



Reducing Pollution for Greening Cities

Presented By

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- This report has been authored by *Dr Fahmida Khatun*, Executive Director, CPD, *Mr Syed Yusuf Saadat*, Research Fellow, CPD, *Ms Afrin Mahbub*, Programme Associate (Research), CPD, and *Ms Marium Binte Islam*, Research Associate, CPD.
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4. Findings of the survey for plastic pollution
5. Notable positive steps taken by the government
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1. Introduction

1.1 About the CPD Green Cities Initiative

- In light of the pressing concerns related to air and plastic pollution in Bangladesh, the Centre for Policy Dialogue (CPD) undertook a research study titled “Green Cities Initiative” which aimed to bring together scientific evidence, economic analysis and a focus on finding policy solutions.
- The goal of the CPD Green Cities Initiative is to be a useful source of evidence and ideas for policymakers, academics, journalists and others looking to understand the relationship between air and plastic pollution and the economy of Bangladesh, and develop policies to tackle these problems.
- In this study, the key interest was to look at the drivers of air and plastic pollution in Bangladesh’s major cities, understand the impact on the country’s economy, public health and other metrics, and develop workable policy solutions to air and plastic pollution.
- In this presentation, the research team presents a survey of households to understand the behavioural factors that contribute to air and plastic pollution in Dhaka city.
- This survey finds a significant level of awareness and concern among residents about the issues of pollution and explores the potential of different policies aimed at individual-level behavioural change, which could be implemented alongside more systematic approaches to reduce pollution.

1.2 Key findings of air pollution

More than **76%**

respondents thought that air pollution in Dhaka city became much worse in the past 2-3 years



On average, individuals in Dhaka city are stuck in traffic for

46 minutes
out of every 2 hours.



On average, individuals in Dhaka city spent

BDT 4,000

per year to diagnose and treat symptoms associated with air pollution.

1.3 Key findings of plastic pollution

73%

respondents thought that plastic pollution became significantly worse in the last 2-3 years



57%

respondents reported that their local neighbourhoods exhibit extremely high levels of plastic pollution.

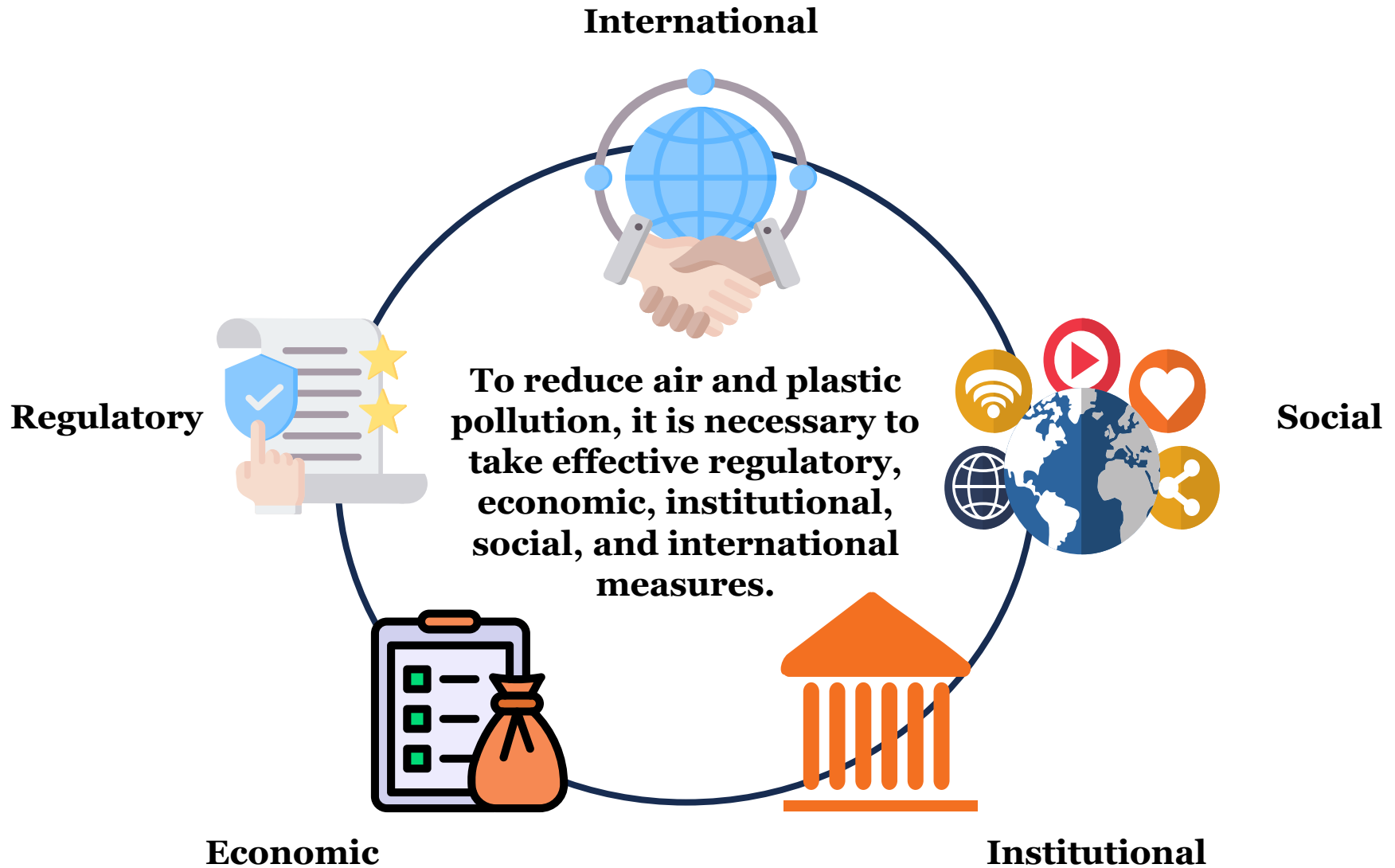


43%

respondents acknowledged a tendency to discard plastic waste directly onto the streets.



1.4 Key policy recommendation



1.5 Key policy recommendations for air pollution

- **Phasing out fixed chimney brick kilns by 2028:** The Government of Bangladesh (GoB) should pass a regulation which requires the phasing out of all fixed chimney brick kilns in Bangladesh by 31 December 2028, and completely shifting all brick manufacturing to less polluting forms of brick kilns, such as Improved Zigzag Kilns, Hybrid Hoffman Kilns, and Vertical Shaft Brick Kiln.
- **Phasing out coal-based powerplants:** The GoB should immediately stop approving any new coal-based powerplants, and gradually decommission and phase out all existing coal-based powerplants, including the Rampal powerplant near Sundarbans which is apprehended to destroy the ecosystem.
- **Implementing environment surcharge:** The Finance Act of 2014 set a 1% surcharge on the goods produced by industries polluting the environment. This environment protection surcharge should be fully implemented.

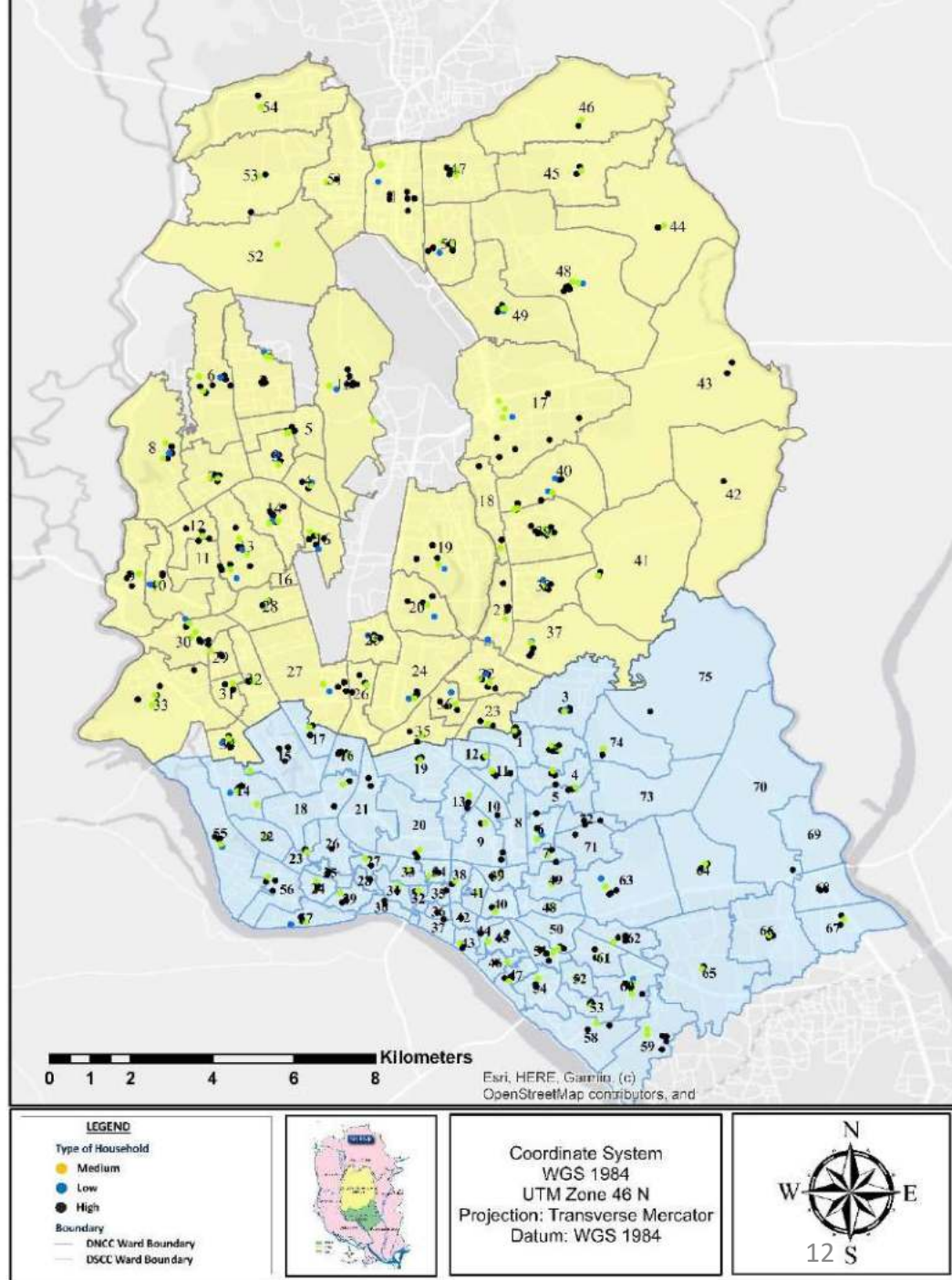
1.6 Key policy recommendations for plastic pollution

- **Enforcing ban on polythene bags:** The GoB should strictly enforce ban on polythene bags. Polythene bag manufacturing equipment should be seized and destroyed. All retailers offering polythene bags should be fined heavily. Once polythene bags are completely out of the market, there will be a conducive environment for alternatives to flourish.
- **Phasing out single-use plastic by 2028:** The GoB should pass a regulation which requires phasing out of single-use plastic products by 31 December 2028. Such single-use plastic products may include, inter alia, forks, knives, spoons, chopsticks, plates, straws, beverage stirrers, sticks to be attached to and to support balloons, food containers made of expanded polystyrene, beverage containers made of expanded polystyrene, and cups for beverages made of expanded polystyrene.
- **Establishing recycling centres:** The GoB should establish waste recycling centres, initially in all wards of all city corporations and eventually nation-wide. These recycling centres should provide trash-to-cash schemes to incentivise waste collectors to collect more waste and increase overall recycling of waste. The government should aim to leverage the network of these recycling centres to create a market for single-use plastic waste.

