

# Huge Use of Banned Poly Bags: Serious Havoc to Health and Environment

*During The 1st Year of Covid-19 Pandemic in  
Bangladesh*

A Situation Assessment Report by-

**Environment and Social Development Organization - ESDO**



## **Huge Use of Banned Poly Bags: Serious Havoc to Health and Environment**

During The 1st Year of Covid-19 Pandemic in Bangladesh

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## Executive Summery

Plastic items have assumed critical parts in securing individuals during the COVID-19 pandemic. The broad use of individual defensive stuff made a gigantic interruption in the supply chain and waste disposal framework. A huge number of disposed of single-use plastics (masks, gloves, apron, and containers of sanitizers) have been added to the earthbound climate and could cause a flood in plastics cleaning up the sea coastlines and littering the seabed.

As the Covid-19 pandemic has forced many Dhaka restaurants to suspend their dine-in options, people are now relying on ordering foods via delivery apps and with every single order, we are receiving a bunch of takeaway food containers and utensils – all of them are single-use plastic (SUP) items, which consumers do not use in everyday life. However, it is not advisable to encourage the use of disposable plastic bags as no evidence supports disposable plastics as less likely than reusable items to spread COVID-19.

As a relentless vocal against plastic, Environment and Social Development Organization-ESDO has conducted a study from the beginning of lockdown, about how COVID-19 Pandemic influencing Single-Use Plastic Waste Outbreak and the report has been published in May 2020<sup>1</sup> (ESDO, 2020) . To follow-up with this study ESDO has made another comprehensive research, particularly on the usage of polythene bags in the very first year of COVID-19 pandemic (April'20 to March'21). Although Polythene bag banned in Bangladesh since 2002, according to the assessment it was found that more than 2183 crore polythene bags were used nationwide, generating about 78433 tonnes of waste. In Dhaka alone, 166 crore polythene bags were used during the pandemic and these immense usages have generated around 5997 tonnes of illegal polythene bag waste. Our comprehensive data analysis does indicate that COVID-19 will reverse the momentum of years-long global battle to reduce plastic waste pollution.

This initiative is a partial assessment of ESDO's follow-up study on single-use plastic waste during the 1<sup>st</sup> year of COVID-19 pandemic in Bangladesh.

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<sup>1</sup> [https://esdo.org/wp-content/uploads/Summery\\_Report\\_on\\_COVID-19-Pandemic-Pushes-Single-Use-Plastic-Waste-Outbreak\\_by\\_ESDO\\_2020-1.pdf](https://esdo.org/wp-content/uploads/Summery_Report_on_COVID-19-Pandemic-Pushes-Single-Use-Plastic-Waste-Outbreak_by_ESDO_2020-1.pdf)

## Background

During the ongoing crisis situation, use of disposable polythene shopping bags has become widely popular as a safe practice among the people in Bangladesh particularly for buying food items from markets and grocery shops. Based on the growing concern over the spread of COVID-19 virus through airborne particles and also through touching surfaces, people across urban and rural areas of the country have started preferring buying groceries and food items packed in single use plastic or polythene shopping bags so as to protect the items from toxicity or infection. In fear of the outer surface of the polybag containing infectious substances, people tend to immediately dispose these polybags as soon as they reach home from outside. Besides, use of reusable cloth made shopping bags, which was quite a common practice in Bangladesh, has become informally suspended these days in fear of the reusable bags carrying the viruses for long and eventually increasing the risk of virus spread with repeated usage.

## Objective of The Assessment

- ▶ To find out the current status of the polythene bag usage
- ▶ To assess the country situation of polythene bag in spite of the ban
- ▶ To help to understand the gaps for enforcement of the law on polythene bag ban



## Methodology

The survey was conducted in 16 major cities including Dhaka, Chittagong, Cox's Bazar, Sylhet, Comilla, Mymensingh, Rangpur, Rajshahi, Jessore, Bogra, Khulna, Barisal, Faridpur, Tangail, Gazipur and Kushtia. It was a baseline survey conducted in various times of the year from April 2020 to March 2021 to assess the consumption rate in various stages of COVID-19 situation like peak, medium peak and low peak. The sampling method was random sampling. Then the data was compiled and analyses were made to make relevant assessments. However, as due to the pandemic situation it was not possible to collect the information from the retailers; this assessment was made by user and waste analysis. The methods employed for this particular research includes – data collection from credible secondary sources or literatures by means of extensive desk study, online & physical surveys, SMS and telephone interviews of respondents from different stakeholder groups.

