

**Study Report on**  
**THERMAL LAMINATION FILM:**  
**AN INCISING HEALTH HAZARD &**  
**ENVIRONMENTAL HAVOC OF DHAKA CITY**  
**January, 2020**



**Environment and Social Development Organization- ESDO**

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# **Thermal Lamination Film: An Incising Health Hazard and Environmental Havoc for Dhaka City**

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## **Research Advisors:**

Syed Marghub Murshed and Prof. Abu Zafar Mahmood

## **Team Leader:**

Shahriar Hossain, PH.D.

## **Editorial Team:**

Ms. Siddika Sultana, Ms. Shahnaz Monir, Ms. Nadia Chowdhury

## **Research Team:**

Nazma Ahmed, Golam Rabbani

## **Support Team:**

Khalilur Rahman, Sayda Mehrabin Shejuti, Mamun Ul Hasan, Md. Ali Hossain, Shomrita Barua,

Nadia Chowdhury, Samina Khondaker, Zarin Tasnim, Sanjida Bary, Sharmin Ashrafi, Nurun Nahar

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## **Contact Address:**

House# 8/1, Level# 5, Block#C, Lalmatia, Dhaka- 1207, Bangladesh

Phone: 880-2-9122729; Fax: 880-2-8100527, Email: [info@esdo.org](mailto:info@esdo.org)

Web: [www.esdo.org](http://www.esdo.org) [www.bansup.esdo.org](http://www.bansup.esdo.org)

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This report is published for current information and represents the current situation on the use of Plastic laminated posters, leaflets and other campaigning materials in Dhaka City. Environment and Social Development Organization- ESDO holds the copyright of the report “Thermal Lamination Film: An Incising Health Hazard and Environmental Havoc of Dhaka City” and the report is validated under the support of Plastic Solution Fund.

We appreciate further comments and feedback from our reader and supporters and all individuals.

Website Address: [www.esdo.org](http://www.esdo.org) [www.bansup.esdo.org](http://www.bansup.esdo.org) E-mail: [info@esdo.org](mailto:info@esdo.org)

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## Executive Summary

In recent times, plastic lamination has emerged as one of the major sources of single use plastic waste in Dhaka city. An average of about 10,438 tons of laminated plastic waste is estimated to be generated from different sources in Dhaka in 2020. Environment and Social Development Organization – ESDO conducted a research on potential generation of laminated plastic waste in Dhaka from 6 most prominent sources including – Dhaka South and North City Corporation (DCC) Elections, newspaper supplements, Dhaka International Trade Fair, Amar Ekushey Book fair, scheduled large scale fairs, exhibitions and tradeshows and advertising leaflets distributed by restaurants, beauty parlors and other commercial institutes. About 33.5% of laminated waste materials are estimated to have emerged from materials distributed during fairs and tradeshows, making it the largest contributor to the annual generation. Besides, laminated posters used for election purposes and leaflets distributed throughout the month long Dhaka international Trade Fair are expected to contribute significant portions as well. However in 2019, according to ESDO surveys and based on secondary information, the total generation of laminated plastic waste were around 7145 ton. This implies that, in 2020, the annual generation of lamination waste is expected to rise compared to the previous year.

Mayor and councilor candidates in the Dhaka City Corporation Election flooded their areas with laminated posters. This year, an estimated 304 million plastic laminated posters have been printed and displayed by the election candidates. Other than the posters, stickers, general cards and volunteer ID cards used for promotional purpose are also covered with plastic lamination sheets. An estimated 2472 ton of laminated plastic waste are expected to be generated from the DCC elections only and is considered serious waste management threat for the concerned authority.

The Dhaka International Trade Fair (DITF) and Amar Ekushey Boimala (Bookfair) are also major sources of laminated plastic waste generation in Dhaka. In 2020, 483 stalls have been set up in the DITF, 60% of which have been found to be distributing handouts showcasing their products and services. About 100% of these materials are laminated with plastic film. An aggregated 1434 ton of plastic waste is expected to be generated only from the plastic laminated leaflets distributed in these two events in 2020.

Other than these two major fairs, more than 50 other large scale fairs and tradeshows are scheduled to be held in Dhaka city in 2020<sup>1</sup>. It was observed from previous events held, that a large number of advertising materials laminated with plastic covers are distributed in these fairs. From this we estimated that the laminated plastic waste generated in this process is around 3499 ton. In most of the cases, these leaflets are dumped immediately after reception and they eventually find their way into dump stations and drains resulting in massive plastic pollution.

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<sup>1</sup> [https://www.eventseye.com/fairs/c1\\_trade-shows\\_bangladesh\\_1.html](https://www.eventseye.com/fairs/c1_trade-shows_bangladesh_1.html)

Daily Newspapers is another means of plastic laminated material distribution in Dhaka city. Our study finds that, most popular newspapers of the city with significantly higher circulation comes with at least one plastic laminated advertising leaflet on a regular basis.

Apparently, an estimated 227.2 ton of lamination wastes is coming from laminated leaflet materials provided with popular daily newspapers.

Plastic, in general is a major source of environmental pollution and degradation. Adding to those, plastic laminated posters, leaflets and other advertising materials pose additional threat to environment and health. Laminated materials cannot be recycled easily as lamination films are not recyclable. Laminated items remain in the dumping grounds for years only to add to environmental pollution. The quantity being used is of grave concern as it clogs the drains and causes massive waterlogging during the rainy season. Waterlogging causes outbreak of numerous waterborne and vector borne diseases. The process of lamination also releases toxic chemicals and greenhouse gases that create adverse impact upon health and environment.

