesh.

However, management of post-consumer plastic waste is a challenging problem in every country. The plastic waste management of thin polyethylene (PE) bags has been a serious environmental problem in Bangladesh during the past two decades. In the late 1990's the littering of thin polyethylene bags had created such an unmanageable situation throughout the country that in April 2002 the parliament passed a bill banning the thin plastic bags. In 2002, Bangladesh became the first country in the world to ban polythene plastic shopping bags through an amendment of section 6ka (A) of the Bangladesh Environment Conservation Act, 1995. A Circular dated 8th April, 2002 issued under section 6ka (A) slapped ban on use, production, sale, marketing, stocking, distribution, import, trade etc. of polythene/plastic bags which was made effective from 16 April, 2002. Violation of the prohibition has been made punishable with imprisonment up to 10 years and fine up to Taka 10 Laks (section 15 of the Bangladesh Environment Conservation Act, 1995).

In support of the 2002 ban on plastic/polythene bags, the Government in 2010 enacted another law, titled the "Mandatory Jute Packaging Act, 2010" for the compulsory use of jute in packaging products. The Import Policy of 1997-2000 of Bangladesh banned packaging of imported fertilizer, cement, sugar, food grains and other cargo in polythene and plastic materials. However, businessmen

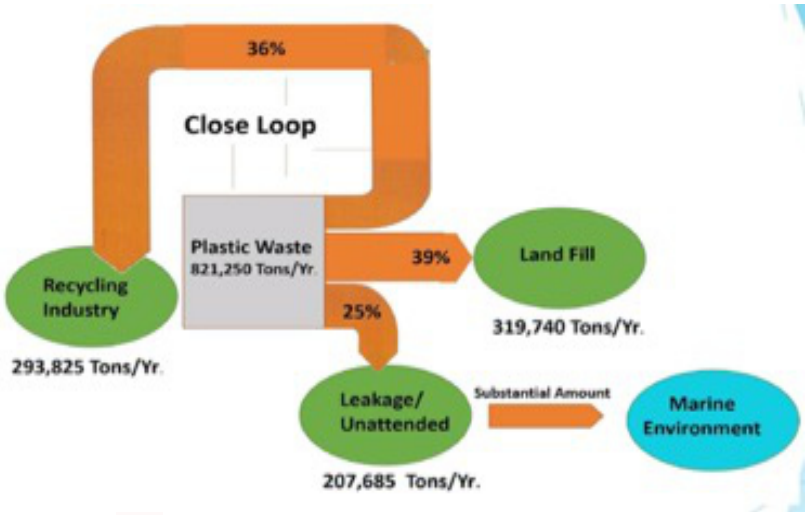



Figure-2: Plastic Waste Situation of Urban Areas in Bangladesh (Source: Waste Concern, 2019)

*Table 1. Estimated volume of recycled wastes in Dhaka City.*[5]

| Material | a)Estimated generation of recyclable waste (ton/day) | B) Estimated recycled waste (ton/day) | c) Recycle rate | D) Contribution to waste reduction (b/3,200) |
|---|---|---|---|---|
| Plastic | 124 | 103 | 83% | 3.2% |
| Paper | 260 | 168 | 65% | 5.3% |
| Glass | 46 | 24 | 52% | 0.8% |
| Metal | 27 | 41 | * | 1.3% |
| Compostable | 2211 | 6 | 0% | 0.2% |
| Others | 99 | 94 | 95% | 2.9% |
| Total | 2767 | 436 | | 13.6% |

continue to defy this ban and use polythene and plastics for packaging imported materials.

The High Court, in Writ Petition 7153 of 2014, ruled on 6th September 2015 that the government must immediately implement the Gazette notification of 8th April 2002 banning the use, production, sale, marketing, stocking, distribution, import, trade etc. of polythene. This directive of the Hon. High Court regrettably has not been executed which is clearly evident to anyone residing in the country. Although section 6 of the Environment Conservation Act, 1995 has empowered the Government to ban other hazardous substances that could well include SUP (Single Use plastic) products, the Government, unfortunately, has taken no move to regulate such hazardous items. As a result, land, soil, aquatic and marine environments of the country are being gravely contaminated with plastic waste.

As per official sources, since 2015 the DoE has conducted 1949 mobile courts, filed 4462 cases, realized Tk 4.83 crore fines and jailed six people for different durations on offenses related to the production, marketing, sale and use of polythene. Though more than eight years has passed since the passing of the bill, the problem has not yet been fully solved. Lack of proper management of thin plastic bags is one of the reasons for the existing negative image of the plastic industry in the country. This affects export of plastic goods due to noncompliance with environmental standards by the plastic sector. The entrepreneurs in the plastic sector and the policy makers must create public awareness and provide alternative to plastic shopping bags.

**2. Plastic waste in and out of the country:**

There is no production of polymers in Bangladesh. The plastic industry uses imported raw materials of polymer granules. No plastic waste is imported into
Bangladesh, but we export recycled plastic waste to China. China imported 99 per cent of Bangladeshi PET waste flakes and Bangladesh exports more than 50,000 tonnes of PET bottle flakes a year, valued at $25 million. Bangladesh exported 60,000 MT of PET flakes to China up until 2017 (98% of Total Flakes export).

In July 2017 the Chinese government announced a ban on plastic waste import from Bangladesh which came into force on January 1, 2018. The ban was imposed on the imports of 24 categories of solid waste, including certain types of plastic, paper and textiles. Starting from January 1st, 2018 plastic waste collapsed of the PET flakes manufacturing industry. As a result, almost 50% of Bangladesh's used PET bottle stock is lying unsold in local collection shops. The amount is significant - almost 35,000-40,000 MT of plastic bottles. Since such a large amount of used PET bottle stock is remaining unsold, selling price of used PET bottles is going down and thus waste collectors are losing their interest in collecting used PET bottles to sell. Not only that, last year Malaysia also sent back plastic container waste due to its non-recyclable condition.

**3. Policy developed with the aim of reducing plastic waste:**

The Government of Bangladesh has taken some initiative by developing existing policies and preparing action plans in line with Sustainable Development Goal (SDG) 11 to maintain environmental quality and other waste management by 2030; SDG 12 - to reduce waste generation through prevention, reduction, recycling and reuse by 2030 and SDG 14 - to conserve and sustainable use of oceans, seas, and marine resources by 2025. These include:

- Bangladesh Environment Conservation Act 1995 (with subsequent amendments) and Environment Conservation Rules 1997 (with subsequent amendments).
- National Environment Policy, 1992 (Updated in 2018).
- National Strategy for Water Supply and Sanitation 2014.
- SDG Action Plan for the Ministry of Environment, Forest and Climate Change prepared in 2019.



*Image: Plastic waste blocked the drainage system in the City areas*



*Photo: Plastic collection in Bangladesh*

By an amendment to the Act in 2002, restrictions were imposed on production, import, sales, marketing, storage and commercial use of polythene shopping bags. Other related regulations are:

- Compulsory Use of Jute Packaging Act 2010 and its Rules 2013
- City Corporation and Municipal Act 2009
- Medical Waste (Management and Processing) Rules 2008
- Draft Solid Waste Management Rules 2019
- Draft E-Waste Management Rules 2019
- Draft SRO on Plastic Waste Management focusing on EPR principle

**Success story**

Bangladesh Environmental Lawyers Association (BELA) gets positive High Court orders ban on throwaway plastic containers in coastal areas

In Bangladesh, littering of plastic items, particularly plastic shopping bags and packaging materials cause major degradation of soil, water logging and drainage congestion, and air pollution by emission of dioxin, hydrogen cyanide, carbon dioxide, carbon monoxide and other toxic gases released during open burning and incineration. Due to inadequate waste collection systems, transportation and crude dumping of solid waste, municipal areas around the country are facing severe environmental degradation. Adding to this, in urban areas, plastic waste has become one of the major problems for city dwellers. Plastic bags are both an environmental and health hazard from their unsustainable production process and unregulated disposal. Consequently, it is high time that the country makes a concerted effort towards proper waste management as well as to reduce and phase out the use of plastic products to protect nature and humanity.

To achieve implementation of plastic waste management according to the existing regulations, BELA has taken a legal initiative and is also decreasing the use of single-use plastic for an environmentally safe and sustainable Bangladesh.

On 17 December, 2019 BELA and other 10 environmental organizations filed a petition to phase out single-use plastics from Bangladesh. The honorable High Court Division directed the government to ban in one year the use of throwaway plastic containers by hotels, motels and restaurants in the coastal belt.

A bench of Justice also directed the government to strictly enforce the ban imposed by the Ministry of Environment and Forest on April 8, 2002 on marketing and use of polythene or plastic bags. The court also directed the government to regularly monitor the situation and shut down factories manufacturing polythene bags and plastic containers across the country and seize their machinery. The government was also directed to submit a compliance report by January 15, 2021. The court, in a ruling, asked the government to to adopt a time-bound action plan to substitute hazardous polythene and phase out throwaway plastic containers by December 31, 2022.

The following were asked to reply to the ruling as the respondents: Secretaries of the Ministries of Environment and Forest; Industries; Commerce; Water Resources, Civil Aviation and Tourism; and Textiles and Jute, the Director General of the Department of Environment and the

chairman of Bangladesh Plastic Goods Manufacturers & Exporters Association.

**Recommendations:**

1. To protect the citizens' constitutional rights to life, health, and safety, and all applicable national laws and global commitments should be regulated by the Government;

2. The Government should take legal initiatives for proper enforcement of plastic waste management;

3. The coastal areas of the country should be subjected to stringent regulations with regard to use of proper plastic waste management. As a first step, the hotels/ motels/restaurants should be directed to phase out from use of single-use plastic items and gradually, incentives for all plastic factories/industries producing single-use plastic for domestic use should be withdrawn and they should be encouraged to switch to alternatives;

4. To adopt effective enforcement, monitoring, administrative and legal measures in order to protect the following from the severe negative impacts of polythene/ plastic shopping bags and single-use plastic items and its waste: agriculture, biodiversity, waste management, health, soil and air pollution, urban development, marine and aquatic ecosystems of the country.

5. For the greater interests of people and the environment, the Government should discharge their statutory duties, enforce the existing legal ban, and prohibit single-use plastic items with new regulations;

6. To encourage local solutions, the government should to provide the infrastructure and collection services necessary for proper waste collection and management. NGOs can look for neighborhoods or municipalities where there is citizen concern or demand for improvement, and help identify and assess positive experiences addressing solid waste management at the local level;

7. Invest in educating the next generation to alter cultural attitudes. Reaching children through school programs about waste responsibility, ocean stewardship, public health, and marine biology will help change behavior;

8. Further to the above scenario, it is imperative that environmental groups create mass awareness against unregulated use of plastic;

9. NGOs can develop arguments for where and how recycling can save municipalities and citizens money:

10. Increase efforts for tourism and public health costs from poor waste management can be quantitatively measured, often in economic terms. NGOs can collect these data to present to officials to pressure change at the political level;

11. Promote collaborative efforts and information exchange and collaboration among municipalities, tourist operators, citizen groups and NGOs to formulate creative and alternative ways to find sustainable solutions.