## Sample Size

Total 2978 including 500 in Dhaka, 200 in Chittagong, 200 in Sylhet and on an average 160 in other cities

## Timeline

April 2020 to March 2021

## Findings

### Banned Polythene bags Usage in Bangladesh

The frequency of the use of polythene shopping bags is varying between marginal or poor households and the households with relatively better economic conditions in Bangladesh. Financially solvent or economically stable households are relatively more concerned over the health and hygiene concerns and consequentially, they have been traced to be using an average of 10 polythene shopping bags per week for grocery shopping mainly. About 78.8% of the entire households in Bangladesh fall within this group.

Apart from the use by upper and middle-income class communities, people living below the poverty line is also indirectly associated with the disposal of the significant amount of polythene shopping bags during the ongoing crisis period. In the face of monthlong lockdown, the marginal population of the country, which comprises around 21.8% of the entire population, are in the most deplorable state owing to sudden loss of employment or income-generating options and are unable to avail their regular income. To help them out, several govt. non-govt. organizations as well as civil society have stepped forward and be distributing reliefs among the distressed population throughout the entire month. In most cases, these relief items are packaged with single-use polythene shopping bags. Thus, although not directly, the marginal households in Bangladesh have been indirectly contributing to the use of polythene bags during this crisis. Our survey findings suggest the average dumping of a minimum of 5 lightweight polythene shopping bags per week by per marginal household. This led to the generation of an estimated 709 tons of single-use plastic waste solely from polybag usage for relief distribution during the last month.

In our previous study, polythene shopping bag has been identified as the largest source of single-use plastic waste generation in Bangladesh during the ongoing COVID-19 response phase accounting for about 5796 ton of plastic waste in a single month of April'2021. In our follow-up study, the average monthly usage of polythene bag was found to be 1887.782556 million, 1829.628576 million, 1800.510119 million, 1909.476892 million during peak, medium peak, low peak, and medium to peak respectively as in the last medium to peak period (February'21 to March'21) all the shopping malls were opened and people were carrying their belongings in polythene bags for being precautious. In terms of COVID 19 situation, the peak time was April 2020 to August 2020; the medium peak time was August 2020 to December 2020; the Low peak time was December 2020 to February 2021 and the medium to low peak time was February 2021 to March 2021. During April 2020 the number of monthly used polythene bag nationwide was 1452 million whereas in May 2020 the number increases to approximately 1887 million. This number decreased slightly to around 1829 million/month from September 2020 and rapidly decreased to 1800 million/ month from January 2021. Then the usage increased sharply to 1909 million/month from March 2021.