Considering the gravity of the plastic situation, ESDO, along with the other NGO's did a writ petition to the High Court of Bangladesh. This resulted in an order to authorities concerned to enforce ban on polythene bag and stop using single-use plastic by 2021. As ESDO started its campaign on DCC election posters and other plastic coated materials, the High Court issued another regulation to restrict or control production and use of laminated materials, particularly in Dhaka. On January 22nd, the High Court ordered the authorities concerned to immediately stop production and display of laminated election posters in order to save environment. The court also asked the authorities to properly dispose the laminated posters which have already been produced and displayed in Dhaka, ahead of the city corporation elections. ESDO hopes that this situation will be considered seriously and steps to regulate and ban such plastic coating should be taken immediately.



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## Introduction:

Plastic lamination is widely popular not only in Bangladesh but also throughout the entire world. Plastic lamination has been around for decades, and is used on both an industrial and personal level. Lamination films are used to serve a variety of purposes, often to protect and give surfaces an enhanced appearance. Use of plastic lamination in leaflets, posters and advertising documents has become widely popular over time mostly because of its unique characteristics of improving the appearance and longevity of any paper document. In recent times, plastic lamination has emerged as one of the major sources of single use plastic waste generation in Bangladesh. Every year, large number of laminated items, mostly campaigning materials, are being developed and circulated among city dwellers most prominently with regard to advertising purposes.

Plastic used for lamination is one of the major sources of single use plastic waste worldwide. This sector has eventually emerged as a global concern over the past few decades. Use of plastic lamination in printing and publishing is on the rise because of its increasing popularity and availability. Consumers receive leaflets and other advertising materials in the form of paper documents without even realizing the fact that these are not merely paper documents, but are documents wrapped with plastic covers. Plastic covers are not degradable or compostable and remain in the dumping ground for hundreds of years as persistent environmental pollutants. Thus, over dumping, laminated materials significantly contribute in single use plastic waste generation.

Plastic waste generated from laminated posters, leaflets and other campaigning materials are creating significant health and environmental risks. However, this issue has not yet come under the spotlight and has not been addressed by environmental activists and development professionals worldwide. Lack of inadequate information about multifaceted aspects pertaining to this sector has led to reduced awareness regarding the use of laminated items. Considering the incising environmental threat posed by the plastic wastes emerging from this not so talked about sector, ESDO initiated a study on the generation of laminated plastic waste in Dhaka City in November 2019. The study is significant and first one of its own kind

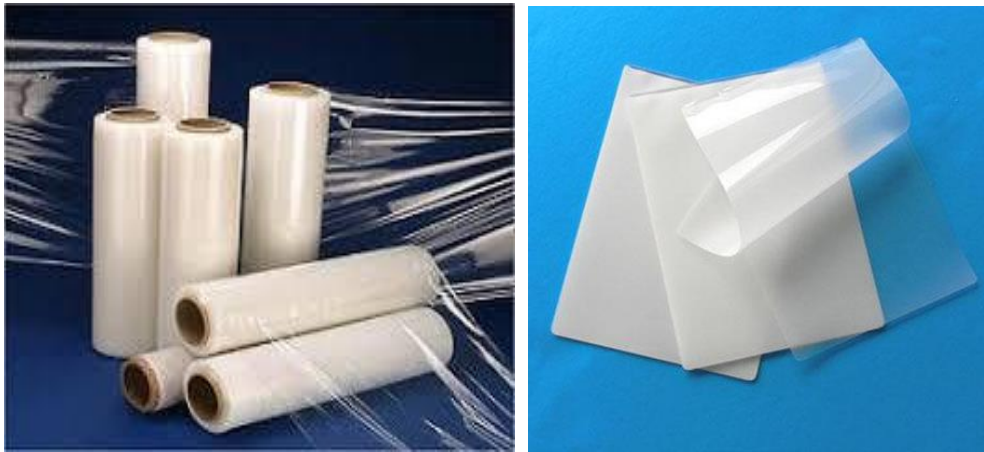


not only in Bangladesh but also in the entire world. ESDO, as an organization, is the pioneering organization to have attempted to shed light on this emerging global concern for the sake of public health and welfare. The study will essentially add newer dimensions to the ongoing global campaigns against Single Use Plastic (SUP) pollution as plastics used for lamination are one of the critical forms of single use plastics that are globally used in cross cutting sectors. This study report is intended to outline a distinct methodology in conducting research on respective issues and serve as a reference material for enthusiasts, activists or development professionals around the world to work further in this respect. The document is expected to be of great use to environmentalists, development practitioners and researchers not only in Bangladesh but also in other developing nations, particularly in Asian regions.

ESDO has been working toward a Plastic Pollution Free future since its inception. ESDO is a pioneer organization in banning the use of polythene/ plastic shopping bags in Bangladesh in 2001-2002. We succeeded in pushing the government into banning the production and use of polythene shopping bags in Bangladesh in 2002. In 2016, an extensive study was carried out on microbeads prevalence; usage in Bangladesh based on which a national report entitled “Microbeads: Unfold Health Risk and Environmental Pollutant” was published in October 2016. From 2017 onwards, ESDO focused on single use plastic pollution in Bangladesh and introduced a nationwide “Ban Single Use Plastic” Campaign. ESDO has been organizing awareness campaigns, rallies, mobile campaigns, signature campaigns, workshops, seminars, press briefings, open forums, and human chains across the country to create mass awareness and raise public voice in support of banning single use plastics. The organization conducted a nationwide survey on single use plastic usage in Bangladesh in 2018 and 2019 and revealed the study report entitled as “Single Use plastic: Hidden Costs of Health and Environment in Bangladesh” in October 2019. This study report is the newest addition to ESDO’s anti Single Use Plastic initiatives under the provision of the “Ban SUP” Campaign.