12. For sustainable plastic management in light of 3R (Reduce Reuse Recycle) and Extended Producer Responsibility principles, the Government should make investments in innovative solutions, and promote public-private partnerships.

***

**END NOTES**

[1]Ahsan T, Zaman AU. Household Waste Management in High-Rise Residential Building in Dhaka, Bangladesh: Users? Perspective. International Journal of Waste Resources. 2014; 4 (1): 1-7,
Hai FI and Ali MA. A study on solid waste management system of Dhaka City Corporation: effect of composting and landfill location. 2005.

[2] BIGD. The State of Cities: Solid Waste Management of Dhaka City– Towards Decentralised Governance. BRAC Institute of Governance and Development, BRAC University, Dhaka. 2015

[3]DoE

[4](Waste Concern, 2014).

[5]A review of solid waste management practice in Dhaka City, International Journal of Environmental Protection and Policy, March 9, 2017.

[6](2017; Haque, H. A., Tanu, F. Z., & Rahman, M. H.)

[7]Tawhid, 2004).

[8]The Daily Star, 2011




# Malaysia

*Photo: Zero Waste Cities Conference 2019 Media Briefing*

**Mageswari Sangaralingam**
Sahabath Alam Malaysia/ Friends of the Earth Malaysia

**Executive Summary**

Plastic pollution is a transboundary, serious and complex problem with significant and long lasting social, economic and environmental impacts. From the production process to usage and disposal, plastics are a menace. Plastic packaging accounts for about half of the plastic waste in the world. The plastic we use ends up in landfill, waterways, burned or incinerated. The dangers that plastics pose to the environment and human health are well established.

Malaysians generate about 38,000 metric tonnes of waste each day.Plastics make up about 13.2% of the solid waste stream, which means about 5,000 metric tonnes of plastic waste is generated in Malaysia each day. Malaysia currently has about 1,300 plastic manufacturers. It is estimated that the plastics recycling industry in Malaysia produces 1.5 million tonnes of recycled resins a year and exports roughly 70 percent of its production.

Besides grappling with local plastic waste, Malaysia became the world's dumping ground in 2018 arising from countries exporting their plastic problems to South East Asia after China imposed an import ban in January 2018. The challenge with plastic scrap is that some cannot be recycled because the imported bale is contaminated with non-recyclable plastic, dirty waste or plastic that is of low value and too expensive to recycle. Some of these consignments must be sorted and separated, making it labour-intensive, costly and environmentally destructive.

In Malaysia, the impacts of plastic waste trade, crude and illegal recycling gained public attention after the community in Jenjarom, Selangor highlighted the dumping of plastic waste in the surrounding area since early 2018. People were getting sick, complained about respiratory problems, skin rashes, irritant eyes and unbearable smell. The community then formed a group called the Kuala Langat Environmental Protection Action Group, writing letters to the authorities to take action, held meetings with the government, and also highlighted the issue in local and international media. These actions gained a lot of attention and also prompted the Malaysian government to take action.

In July 2018, the Malaysian government imposed a temporary ban of plastic waste imports. In October 2018, the Malaysian government announced a permanent ban on importing plastic waste by 2021. Nevertheless, imports with approved permits are allowed but with strict conditions imposed on importers and exporters. The waste is also restricted to clean and homogenous waste from industrial and post-consumer sources.

The residual waste from the plastics recycling industry and illegal dumping is a problem now. Some of it is burned illegally or sent to cement kilns, causing a new set of problems as there will be toxic emissions into the air and also through the ashes. The Malaysian government is also looking into the possibility of incineration and transforming plastic trash into an alternative fuel and source for producing cement. Sahabat Alam Malaysia has been protesting, stating that the Malaysian government must not be deluded with these false solutions.

Due to its adverse impacts, the issue of single-use plastics and plastic waste trade are of concern to us. It is time for measures that focus on reducing the overall global

production and consumption of plastics. Many countries have started taking action to protect their borders from foreign plastic pollution whilst many communities in Asia are already moving towards zero waste. The solutions are in our hands and already happening in Penang and other localities in Asia.

**Plastic Waste in Malaysia**

Malaysians generate about 38,000 metric tonnes of waste each day. The Government of Malaysia made it mandatory to separate solid waste at source from 1 September 2015. The ruling was implemented in stages in a number of states, Federal Territories and pursuant to regulations under the Solid Waste and Public Cleansing Management Act 2007 (Act 672).[1] Plastics make up about 13.2% of the solid waste stream whilst diapers make up 12.1%.[2]

Malaysia has been ranked as 8th among the top ten countries with mismanaged plastic waste in the world. A study estimated that in 2010 Malaysia had produced 0.94 million tons of mismanaged plastic wastes, of which 0.14 to 0.37 million tons may have been washed into the oceans. [3]

Malaysia currently has about 1,300 plastic manufacturers. It is estimated that the plastics recycling industry produces 1.5 million tonnes of recycled resins a year worth approximately RM4.5billion (~ Euro1billion) in revenue, and exports roughly 70 percent of its production. Being an export-oriented economy, Malaysia generates plastics waste along the entire value chain of the manufacturing sector. The plastics recycling industry is said to support the RM31billion (~Euro6.8 billion) local plastics industry which is a key supply chain to the local electrical and electronics and automotive industry. [4]

Malaysia was the top recipient of plastic waste in the world in 2018 after China closed its doors to imports in January 2018. Compared to 549,786,281kg imported in 2017, in 2018 Malaysia had imported 872,530,652kg of plastic waste, an increase of 37%. The hike in plastic waste imports would have been more if not for the moratorium on imports imposed by the government in July 2018.

The plastic scraps coming into Malaysia after the China ban included those which were contaminated, mixed and also comprised of low-quality plastic that is non-recyclable. Some of these plastic wastes were smuggled in by false declaration as another type of commodity and not H.S code 3915 which is subject to the Malaysian import restrictions.

Many errant recycling firms opened up in Malaysia beginning of 2018. Many of these plants, owned by businessmen from China were operating without permits, using low-end technology and environmentally harmful methods of disposal by burning residual waste that cannot be recycled or illegally dumping them.

Plastics under the categories of resin identification code one (polyethylene terephthalate - PET), two (high density polyethylene - HDPE) and five (polypropylene - PP) are largely recycled in Malaysia. As for other plastics, it depends on whether the recyclers have the facilities. It would be easier for the recycling companies to recycle these plastics if they had been sorted and cleaned, ready for the recycling process.

However, in reality, much of the plastics that households throw into recycling bins, are low-grade, dirty and mixed plastics. Then there are also single-use plastics such as sachets for beverages and personal care products that are not conducive for recycling. The pollution from these residual wastes has led to health problems among surrounding communities, air pollution, contamination of soil groundwater and waterways.

**Restrictions on Single-Use Plastics**

The advocacy of the Consumers' Association of Penang (CAP) succeeded in the implementation of a ban of feeding bottles containing Bisphenol A since 1 March 2012. Section 27A of the Food Regulations 1985 states that no person shall import, manufacture or advertise for sale or sell any feeding bottles containing Bisphenol A (BPA).

Section 29 of the Regulations prohibits the import, manufacture or advertisement for sale or sale, or use in the preparation, packaging, storage, delivery or exposure of food for sale, any rigid or semi-rigid package, appliance, container or vessel, made of polyvinyl chloride which contains more than 1 mg/kg of vinyl chloride monomer.

Several cities and municipalities have also imposed bans on polystyrene food containers. For example Penang enforced the ban since 2012 whilst the Federal Territories (Kuala Lumpur, Putrajaya, and Labuan) imposed bans on non-biodegradable plastic bags and food containers.

The advocacy of NGOs also saw Penang pioneering the ban on free distribution of plastic bags. On 6 July 2009, the Penang State government launched the "No free plastic bags on Monday" initiative, which saw the state managing to save up to 1 million plastic bags within four months. [7] On 1 January 2010, the state government extended to "No Free Plastic Bags Every Monday, Tuesday and Wednesday".

On 1 January 2011, the Penang State Government started implementing the "No Free Plastic Bag Everyday" rule by imposing specific conditions for the renewal of business licenses under Section 107 (2), Local Government Act 1976.

**Licenses**

107. (1) A local authority in the granting of any license or permit may prescribe the fees for such license or permit and the charges for the inspection or supervision of any trade, occupation or premises in respect of which the licence is granted.

(1A) Any license or permit granted under this Act may be issued jointly with any other licence or permit.

(2) Every licence or permit granted shall be subject to such conditions and restrictions as the local authority may think

fit and shall be revocable by the local authority at any time without assigning any reason therefor.

The ruling applies to all hypermarkets, supermarkets, pharmacies, fast-food outlets, nasi kandar restaurants and convenience stores (including petrol stations). The state government is not imposing a total ban on plastic bags. Those who want plastic bags can still purchase them for 20 cents. The ruling is not applied to hawkers and petty traders. Feedback shows that from Jul 2009 - Jun 2011, the state recorded reduced usage of at least 33 million plastic bags.

The Federal government emulated such approach in their "No Plastic Bag Every Saturday" nationwide campaign starting Jan 2011. In October 2018 Malaysia launched a Roadmap Towards Zero Single-Use Plastics 2018-2030.[8] The vision of this Roadmap is to take a phased, evidence-based and holistic approach by involving all stakeholders in jointly addressing single-use plastics pollution in Malaysia.

Among the immediate action plans of the Roadmap Towards Zero Single-Use Plastics 2018-2030 are as follows:

'No straw by default' practice where straw is given by request with no charge implemented in fixed premises (hypermarkets, supermarkets, departmental stores, convenient stores, fast food restaurants, petrol station convenient stores, chain stores and pharmacies).

Local government authorities nationwide to utilize compostable garbage bags for garden waste collection.

Customers encouraged to bring their own food container or food business operators at fixed premises will sell food containers that comply with ECO001[9] and ECO0010[10] criteria to replace polystyrene and plastic food packaging.

States will impose a pollution charge at a minimum of RM0.20 for plastic bags. Nationwide implementation is by end of 2021.

- Each state will decide the implementation time (from 2019 till 2021);
- Applicable to fixed premises;
- Plastic bags will be sold as stock keeping unit (SKU) product with barcode.

To coordinate, monitor and facilitate the implementation of the Roadmap, a permanent secretariat was established at the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC).

Successful campaigning: Plastic Waste Trade

In Malaysia, the impacts of plastic waste trade and crude recycling gained public attention after the community in Jenjarom, Selangor highlighted the dumping of plastic waste in the surrounding areas near Port Klang since early 2018. People were getting sick, complained about respiratory problems, skin rashes, irritant eyes and unbearable smell.

The community then formed a group called Kuala Langat Environmental Protection Action Group. This group wrote letters to the authorities to take action, held meetings with the government, and highlighted the issue in local and international media. Sahabat Alam Malaysia (SAM) had also pursued with the government by sending a memorandum calling for a ban on plastic waste imports and used the media to play up this issue. It gained a lot of attention and prompted the Malaysian government to take action.