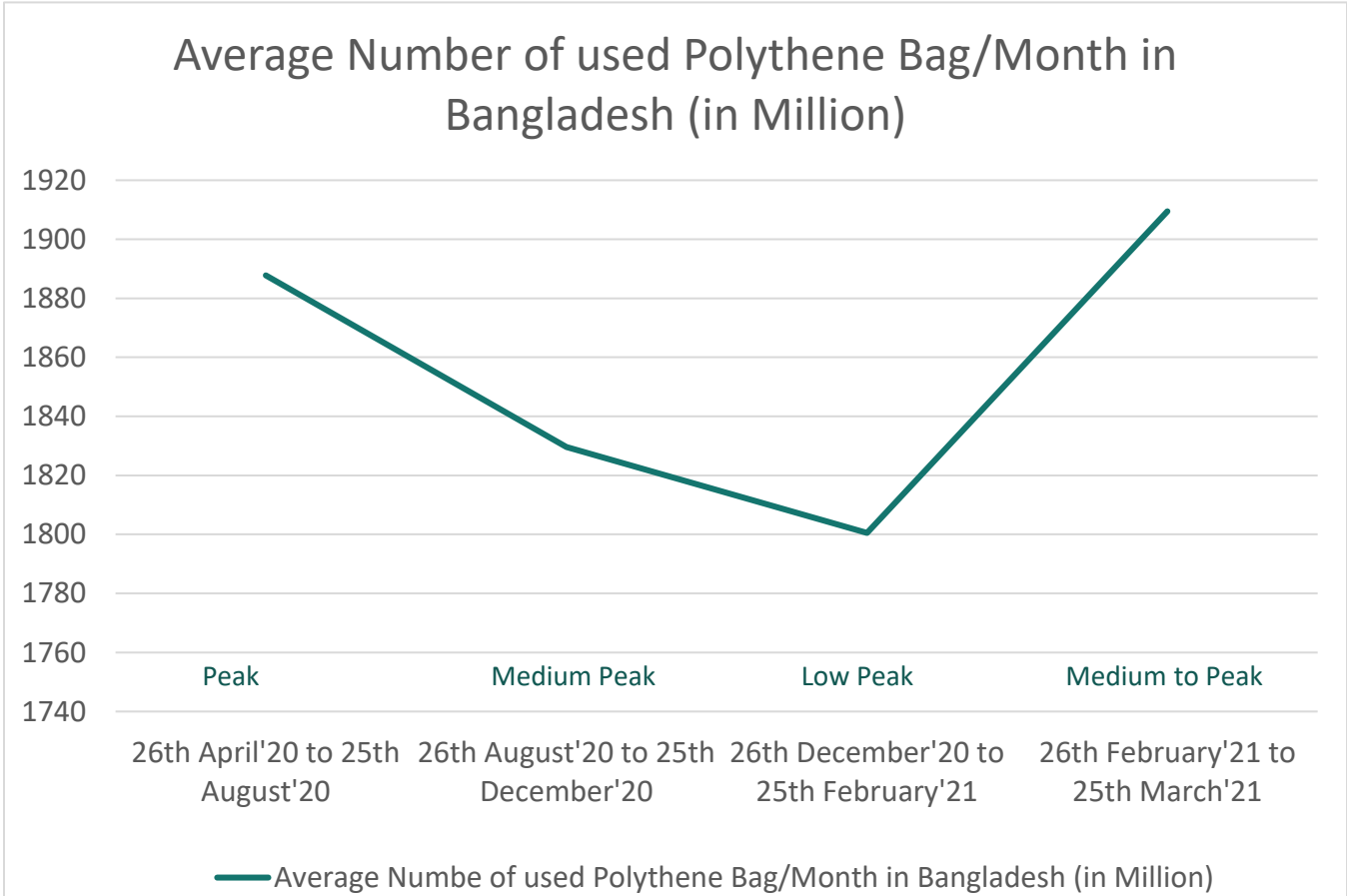


Figure 1: Average Number of used Polythene Bag/Month in Bangladesh (in Million)

## NUMBER OF USED POLYTHENE BAGS DURING COVID-19 PANDEMIC IN BANGLADESH (IN MILLIONS)

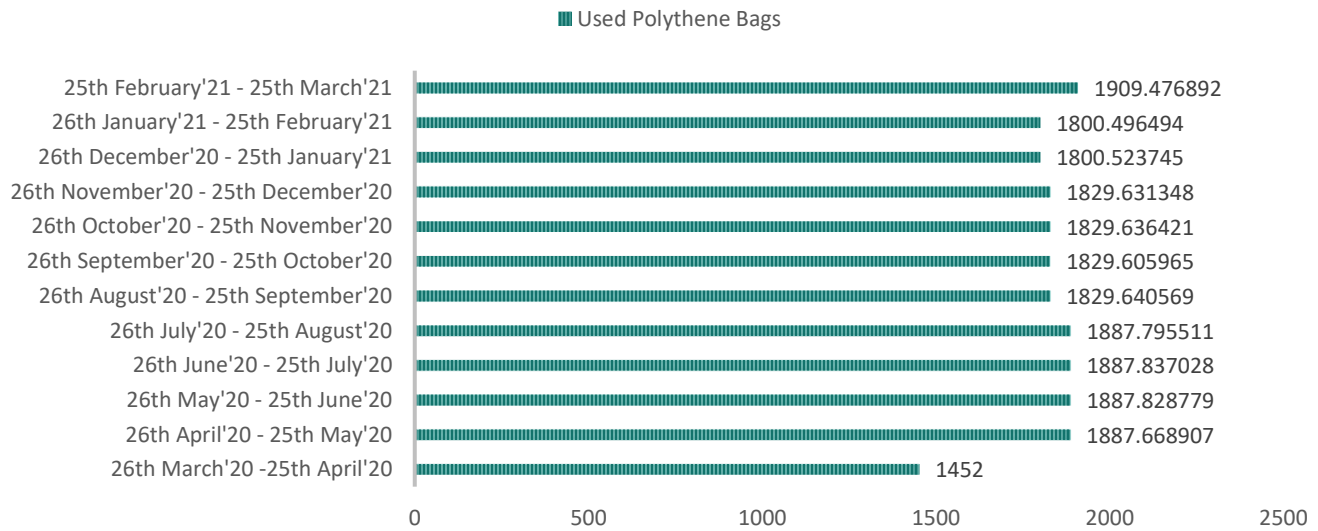


Figure 2: Number of Used Polythene Bags During Covid-19 Pandemic in Bangladesh (in Millions)