## Plastic Lamination:

Lamination is the process of completely sealing paper documents between sheets of plastic with heat and low-grade adhesives. Laminated plastic-coated paper is a coated or laminated composite material made of paper or paperboard with a plastic layer or treatment on a surface. Laminated plastics are a special form of polymer-matrix composite consisting of layers of reinforcing materials that have been impregnated with thermosetting resins, bonded together, and cured under heat and pressure. Metals most often used in composites are copper, aluminum, nickel, and steel<sup>2</sup>. The conventional method for lamination of paper is heat-seal lamination, in which documents or book pages are placed in plastic pouches and sealed using heat, pressure, and adhesives. Heat-seal lamination cannot be undone because the heat melts adhesives into the document. This process is appropriate only for materials with a short term value.<sup>3</sup>



*Figure 1: Thermal Lamination Films used for lamination purpose*

Plastic material most commonly used for lamination of documents is technically called “**Thermal Lamination Films**”. Thermal lamination films have extrusion coated surfaces with low temperature melting resin, which enables the lamination of film to paper products by heat and pressure. Lamination film is made of a base film, such as polyester or PVC (Polyvinyl

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<sup>2</sup> <https://www.machinedesign.com/materials/article/21812671/laminated-plastics>

<sup>3</sup> <https://psap.library.illinois.edu/collection-id-guide/laminationencapsulation>

Chloride), and is then coated with an adhesive. Three major types of lamination bases are widely popular- Polyester (PET), Polypropylene (OPP) and Nylon. There are different types of lamination films that can be used to protect all types of paper, including photos. These types include - Standard thermal lamination film, Heat-assisted laminating film, Low-temperature thermal lamination film, Liquid laminate (Primarily used in building materials.), Pressure-sensitive lamination film etc. The type of lamination film used will depend on the machine and the kind of paper document that is being laminated<sup>4</sup>. The laminating film is not recyclable. When paper goes through the recycling process it is shredded and the plastic lamination is not always removed. It then becomes a contaminant.

## **Application of Plastic Lamination:**

Lamination is generally done on printed surfaces to protect it and provide it longevity. Printed pieces are laminated to protect them from physical damages such as fingerprints and smudges, stains and spills, tears and wrinkles, marks and abrasions, oil, grease, dirt, moisture and other contaminants that might shorten their useful life. Lamination increases the durability of print materials, allowing them to withstand frequent use. In addition to protection, print lamination also adds strength and rigidity<sup>5</sup>. It adds strength and stiffness, providing an impression of higher quality and importance. However today, lamination films are widely used for rendering beautiful textures and a premium tactile feel to luxury packs as well.

Plastic lamination has been around for decades, and is used on industrial and personal products. Lamination films mostly find their way into print publishing and graphic art film segments. Lamination is popularly used to extend the life of printed materials that is handled frequently, such as –Restaurant and Bar Menus, Price and Part Lists, Maps and Bookmarks, Educational and Training Materials, Membership Cards and Business Cards etc. Lamination also enhances the appearance of printed materials used for promotional purposes such

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<sup>4</sup> <https://www.mikemcritchie.com/what-is-document-lamination-and-do-people-still-use-it/>

<sup>5</sup> <https://www.formaxprinting.com/blog/2010/02/printing-lingo-what-is-lamination-and-why-is-it-used/>

as advertising leaflets and posters, showroom, exhibition and trade show materials, sales presentation materials, sell sheets and product fact sheets, pocket folders and book covers etc<sup>6</sup>.

## Research Process:

ESDO conducted a research on potential generation of laminated plastic waste in Dhaka from multiple sources in the years 2019 and early 2020. The research was commenced at the beginning of the month November in 2019 and was continued for the next two consecutive months. The study came to an end by Mid-January 2020 with the publication of a final report highlighting the study findings. The aim of the study was to identify major sources of laminated plastic waste generation in Dhaka including - DCC Election, newspaper supplements, Dhaka International Trade fair, Amar Ekushey Book fair, large scale fairs, exhibitions and tradeshows and advertising leaflets distributed by restaurants, beauty parlors and other commercial institutes and subsequently quantify potential generation from these individual sectors on an annual basis.

Numerous primary and secondary data collection methods were adopted for the respective study. Research methods used for this study include - Questionnaire Surveys, Field surveys or observations, Key Informant Interviews (KII), Secondary Literature Explorations and Expert Consultations. Primary information was predominantly collected through interviewing key personnel from printing press and printing houses, lamination service providers and importers. About 870 printing and publishing houses in Dhaka were surveyed to collect information specifically on the printing of laminated posters and leaflets in the 2020 DCC Election. Another 50 lamination service providers and importers of lamination materials were interviewed in this respect. However, for technical analyses purposes, experts from relevant fields were periodically consulted.