2. The Green Cities Initiative Survey

2.1 The Survey

- As part of this study, CPD conducted research based on data collected through a survey of 500 households in Dhaka city to build an extensive database that would facilitate the integration of research evidence into policy.
- This survey explored residents' perceptions of the scale of air and plastic pollution, their understanding of the causes and impacts of pollution and their willingness to change their own behaviour or support policies with the aim of reducing pollution in the city.

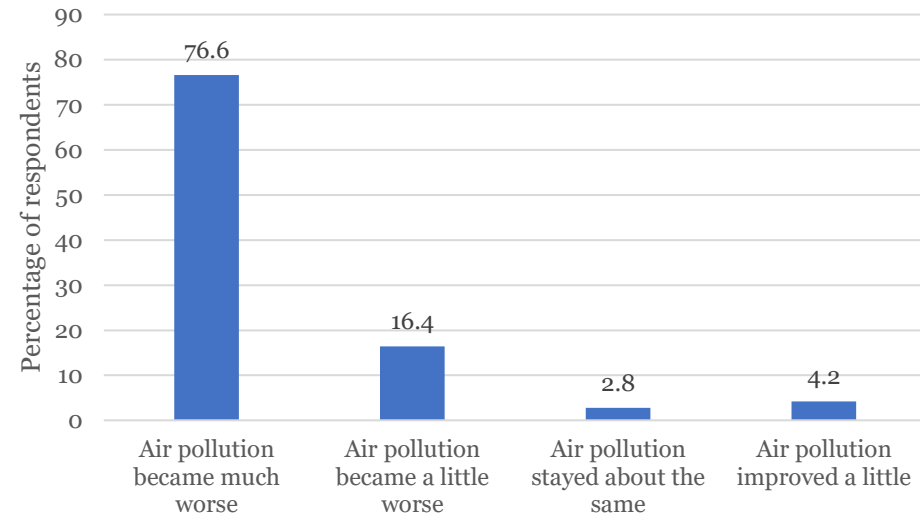


3. Findings of the survey for air pollution

3.1 Perception of air pollution

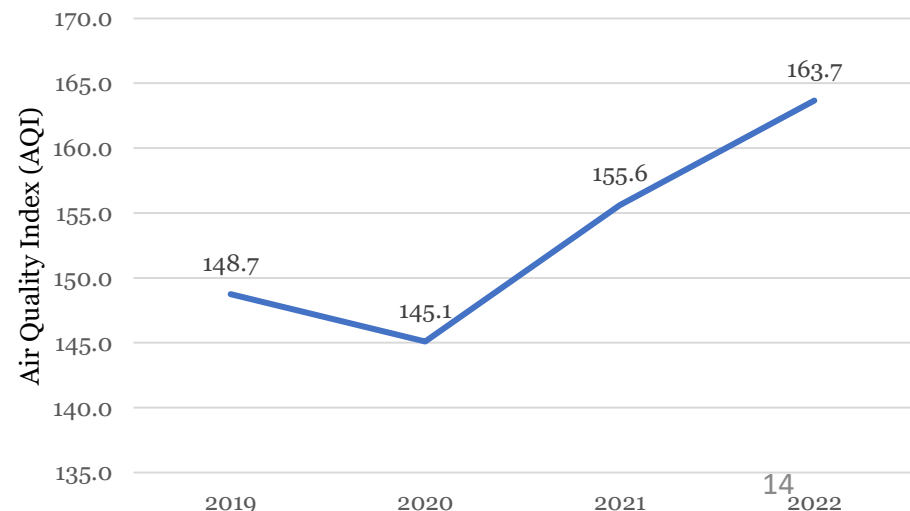
- **More than 76%** thought that air pollution in Dhaka city became much worse in the past 2-3 years
- In contrast, **only 7%** believe air pollution has stayed the same or improved a little
- **The empirical data shows that air pollution increased by 13% since 2020** which indicates that the respondents' perception is in line with reality
- These findings can be attributed to a combination of factors such as rapid urbanisation, industrialisation, vehicular emissions, inadequate environmental regulations, and weather conditions

Figure: Perception of air pollution in Dhaka city in the past 2-3 years (in %)



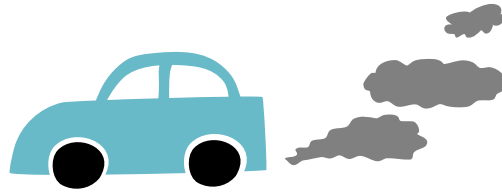
Source: Authors' own illustration based on survey data

Figure: Annual Air Quality Index (AQI) Trends from 2019 to 2022 in Dhaka City



Source: Authors' illustration using data from U.S. Embassy Bangladesh Air Quality (AirNow, 2022)

3.1 Perception of air pollution (cont.)



77% respondents believed **vehicular emission** is the main reason of air pollution Dhaka



Nearly **10%** thought **construction sites** contributed to air pollution in Dhaka the most



4% respondents thought **brick kilns** is the major source of air pollution



Almost **9%** respondents thought **burning waste** was the main cause of air pollution in the city

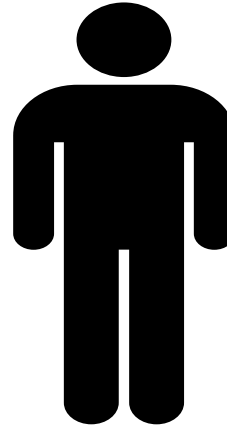
- However, in reality, **brick kilns** release the highest concentration of fine particles, accounting for about **58%** of the total emissions into the air in Dhaka city

3.1 Perception of air pollution (cont.)

Perceived incentives to reduce the usage of private vehicles



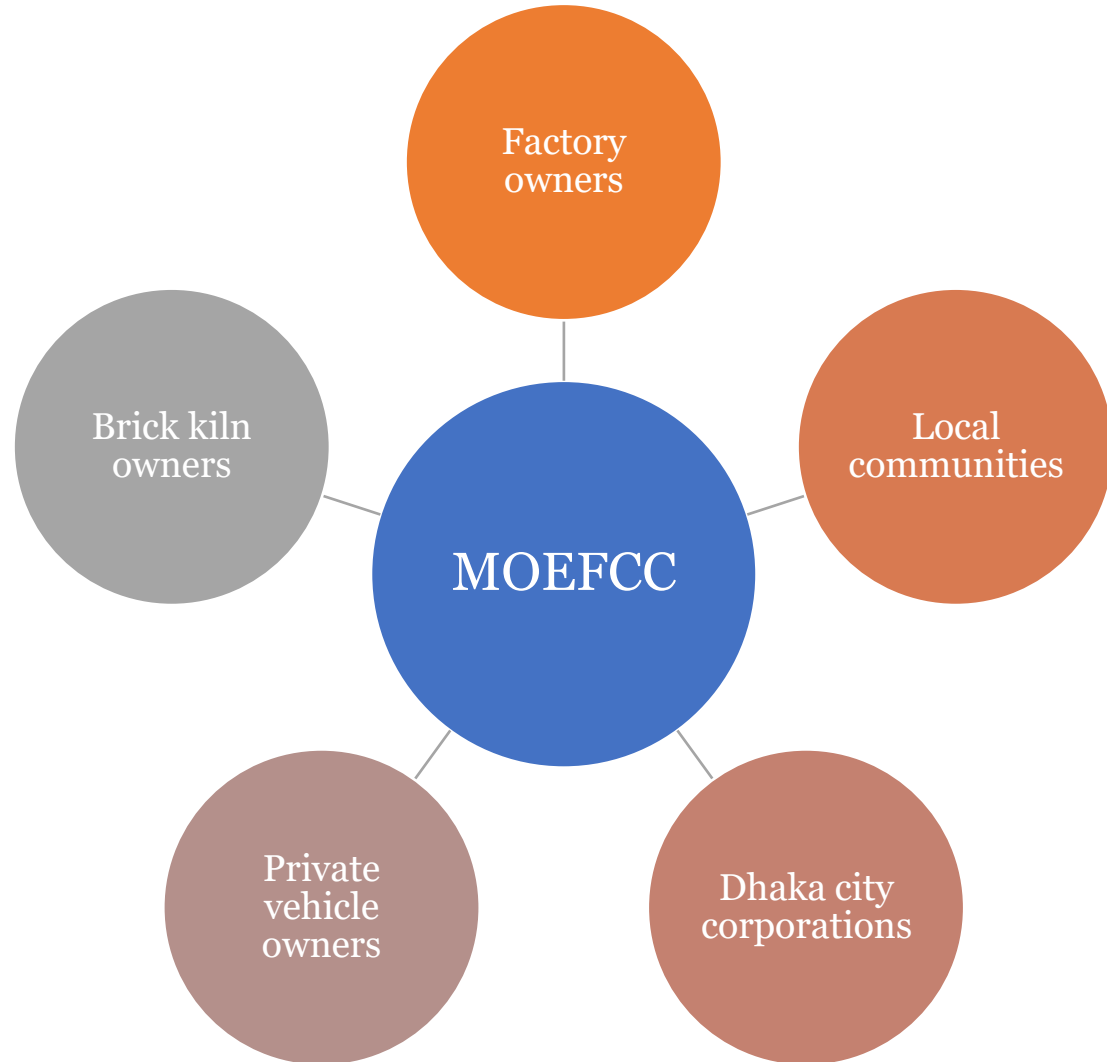
Only **5% females** agreed that raising public awareness on the health and environmental problems associated with car use could make them reduce using their car and **13% female vehicle owners** stated that they would reduce using cars if the transportation was improved.