In July 2018, the Malaysian government imposed a temporary ban of plastic waste imports. In October 2018, the Malaysian government announced a permanent ban on importing plastic waste by 2021, and imports to Malaysia dropped steeply. Imports with approved permits are allowed but with strict conditions imposed on importers and exporters. The waste is also restricted to clean and homogenous waste from industrial and post-consumer sources.

The vast human impact of the influx of plastic waste in South East Asia was exposed in GAIA's (Global Alliance for Incinerator Alternatives) report titled 'Discarded: Communities on the Frontlines of the Global Plastic Pollution Crisis'. This report which SAM was part of, focused on three countries including Malaysia, and highlighted the stories of people on the ground who have been thrust to the frontlines of the world's plastic problem.

SAM (Sahabat Alam Malaysia), representing Friends of the Earth International, also successfully campaigned with GAIA (Global Alliance for Incinerator Alternatives), BAN, IPEN (International Pollutants Elimination Network), CIEL

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| World | 225,985,596 | 249,940,844 | 287,673,296 | 549,786,281 | 872,530,652 |
| United Kingdom | 50,535,174 | 48,745,728 | 67,862,892 | 80,206,930 | 112,019,170 |
| USA | 39,327,930 | 36,145,847 | 48,126,084 | 112,785,270 | 218,134,034 |
| Japan | 20,289,115 | 33,474,038 | 27,912,091 | 62,728,755 | 119,009,765 |
| Germany | 27,714,506 | 28,054,899 | 43,061,493 | 64,407,030 | 84,855,764 |
| Singapore | 9,480,778 | 8,875,155 | 11,178,665 | 15,099,682 | 13,447,323 |
| Australia | 13,996,138 | 16,762,437 | 10,021,294 | 32,199,160 | 44,992,549 |
| China, Hong Kong SAR | 5,755,156 | 7,294,259 | 6,540,063 | 51,891,428 | 48,383,887 |

Import of Waste, parings and scrap, of plastics [HS code 3915] to Malaysia (by weight -kg)

Source: UN Comtrade Database.
Copyright © United Nations

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| World | 247,007,166 | 182,271,048 | 163,622,436 | 165,809,601 | 46,114,685 |
| China | 172,062,428 | 123,833,109 | 110,042,922 | 115,844,789 | 11,514,474 |
| China, Hong Kong SAR | 35,703,166 | 25,988,293 | 26,865,124 | 14,838,745 | 1,827,167 |
| Thailand | 10,523,437 | 5,948,524 | 5,266,175 | 6,813,293 | 10,132,641 |
| India | 6,881,675 | 7,536,668 | 8,029,034 | 19,401,970 | 4,013,835 |
| Indonesia | 8,187,983 | 4,377,983 | 4,983,542 | 1,986,248 | 7,218,533 |

Export of Waste, parings and scrap, of plastics [HS code 3915]from Malaysia (by weight -kg) Source: UN Comtrade Database. Copyright © United Nations

and others in the Break Free From Plastic movement at the 14th Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal held in May 2019. The advocacy work led to amendments to the Basel Convention requiring exporters to obtain the consent of receiving countries before shipping most contaminated, mixed, or unrecyclable plastic waste, providing an important tool for countries in the Global South to stop the dumping of unwanted plastic waste into their country. [11]

**Outreach through International Zero Waste Cities Conference 2019**

The Consumers' Association of Penang (CAP), sister organization of SAM, co-organized the International Zero Waste Cities Conference in mid-October 2019. The conference gathered more than 175 government officials, civil society organizations and Zero Waste communities and practitioners in Penang, Malaysia, to share Zero Waste practices, as well as innovations in source separation, organics management, materials recovery, and plastic regulation.

The conference was organized by the Global Alliance for Incinerator Alternatives (GAIA) and CAP, in partnership with the Seberang Perai City Council. In addition to the plenary and breakout sessions, participants visited several Zero Waste sites in Penang highlighting initiatives in schools, housing estates, composting of food waste from businesses and market waste.

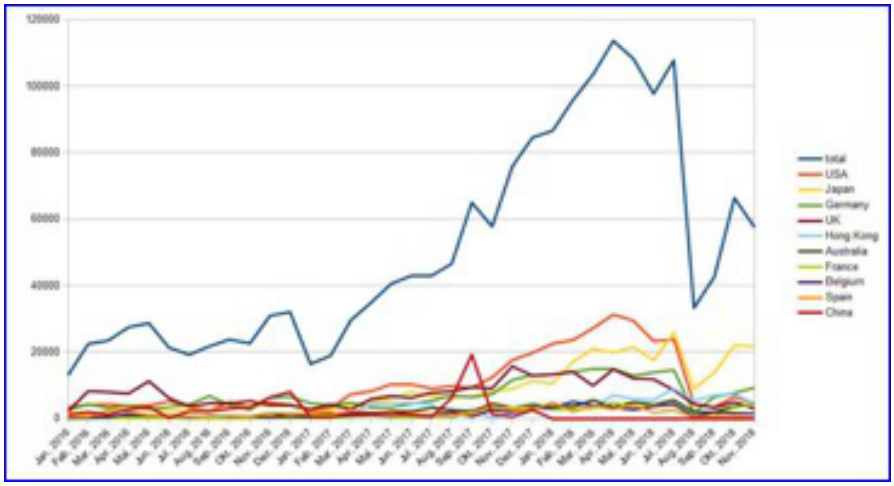
GAIA, in partnership with grassroots organizations and local government units, has been supporting cities in pursuing ecological strategies to promote segregation and reduce waste volumes, specifically problematic plastic, to reduce and eventually eliminate dependence on harmful end-of-pipe waste disposal systems. The Conference among others highlighted local and national policy actions aimed at reducing single-use plastic, from material substitution by producers to outright bans in cities. Speakers from different countries also spoke about success stories of Zero Waste initiatives.

During the conference, GAIA Asia Pacific and its partners under the Zero Waste Cities Collaboration Project launched a compendium of Zero Waste Cities Asia Series Case Studies and a Zero Waste Cities microsite, www.zerowasteworld.org. The Zero Waste initiative in Penang has resulted in the highest recycling rate in Malaysia at 43%, more than double than the national average of 21%. More waste has been diverted with CAP partnering with schools and training households in Penang to compost organic kitchen and garden waste.

**The Struggle Continues**

While there have been measures to curb illegal recycling of plastics, we find that the illegal recyclers are shifting to other locations when the government clamps down in certain localities. The plastic waste consignments are also found to be coming through other ports and the government has revealed that the traders are now falsifying declaration forms, bringing in plastic scraps by using other HS codes.

We should emulate China's import ban. In terms of contamination of imported plastic waste, China has strict standards: 0.5% of the total waste. In the beginning of their



*Imports of plastic scraps coming into Malaysia (in tons), showing the top 10 export partners from Jan 2016 - Nov 2018 2019.*[6]



*Photo: Imported plastic wastes dumped in Sungai Rambai, Selangor, Malaysia Pix: Sangaralingam Mageswari*

ban, each container was scanned and checked in relation to the contamination rate. With strict enforcement measures taken, the exporters have to comply with the conditions imposed. Thus, we need similarly strict enforcement. Another remaining challenge is who covers the cost of cleaning up, especially in the case of illegal dumping.

RECOMMENDATIONS

1. Redesign products, packaging, and delivery systems to eliminate the use of single-use plastic products and packaging.
2. Ban problematic single-use plastic products and packaging.
3. Ban toxic additives that undermine safe recycling.
4. Ban plastic microbeads in cosmetics and personal care products.
5. Developing countries should impose bans on importing plastic waste to prevent the dumping of waste from high-income, developed countries. Legislation on bans needs to be accompanied by robust, adequately resourced monitoring and enforcement measures. In the interim, ensure traceability and accountability of traded plastic waste.
6. Exporting countries must take responsibility for their plastic reduction and recycling domestically.
7. Reduce both production and post-consumer waste, and companies must take financial responsibility for managing post-consumer waste that cannot be avoided, including existing plastic waste. Mandate Extended Producer Responsibility.
8. Governments must prohibit the burning of plastic, whether in the open, in waste incinerators, in cement kilns, in plastic-to-fuel operations, in makeshift furnaces as fuel, or in landfill fires.

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**END NOTES**

[1] https://www.kpkt.gov.my/separationatsource/en/

[2] 2019. The Star. Generating more waste than ever. https://www.thestar.com.my/news/nation/2019/07/30/generating-more-waste-than-ever

[3] 2015. Jambeck, Jenna R., Roland Geyer, Chris Wilcox, Theodore R. Siegler, Miriam Perryman, Anthony Andrady, Ramani Narayan, & Kara Lavender Law. Plastic waste inputs from land into the ocean. Science. Vol 347. Issue 6223. pp. 768-771.

[4] 2019. An Advanced Plastics Recycling Industry in Malaysia. A White Paper by the Malaysian Plastics Manufacturers Association (MPMA) and Malaysian Plastics Recyclers Association (MPRA), in collaboration with Monash University, Malaysia.

[5]https://jpspn.kpkt.gov.my/resources/index/user_1/Pelesenan/Pengimportan_Sisa_Plastik/Syarat-Syarat_Baharu_Pengimportan_Sisa_Plastik.pdf

[6] Greenpeace East Asia. Data from the global plastics waste trade 2016-2018 and the offshore impact of China's foreign waste import ban: An analysis of import-export data from the top 21 exporters and 21 importers

[7] https://www.pgc.com.my/background-no-free-plastic-bag

[8] 2018. Malaysia's Roadmap Towards Zero Single-Use Plastics 2018-2030. MESTECC https://www.mestecc.gov.my/web/wp-content/uploads/2019/03/Malaysia-Roadmap-Towards-Zero-Single-Use-Plastics-2018-20302.pdf

[9] ECO001 Eco-Labelling Criteria - Biodegradable and compostable plastic packaging materials.

[10] ECO009 Eco-labelling criteria - Biomass based products for food-contact applications.

[11] https://www.breakfreefromplastic.org/2019/05/10/un-to-control-global-plastic-waste-dumping/



# Nepal

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**Abstract**

Plastic has become one of the most used substances in everyday life. From each and every grocery store to every other household, plastic is habitual. Abundant use of plastic is contributing to direct and indirect adverse effects on the environment, biodiversity, as well as on human health. Each year, approximately one hundred tonnes of plastic is dumped in landfill sites by the Nepal government. This has aggravated the loss of nutrients in water and soil. The Nepal government banned single-use plastic with less than 40 microns in 2015, but lack of monitoring and stringent laws without an effective operation strategy deterred it from being successful from the very beginning. At present, primarily urban cities are vastly affected by plastic pollution.

This research is specifically focused on single-use plastic, mainly polythene bags and PET bottles. Present research has been conducted in a short span of time, therefore the interviews mentioned in the report are limited to the plastic collectors and municipality of Kathmandu Metropolitan city.