Secondary information was collected from different reliable secondary sources including government data records, websites and other online databases. Experts from cross cutting

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<sup>6</sup> <https://www.formaxprinting.com/blog/2011/07/laminated-printing-the-many-benefits-and-uses-of-print-lamination/>

fields were also consulted for technical advocacy and verification. Moreover, distinct calculation methodologies have been developed and applied to estimate generation from each of the potential sectors.



*Figure 2: Research Methods Used for this study*

## Major Sources of Laminated Plastic Waste Generation in Dhaka:

This ESDO study has identified some major sources from where a significant amount of plastic laminated leaflets and posters are generated in Dhaka. The regular sources include – daily newspaper supplements; Dhaka International Trade fair; Amar Ekushey Book fair; large scale fairs, exhibitions, tradeshows and advertising leaflets distributed by restaurants, beauty parlors and other commercial institutes. However, in 2020, a significantly large portion of the annual generation will also come from plastic laminated posters, leaflets and other materials used in promotional campaigns of the Dhaka City Corporation Election 2020.

In 2020, one of the major sources of laminated plastic waste generation in Dhaka is the **Dhaka City Corporation Election 2020**. The elections to Dhaka North and South City corporations were scheduled to be held on February 1, 2020. 14 mayoral candidates and 586 councillor candidates participated in the election<sup>7</sup>. As part of the election campaign, a large number of promotional items including posters, leaflets, stickers, cards etc. have been printed and widely

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<sup>7</sup> <https://tbsnews.net/environment/posters-polythene-hazards-our-city-polls-37297>

circulated by the candidates. The councilor candidates initially declared to print 3,500 to 20,000 posters each for their respective campaigns. However, the actual number of posters printed by the candidates has been found to be far more than their declaration. Average printing of about 500000 posters per councilor candidate has been reported by key personnel surveyed from around 870 printing and publishing houses in Dhaka. This leads to the printing of total 293 million posters only by councilor candidates. Mayoral candidates have reportedly printed another 11.2 million posters. Other than posters, printing of an estimated 15 million promotional stickers, 50,000 general promotional cards and 20000 volunteer ID cards have been reported by surveyed institutions.

In most of the cases, posters were laminated with plastic lamination sheets in order to get protection from rain and mist. Other than the posters, stickers and general cards used for promotional purpose were also covered with plastic sheets to render a greasy outlook. Volunteers working for promotional campaigns were also provided with distinct ID cards wrapped in solid plastic covers such as PVC. Our study found that, each of the laminated posters contains about **8gm of thermal lamination sheets** whereas each laminated sticker weights around 2.5gm. From this, an aggregated weight of lamination plastics used in posters, stickers and other campaigning items have been estimated to be around 2472 ton.



*Figure 3: Plastic laminated posters used in the Dhaka City Corporation Election campaigns in 2020*

Plastic laminated posters and stickers are major sources of land and water pollution. These materials will turn into garbage and eventually find their way into the dump stations and drains once the election festivities are over. Piles of laminated posters, stickers and cards will float through drains and ultimately end up in rivers and water bodies resulting in massive

pollution and blockages. However, polyester used on posters and other promotional items are potentially harmful for the environment. Polyester is a plastic-like material made from coal, oil, and water. When polyester breaks down, it can only be reduced into micro plastics which are non-biodegradable and are major sources of ocean and river pollution.



*Figure 4: Printing and lamination of election posters in printing presses in Dhaka*

**Exhibitions, fairs and tradeshow**s are common in Dhaka city. Every year on an average, about 50+ medium to large scale exhibitions, fairs and trade shows are organized throughout the country, majority of which are held in Dhaka. These fairs serve as one of the major sources of plastic laminated leaflet distribution venues among city dwellers. Stalls are set up by local, national and international business firms and corporations mostly to advertise their goods and services. A large number of advertising materials is distributed in each of these fairs, almost all of which are laminated with plastic. Most fairs and tradeshow are arranged during a particular period of the year extending from October up to April. In most of these cases, these fairs are arranged on special occasions with this particular period of the year marked by the presence of a number of religious and cultural festivals. This period is often termed as the “season of fairs”. We found in our study that there is a high yield of laminated plastic waste generation in Dhaka city during this period, probably the highest during the year



*Figure 5: Distribution of laminated leaflets among the visitors in fairs and exhibitions*

The Dhaka International Trade Fair (DITF) and Amar Ekushey Bookfair are the two most popular annual fairs of the country that are organized in two consecutive months at the very beginning of the year. These two fairs have evolved into inseparable parts of Dhaka city culture. These two occasions are also responsible for generating a considerably large amount of laminated plastic wastes annually.

**Dhaka International Trade fair (DITF)** is the largest trade show arranged in Bangladesh. DITF is held from the first week of January up to the first week of February every year. In 2020, 483 stalls have been reportedly set up in the fair by national and international traders, 60% of which have been found to be distributing handouts showcasing their products, services and special discount offers intended for the fair. About 100% of these materials are laminated with plastic covers in order to make their appearance more attractive to customers. The percentage of people visiting this fair is relatively higher due to its high popularity. An estimated average of about 2.3 million visitors is expected to visit the fair throughout the month of January in 2020. Considering an average distribution rate of plastic laminated leaflets or advertising materials from distributing stalls or pavilions to visiting customers, around 478.17 million plastic laminated leaflets are expected to be disbursed to the general public in total. A high bulk amount of leaflets might result in the generation of 956 tons of plastic waste at the end of the fair. As per our study findings, the amount of laminated plastic waste generated from the DITF in 2019 was approx. 1518 ton from around 550+ stalls.