Whereas **16% males** agreed that raising public awareness on the health and environmental problems associated with car use could make them reduce using their car, which indicates that they may be more responsive to awareness campaigns in this context. Moreover, **32% male vehicle owners** showed interest to reduce using their cars if the mass transportation facility was improved.

3.1 Perception of air pollution (cont.)

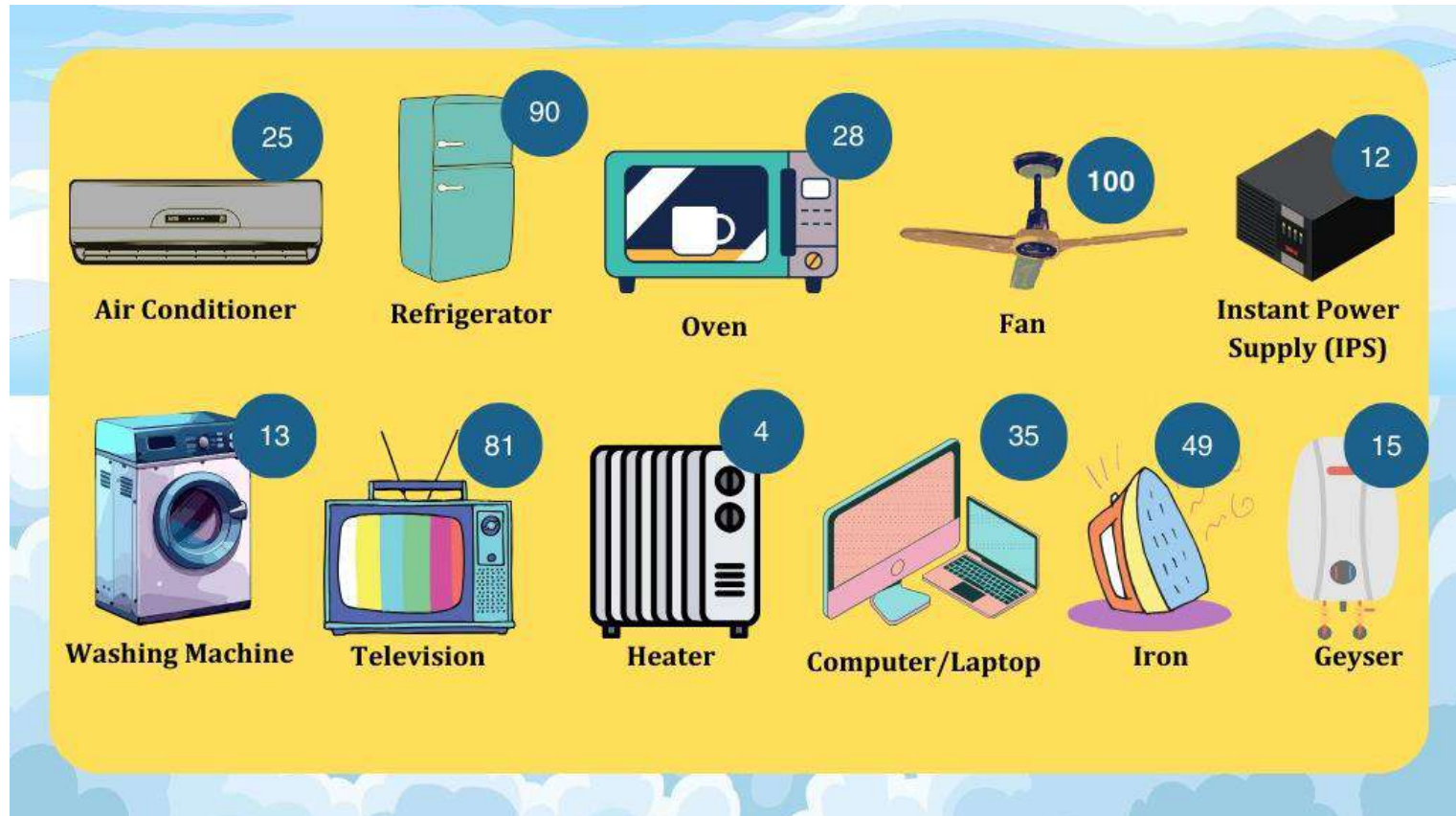
- More than **33%** of the respondents thought that combating air pollution will not be possible without collaboration of both private and public sectors.
- It is the responsibility of everyone including **Dhaka City Corporation, Ministry of Environment, Forest and Climate Change (MoEFCC), factory and brick kiln owners, private vehicle owners, and local communities.**



3.2 Household practices

- As energy generation from fossil fuels is a significant factor in air pollution, an inventory of electronic appliances was recorded with the aim of gaining insights into the households' indirect contributions to air pollution in Dhaka city.

Figure: Electronic appliances owned by households (in percentage)

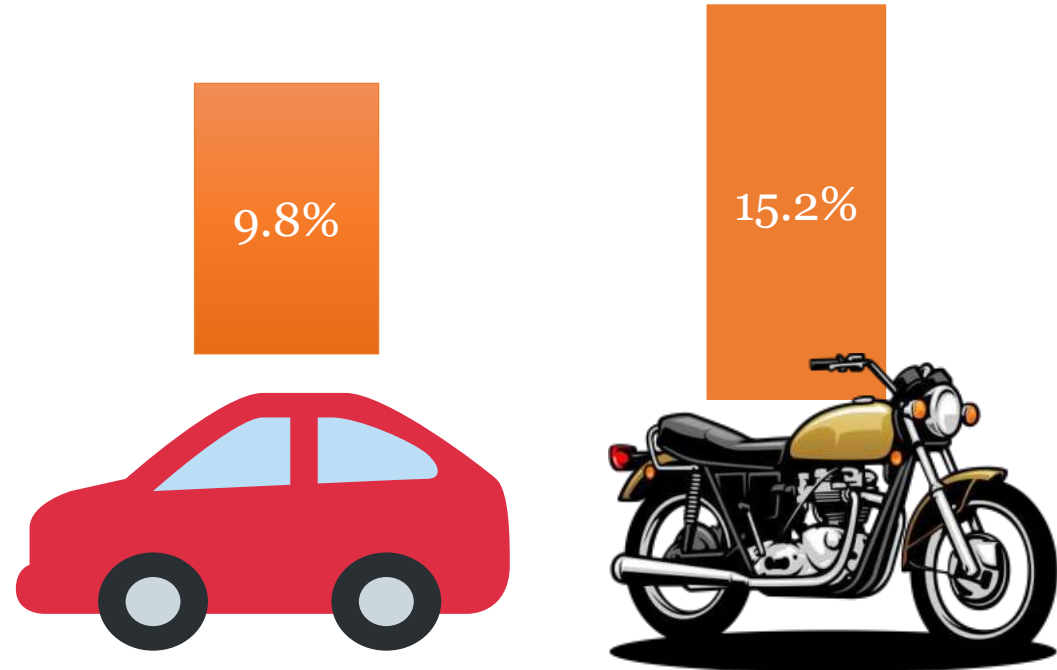


3.2 Household practices (cont.)

- ACs equipped with inverters consume less energy and therefore emit less carbon dioxide (CO₂) in the atmosphere
- However, around **24%** of the household owned ACs that did not have an inverter
- All households had a fan, and the majority of households had refrigerators and TVs.
- Whereas ownership of heaters and geysers in the households was rarely found, primarily due to the predominantly hot weather in Bangladesh
- Nearly **65%** of the households surveyed did not have an exhaust fan in their kitchens and **39%** of households had at least one member who smoked cigarettes, cigars, e-cigarettes, vapes, hookahs, or pipes, **which poses a higher threat of being affected by indoor air pollution**
- In June 2023, the average electricity bill of the households was **BDT 2,118** and the **maximum electricity bill was BDT 25,000**

3.2 Household practices (cont.)

Figure: Vehicles owned by households

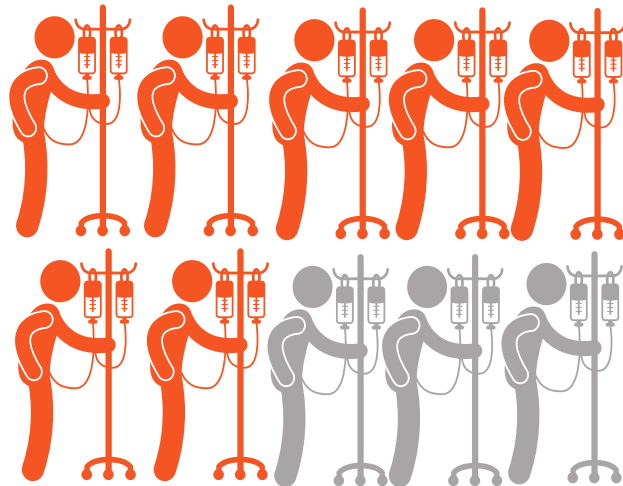
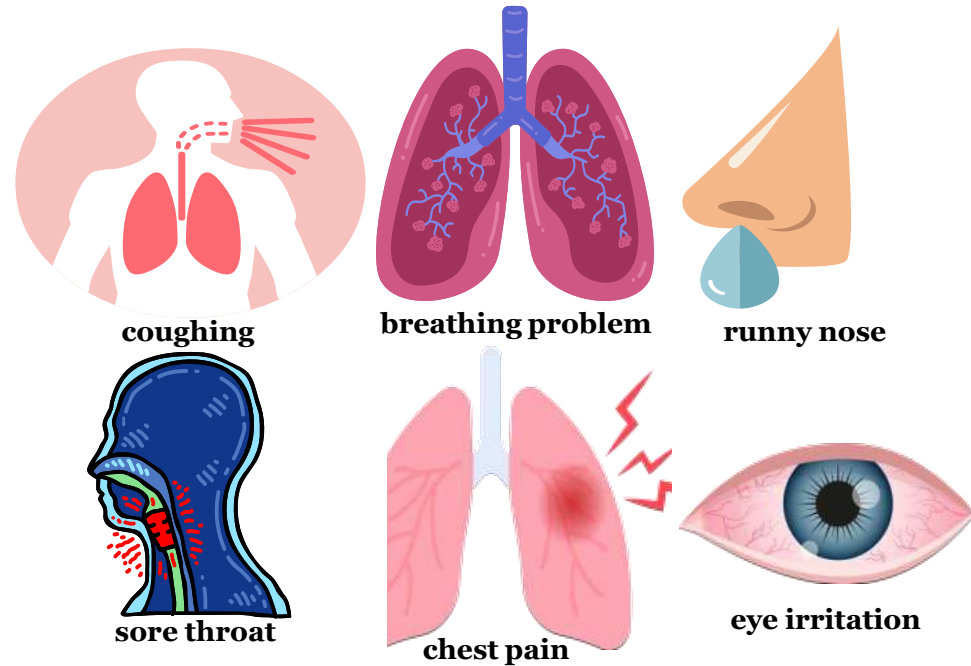