## NUMBER OF USED POLYTHENE BAGS DURING COVID-19 PANDEMIC IN DHAKA (IN MILLION)

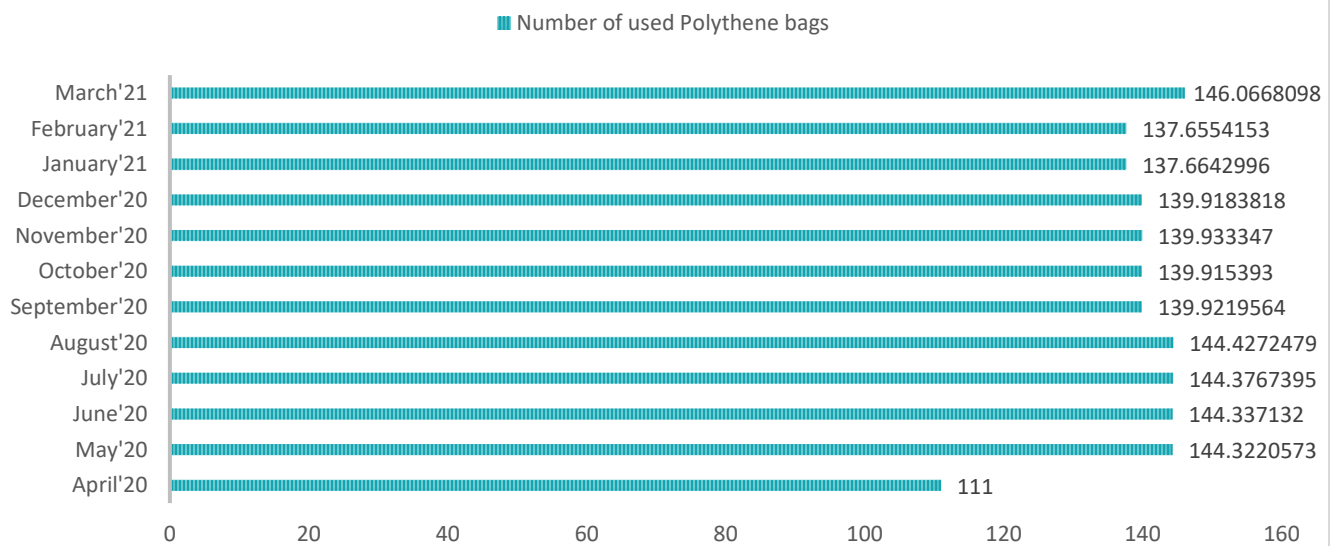
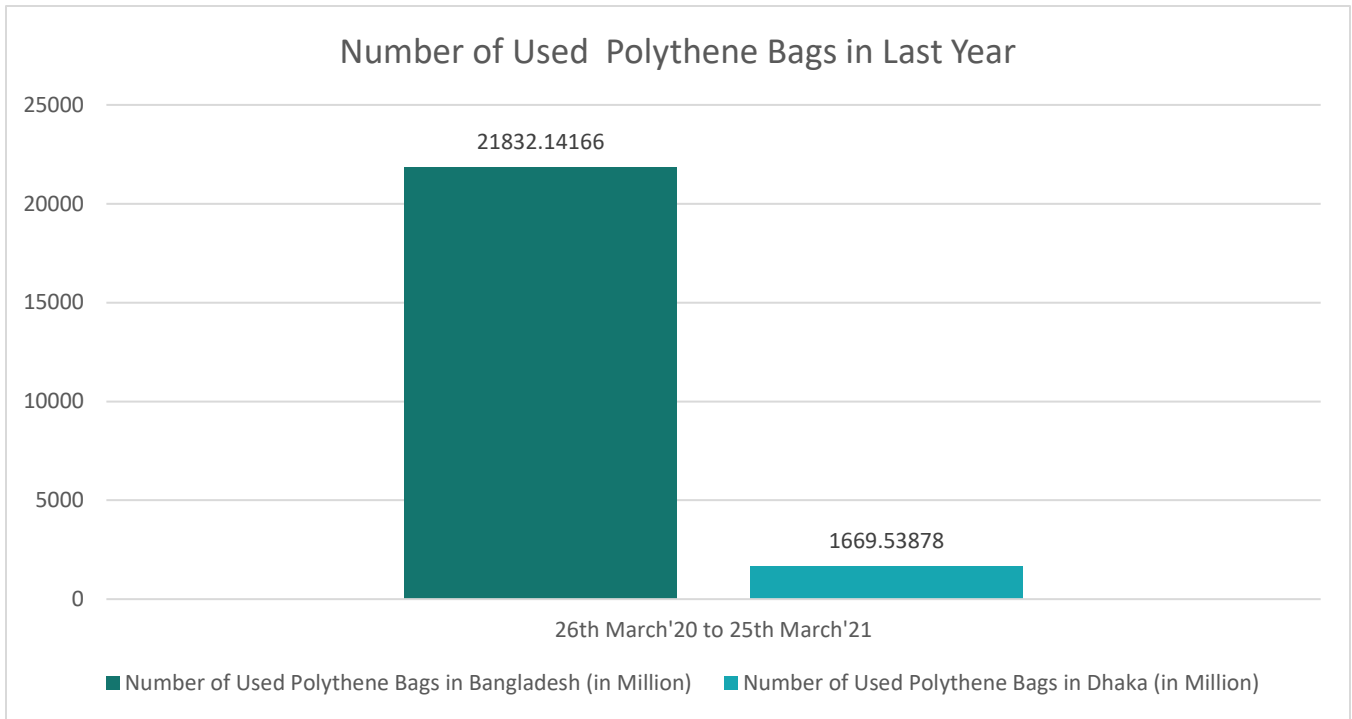