Figure 6: Plastic laminated Leaflets circulated in Dhaka international Trade fair (DITF)

**Amar Ekushey Bookfair** is another mega event organized in Dhaka that serves as a meeting place for booklovers and writers from around the country. Reportedly, about 322 publishing houses will be participating in the 2020 fair<sup>8</sup> wherein this number was much higher in 2019 (550 to be exact). Each of the publishing houses print and develop a large number of advertising leaflets containing information on new books launched, discounts and offers, location of the stalls etc. However, in the case of this fair, 50% of these materials have been found to be made up of plain papers and another 50% to be of plastic laminated papers. 1.24 million people are expected to visit the fair in 2020 resulting in the reception of about 200

<sup>8</sup> <https://www.thedailystar.net/city/news/setting-shop-ekushey-book-fair-1857514>

million plastic laminated leaflets. Considering an average weight of plastic contained in each of the leaflets, a total 478 ton of plastic waste are expected to arise from the Amar Ekushey Bookfair in 2020. In 2019, this amount was around 618.8 tons which may be attributed to a comparatively high number of publication houses or participants.



Figure 7: Plastic laminated Leaflets circulated in Amar Ekushey Book fair

Other than the Dhaka International Trade Fair and Amar Ekushey Book fair, about 54 other large **fairs and tradeshow**s are scheduled to be held in Dhaka city this year. An average number of stalls at each these shows can be estimated to be around 100. Average number of visitors to these events is expected to be approx. 6000 each, considering an average 2 days duration for each of the events. Empirical evidences suggest that, a minimum of at least one plastic laminated leaflet is given to each of the visiting customers on an average from every stall leading to the distribution of an aggregated 1.75 billion leaflets annually from these fairs. An estimated amount of laminated plastic waste generated annually from these fairs, exhibitions and trades shows in 2020 is around 3499 tons. In 2019, the amount has been

measured to be nearly 3000 tons. In most of these cases, these leaflets are dumped immediately after reception and find their way into dump stations and drains resulting in massive plastic pollution.

**Daily Newspapers** are another source of plastic laminated leaflet delivery in Dhaka city. Every day at least one laminated leaflet is delivered into our houses with newspapers, particularly with the most widely circulated or popular ones. Newspapers are believed to be the most effective advertisement platform as coverage is relatively higher compared to other platforms. Local, national and international business corporations intend to use this platform to advertise their products and services, both through printed advertisements and also in the form of additional leaflets, stickers etc. that are provided as supplements. However, supplementary leaflets, stickers or other advertising materials are delivered with newspapers mostly with the help of newspaper delivery person popularly known as ‘hawkers’. Newspaper publishing authorities may or may not be directly related to the provision of such materials.



Figure 8: Plastic laminated leaflets provided with widely circulated newspapers

Our study suggests that popular newspapers of the city, having an incredibly high circulation number-are provided with at least one plastic laminated advertising document on a regular basis. For research purposes, we have considered the top 5 Bangla and English Newspapers in this regard. Corresponding circulation numbers to these popular newspapers were calculated considering the information available in official government records (published by the department of films and publications) and also the information provided by respective

publishing authorities. Multiple cross cutting sources have been used to calculate the numbers as newspaper authorities often tend to provide incorrect information about actual circulation numbers. For these 5 newspapers, a total aggregated daily circulation number of about 0.7 million have been recorded for Dhaka city with differing numbers of contributions from different dailies. Considering a certain number of days as yearly vacations, the number of circulated dailies on an annual basis for these 5 newspapers has been estimated to be around 114 million.

Each of these dailies comes with at least one supplementary advertisement document. These advertising documents are, in most of the cases, given a greasy and lucrative outlook with the help of plastic lamination to easily grab reader's attention and also to give them protection against any physical damage. Documents are laminated with polythene sheets either on one side or on both sides. Reportedly, an average of 2 gm of polythene paper (technically known as Thermal lamination films) is used to laminate an A4 size standard leaflet on both sides. These materials serve as a major source of plastic wastes regularly generated in urban set ups. This ultimately yields the generation of an estimated 227.8 ton of plastic wastes annually in Dhaka city solely from laminated leaflet materials provided through daily newspapers.

**Laminated leaflets and advertising documents distributed by commercial entities** constitute a large portion of its annual generation. Shops, markets and shopping malls, hotels & restaurants, beauty parlors, schools, coaching centers and other urban service stations often print and distribute advertising leaflets mostly at different crowded points of the city. A major portion of its annual generation apparently comes from this source, according to our study. In most of the cases, these leaflets are laminated with thermal films and are handed over directly to passersby with the help of a designated delivery person. A person offering leaflets to every visitor, standing at the gates of shopping malls, educational institutions, hotels and restaurants is quite a common view in Dhaka. Our study found that around 1901 tons of laminated plastic waste was generated from this source in 2019 and it is expected to rise up to 2807 ton in 2020 owing to the ever increasing number of commercial establishments throughout the capital city. This source has been identified to be one of the major contributors to the annual generation constituting around 27% of its total generation.