- According to the survey, city dwellers in Dhaka waste approximately **276 hours a year** just sitting in traffic congestion



3.3 Health concerns

- Air pollution increases the risk of stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma, the primary symptoms of which include **coughing, breathing problem, runny nose, sore throat, chest pain and eye irritation**

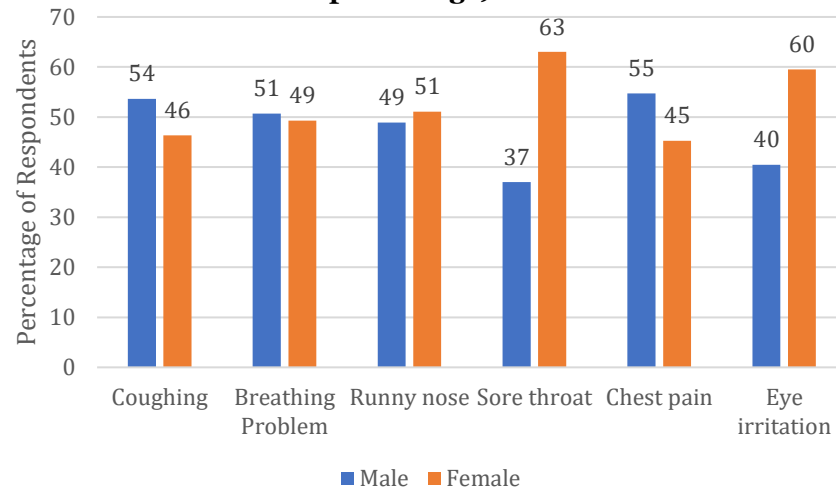


- Approximately **7 out of 10 respondents** reported that they have suffered from these symptoms associated with air pollution in the last one year.

3.3 Health concerns (cont.)

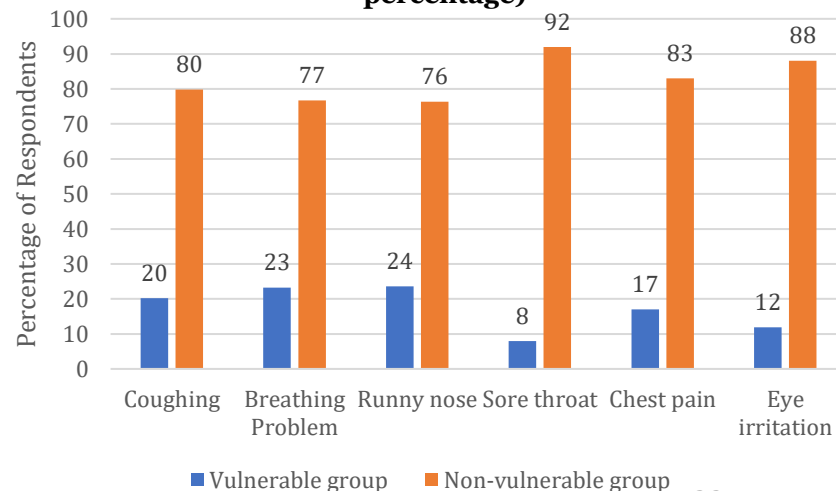
- Having a **sore throat and eye irritation** seemed to be more common in **women** than men
- **Males** were more likely to have **chest pain** than females
- Overall, **51%** of the sick members were **female**
- **Children under five years and elderly people above 65 years** are considered **vulnerable age groups to air pollution** and on average, **20%** of sick family members were belong to these **vulnerable age groups**
- The most common health problems among the vulnerable age group are **runny nose and breathing problem**
- The study also found out that **residing with someone who smokes in the same household increases the risk of getting affected by these symptoms by 86%**

Figure: Symptoms attributed to air pollution by gender (in percentage)



Source: Authors' own illustration based on survey data

Figure: Symptoms attributed to air pollution by age group (in percentage)



Source: Authors' own illustration based on survey data

3.3 Health concerns (cont.)

- In total, individuals in Dhaka city took **2,117 days** off from work and school in the last year due to the symptoms attributed to air pollution.
- Moreover, individuals tend to take more days off for **breathing problem** than any other symptoms attributed to air pollution

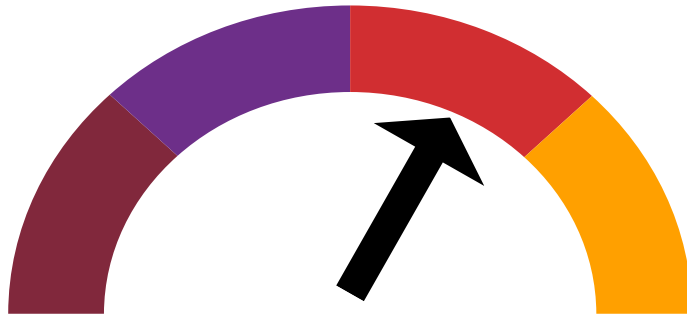


- On average, individuals spent **BDT 4,000** per year to diagnose and treat symptoms associated with air pollution.
- Whereas **the government's budget allocation on health per person was BDT 2,228** in FY24

3.4 Awareness



More than **90%** of the respondents expressed their concerns regarding the rising air pollution in the cities of Bangladesh.



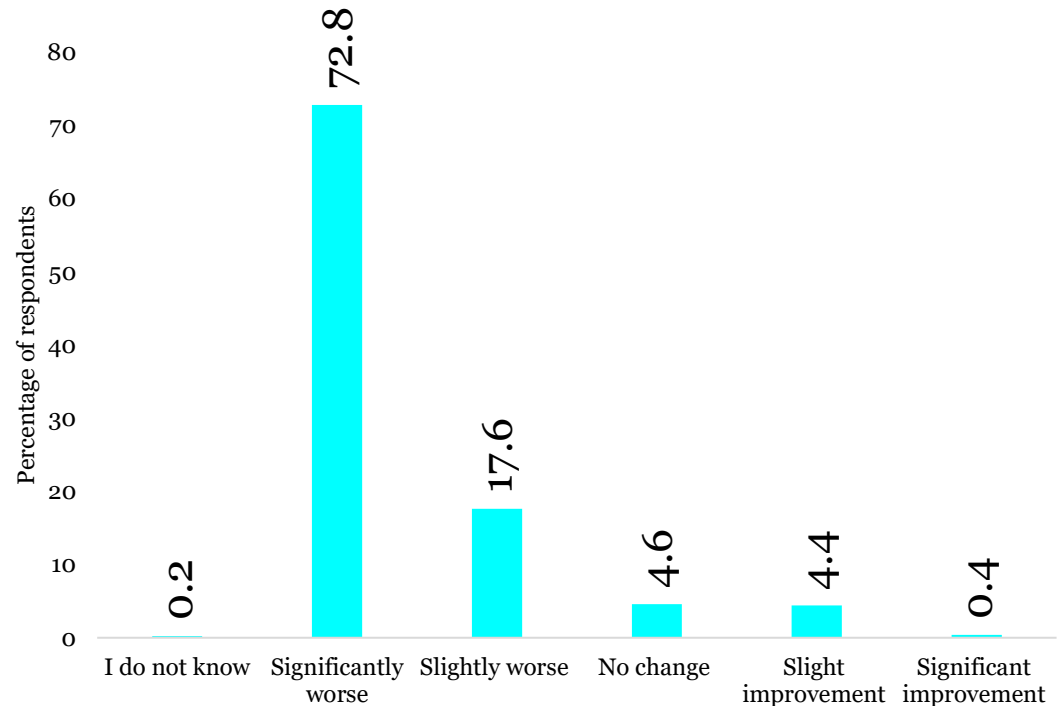
40% of the respondents rated the air quality in their neighbourhood as **unhealthy**.

4. Findings of the survey for plastic pollution

4.1 Perception of plastic pollution

- When survey participants were asked to assess the level of plastic pollution in their neighbourhoods, approximately 73% stated that plastic pollution had worsened over the past 2 to 3 years.
- Only 9% of the respondents indicated that the level of plastic pollution either remained unchanged or improved

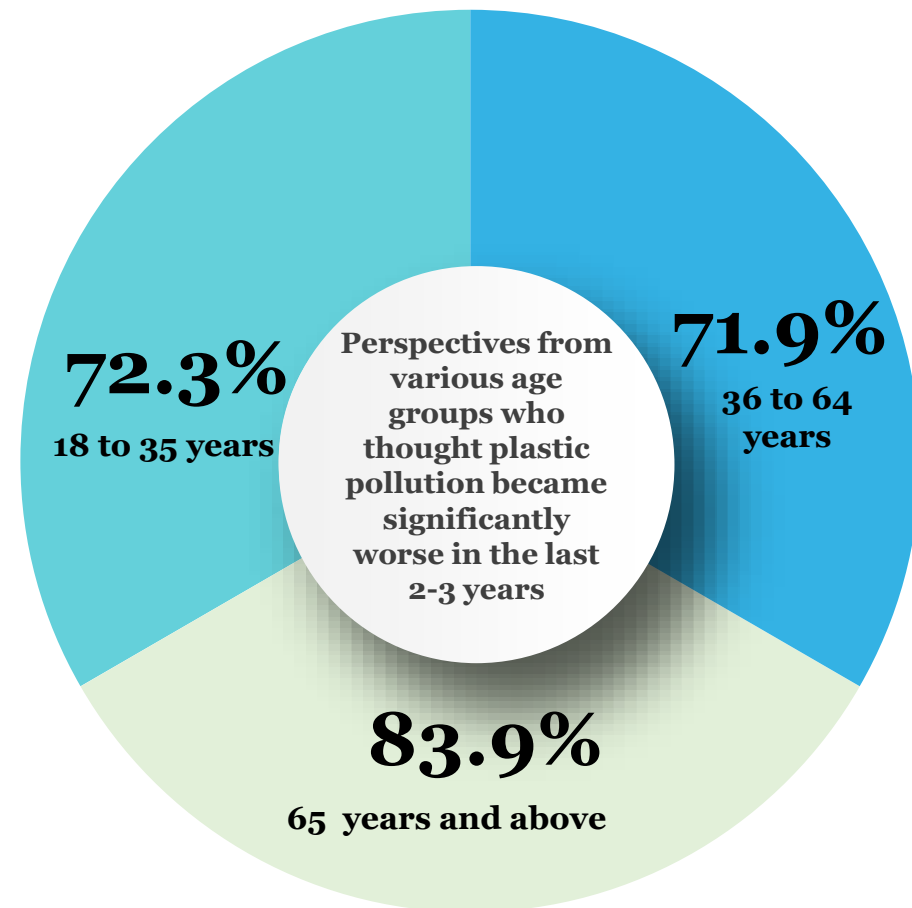
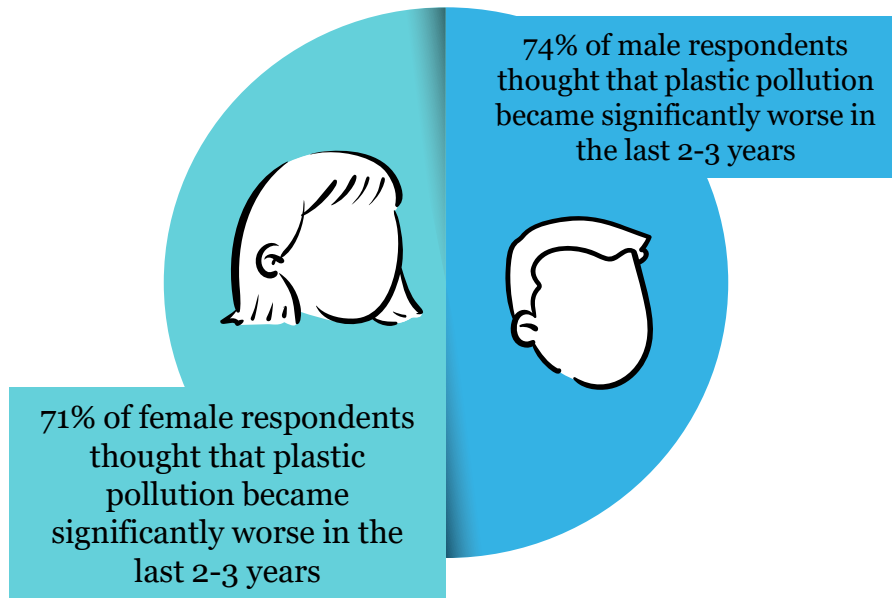
Figure: Perceived change of plastic pollution in surrounding neighbourhoods in the last 2-3 years