**Introduction**

Nepal was first introduced to plastic bags in the early 1990s, replacing traditional paper and jute bags.[1] According to the report published by Government of Nepal in Environment Statistics of Nepal 2019, there are currently 237 rubber and plastic Industries operating in Nepal.[2] The history of plastic bag bans in Nepal goes back to 1998, even before UNEP declared 2018's theme as "Beat Plastic Pollution". It was Hetauda Municipality that, in 1998, first declared a ban on the use
of plastic bags.

Nevertheless, since 2010, other municipalities in Nepal have also started banning use of plastic bags. These decisions were backed by two laws: the first being the Local Self Governance Act 1999 and Regulation 2000 by which local bodies were granted the right to ban goods and activities that would damage the environment, and the second being the Plastic Bag Regulation and Control Directive 2011,[3] which prohibits production, import, sale, distribution and use of plastic bags that are less than 20 micron in thickness.[4] In support of these two laws, Kathmandu Metropolitan City declared a ban on use of plastic bags. But a writ application filed by the Plastic Material Production Association in the Supreme Court (SC) resulted in a stay order. Nonetheless, after few years, the SC gave verdict in favor of the Kathmandu Metropolitan City Office, but by then the plastic ban momentum was ineffective and unimplemented. To continue with the initiative of banning the use of plastic bags, in April 2015, Environment Committee of the lower house of the Parliament gave direction instructing the government to impose the ban on plastic. [5]

There have been many attempts to control and ban single-use plastic in the past, not limited to government and its agencies. The theme of World Environment Day 2018 was "Beat Plastic Pollution". Nepal has recognized the need to keep the environment clean. There is indeed unprecedented momentum to tackle plastic pollution. This is demonstrated by the increasing number of initiatives from government to private parties and NGOs. The

government itself in April 2015 declared Kathmandu a polythene bag free zone. Several other districts of Nepal followed suit and declared themselves plastic-free zones, including Parbat, Myagdi, Damak and Ilam.6 The declaration gathered momentum in making many private and public schools and government offices plastic-free zones. The ban was particularly for polythene bags of less than 40 microns.

Rapid and uncontrolled urbanization, lack of public awareness and poor management by municipalities has intensified plastic pollution per se in Kathmandu and city areas, despite the declaration by the Government. There are very few industries in Nepal and plastic producing industries are negligible. In spite of that, according to ICIMOD, Kathmandu alone uses around 4,700,000 to 4,800,000 plastic bags on a daily basis. All these plastic bags are produced domestically by those plastic making industries. In Nepal, 16% of urban waste is comprised of plastic, which is 2.7 tonnes of daily plastic garbage production in Kathmandu itself.[7]

Furthermore, the major problem with plastics is their degradation process, as they take different times to degrade. Plastic pollution arises at all stages of its life cycle, from leakage to production and manufacturing to poor waste handling such as haphazard dumping. When such plastic is buried in soil, it decreases the fertility of the soil. If burned, it releases poisonous gases in the atmosphere. If thrown in the water or land, it kills aquatic as well as terrestrial animals by entangling and suffocating them, as animals consume plastic in search for food. One plastic bottle takes an average of 450 years to degrade, whereas a plastic bag takes 1,000 years, according to ICIMOD.

**Plastic Waste Management in Nepal**

The Trade and Export Promotion Centre under Ministry of Industry, Commerce and Supplies of the Government of Nepal has listed prohibited items, but has not yet mentioned the plastic items that are prohibited from import from other countries. Apart from five items, the ministry has not prohibited the import of plastic's raw materials. But a notice published in Nepal Gazette gives a different perspective. The Government of Nepal imposed a full or partial ban on listed goods for export and import. Goods that are completely banned for import are plastic bags or sheets of less than 30 microns in diameter, incandescent light bulbs, straw collector, scrap plastic, recycled granules and second-hand goods. Imposition of ban was undertaken by exercising the power conferred by the Export and Import (Control) Act, 1957. [8]

In April 2015, the Government of Nepal declared a partial import ban on plastic bags, allowing bags only up to '20 x 35 inches' of size and plastic bags up to '40 microns' thickness to be imported and used within the Kathmandu valley. Yet again in 2017, the Government of Nepal announced the ban on use of plastic bags, but the decision could not be prolific. Cities like Pokhara, Biratnagar and Dharan also tried to impose a ban on the use of plastic bags, but to no avail.

**Agencies Responsible for Waste Management**

Nepal has, few years ago, politically transformed as a Democratic Republic Federal State. Under this, the government has three tiers of administrative setup. Following are the government and other private agencies that are responsible for waste management.

**Government Sector**

When it comes to management of plastic, the government should play a very responsible role. In Nepal, the Ministry of Environment is responsible for the implementation of ban on goods that affect or irreversibly damage the environment, whereas the Ministry of Industry, Commerce and Supplies is responsible to give license to plastic industries and is responsible to control and regulate plastic industries and plastic trade chain. Hence, these divisions of power create conflict of interest between Ministries making it difficult to work.

Implementation of Local Body Management Act 2017 has conferred the responsibility, duty and power to maintain clean environment, solid waste management, regulation and monitoring of pollutant and poisonous substance to the Village Development Committee and Municipalities. Not only limiting these duties to VDCs or Municipalities, this Act has further extended identical duties and responsibilities to Wards (small unit of Village Development committee) as well for effective solid waste management in their locality.

In an effort to tackle Kathmandu Valley's waste problems, the Government of Nepal is creating an Integrated Solid Waste Management Project. Investment Board of Nepal, a federal government agency, is working with two private companies: Nepwaste Pvt. Ltd. and Clean Valley Company to implement the said project. Kathmandu Municipality is having a discussion with Nepwaste, which is expected to take charge of waste production of Kathmandu. A major benefit of Nepwaste is that it will recycle waste that ends up in landfill and convert ninety percent of plastic and paper waste into diesel.

**NGOs and Private agencies**

Along with government, many NGOs are also involved in creating awareness against single-use plastic and managing plastic pollution. Partnership in Sustainable Development (PSD), Sagarmatha Pollution Control Committee, Himalayan Climate Initiative and Blue Waste to Value are among the NGOs that are working in waste management.

Not only limiting to NGOs, multiple private agencies are also taking a positive step towards management of plastic and solid waste through the help of internet applications such as, DOKO Recycler, Clean Up Nepal, Khaalisisi, Kawadi Nepal and many more.

Not limiting themselves to being profit-oriented, with Corporate Social Responsibility, private organizations such as Coca-Cola and Tara Airlines are directly contributing to plastic management. Clean Up Nepal, Khaalisisi, Kawadi Nepal and many more.

**Data on Incoming and Outgoing Plastic in Nepal**

The Trade and Export Promotion Centre under the Ministry of Industry, Commerce and Supplies, publishes, annually and monthly, a statistical report on foreign trade. The current annual report on Foreign Trade Statistics of Fiscal Year 2075/76 (2018/19) has shown 11.6% increase in import of polythene granules from the previous year.

The import duty on the polymers of ethylene from The South Asian Association for Regional Cooperation (SAARC) countries is 6% and 13%VAT.9 Part 6 of the report has listed out import duty on different types of polymers of ethylene.[10]

According to data from Trade and Export Promotion Centre, the total quantity of import of plastic and polymer of ethylene in 2019 is 13,259.[11] This data shows that the import of Plastics has been increased from 2015.[12]

Along with granules, there is an increase in the import of plastic bags and a decrease in export. In the case of PET bottles, import has decreased, whereas there is an increase in export. Since the introduction of the plastic ban in 2015, many plastic factories were shut down, which may have resulted in an increase in the import of polythene bags.

**Legal Provisions for Regulating Plastic Waste Trade and Single-use Plastics**

n 2015 the Nepal government banned polythene bags thinner than 40 microns. The effectiveness of the ban lasted for only a few months. Due to weak enforcement and monitoring mechanisms, the effect of ban was negligible.

Nepal is a party to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. In 2019 the Convention was amended to incorporate plastic waste. The Treaty Act of Nepal, in section 9 and section 10, requires the government to comply with prevailing provisions of the Convention.[13] The ratification of the Convention has led the government of Nepal to enact several laws and polices related to waste management. Below we will discuss these legal provisions.

**Legal provisions to control plastic pollution**

Nepal promulgated the current Constitution of Nepal in 2015.[14]The Constitution of Nepal has guaranteed the right to a clean and healthy environment in Article 30. It has further stipulated in Article 30(2) compensation for the victims of pollution. According to this provision, pollution includes any type of pollution that has an adverse impact upon the health of people. Hence, it can be said that plastic pollution could come under this provision.

Article 16 of the Constitution of Nepal 2015 has stipulated the right to life. Likewise, Article 35 (4) has guaranteed the right to access clean drinking water and sanitation. Article 18 has elaborated the right to equality of every citizen. Further, Article 25 (4) stipulates that the State can make land reforms, management and regulation in accordance with law for the purposes of enhancement of products and Productivity of lands, modernization and commercialization of agriculture, environmental protection and planned housing and urban development.

Similarly, in part 4 of Directive Principles of State in Article 51 (2)(3), it has directed the government to enforce provisions of Conventions and treaties Nepal is a party to. Also, Article 51 (6)(8) has explicitly endorsed the 'polluter pays' principle, precautionary principle and prior informed consent and environmentally sustainable development for the polluter to take responsibility.

The Solid Waste Management Act of 2011,15 Chapter 2, section 3 stipulates the responsibilities of the local body to manage solid waste and to segregate and discharge it in landfill. It has provisioned that the local body will be responsible to manage solid waste by taking the necessary steps to encourage the reduction, reuse and recycling of solid waste, and by issuing necessary directives for its effective implementation. Further the Act has stipulated that the local body coordinate with the concerned industry to encourage the reduction of quantity of solid waste by making reuse of the material used for packing industrial products. Also the Act has stipulated that the Centre shall extend necessary technical co-operation to the local body for the purpose of management of solid waste in a pollution-free manner.

Currently the Nepal Government has criminalised crimes against the environment under the Muluki Criminal Code 2017 of Nepal. Strict provisions stipulate that anybody who harms and adversely affects the environment shall be imprisoned and/or fined. It not only criminalises the person who carries out the activity but also the abettor.

In the Local Body Management Act 2017, it is stipulated that the local body can coordinate, cooperate and partner with private companies or NGOs in relation to solid waste collection and disposal.

**Policies of reducing plastic wastes**

There have been many attempts to ban single-use plastics and polythene bags by Local and Central Government of Nepal. The historic plastic ban was started by Hetauda Municipality in 1998. In 2000, Mahendranagar Municipality decided to completely ban the import and use of plastic in the area. This decision was made based on the problems such as environment pollution and impact on animals.17

Following this ban, Ilam Municipality implemented a complete ban on plastic bags in 2010 and was followed by other municipalities.8 Ilam Municipality has made provisions to fine both buyer and seller, which has resulted in a drastic reduction in the use of plastic and incremental increase in the use of cloth bags. The Ilam Municipality police fines the person carrying the plastic bag Rs. 200 and fines the seller Rs. 500 as per the information given by the buyer. Instead, degradable bags have been brought into use by the Municipality. Kathmandu Metropolitan City declared ban on plastic bags in April 2013.