Figure 9: Laminated leaflets and advertising documents distributed by commercial entities

From these six sources, about 10438 tons of laminated plastic waste is expected to be generated in the city of Dhaka in the year 2020. Of this, the Dhaka City Corporation Election generated approximately 2472 tons (within 12 days of its election campaigns) and the Dhaka Trade Fair contributed approx. 956 tons. Added to this about 7011 tons of plastic waste is expected to be generated from 4 other sources- newspapers, tradeshow distributions, book fair distribution and commercial distribution.

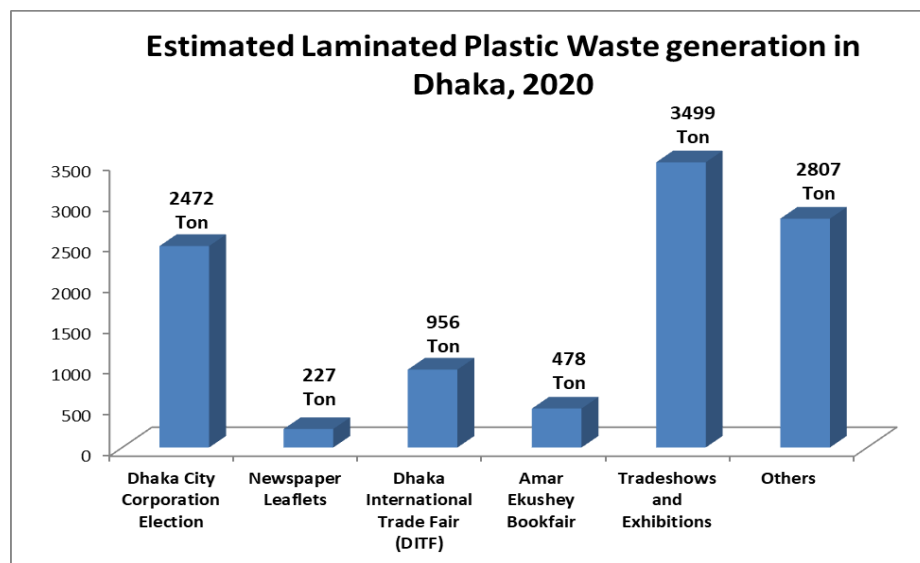
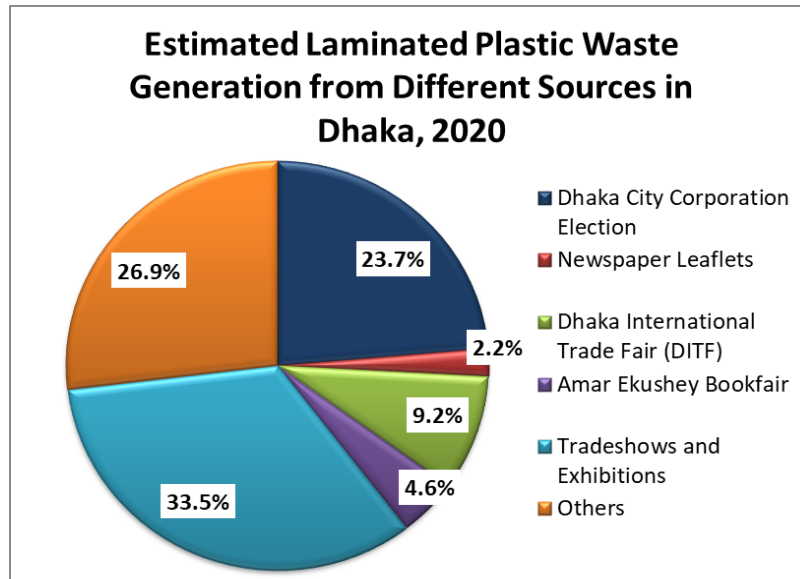
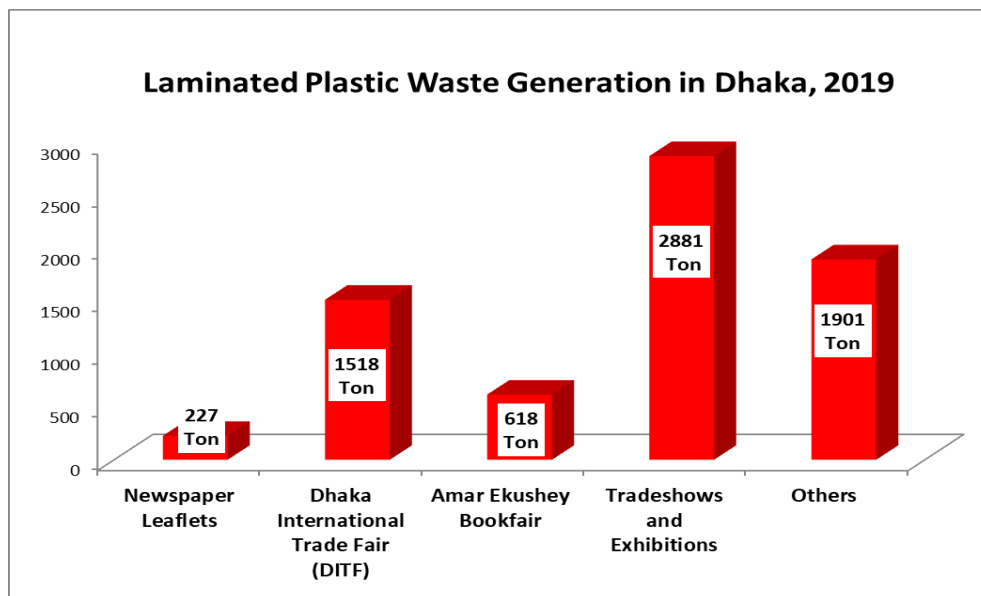