Source: Authors' illustration based on survey data

4.1 Perception of plastic pollution (cont.)

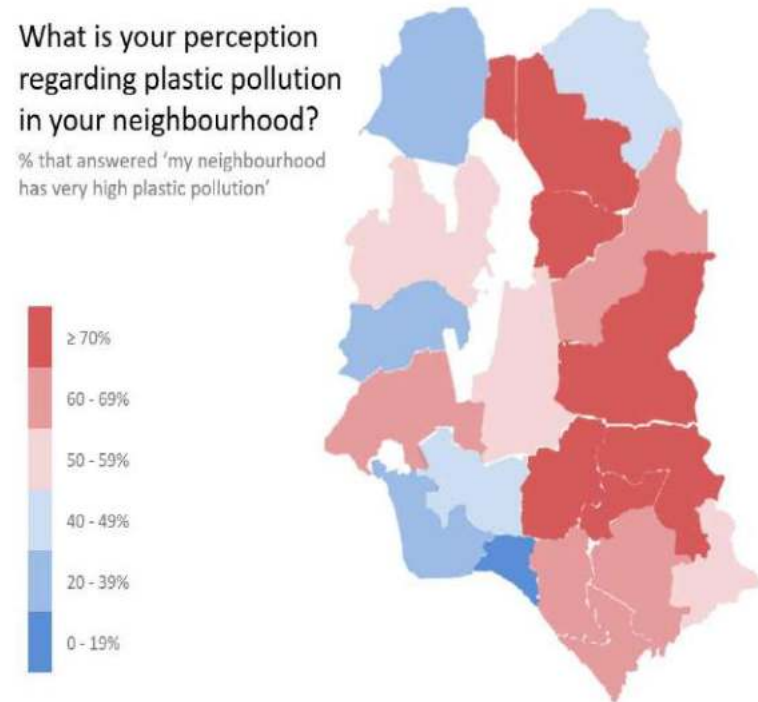
People across the demography strongly believe plastic pollution has worsened significantly in the last 2-3 years.



4.1 Perception of plastic pollution across (cont.)

- Respondents who claimed their neighbourhoods had a high level of plastic pollution were predominantly located in the eastern part of Dhaka.
- Both the North City Corporation and South City Corporation regions showed a similar prevalence of high plastic pollution.
- However, it was notable that the eastern areas of Dhaka appeared to be more severely affected by plastic pollution compared to the western areas.
- Furthermore, 57% of the surveyed households have reported that their local neighbourhoods exhibit extremely high levels of plastic pollution.

Figure: Current perceived level of plastic pollution by region



Source: Authors' illustration based on survey data

4.2 Perceived measures against plastic pollution

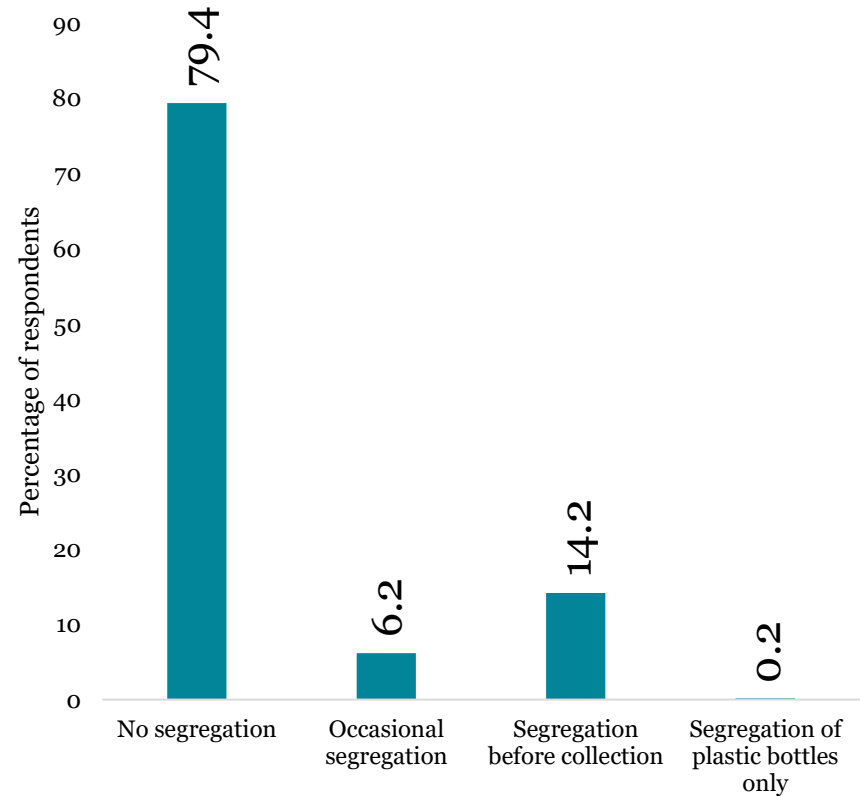


It was evident that respondents who were female and respondents who were aged between 18 to 35 years had a slightly stronger belief that the availability of an alternative to plastic would incentivise them to reduce the usage of polythene bags.

4.3 Household practices

- Households generally lack the habit of segregating waste at its source and often have limited awareness regarding appropriate methods for disposing of plastic waste.
- Approximately 79% of respondents admitted to not separating their household plastic waste.
- Additionally, about 14% indicated that they only begin separating their household plastic waste just before waste collectors arrive to collect it.
- A mere 6% of respondents stated that they occasionally segregate their household plastic waste.

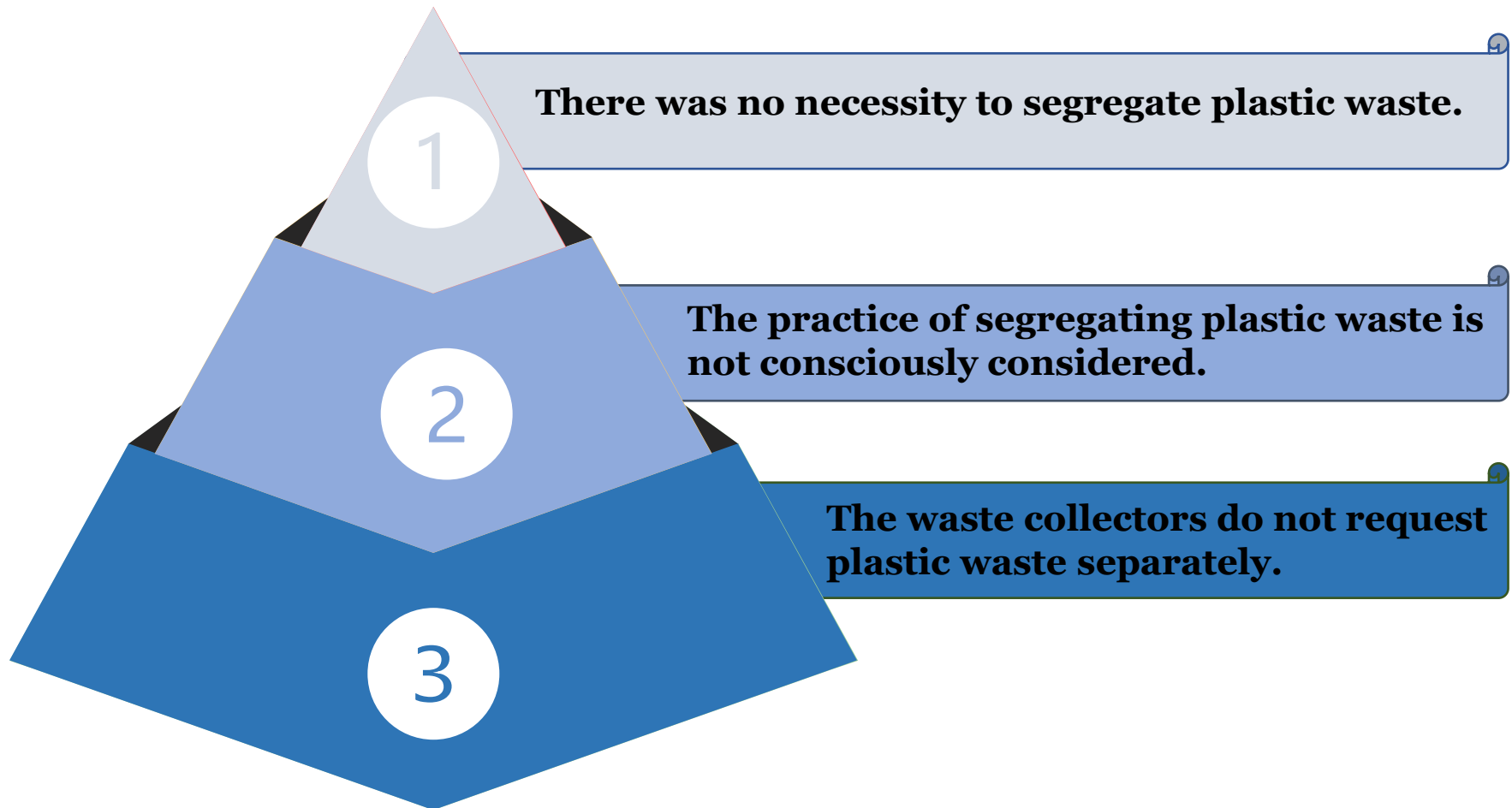
Figure: Practices to separate household plastic waste



Source: Authors' illustration based on survey data

4.3 Household practices (cont.)

Top 3 reasons for not segregating plastic waste



4.3 Household practices (cont.)

There is substantial reliance on the informal sector within Dhaka's waste management system.