Figure 3: Number of Used Polythene Bags During Covid-19 Pandemic in Dhaka (in million)

Figure 4: Number of Used Polythene Bags in Last Year







## Generated Wastes from Banned Polythene Bags in Bangladesh

The outbreak of COVID-19 has resulted in a massive surge in infectious and hazardous single-use plastic waste generation, a great portion of which are single-use plastics or to be precise polythene bags. The huge demand for disposable bags in the wake of the pandemic has created a deluge of hazardous medical waste. There's more to worry about than just the wastes emerged from medical facilities. The disease has already spread out beyond hospitals. Some people who have minor symptoms are recovering at home. Others who are asymptomatic might not know that the trash they're throwing out could be contaminated. The home garbage put out by both sick and asymptomatic individuals in communities may contain infected masks, gloves, or polythene shopping bags. Thus, people are generating plenty of potentially virus-laden trash on regular basis. The main groups at risk in contracting virus from these hazardous plastic wastes generated in households include - workers engaged in cleanup operations and at waste disposal facilities, workers in support services such as laundry, waste handling and transportation, and scavengers.

## WEIGHT OF USED POLYTHENE BAGS DURING COVID-19 PANDEMIC IN BANGLADESH (IN TONNES)

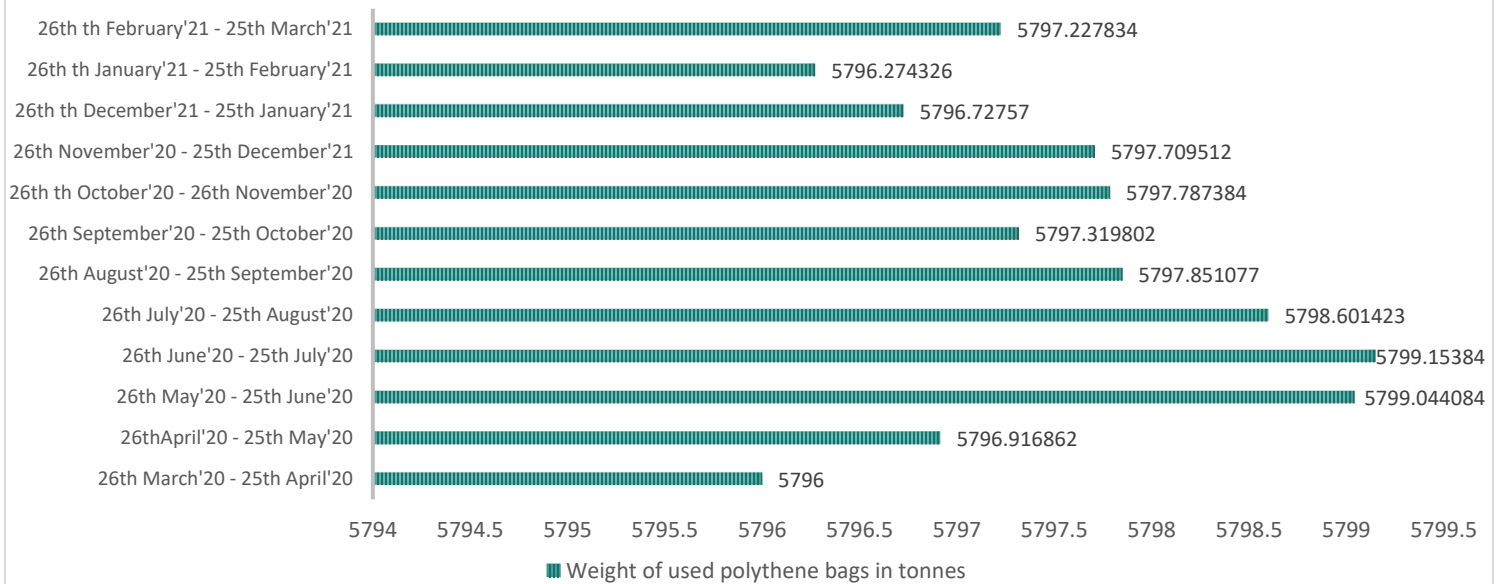


Figure 5: Weight of Used Polythene Bags During Covid-19 Pandemic in Bangladesh (in tonnes)

## WEIGHT OF USED POLYTHENE BAGS DURING COVID-19 PANDEMIC IN DHAKA (IN TONNES)

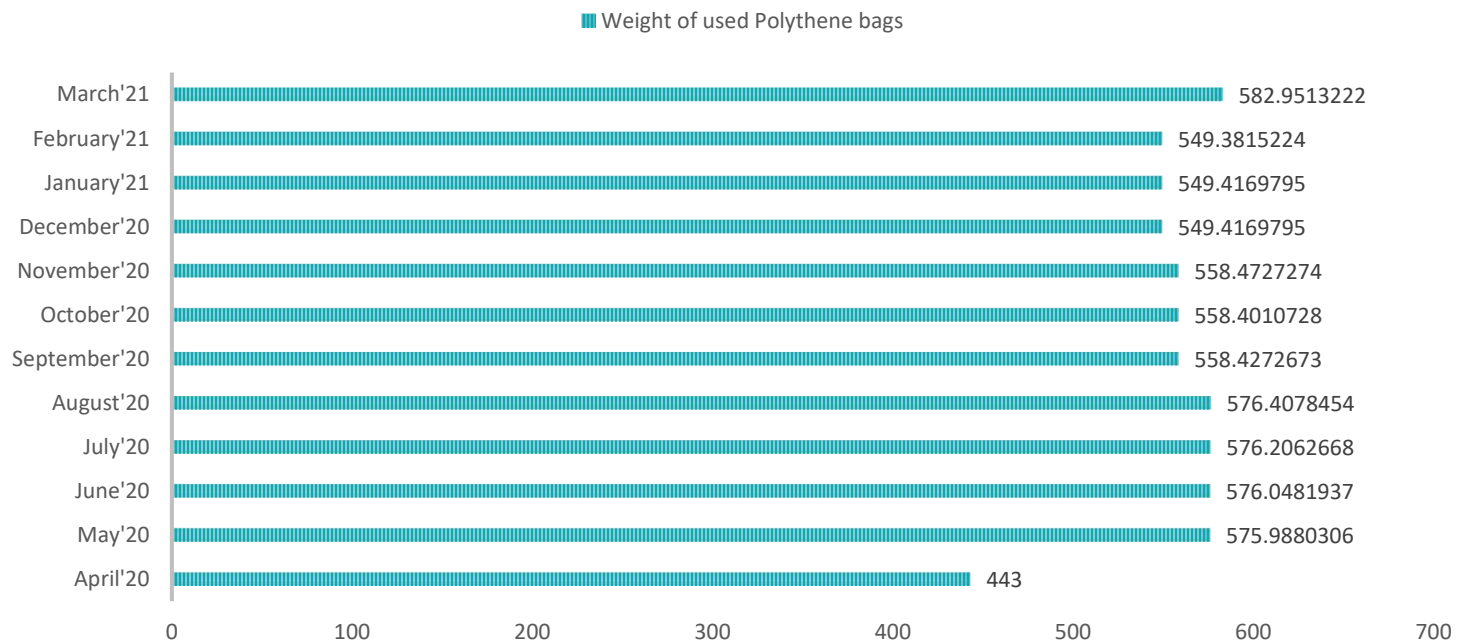
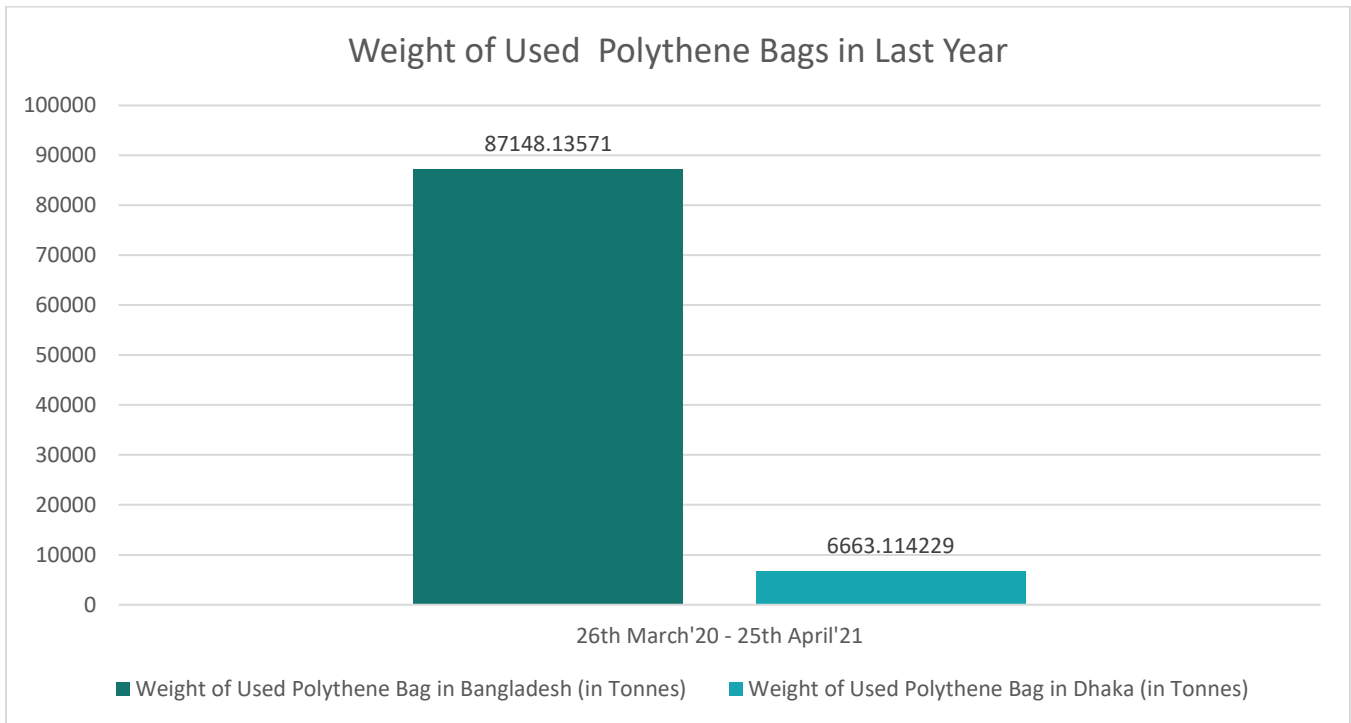