Figure 10: Estimated Laminated Plastic Waste Generation in Dhaka, 2020

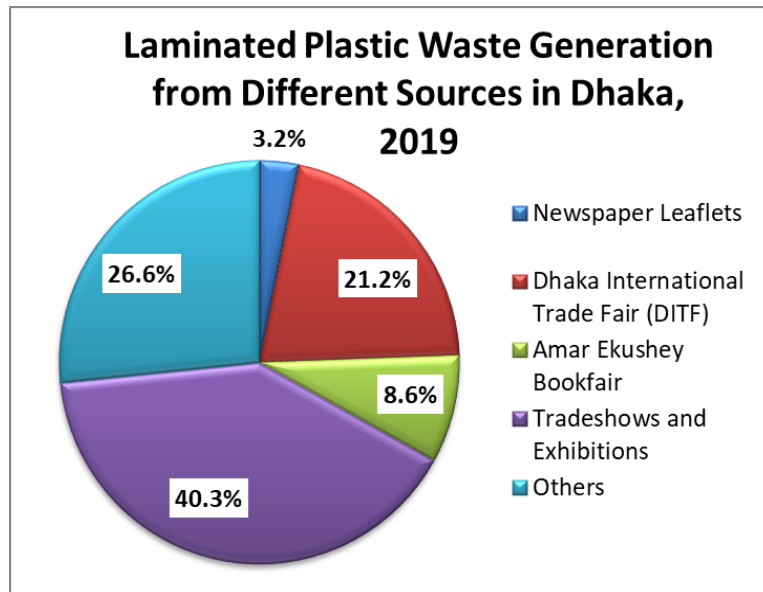


*Figure11: Relative contribution of different sources in laminated plastic waste generation in Dhaka, 2020*

In 2019, Dhaka generated a total of 7145 tons of laminated plastic waste from five major sectors such as, (1) Leaflets newspapers (227.2 Tons), (2) the Dhaka International Trade Fair (1518 tons), (3) the Amar Ekushey Book Fair (618 tons), (4) Tradeshows and Exhibitions (2881 tons) and other sources such as advertising leaflets distributed by restaurants, shops, beauty parlors and other commercial institutes (1901 tons).



*Figure12: Laminated Plastic Waste Generation in Dhaka, 2019*



*Figure 13: Relative contribution of different sources in laminated plastic waste generation in Dhaka, 2019*

## Discussion:

Plastic laminated posters, leaflets and other advertising materials pose serious threats to environment and health. Laminated items are just another form of single use plastic. Laminated materials can neither be destroyed nor recycled. Therefore, laminated items remain in dumping grounds for years only to add to environmental pollution later on.

Recycling of laminated material is quite challenging. In a normal paper or card recycling mill, fibres will be mixed up with water and stirred very fast in a horizontal continuous pulper to create pulp (paper fibres suspended in water). Contaminants are 'washed' out of the pulp in a type of trommel and conveyed away from the process, leaving behind cleaner pulp material to be processed further. If laminated paper makes its way into this process, the polyethylene will prevent the water from accessing the paper. For a single side of laminated material, some of the paper will be pulped; for double sided variety such as food and drinks cartons, they will remain whole and be carried through to the reject conveyor. Therefore, if laminated paper is

put in normal paper or card recycling, it won't be recycled; at least not completely. In fact it's an unwanted contaminant preventing the underlying paper to be recycled<sup>9</sup>.



*Figure 14: Drainage clogging and waterlogging resulted from plastic waste accumulation in drains*

When laminated posters, leaflets, stickers etc. are washed away into the drains, it obstructs the drainage system and results in massive waterlogging during the rainy season. In recent times, waterlogging has become one of the most frequent and common phenomenon for Dhaka city dwellers. The inhabitants of Dhaka experience severe waterlogged conditions almost on a regular basis particularly during the monsoon. Clogging of drainage systems is largely attributed to the dumping of polythene and plastic materials into the drains. Drainage clogging and waterlogging give rise to unhygienic condition resulting in emergence of vector borne and water borne diseases that greatly affects health conditions of city dwellers.

The process of lamination also releases toxic chemicals that create adverse impacts upon health and environment. Thick polythene is used for lamination and a special chemical or toxic adhesive is used to turn the polythene thicker. Under a certain temperature polythene is heated for lamination. While exposed, these laminated papers heat are heated under the sun and start emitting greenhouse gases. Other than that, laminated materials are often consumed by animals like cows, goats in rural areas leading them to death. However,

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<sup>9</sup> <https://www.quora.com/Why-is-laminated-paper-so-difficult-to-recycle>



accumulation of lamination materials on the soil over time may also result in infertility and reduced productivity of agricultural lands in rural context/areas.