47% of the household waste is collected by the informal sector.



44% of the household waste is collected by representatives from the city corporation.



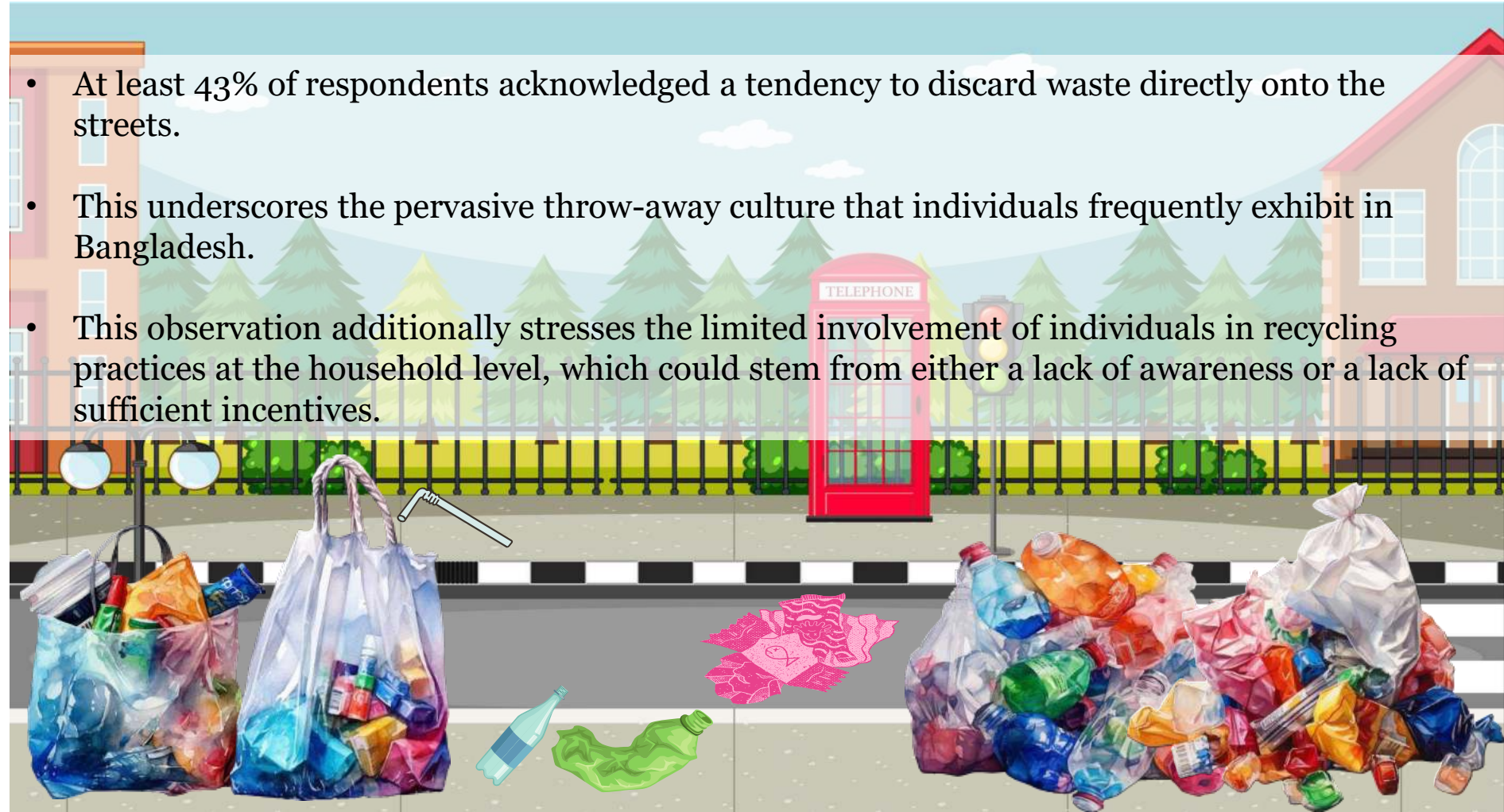
4.3 Household practices (cont.)



63% of households do not recycle their durable plastic products

4.3 Household practices (cont.)

- At least 43% of respondents acknowledged a tendency to discard waste directly onto the streets.
- This underscores the pervasive throw-away culture that individuals frequently exhibit in Bangladesh.
- This observation additionally stresses the limited involvement of individuals in recycling practices at the household level, which could stem from either a lack of awareness or a lack of sufficient incentives.



4.3 Household practices (cont.)

The total number of single-use plastic items in 500 households



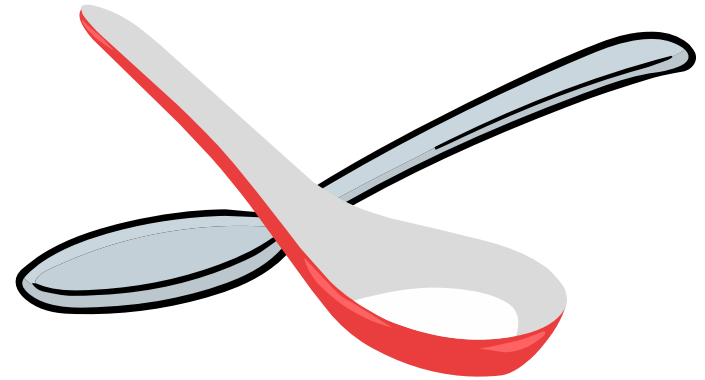
Substantial plastic waste is generated by households alone.

However, it is essential to recognise that the overall generation of single-use plastic waste across all sectors of the economy is significantly higher

Source: Authors' illustration based on survey data

4.4 Health concerns

- In Dhaka city, households often utilise plastic utensils with their food.
- Plastic food containers and utensils contain numerous additives that have a tendency to leach out when exposed to heat which affects human health (Proshad, et al., 2018).
- These plastic utensils are usually a form of thermoset known as melamine which cannot be remodelled or remelted, making it difficult to recycle these materials (Geyer, 2020).



Approximately 34% of the households confirmed a frequent practice of utilising plastic utensils with meals.

Proshad, R., Kormoker, T., Islam, M. S., Haque, M. A., Rahman, M. M., & Mithu, M. M. (2018). Toxic effects of plastic on human health and environment: A consequences of health risk assessment in Bangladesh . *International Journal of Health*, 6(1), 1-5. doi:10.14419/ijh.v6i1.8655

Geyer, R. (2020). A Brief History of Plastics. In *Mare Plasticum – The Plastic Sea: Combatting Plastic Pollution Through Science and Art* (pp. 31-47). Springer. Retrieved July 26, 2022, from http://www.lavoisier.eu/books/environment/mare-plasticum-the-plastic-sea/description_4274677

4.4 Health concerns (cont.)



Plastic pollution has a notable influence on the quality of water, with a particular emphasis on groundwater.



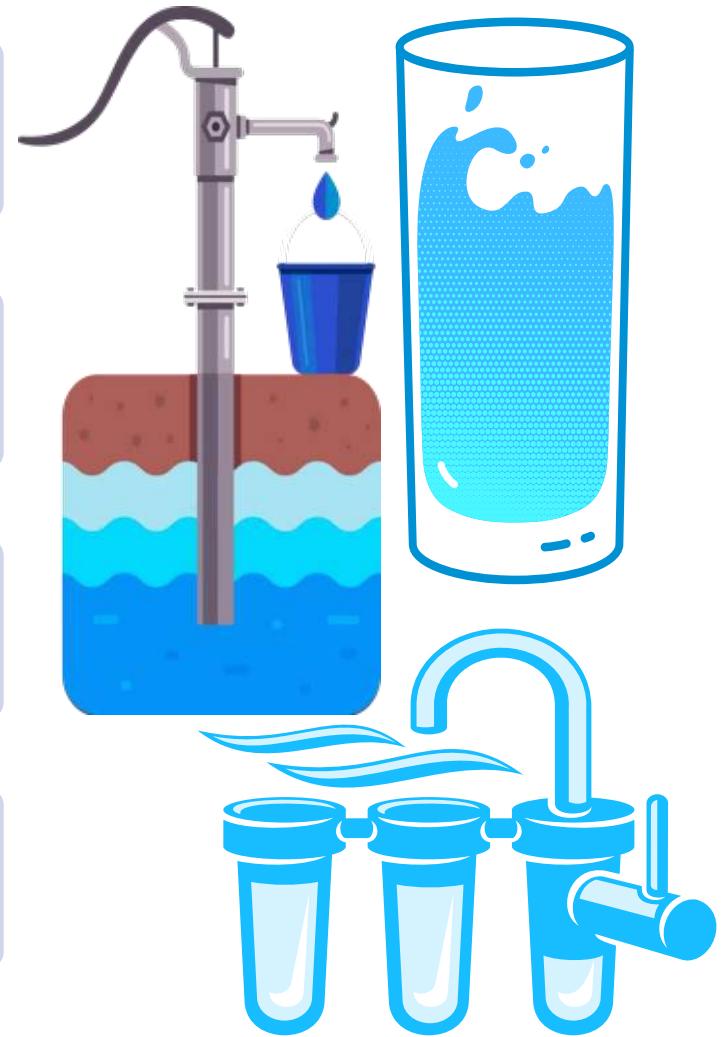
Microplastics and nano-plastics are prevalent constituents of groundwater.



They can contaminate drinking water sources, accumulate in the food chain, and emit hazardous chemicals that may contribute to illnesses (Yuan, Nag, & Cummins, 2022).



As such a substantial concern pertains to the absence of adequate household water filtration systems.



4.4 Health concerns (cont.)

Low Socioeconomic Stratum

- 54% of respondents do not treat their drinking water.
- About 39% resort to boiling their water, and only around 3% of households filter their drinking water.