Figure 6: Weight of Used Polythene Bags During Covid-19 Pandemic in Dhaka (in tonnes)





**Figure 7: Weight of Used Polythene Bags in Last Year**

As a single polythene bag was weighted 3.99099 grams the weight of the assessed polythene bags was calculated as per unit rule. It was also found that many people reuse polythene bags and from the analyzed data it was concluded that around 10% of the once used polythene bags don't immediately go to our landfills as they are kept for further use. With this scrutinization, it was calculated that about **78433.322139 tonnes** and **5996.8028061 tonnes** of polythene bag waste was generated last year nationwide and in Dhaka respectively.



## Impacts on Health and Environment

Because of the ever-increasing use of plastic in different industries, especially packaging, Bangladesh remains one of the top plastic polluted countries. Images of clogged rivers as a result of haphazard disposal of plastic bags partly depict the gravity of the problem.

A bulk of the plastic waste gets trapped in the sewers of the major cities. Trapped in the pipes and drains, especially of densely populated capital Dhaka and the second largest city Chittagong, this plastic waste has caused the sewerage systems to break down repeatedly. Also, to mention that Bangladesh has an annual rainfall of up to 5 meters and holds the world record for the highest rainfall in a single day (Wor) Which wash away improperly manage plastic waste including polythene bags into streams and drain ways.