*Figure 15: Animals mistakenly consuming plastic laminated materials as foods*

**ESDO sent request and appeal to all candidates on 14 January 2020 not to use laminated posters!**

**মাননীয় মেয়র,  
কাউন্সিলর প্রার্থীবৃন্দ**

আমরা জানি, একবার ব্যবহারযোগ্য প্লাস্টিক সামগ্রী এবং মোড়ক পরিবেশের জন্য অত্যন্ত ক্ষতিকর। পোস্টার, লিফলেট বা স্টিকার তৈরিতে একবার ব্যবহারযোগ্য প্লাস্টিক লেমিনেশন করা হচ্ছে।

ভেবে দেখুন, প্লাস্টিকজাত পোস্টার পরিবেশে গিয়ে কী কী সমস্যার সৃষ্টি করতে পারে। নালা, নর্দমা কিংবা জলাশয়কে প্রাথমিকভাবে দূষিত করবে এবং এর মাধ্যমে বিভিন্ন পানি ও বায়ু বাহিত রোগের প্রকোপ দেখা দেবে।

আসুন আমরা সবাই মিলে মহানগরীর পরিবেশ রক্ষায় সচেষ্ট হই এবং প্লাস্টিক লেমিনেটেড পোস্টার ও স্টিকার ব্যবহার করা থেকে বিরত থাকি। ঢাকা নগরীকে পরিচ্ছন্ন ও দূষণমুক্ত করা আমাদের সকলের অঙ্গীকার।

পরিবেশ ও জনস্বার্থে-

এনভায়রনমেন্ট অ্যান্ড সোশ্যাল ডেভেলপমেন্ট অর্গানাইজেশন-এসডো



## **Regulations to Control Use of Plastic Lamination in DCC Election 2020:**

In January, 2020, ESDO started campaigning against the use of plastic lamination in posters and leaflets used for electoral campaigns in Dhaka City Corporation Election 2020. It sent request to all candidates on 14 January 2020 not to use laminated posters and other plastic coated materials. Acknowledging ESDO's effort, the high court division of the Supreme Court in Bangladesh took a remarkable decision towards controlling laminated plastic waste generation from federal/municipal/provincial election sources. On January 22, 2020, The High Court division of the Supreme Court in Bangladesh ordered the authorities concerned to immediately stop production and display of laminated city election posters to save the environment. The court also asked the authorities to properly dispose of the laminated posters which have already been produced and displayed. The HC also issued a rule asking the respondents to explain in four weeks why they should not be directed to stop production and display of laminated posters across the country. Environment and forest ministry secretary, LGRD secretary, health secretary, Election Commission and the chief executive officers of Dhaka north and south city corporations have been made respondents to the rule. The High Court bench of Justice M Enayetur Rahim and Justice Md Mostafizur Rahman issued a suo moto (voluntary) move in the wake of a report published in The Daily Star yesterday under the headline "Laminated posters in city polls: A big threat to the environment". Supreme Court lawyer Barrister Manoj Kumar Bhowmick placed the news report before the HC bench for necessary order. He told the court that laminated posters are harmful to the environment and public health. Therefore, the production and display of such posters need to be stopped immediately (*Source: The Daily Star, 23 January 2020*)

2/10/2020 Stop production, display of laminated election posters: High Court

**The Daily Star**  
Monday, February 10, 2020  
YOUR RIGHT TO KNOW

Home » Country

12:11 PM, January 22, 2020 / LAST MODIFIED: 12:37 PM, January 22, 2020

## Stop production, display of laminated election posters: HC

319 Shares



With the Dhaka city polls only nine days away, most of the city streets and alleys have been flooded with posters of mayor and councillor candidates. Laminated with non-biodegradable plastic, these posters pose a serious threat to environment. The photo was taken in the city's Khilgaon area on January 21, 2020. Photo: SK Enamul Haq

Star Online Report

<https://www.thedailystar.net/country/laminated-election-posters-stop-production-display-1857590>

1/6

2/10/2020 HC bans laminated posters | New Age

Monday, February 10, 2020

**NEWAGE**

## HC bans laminated posters

United News of Bangladesh - Dhaka | Updated at 12:42am on January 23, 2020



Laminated posters of Dhaka city election candidates pose serious environmental threat. This photo was taken at Segun Bagicha in Dhaka on Wednesday. — Sorry Ramany

The High Court on Wednesday banned printing and using laminated posters in the Dhaka city corporation area.

The bench of Justice M Enayetur Rahim and Justice Md Mostafizur Rahman issued the suo moto order with a rule after two lawyers drew the court's attention in this regard and sought necessary steps.

In its rule, the court sought explanations on why it should not order stopping printing and exhibiting laminated posters during elections.

<https://www.newagebd.net/print/article/97359>

1/2

## Conclusion:

Plastic waste generated from laminated materials comprises a major portion of annual plastic waste in Bangladesh. Lamination wastes are not recyclable in most of the cases and hence, serve as persistent environmental pollutants posing serious environmental havoc and health threats. Dhaka is at risk of suffering from greater waste management threat in treating the growing amount of laminated plastic wastes. The city lacks appropriate plastic waste management system leading to the improper management of wastes emerging from diverse sources. Considering the gravity of plastic situation in Dhaka, government and concerned authorities should take immediate action by issuing formal regulations to restrict or control use of plastic lamination. However, public awareness and social pressures may act as a trigger to policy decision making in this respect.

## Recommendations:

- Create mass awareness about the harmful impacts of plastic laminated posters, leaflets and other plastic coated materials.
- Pass government regulations to restrict or control use of plastic lamination on an urgent basis.

- Introduce research to identify sustainable alternatives to plastic lamination.
- Promote biodegradable environment friendly alternatives to plastic lamination sheets.
- Encourage business corporations and private sectors to use recyclable paper based advertising materials instead of plastic laminated leaflets.

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**No More  
Plastic Lamination  
Stop Single Use  
Plastic Pollution**