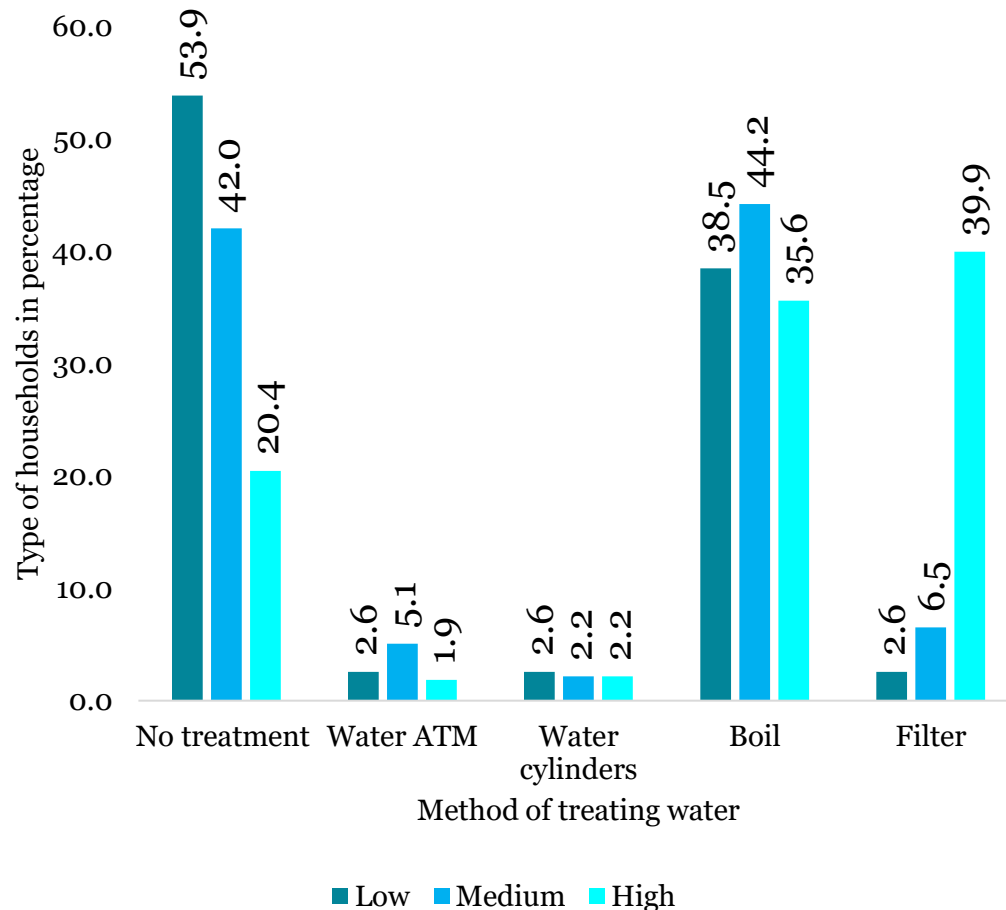
Medium Socioeconomic Stratum

- 42% of the households reported not treating their drinking water.
- 44% reported boiling their water before drinking.
- A mere 6.5% of the households filter their drinking water.

High Socioeconomic Stratum

- Expectedly most households have an appliance to filter their water before drinking.
- However, intriguingly 20% of the households belonging to this stratum also admitted to not treating their water at all before drinking it.
- Additionally, about 36% of the households reported to boil their drinking water.

Figure: Methods of treating drinking water by type of households



Source: Authors' illustration based on survey data

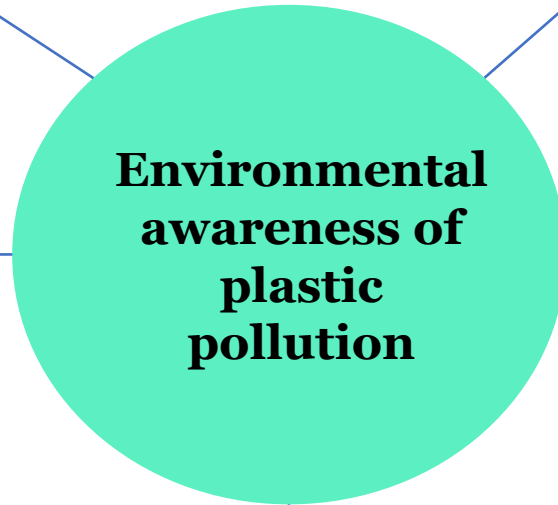
4.5 Awareness of plastic pollution



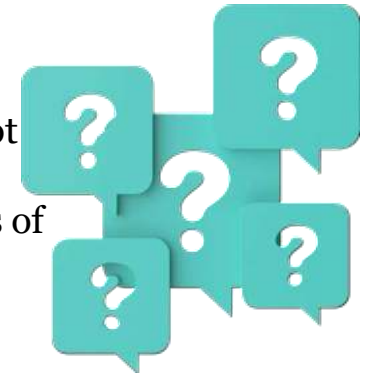
At least 74% knew that burning plastic wastes lead to air pollution.



At least 67% knew that plastic wastes had blocked sewage systems causing urban flooding.



At least 11% were not aware of any of the environmental effects of plastic pollution.

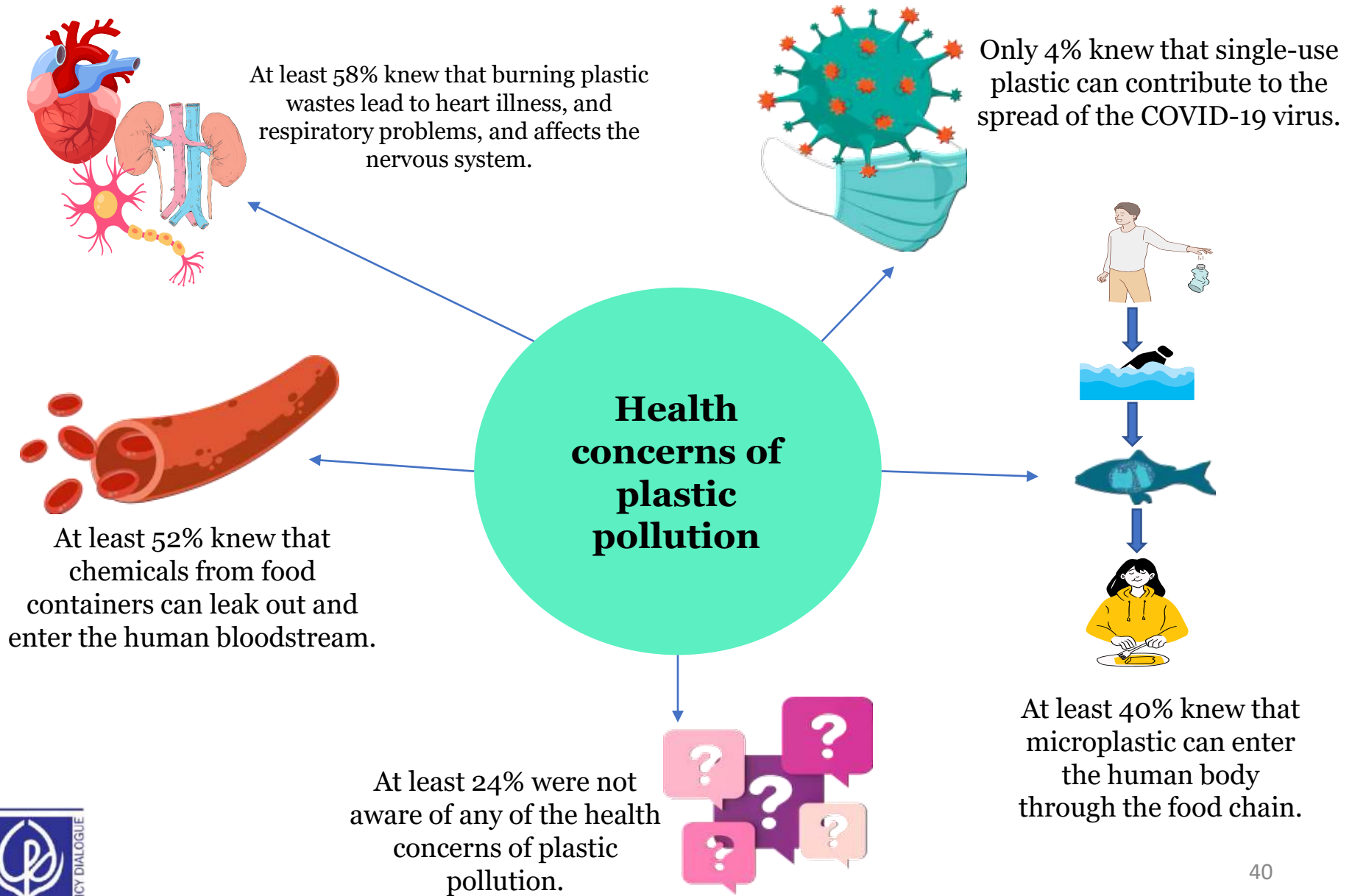


At least 13% knew that plastic particles are ingested by marine species.

At least 62% knew that plastic wastes lead to water pollution.



4.5 Awareness of plastic pollution (cont.)



5. Notable positive steps taken by the government

5.1 Constitutional commitments about public health and the natural environment

- The Government of Bangladesh is dedicated to safeguarding public health and protecting the natural environment.
- Article 18 of the Constitution of the People’s Republic of Bangladesh mentions:
 - *“The State shall regard the raising of the level of nutrition and the **improvement of public health as among its primary duties....**”*
- Article 18A of the Constitution of the People’s Republic of Bangladesh mentions:
 - *“The State shall endeavour to **protect and improve the environment** and to preserve and safeguard the natural resources, bio-diversity, wetlands, forests and wild life for the present and future citizens”*

5.2 Notable positive steps taken by the government during the project period

- In the first phase of the Green Cities Initiative, CPD emphasised the role of vehicular emissions as a major contributor to air pollution in Dhaka, and recommended the government to adopt fiscal measures to discourage the purchase and use of private cars.
 - In the budget for the FY2024, the government announced that **surcharge would be levied on owners of multiple vehicles.**
- In this first phase outputs of the Green Cities Initiative, CPD highlighted how brick kilns are a major source of air pollution in Dhaka.
 - **A prohibition on the use of fuel woods in brick kilns and the operation of all unlawful brick kilns was ordered by the High Court on 12 November 2022**, with notices to be sent by all district deputy commissioners within seven days

5.2 Notable positive steps taken by the government during the project period (cont.)

- In the first phase of the Green Cities Initiative, CPD recommended the government to reduce plastic pollution through international collaboration with neighbouring countries.
 - Between 29 May 2023 to 2 June 2023, **representatives from Government of Bangladesh attended the Second Session of the Intergovernmental Negotiating Committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment, in Paris**
- In the first phase of the Green Cities Initiative, CPD recommended city corporations to facilitate a network between plastic manufacturers and waste collectors to increase the collection of all types of plastic items.
 - At a ceremony held at the Radisson Blu Chattogram Bay View on June 23, 2023, **Unilever Bangladesh Limited, Chattogram City Corporation, and Young Power in Social Action signed a Memorandum of Understanding (MoU) to enhance plastic circularity in Chattogram City Corporation**

6. Conclusions

6.1 Conclusion

- Across both air and plastic pollution, residents' high levels of concern are not matched with necessary behaviour changes to reduce their contribution to the problem. Awareness of the problem has not yet developed into action.
- This points to the need for government and industry action to enable people to make more environmentally-friendly choices. Sufficient investment in sustainable alternatives including an affordable and comprehensive public transit system and a well-organised waste management system will be necessary to encourage people to play their part in reducing air and plastic pollution within Bangladesh's cities.
- To motivate individuals to begin to change their habits these “carrots” may need to be matched with “sticks” to discourage people from sticking to their old behaviours. Options should be explored, including measures to discourage private vehicle use and methods to ensure a charge on polythene bags can be well enforced.
- While consumer behaviour change will be a key part of a transition to a greener city, we must not lose sight of the limits of individual behaviour. Alongside these policies, the government of Bangladesh must also continue to work with the private sector to tackle industrial issues such as irresponsible construction practices and investment in sustainable alternatives to fossil fuels.