In 2000, the Government published a notice in the Nepal Gazette regarding production of plastic for domestic use. According to the notice, only plastics thicker than 20 microns can be produced, with weight specification labels compulsory for the products. The Government has been publishing such notices time and again.

Further, with the vision to make Kathmandu Valley clean and pollution free, the Department of Environment under the Ministry of Environment Science and Technology banned the import, storage, sale, distribution and use of plastic bags up to 20x35 inches in size, and plastic bags up to 40 microns thickness. This decision was taken by using Section 7 of sub-section (3) of the Environment Protection Act 2053 and was published in Nepal Gazette on April 1, 2015.[19]

The Government took a step forward by banning plastic products in the budget of 2016-17 of Nepal.[20] But the budgets after that year only focused on reuse, recycle and renewal of such plastic products rather than completely banning them.[21]

In order to enforce the order of the Supreme Court to ban the use of plastic, the Government of Nepal implemented the Plastic Bag Reduction and Regulation Directive 2011. This directive tried to limit the production, import, sale, distribution and use of plastic bags which are less than 20 microns thick. This directive also mentioned the provision of it being compulsory to provide name, address, recycling logo, pictorial depiction, thickness of plastic and other basic information of the company producing plastic above 30 microns. In order to enforce this directive, it has a provision to establish Central as well as District Monitoring Committees.

The Nepal Government's Ministry of Forest and Environment developed an action plan to address the problem of environmental pollution. Nepal Clean Environment Campaign 2018 was launched by Prime Minister K.P. Sharma Oli. The main agenda of this campaign is to facilitate cooperation between the community and government to ensure proper disposal of waste products. The Government's main expectation from this campaign is to reduce the use of plastic and increase the use of cloth or paper bags. Kathmandu Municipality has also developed a program to distribute cloth bags in order to decrease the use of plastic bags, under the authority of its Environment Department. The Municipality has also allocated budget for the study of solid waste in Kathmandu. [22]

One of the main problems with the policies in effectively controlling the use of plastic is the tourist areas. Nepal is a country gifted by nature and the numbers of tourists are increasing every year. Due to lack of government monitoring and proper incentive packages for communities to tackle the plastic pollution, the management of solid waste as well as plastic products is uncontrolled. With an aim to reduce plastic waste, Nepalese authorities are shifting their priorities to tourist destinations. Nepalese authorities are planning to ban plastic soft drink bottles and single-use plastics under 30 microns thick (0.0012 inches, or 0.03 millimeter) in the Khumbu region, which is home to Everest. The ban will prevent hikers from bringing plastic goods in and stop shops from selling them. In May 2019, a 14-member team of volunteers recovered more than three metric tonnes (6,613 pounds) of trash from the mountain, including empty cans, bottles, plastic and discarded climbing gear.

A similar ban has also been implemented in Chitwan National Park. On the first day of 2019, the government announced its landmark decision to implement Chitwan National Park as the country's first plastic-free protected area. With effect from that day, plastic bags are banned in Chitwan National Park while every item of single-use plastics including water bottles and food wrappers that are taken inside the national park from any of its eight entry points will need to be brought under the radar of ban. 23 This initiative was led by the Ministry of Forests and Environment with the support of Nepal Army, WWF Nepal, Himalayan Climate Initiative, Coca-Cola Nepal, National Trust for Nature Conservation, local buffer zone communities and tourism entrepreneurs. Collection bins have been placed in numerous locations outside Chitwan National Park for visitors to dispose of any plastic items brought out from the national park. The collected single-use plastics, primarily water bottles, will in turn be taken back to collection sites and waste management plants in Chitwan for recycling.

The Nepal Army also took a step forward by prohibiting any kind of plastic products in Nepal Army Headquarters.

**Case law regarding plastic waste/ongoing lawsuits**

In a legal case in 2000 of Nepal Plastic Production Federation and Others v. Mahendranagar Municipality,[24] the Supreme Court of Nepal extensively elaborated on the issue of plastic. In the decision it was said that "plastic is a byproduct of petroleum and it costs a lot to produce single-use plastic bags which are misused….plastic bags are not bio-degradable and do not compost in the earth. When plastic products are thrown in the soil or water, it degrades the soil and pollutes the water and harms not only aquatic animals but also terrestrial animals and puts human health at risk. Also, these plastic bags are made of polythene and when food is put in the bag then it becomes toxic and possibly causes skin diseases. Furthermore, if these plastic products are burnt then it causes pollution and it is a duty of the municipality to protect the environment also." Hence the Supreme Court highlighted the production of plastic and its negative impact on humans and the environment.

In another legal case filed by Advocate Santosh Kumar Mahato[25] it was mentioned that any municipality has authority to declare its area as a plastic free zone. Further to this, all decisions should be based on significant research.

Bharat Kumar Basnet fromThe Explorer Nepal Pvt. Ltd filed a case against the Ministry of Forest and Environment, Department of Environment and Solid Waste Management Technical Support Center.[26] This case is regarding plastic microns. The government has banned the



*Photo: Plastic waste in Nepal*

use of plastic less than 40 microns but the Nepal Clean Environment Campaign 2018 adopted by Department of Environment has only planned to ban the use of plastic less than 30 microns. Thus, the decision of the campaign conflicted with the decision of government and hence a Public Interest Litigation was filed to change the decision of the campaign, and to create pressure in order to increase the thickness of plastic to 50 microns. The Supreme Court has ordered to limit the plastic microns to 40 for the campaign. This case is still ongoing in the Supreme Court of Nepal regarding plastic waste management and possible increase of the micron level of plastic. NGO Pro Public has also joined and represented the case on behalf of the plaintiff.

**Success Stories**

There are few private agencies who have taken initiative in collecting and recycling single-use plastic products. Following are the details of those organizations.

Partnership in Sustainable Development (PSD) has a mission to recycle PET plastic bottles from National Parks and promoting creative up-cycling. PSD is partnering with hotels and people of mountain regions of Nepal. It is cultivating circular economies for waste and plastic solutions, with an incentive scheme of providing 1 rupees for every PET bottle in order to discourage throwing such plastic bottles in the river. This collected plastic waste is then recycled at Himalayan Plastic and creatively up-cycled for educational purposes, promoting environmental and cultural heritage.[27]

PSD is working in Langtang National Park and Chitwan National Park.

Sagarmatha Pollution Control Committee (SPCC) works to keep Khumbu clean through the development of waste management infrastructure, adopting an integrated sustainable waste management approach. SPCC are establishing systems for waste separation, strengthening community participation in waste management, formulating policies for proper waste management in coordination with the government, educating the public and finding opportunities for waste reduction, reuse and recycling. SPCC has set up a system for segregating combustible and noncombustible waste for sustainable management in the Everest region and have provided more than 70 garbage bins at various resting points along the major trekking trails of the Everest region. The Nepal Army is also helping SPCC in their project to keep these tourist trails clean.[28]

BlueWaste to Value is another organization working in the field of waste management, not only limited to solid waste management. They are working in Kirtipur, Shankharapur and are also associated with many 5 star hotels such as Yak and Yeti, Hyatt Regency and more. They segregate dry and wet waste and end up selling dry waste such as plastic and paper to interested parties. They have been providing training to their staff as well as to the members of community and hotel staff on the proper disposal and reuse of plastic products.[29]

Himalayan Climate Initiative (HCI) is a youth-driven Nepali non-profit organization committed to social inclusion and climate resilience. It advocates for a sustainable and zero carbon growth trajectory to be adopted by the private sector and the government of Nepal. It is one of the most successful youth campaigns of Nepal that over roughly two years' period convinced all stakeholders to agree to get plastic bags banned in Kathmandu and then all of Nepal. In order to create awareness, they have a campaign called "No Thanks! I'll carry my own bag" to stop all kinds of overconsumption in society. HCI shall continue much beyond the plastic bag ban.[30]

**Conclusions and Policy Recommendation**

Nepal is one of few first countries that fought against this global problem. It started making policies to control pollution that was created by plastic. Government offices (such as Courts, Singh Durbar) and schools have banned the use of plastic bags in their premises. Government implemented the ban on single-use plastic which forced many superstores to use reusable cloth bags. Government introduced a separate provision in an annual bill to tackle this problem, and also a committee was formed for the inspection. Another positive aspect in the fight against plastic is that Nepal does not have any deals with developed countries to buy their used plastic products in exchange for monetary benefit.

Even after introducing many plans to tackle this problem, to date plastic has not been effectively banned. Though the use plastic bags in most government offices is banned, plastic is still used in different forms such as PET bottles or milk bags. Plastic bags are sold per kilo and it costs only NRs 250-300 for a kilo of plastic bags. Retail stores do not charge consumers for such plastic bags. Hence, plastic bags are still easily accessible and are cheap for both the retail shop and the consumers.

In Nepal, it is difficult to completely ban such single-use plastic. Because of the source of revenue it provides, and the lobbying by industries, a blanket ban is not realistic. Also, instead of putting a ban on the use of any kind of plastic product, our government is only increasing the limit on the thickness (microns) of plastic such as from 20 microns to 40 microns. Also, when the ban was announced, no alternative options were provided, hence creating more problems in the effectiveness of the ban.

Household products and household waste are collected in plastic bags. The government seems worried about this but has no plans for control and proper segregation. In an interview with Hari Kumar Shrestha, head of Environment Department at Kathmandu Metropolitan City, it was found that there was no segregation mechanism at the dumping site as well as waste product arriving there without being segregated. Although dry and wet waste is collected on separate days, these waste forms end up being disposed and covered together to prevent the spreading of smell.

As a public agency, Kathmandu Municipality seems to be way behind many other non-profit agencies in terms of recycling of such waste. The Municipality is currently working with recycling companies to recycle the plastic waste whereas many NGOs' are already recycling these plastics. Also, while making plans and banning some plastic products, the government seems to neglect other types of plastic such as milk packages, junk food packets, water bottles and Styrofoam. Also, the huge volume of waste plastic products, such as plastic cups and plastic plates, that are produced during different types of religious or social functions.

Apart from 2017, there is no other budget mentioning plastic use and governmental policies to tackle it. In conclusion, Nepal has taken some steps to fight against this global problem, but there are some underwhelming aspects that still need to be worked on to fight against the problem.