Due to improper management and lack of reasonable consideration of people, the used plastic bags with all other plastics goes down the drain and eventually it goes into our oceans. If the Kalsi canal in Mirpur is visited, undoubtedly the trench will be confused with a landfill inferable from it being chock-a-block with a thick layer of plastic waste dominated by plastic bags and bottles. Where the water can be seen, it gives off an impression of being dark in shading and defiled with waste. The malodor penetrates around the region making it difficult for a person to stroll without a face cover.

The waste sector is a significant contributor to GHG emissions accountable for approximately 5 per cent of the global greenhouse budget with total emissions of approximately 1,300 metric tonnes of CO<sub>2</sub>-equivalent as reported by the Intergovernmental Panel on Climate Change (IPCC).

Incineration of plastic waste in an open field is a major source of air pollution. Most of the times, the Municipal Solid Waste containing about 12% of plastics is burnt, releasing toxic gases like Dioxins, Furans, Mercury and Polychlorinated Biphenyls into the atmosphere. The toxic substances thus released are posing a threat to vegetation, human and animal health and environment as a whole. Polystyrene is harmful to Central Nervous System. The hazardous brominated compounds act as carcinogens and mutagens. Dioxins settle on the crops and in our waterways where they eventually enter into our food and hence the body system. These Dioxins are the lethal persistent organic pollutants (POPs) and its worst component, 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD), commonly known as agent orange is a toxic compound which causes cancer and neurological damage, disrupts reproductive thyroid and respiratory systems. Thus, burning of plastic wastes increase the risk of heart disease, aggravates respiratory ailments such as asthma and emphysema and cause rashes, nausea or headaches, and damages the nervous system (Rinku Verma)<sup>2</sup>.

Health impacts of the plastic waste management system is on inhalation, ingestion, and skin contact. Recycling plant and recycled products emit and leach various toxic chemicals. Among them are heavy metals, dioxins, and furans, PAHs, toxic recycled chemicals are significant. Also, toxins from emissions, fly ash, and slag in a burn pile can deposit in soil and water and can eventually get deposited in the tissues of plants and animals. In the long run, it creates impacts like skin disease, cancer, neurological damages, and also affects the immune system, reproductive system, and endocrine system.

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<sup>2</sup> <https://www.sciencedirect.com/science/article/pii/S187802961630158X>

# Recommendation

## Monitoring & Adjusting Policies

Audits  
Surveys  
Studies and interviews  
Keeping the public updated on progress!

## Enforcement

Set roles and responsibilities upazilla-wise  
Ensure sufficient human-power for enforcement  
Communicate the enforcement process  
Prosecute offenders in line with policy revisions

## Raising Awareness

Education programs, TV adverts  
Campaigns to explain:  
>Why is the policy being introduced?  
>What are the expected benefits?  
>Are there punitive measures?

## Incentivize industry and Promotion of Alternative

Incentivize alternative producers (environmentally safe, sustainable & affordable)  
Offer tax rebates  
Keep certain eco-friendly materials tax-free  
Promote Eco-friendly, affordable alternatives

## Promoting Zero Waste Lifestyle

Zero Waste Community  
Zero Waste Campus  
Zero Waste Shop

## Conclusion

Over the years, our global ocean, seas, and coastal environments have been directly and indirectly riddled with billions of tons of plastic marine debris produced from human-mediated activities and this pandemic situation has made the situation even worse. Governments everywhere in the world have made a move to boycott the offer of lightweight packs, charge clients for lightweight sacks, or create charges from the stores that sell them. The Bangladesh government was the first to do as such in 2002, forcing an absolute prohibition on lightweight plastic bags. Between 2010 and 2019, the number of public approaches planned to eliminate plastic carryout sacks tripled. However, the scenario that was brought forward through ESDO's comprehensive research is terrible. At the end of the very first month of the official lockdown to prevent COVID-19 from the spread in Bangladesh, about 14500 tons of hazardous plastic waste has emerged from the dramatically increased use of single-use surgical face masks, hand gloves, hand sanitizers, and polythene bags in communities and health care facilities. About 11.2% of this waste comes from the use of surgical face masks, 21.5% from polythene made normal hand gloves, 20% from surgical hand gloves, and 40.9% from the single-use polythene shopping bags used for carrying food items, and 6.4% from empty containers of hand sanitizers. The scenario of usage of polythene bag in the following months are more severe. Enforcement of the ban on polythene bags is highly needed to address the current situation along with making people understand that no evidence supports disposable plastics as less likely than reusable items to spread COVID-19.



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