7. Policy Recommendations

7.1 Policy recommendations for reducing air pollution

Regulatory measures

- **Phasing out fixed chimney brick kilns by 2028:** The Government of Bangladesh (GoB) should pass a regulation which requires the phasing out of all fixed chimney brick kilns in Bangladesh by 31 December 2028, and completely shifting all brick manufacturing to less polluting forms of brick kilns, such as Improved Zigzag Kilns, Hybrid Hoffman Kilns, and Vertical Shaft Brick Kiln.
- **Phasing out coal-based powerplants:** The GoB should immediately stop approving any new coal-based powerplants, and gradually decommission and phase out all existing coal-based powerplants, including the Rampal powerplant near Sundarbans which is apprehended to destroy the ecosystem.
- **Formulating regulations for construction sites and implementing those:** Construction sites should be subject to regulation in order to guarantee the appropriate storage, covering, and transportation of building materials. Furthermore, it is essential for the government to establish a comprehensive regulatory framework and implement effective dust control measures in order to effectively manage and regulate emissions stemming from construction operations.

7.1 Policy recommendations for reducing air pollution (cont.)

Economic measures

- **Exempting VAT for renewables:** An extensive policy that considers VAT exemption on all types of equipment in a renewable power plant, especially solar power plants, should be considered.
- **Offering incentive tariff to renewables:** An incentive tariff can be considered for electricity generated from renewables according to the Renewable Energy Policy 2008, which allows electricity generated from renewable sources to be priced 10% higher than the highest purchase price of electricity generated from fossil fuel sources.
- **Implementing environment surcharge:** The Finance Act of 2014 set a 1% surcharge on the goods produced by industries polluting the environment. This environment protection surcharge should be fully implemented.

7.1 Policy recommendations for reducing air pollution (cont.)

Economic measures

- **Introducing carbon tax:** Bangladesh can implement a carbon tax equivalent to 3% of the price of fossil fuels starting from the next fiscal year, in order to gradually meet the government's target, set out in the Eighth Five Year Plan which aims to implement a 5% carbon tax on the price of fossil fuels by 2025 and 15% carbon tax on the price of fossil fuels by 2041.
- **Phasing out fossil fuel subsidies:** The government should phase out fossil fuel subsidies starting from the next fiscal year in line with recommendations from the International Monetary Fund (IMF). Initially, all fossil fuels may be sold at the international market price and this price may be updated each month. Instead, the government can redirect the funds currently allocated to fossil fuel subsidies to the development of green energy.

7.1 Policy recommendations for reducing air pollution (cont.)

Economic measures

- **Encouraging hybrid, electric vehicles, and hydrogen vehicles:** In order to reduce air pollution originating from the transport sector, the government should reform the advance income tax (AIT) structure on private motor vehicles so that the AIT on fossil fuel driven motor vehicles is 5% to 50% higher than the AIT on hybrid, fully electric vehicles, and hydrogen vehicles, depending on the size of engine and electric motor of the vehicle.
- **Introducing advance income tax for motorcycles:** In addition to the AIT on private motor vehicles, the government should also consider imposing a small AIT on all motorcycles.

7.1 Policy recommendations for reducing air pollution (cont.)

Institutional measures

- **Introducing computerised emissions testing of automobiles:** The Bangladesh Road Transport Authority (BRTA) should consider implementing computerised emissions testing for all vehicles. Fitness certificates should only be issued to vehicles which are able pass computerised emissions testing.
- **Improving air quality monitoring:** The Department of Environment (DoE) should establish air quality monitoring stations from next year. This may initially be in every ward of Dhaka city and eventually nationwide. Such a network of air quality monitoring stations should publicly display the air quality parameters in real-time on large screens, and also publish air quality data online in real time.

7.1 Policy recommendations for reducing air pollution (cont.)

Institutional measures

- **Promoting non-motorised transport:** Dedicated cycling lanes and pedestrian-friendly infrastructure should be developed wherever possible, to encourage walking and cycling as alternative modes of transportation.
- **Creating and protecting green spaces and urban planning:** Urban green spaces in established cities like Dhaka and Chittagong should be protected from encroachment. Burgeoning cities across the country should be designed with at least one-third of urban built-up areas reserved for green spaces. All city corporations across the country should be instructed to develop more parks, green spaces, and urban forests to absorb pollutants and provide oxygen.

7.1 Policy recommendations for reducing air pollution (cont.)

Social measures

- **Increasing public understanding of air pollution:** It is vital to generate widespread public understanding and disseminate information to the citizens of our country on the detrimental impacts of air pollution on human well-being. The GoB should launch nationwide public awareness campaigns to educate citizens about the health risks of air pollution and the importance of reducing their personal contributions.
- **Broadcasting and publishing air quality indicators with weather forecasts:** The Ministry of Information and Broadcasting should instruct all television channels and radio stations to broadcast air quality indicators along with weather forecast reports.

7.2 Policy recommendations for reducing plastic pollution (cont.)

Regulatory measures

- **Enforcing ban on polythene bags:** The GoB should strictly enforce ban on polythene bags. Polythene bag manufacturing equipment should be seized and destroyed. All retailers offering polythene bags should be fined heavily. Once polythene bags are completely out of the market, there will be a conducive environment for alternatives to flourish.
- **Promoting polythene alternatives:** Alternatives to polythene bags, such as paper bags, cloth bags, and bags made of other sustainable materials should be sold to consumers at a nominal price to make it more feasible for all retailers to adopt and provide them to customers. The provision of free shopping bags should be prohibited by law, to encourage consumers to carry their own bags and reuse bags.
- **Developing a national framework for Extended Producer Responsibility (EPR):** The GoB, in consultation with the private sector and experts should develop and implement a national framework for EPR that requires producers and manufacturers to take responsibility for the entire lifecycle of their plastic products, including collection and recycling.

7.2 Policy recommendations for reducing plastic pollution (cont.)

Regulatory measures

- **Phasing out single-use plastic by 2028:** The GoB should pass a regulation which requires phasing out of single-use plastic products by 31 December 2028. Such single-use plastic products may include, inter alia, forks, knives, spoons, chopsticks, plates, straws, beverage stirrers, sticks to be attached to and to support balloons, food containers made of expanded polystyrene, beverage containers made of expanded polystyrene, and cups for beverages made of expanded polystyrene.
- **Promoting the use of sustainable materials:** To promote sustainability in Bangladesh, regulations mandating a minimum amount of recycled materials to be used in product packaging should be formulated.
- **Making government offices plastic-free:** The GoB should lead by example by making all government offices and agencies plastic-free zones and implementing policies to eliminate single-use plastics in government operations.

7.2 Policy recommendations for reducing plastic pollution (cont.)

Economic measures

- **Introducing a plastic tax:** The government should consider bringing plastic products made with less than 30% recycled plastic under taxation. Such a measure will encourage recycling of plastic and reduce the use of virgin plastic.
- **Reinstating 5% supplementary duty on plastic bags:** The 5% supplementary duty on plastic bags which was withdrawn in fiscal year 2023 should be reinstated immediately.
- **Increasing customs duty on plastic wastes:** The relatively low customs duty on plastic wastes needs to be raised. This will raise the cost of importing plastic wastes, causing plastic makers to find their raw materials domestically, boosting domestic plastic recycling.

7.2 Policy recommendations for reducing plastic pollution (cont.)

Economic measures

- **Investing in technology to support the recycling of multi-layer plastic (MLP):** Bangladesh requires the appropriate technology to recycle MLP. The usage of virgin plastic resin may potentially decline substantially if firms acquire such technological support to recycle MLP.
- **Investing in technology for pyrolysis:** Pyrolysis may regenerate petroleum from plastic waste for fuel. This is important because it will raise demand for all plastics and lessen Bangladesh's dependence on imported petroleum. It is crucial to note that such a procedure requires advanced equipment and might be costly to scale up.
- **Providing low interest loans to plastic recycling industries:** Bangladesh Bank should instruct commercial banks to provide low-interest loans to encourage the growth of plastic recycling industries and innovation in plastic recycling technologies.

7.2 Policy recommendations for reducing plastic pollution (cont.)

Institutional measures

- **Establishing recycling centres:** The GoB should establish waste recycling centres, initially in all wards of all city corporations and eventually nation-wide. These recycling centres should provide trash-to-cash schemes to incentivise waste collectors to collect more waste and increase overall recycling of waste. The government should aim to leverage the network of these recycling centres to create a market for single-use plastic waste.
- **Improving links between recyclers and manufacturers:** Links between the local recycling shops and manufacturers need to be established and strengthened on a national scale in order to increase the collection of polythene bags and PET bottles.
- **Engaging the informal sector:** The informal sector should be formalised by municipalities by providing resources and training to separate plastic garbage from homes and secondary collection sites. The city corporation has the means and capacity to teach trash collectors to separate plastic waste.
- **Monitoring and reporting:** The government should establish a system for monitoring and reporting plastic pollution levels, including regular assessments of rivers, water bodies, and public spaces. Such data should be shared with the public and stakeholders to maintain transparency and accountability.

7.2 Policy recommendations for reducing plastic pollution (cont.)

Social measures

- **Launching public awareness campaigns:** The government should launch educational campaigns to raise awareness about the environmental impact of plastic pollution and promote responsible plastic use. Such campaigns should engage schools, community-based organisations, non-government organisations, and media in spreading the message.

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