Recommendations

If we are to successfully implement the restrictions and penalties in Kathmandu, we will save more than Rs 500 million in plastic bag waste. But more than this, we will be saving the future generations of Nepal from dealing with our waste. Hence, here are a few recommendations:

1. Government has to clearly define plastic in Solid Waste Act. If there exists ambiguity in terminology, there can exist gaps for abuse.
2. Central Market Monitoring Committee is established in order to control and to observe the market, but such committee is only active during the first few periods of its formation. Therefore, the government and the committee need to focus on their duties.
3. All single-use plastic needs to be banned in the country or the manufacturer needs to be heavily taxed. Once a tax is high then the consumer will switch to other alternatives.
4. If government fines plastic whole seller and retail seller and the consumer, then use of plastic will definitely be reduced.
5. Not only polythene bags, but plastic plates and cups etc. need to be banned.
6. Government needs to regulate the production of plastic inside the country and also the import of such products.
7. The plastic has proved be useful in construction of roads, producing diesels and even clothes. Hence, the government needs to invest more in developing such technology.

Mass media and NGOs can also play an important role in order to create awareness.

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**END NOTES**

[1] Bishal Bharadwaj, Plastic Bag Ban in Nepal: Enforcement and Effectiveness, SANDEE, 2016 http://www.sandeeonline.org/uploads/documents/abstract/1092_ABS_Final_WP_111___Bishal__.pdf
[2] Environment Statistics of Nepal, 2019, https://nepalindata.com/media/resources/items/13/bEnvironment-Statistics-of-Nepal-2019.pdf
[3] Government of Nepal, Ministry of Environment Science and Technology, Plastic Bag Regulation and Control Directive 2011,
[4] Ibid
[5]Bishal Bharadwaj, Plastic Bag Ban in Nepal: Enforcement and Effectiveness, SANDEE, 2016 http://www.sandeeonline.org/uploads/documents/abstract/1092_ABS_Final_WP_111___Bishal__.pdf
[6]David James Molden, Valerie Julliand,H.E. Lasse BjørnJohannessen, A plastic world,Microplastics in the sea now outnumber stars in our galaxy. It's high time we woke up to the problem, 2018, http://www.icimod.org/?q=31587
[7] Ibid
[9] https://www.customs.gov.np/en/tariff_rates.html
[10] https://www.customs.gov.np/upload/documents/Customs%20Tarrif%202019-20%20ads_2019-09-23-12-52-35.pdf
[11]http://www.efourcore.com.np/tepcdatabank/comparemonth.php?txtmode=search
[12] The data's relating to export and import of plastic and granules are listed in Annex of this report.
[13] Nepal Treaty Act 2047(1990)
[14] Constitution of Nepal 2015
[15] Solid Waste Management Act of 2068 (2011)
[16] Muluki Criminal Code 2074 (2017)
[17] Nepal Plastic Production Federation and Others v. Mahendranagar Municipality, N.K.P 2060, Decision No. 7207,http://nkp.gov.np/full_detail/1159
[18] BishalBharadwaj, Plastic Bag Ban in Nepal: Enforcement and Effectiveness, SANDEE, 2016http://www.sandeeonline.org/uploads/documents/abstract/1092_ABS_Final_WP_111___Bishal__.pdf
[19] Government of Nepal, Ministry of Communication and Technology, Nepal Gazzette, 1 April 2015, http://rajpatra.dop.gov.np/welcome/book?ref=22198
[20] Government of Nepal, Ministry of Finance, Budget Speech 2016-17, 2016, p.31
https://mof.gov.np/uploads/document/file/Budget_Speech_final_2016_20160602105902.pdf
[21] Government of Nepal, Ministry of Finance,Budget Speech 2017-18, 2017, p.38
https://mof.gov.np/uploads/document/file/Budget_Speech_207475_20170530011441.pdf
[22] Kathmandu Municipality Budget Speech 2076-77, 2076, p.123 http://www.kathmandu.gov.np/sites/kathmandu.gov.np/files/THE%20FINAL%20BUDGET%20BOOK%2076.77.pdf
[23] https://www.chitwannationalpark.gov.np/index.php/plastic-free-chitwan-national-park
[24] Nepal Plastic Production Federation and Others v. Mahendranagar Municipality, N.K.P 2060, Decision No. 7207,http://nkp.gov.np/full_detail/1159
[25] Advocate Santosh Kumar Mahato v. HMG Council of Ministry and others, NKP 2061 (8), decision number 7430, http://nkp.gov.np/full_detail/3008/?keywords=plastic
[26] On behalf of The Explorer Nepal Pvt. Ltd Bharat Kumar Basnet vs Ministry of Forest and Environment and others, Writ nub 075-WO-0072
[27] https://www.psdnepal.org/plastics
[28] http://adventuretravelconservationfund.org/the-sagarmatha-pollution-control-committee-spcc
[29]https://english.onlinekhabar.com/blue-waste-to-value-this-company-aims-at-redefining-kathmandu-waste-management.html
[30] http://himalayanclimate.org/NoThanks

*Government of Nepal, Ministry of Communication and Technology, Nepal Gazette, 17June,2019,https://moics.gov.np/media/EBulletin/media/नकस_पठर_समबनध_मत_२०७६३२_क_नपल_रजपतरक_सचन_sT430Gw.pdf*




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**Introduction**

The Centre for Environmental Justice (CEJ) conducted this study as a part of the project "Breaking the Plastic Cycle in Asia" with the financial support of Friends of the Earth network. The study looked into the current situation of single-use plastic waste generation in Sri Lanka. Both primary and secondary information was compiled. The study also looked into existing policy and laws related to controlling the use and manufacture of single-use plastics in the country.

The most common plastic waste products are pens, straws, yoghurt cups, mega bottles, lunch sheets, milk packets, meal boxes, polyethylene bags, sachet packets, and wrappers. CEJ recently conducted a number of brand audits across the country. Audits revealed that multinational companies such as Coca Cola, Unilever and Nestle contribute significantly to plastic pollution in Sri Lanka. However, contributions from local brands also remains considerable.

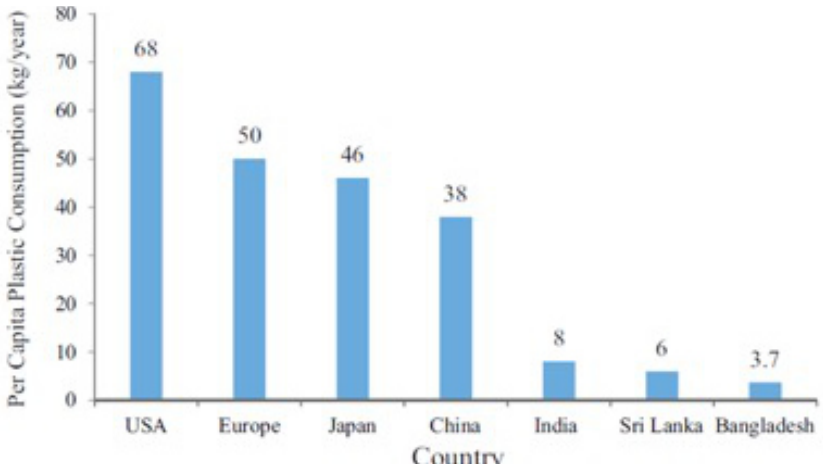
Around 50% of the plastics the world produces are single use plastics, utilized for just a few moments, but then remaining on the planet for at least several hundred years. Sri Lanka is an island nation with a population of 21.4 million. Sri Lanka generates 7000MT of solid waste per day with the Western Province accounting for nearly 60% of waste generation. Western Province is the most populated province where the economic capital Colombo is located.

The highest waste generation is also recorded in the Western Province. The Colombo Municipal Council collects around 700-800 tonnes of solid waste daily. The other municipal councils in the Metro Colombo Region comprising of Dehiwela-Mt. Lavinia Municipal Council (DMMC), Kolonnawa Urban Council (KUC), Sri Jayawardenapura Kotte Municipal Council (SJKMC) and Moratuwa Municipal Council (MMC) - collect about 350-400 tons of solid waste daily.

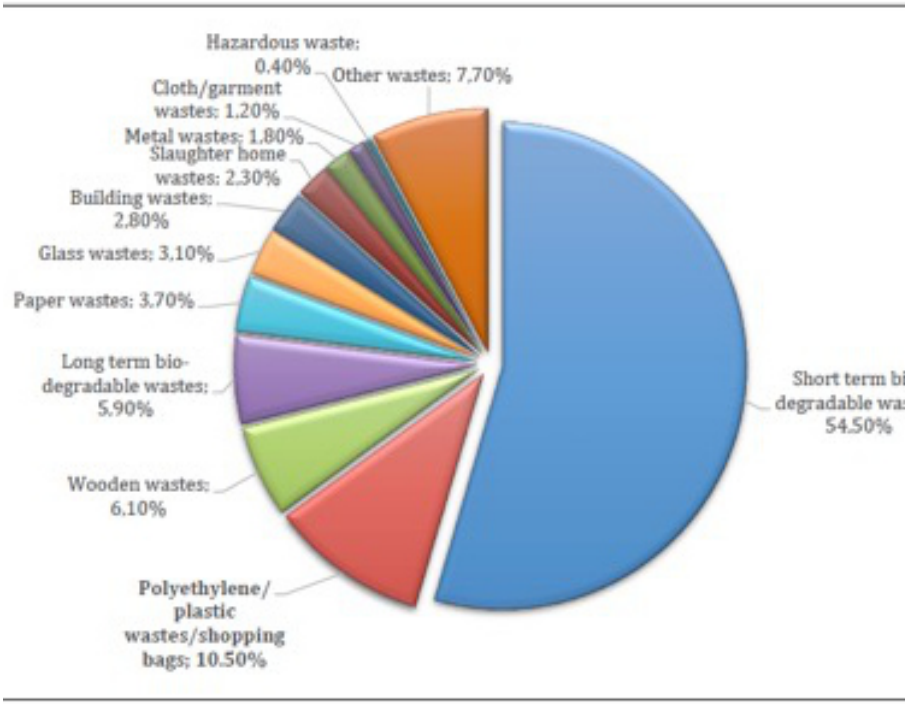
According to the above figure around 10 % of municipal waste is polythene and plastics. In 2017, Sri Lanka is ranked fifth in the list of countries that release plastic and polythene waste to the ocean. Plastic waste generation amounts to 1.59 MMT/year. The percentage of plastic mismanagement is 5.0 in Sri Lanka.

According to the Sri Lanka Export Development Board, currently Sri Lanka has over 400 companies engaged in plastic processing. A total sum of Rs.15 Bn has been invested in plastics processing in Sri Lanka. Almost 50% of this has come through Foreign Direct Investments. Out of this 66% of total investment is exclusively for processing of plastic products for the export market. Main polymers used for producing single-use plastics are HDPE, LDPE, PET, PP, PS, and EPS.

Around 500,000 metric tonnes of plastic/ polyethylene is imported into Sri Lanka and 70% of it is used locally. It has been estimated that Sri Lanka earns USD 2 million foreign exchange via imports and exports of plastic, where imports make up around 160,000 metric tonnes of plastic raw materials (primary forms) and around 100,000 metric tonnes of finished goods along with intermediate products every year. The capacity of the local plastic processing




Per capita plastic consumption is estimated as 6 kg per year. Mourshed et al.




industry at present is nearly 140,000 MT per annum with an annual average growth rate of around 10-12%.

**Plastic Waste Streams**

1. Plastic raw material imported
2. Plastic products imported
3. Products with plastic components
4. Semi finished products
5. Packaging for products imported
6. Local recycled material
7. Ports, shipping , airlines
8. Plastic brought by air travellers
9. As free flowing marine debris

**Data on Import and Exports of Plastic Waste**

**Initiatives to address plastic waste issue in the country**

The government of Sri Lanka has undertaken many initiatives to improve waste management systems in the country. These include the development of policies, strategies, guidelines, legislation and provision of infrastructure facilities for waste management.

The responsibility for waste management in the country is mainly held by local authorities of the respective area, either municipal council (No. 16 of 1947 Municipal Council Ordinance), urban council (No. 61 of 1939 Urban Council Ordinance), Pradeshiya Sabha (No. 15 of 1987 Pradeshiya Sabha Act).

The issue of plastic waste is most acute in the Western province. Therefore, the Western Province Waste Management Authority has been established according to the Western Province Waste Management Authority Statute, No. 01 of 2007 (Applicable to the Western Province).

Regulations formulated by the Western Provincial Minister in charge of the subject (Gazette No. 1560/6, dated 30 July 2008, Gazette No. 1713/11, 5) state whether relevant taxes have been levied on the hotels, factories, and privately-owned markets on which tipping fees have been imposed. In addition, the Western Province Waste Management

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | **China** | 1.10 | 11 | 76 | 8.82 | 27.7 | 1.32–3.53 |
| 2 | **Indonesia** | 0.52 | 11 | 83 | 3.22 | 10.1 | 0.48–1.29 |
| 3 | **Philippines** | 0.5 | 15 | 83 | 1.88 | 5.9 | 0.28–0.75 |
| 4 | **Vietnam** | 0.79 | 13 | 88 | 1.83 | 5.8 | 0.28–0.73 |
| 5 | **Sri Lanka** | 5.1 | 7 | 84 | 1.59 | 5.0 | 0.24–0.64 |
| 6 | **Thailand** | 1.2 | 12 | 75 | 1.03 | 3.2 | 0.15–0.41 |
| 7 | **Egypt** | 1.37 | 13 | 69 | 0.97 | 3.0 | 0.15–0.39 |
| 8 | **Malaysia** | 1.52 | 13 | 57 | 0.94 | 2.9 | 0.14–0.37 |
| 9 | **Nigeria** | 0.79 | 13 | 83 | 0.85 | 2.7 | 0.13–0.34 |
| 10 | **Bangladesh** | 0.43 | 8 | 89 | 0.79 | 2.5 | 0.12–0.31 |
| 11 | **South Africa** | 2.0 | 12 | 56 | 0.63 | 2.0 | 0.09–0.25 |
| 12 | **India** | 0.34 | 3 | 87 | 0.60 | 1.9 | 0.09–0.24 |
| 13 | **Algeria** | 1.2 | 12 | 60 | 0.52 | 1.6 | 0.08–0.21 |
| 14 | **Turkey** | 1.77 | 12 | 18 | 0.49 | 1.5 | 0.07–0.19 |
| 15 | **Pakistan** | 0.79 | 13 | 88 | 0.48 | 1.5 | 0.07–0.19 |
| 16 | **Brazil** | 1.03 | 16 | 11 | 0.47 | 1.5 | 0.07–0.19 |
| 17 | **Burma** | 0.44 | 17 | 89 | 0.46 | 1.4 | 0.07–0.18 |
| 18* | **Morocco** | 1.46 | 5 | 68 | 0.31 | 1.0 | 0.05–0.12 |
| 19 | **North Korea** | 0.6 | 9 | 90 | 0.30 | 1.0 | 0.05–0.12 |
| 20 | **United States** | 2.58 | 13 | 2 | 0.28 | 0.9 | 0.04–0.11 |

Table: (Jambeck, J. R., et al. "Plastic Waste Inputs from Land into the Ocean." Science, vol. 347, no. 6223, 13 Feb. 2015, pp. 768–771., doi:10.1126/science.1260352). Waste estimates for 2010 for the top 20 countries ranked by mass of mismanaged plastic waste (in units of millions of metric tons per year). Interpretation of characters in the table: Mismanaged waste is the sum of inadequately managed waste plus 2% littering. Total mismanaged plastic waste is calculated for populations within 50 km of the coast in the 192 countries considered. ppd, person per day; MMT, million metric tons. If considered collectively, coastal European Union countries (23 total) would rank eighteenth on the list.

Table 1: Imported quantities of some of the plastic types listed in chapter 39 of the tariff guide

| **Item** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|
| Expansible polystyrene, in primary forms | 1871.7 | 2023.2 | 2425.9 | 2225.2 |
| Having a viscosity number of 78 ml/g or higher | 0.0 | 0.0 | 1165.2 | 7883.7 |
| Metalized unprinted and/or unlaminated polymers of ethelyne | 509.7 | 261.7 | 180.2 | 144.3 |
| Not metalized, of a width exceeding 110 mm but not exceeding 230 mm, .. | 355.8 | 438.3 | 499.0 | 655.0 |
| Of bio- degradable and compostable plastic approved by Central Envi. Aut. & SLSI | 0.0 | 0.0 | 0.0 | 0.1 |
| Of bio- degradable and compostable plastic approved by Central Envir. Aut. & SLSI | 0.0 | 0.0 | 0.0 | 322.8 |
| Of bio- degradable and compostable plastic approved by the Central Envi Aut. & SLS | 0.0 | 0.0 | 0.0 | 0.8 |
| Other | 2430.9 | 3245.3 | 4555.2 | 12264.9 |
| Plates, sheets, film etc of polymers of styrene of a thickness =< 2mm | 145.4 | 188.5 | 176.7 | 304.7 |
| Plates, sheets, film etc of polymers of styrene, Metallised | 2.7 | 0.2 | 0.4 | 0.1 |
| Poly (lactic acids) | 0.1 | 0.0 | 21.6 | 1000.3 |
| Polyethylene having a specific gravity <0.94, in primary forms | 52302.8 | 53852.4 | 58533.9 | 73875.8 |
| Polyethylene having a specific gravity >=0.94, in primary forms | 42310.1 | 49010.9 | 39524.0 | 26409.6 |
| Polystyrene (excl. expansible), in primary forms | 8467.5 | 7956.1 | 7873.7 | 7181.8 |
| Styrene-acrylonitrile (san) copolymers, in primary forms | 864.7 | 1033.5 | 665.4 | 724.5 |
| Unprinted and un-laminated whether or not metallised | 1686.3 | 1539.5 | 1884.1 | 2233.3 |
| Waste, parings and scrap, of polymers of ethylene | 524.7 | 374.1 | 482.5 | 554.8 |
| Waste, parings and scrap, of polymers of styrene | 188.6 | 15.9 | 0.7 | 0.3 |
| Polypropylene | 54,293.6 | 50,642.7 | 42,651.0 | No data |
| Grand Total | 165954.6 | 170582.3 | 160639.5 | 135782.0 |

Authority implements and provides technical assistance on several recycling projects in the Western Province.

**Incineration**

A solid waste-fired thermal power station is currently under construction at Muthurajawela in Sri Lanka by Urban Development Authority. It will use 630 metric tonnes (1,390,000 lb) of waste from Colombo and Gampaha suburbs, and a 10 megawatt power station will be operated. Another such plant is under construction in Karadiyana which will receive 500MT of municipal solid waste per day from the Western Province Waste Management Authority. Most plastic waste will be burned at these two plants in near future. However incineration is not the best solution to plastic pollution.

**Metro Colombo Solid Waste Management Project-Aruwakkaru Sanitary Landfill**

The proposal was developed in 2015 and following the environmental impact assessment procedure, approval was given in late 2017. The project consists of two waste transfer stations (Loading at Meethodamulla and unloading at Aruwakkalu), transportation and a sanitary landfill. Construction of a municipal solid waste transfer station with an extension of the railway line to connect the existing Kolonnawa railway will be at the existing dumping site at Meethotamulla in the Colombo. The unloading station, railway extension and the landfill site will be located about 170 km away in an abandoned lime quarry leased out to Holcim Lanka, at Aruwakkalu in the Puttalam District. The 1200 tonnes of solid waste collected from the Colombo Municipal Council area will be transferred to the landfill. The landfill life time has been set to 10 years and the extent of the fill to 30 ha, landfill height of 40 m from the ground level. However, there is no guarantee that the waste sent to the landfill will be segregated.

**Legal Interventions**

National Strategy for Solid Waste Management (2000) and the National Policy on Solid Waste Management (2007) was developed by the Ministry of Environment. This was the first attempt to formalize the waste management practices in the country. However, this policy and strategy was not properly implemented due to various reasons. Open dumping was observed in the Colombo and suburbs in the last 2 decades. Ex:-Bloemendhal, Meethotamulla etc . From October 1996 to February 2009, waste from Colombo was dumped in a private site at Bloemendhal near the Colombo Port. This resulted in a garbage hill of 80 feet at this location. This activity was stopped by a Court order in 2009. Meethotamulla was around 20 acre dump site with around 50 m height before it collapses.

As a result of the case filed by Centre for Environmental Justice in 2017 (SC FR 152/2017) - Meethotamulla garbage dumping matter - National Waste Management Policy was formulated in 2018. Though this new policy does not directly identify plastic waste as a waste stream, plastic waste is generated in all the solid waste generation sources identified in the national policy which are mentioned below except radioactive waste.

1. Municipal solid waste
2. Packaging waste
3. Industrial waste
4. Construction and demolition waste
5. Healthcare waste
6. Electrical and electronic waste (e-waste)
7. Radio-active waste
8. Marine waste
9. Food, agriculture and livestock waste

Section 7 of the policy states the guiding principles which the policy is based on.

*Export of Waste, parings and scrap, of plastics [HS code 3915] from Sri Lanka (by weight -kg)*

| Sub HS Code | 2015 | 2016 | 2017 |
|---|---|---|---|
| 391510 | 103,005 | 24,005 | 72,055 |
| 391520 | 188,600 | 35,605 | |
| 391530 | 1,624,340 | 1,017,258 | 732,856 |
| 391590 | 2,378,888 | 3,558,639 | 5,109,933 |

*Export of Waste, parings and scrap, of plastics [HS code 3915] from Sri Lanka (by weight -kg)*

| Sub HS Code | 2015 | 2016 | 2017 |
|---|---|---|---|
| 391510 | 9,321,705 | 10,000 | 2,772 |
| 391520 | | - | |
| 391530 | | - | |
| 391590 | 74,049,823 | 1,270,570 | 74,137,369 |

**7. Guiding Principles**

7.1 Adhering to common but differentiated responsibility of every institution and individuals of the country and involve in all aspects of waste management is a basic prerequisite in managing waste for healthy life for all.

7.2 Legal provisions are necessary that will gradually converge values into social systems to facilitate and empower prudent behavior out of necessity in resource utilization and waste management.

7.3 Steps taken to address waste management issues shall be environmentally sound, nationally appropriate, socially acceptable, and

economically viable.

7.4 Waste management systems should be zero waste oriented linking to life cycle management of products and processes as much as possible with appropriate technology.

7.5 Existing internationally and nationally accepted appropriate waste management concepts shall be practiced with special emphasis on waste prevention approaches that would require, "Re-Think" as the basic prerequisite for conducive and accountable social transformation.

7.6 Sustainable consumption and production can significantly address the current and future challenges of waste management.

7.7 Application of market based instruments including 'Polluter pays principle' and 'Extended producer responsibility' throughout the life cycle of products, production, and provision of services. These should be recognized as effective waste management tools maximizing resource and economic efficiency.

7.8 Avoiding mismanagement of waste leads to a cleaner and healthy environment leading to a happy life for all.

The policy encourages zero waste societies, introducing legal provisions and the application of market based tools. The policy also refers to waste tracking and accountability, and prohibits the import of post consumer waste. Therefore Sri Lanka has potential policy level support to reduce plastic waste generation in the country.

Section 8.6 of the National Waste Management Policy clearly states the legal aspects with regard to the waste management in the country.

8.6 Policy statements related to Legal and Enforcement mechanisms

8.6.1 All the citizens and institutions shall be made legally responsible to engage in waste management activities as generators based on the degree of their involvement.

8.6.2 Effective law enforcement shall be ensured as means of enhancing the upstream and downstream accountability of citizens, institutions, waste mangers and service providers throughout the life cycle of products, production processes and related services.

8.6.3 The Ministry of Environment shall carry out a comprehensive revision of the relevance, sufficiency, efficiency and effectiveness of the existing laws and regulations to support implementation of the national policy to achieve required transformation deviating from 'linear waste management approaches' (which means make, use, and then dispose of a product) and moving forward to 'circular systems' (which means keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of its service life. This is referred to as 'circular economy').

8.6.4 A comprehensive legal system shall be developed by updating and upgrading the provisions available in the existing legal systems at all levels taking into consideration of the present situation and future trends.

8.6.5 Every attempt shall be made to improve, strengthen and reformulate the existing regulations and bylaws in short and medium term while taking steps to revise the Acts and Ordinances as appropriate as long term solutions.

8.6.6 Existing enforcement mechanisms shall be further strengthened and extended to cover the entire island by strengthening the Environmental Police network with annual performance monitoring, recording and reporting systems at Local Authority, Provincial and National levels.

8.6.7 Robust conflict resolution mechanisms shall be developed to address (1) Local level waste related disputes and (2) International level trans-boundary movements of waste related disputes within the country to ensure environmental safety.

**Prohibition of polyethylene products of twenty (20) microns or below**

In 2006, Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 1466/5 issued Sri Lanka banned the manufacture of polythene or any polythene product of twenty (20) microns or below in thickness for in country use; and the sale or use of polythene or any polythene product which is twenty (20) microns or below in thickness. "Polythene" means any solid products, bags, material or contrivances manufactured using all forms of polyethylene, polypropylene, polystyrene, poly vinyl chloride, polyethylene terepthalate or any other similar raw material used for the purpose of carrying, packing, wrapping or packaging. However in 2017 Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 2034/34, few exceptions were made for the following uses.

1.Use of the following material for the purpose of laminating :-

(a) Polyethylene Terephthalate (PET) whether or not metalized or holographic PET film ;
(b) Polypropylene films whether or not metalized or pearlised ;
(c) Nylon;
(d) Cast polypropylene (CPP) or metalized Cast Polypropylene (CPP) ;
(e) Polyvinyl chloride (PVC);
(f) Polyethylene Terephthalate Glycol (PETG).

2. Use for medical or pharmaceutical purposes in the absence of any other suitable alternative.

**Prohibition of polyethylene food wrappers (lunch sheet)**

Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 2034/34 issued, manufacture of food wrappers(lunch sheets) 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 is banned.

**Prohibition of high density polythyene bags**

Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 2034/35 issued, 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 is banned.

**Prohibition of polythylene in decorations**

Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 2034/37 issued, 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 is banned.

**Prohibition of polystyrene products**

Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 2034/38 issued, manufacture of food containers(lunch boxes), 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 is banned.

**Prohibition of open burning of plastics/polythene**

Under the provisions of Section 23 W of the National Environmental Act, No. 47 of 1980, an extraordinary Gazette No. 2034/36 issued, open burning of refuse or other combustible matters Inclusive of plastics is banned and would be subjected to a fine of 10000 rupees or 2 year imprisonment.

Enforcement of polythene regulations still remains a big challenge in Sri Lanka. Manufacturers find gaps in the laws to continue to use and manufacture plastic products. However, the Central Environmental Authority (CEA) continues to raid illegal polythene/lunch sheet manufacturers since the ban.

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.

National Environment Act No 47 of 1980 does not allow import of any waste material to this country. A prior approval from CEA is needed before any waste/ recycled material are imported into Sri Lanka.

Sri Lanka has prohibited the import of post-consumer material. Most recent regulation published in the gazette no. 2044/40 of 09 November, 2017 under the Import and Export Act No 1of 1969 covers such imports. However, importing post-consumer waste by manipulating import-export regulations was exposed in 2019.

Sri Lanka is a signatory country to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and plastic waste was recently added to its control list. However Sri Lanka has no separate regulations to control imports under the Basel Convention.

**Plastic Waste Imports and Exports**

Import and export of plastic waste in and out of Sri Lanka is tracked under HS code 3915. However, it is still possible for plastic waste to enter the country. In May 2018, more than 200 shipping containers filled with waste from the United Kingdom (UK) arrived at the port of Colombo, Sri Lanka. The containers were filled with used mattresses, carpets, contaminated hospital waste, and more. The Central Environmental Authority (CEA) discovered another 130 containers had been unloaded in the Katunayake Free Trade Zone near Colombo's Bandaranaike International Airport. CEJ filed suit at the Court of Appeal to halt transport of the containers within Sri Lanka, other than for purposes of re-export to their origin in the UK.

Central Environmental Authority is maintaining a list of plastic and polythene collectors and recyclers in Sri Lanka. The list includes more than 100. Some of them operate in large scale whereas some of them operate in small scale.

**By-Laws and Practices**

Waste segregation has been made mandatory in local authorities by the ministry of provincial council and local government. The issue of municipal solid waste in Colombo Municipal Council (CMC) area is crucial and has adopted a number of measures to manage waste such as waste separation at the source and illegal waste dumping. The separation of waste has been strengthened with the recently adopted policy of avoiding collection of mixed waste by the CMC.




*Photo: Plastic collection in Sri Lanka Source: Sevanatha*

**Success Stories**
**Pilisaru National Solid Waste Management Project**

This project was implemented by Central Environmental Authority under the Ministry of Environment & Natural Resources in 2008 with the theme of "Waste free Sri Lanka in year 2018"

There were five main objectives of the Pilisaru Program:

- Development of a National Policy on Solid Waste Management (SWM)
- Development of a National Strategy on SWM
- Effective education & awareness for all stakeholders on SWM including training & capacity building
- Facilitation for Local authorities for implementation of Solid Waste Management projects / programs
- Legal reforms to strengthen effective law enforcement

Even though the project did not directly address the issue of plastic waste, it indirectly promoted waste sorting, use of alternative bags for polythene, composting, increased waste collection etc.

**National Post Consumer Plastic Waste Management Project**

Ministry of Environment & Natural Resources initiated National Post Consumer Plastic Waste Management Project (NPCPWMP) through a public private partnership committee. The Project was initially funded by 1 percent CESS (levy imposed on all imports into Sri Lanka) imposed on imports of all plastic raw materials and finished goods in 2007 and thereafter it was increased up to 10 percent on reducing prices of virgin plastics due to a fuel price drop in 2009.

Objectives of this project were as follows:

1. To address the behavior change necessary among Sri Lankan consumers to ensure the proper disposal of plastic waste in a manner which will not be harmful to the environment and natural resources,
2. To put in place in necessary logistics to enable the collection and recycling of post-consumer plastic waste,
3. To save the foreign exchange by enhancing recycling of post-consumer plastic waste.

**Waste Plastic to Apparels**

MAS holdings, a premiere apparel manufacturer in Sri Lanka, are now recycling waste plastic into fabric and brushes, including waste washing up on beach shores. These are becoming multi-million dollar businesses. Trischel Fabric (Pvt.) Ltd, a fully owned subsidiary of Sri Lanka's MAS Holdings, has produced 4500 meters of fabric with yarn made of waste plastic bottles, including those collected from Sri Lanka's beaches. Sri Lanka cricket team's World Cup jersey in May 2019 was made with recycled yarn

produced by Eco Spindles (Pvt) Ltd, a unit of Sri Lanka's BPPL group. Officials say it takes about 10 PET bottles to produce enough yarn to make a jersey. They import 1500 metric tons of plastic polymer a month and 30 percent of that is re-exported and 680 tonnes finds its way into landfill. Most of the brands MAS are working with are expected to stop using virgin polyester raw materials by 2025 when the recycled business could be a 25 million US dollar business.

**Conclusions**

Plastic waste management is a big challenge within Sri Lanka. The Government has recently taken some actions to ban certain plastic items. However, it has not addressed the issue to the required degree. People still produce large amounts of plastic waste daily. Due to the lack of inspection and gaps in procedures, there is a potential risk of waste plastic being imported to the country illegally. Government initiated programs have not achieved intended outcomes due to various reasons such poor citizen commitment, no commitment from the private sector, economic concerns etc. Recycling alone cannot solve the issue. More single-use plastic items need to be banned or limited in order to reduce the waste plastic quantities disposed in the environment

**Recommendations**

1. Introduce mechanisms to track waste plastic at the Port.
2. Pass regulations to ban the manufacture, use and import of single-use plastics on an urgent basis.
3. Improve accountability of manufacturers/traders on disposal of plastic items.
4. Promoting plastic free zones ex: schools, government offices, hospitals etc
5. Improve law enforcement.
6. Adhere to the National Waste Management Policy.
7. Improve management level and political commitment towards minimizing plastic usage.

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*Photo: Sri Lanka Cricket Team wearing PET recycled T shirt produced by MAS and Eco Spindle*




Centre for Environmental Justice (CEJ) advocates for a better world for future generations. We campaign on today's most urgent and important environmental issues. We sharpen the debate on environmental good governance, promote ecologically sustainable development, safeguard nature and people from environmentally and socially irresponsible activities and human rights violations. We also promote community participation in decision making on natural resources, and promote environmental justice and equity through legal and other means.

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CEJ is a member of the Friends of the Earth International. CEJ is also a member of the Environmental Law Alliance Worldwide, Global Forest Coalition (GFC), IPEN, PCB Elimination Network (PEN), NGO Forum on ADB, Global Anti Incineration Alliance (GAIA), Pesticide Action network (PAN), Asia pacific Movement on Debt and Development (APMDD) OILWATCH International, #Breakfreefromplastic and Global Alliance to Eliminate lead Paint (GAELP).

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