

# Assessing Daily Plastic Bag Consumption and Consumer Perceptions on Environmental Awareness: A Case Study in Bago, Myanmar

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## Key Findings:

- Bago marketplaces consume 1.487 tons of plastic bags monthly, contributing significantly to pollution.
  - Despite knowing the environmental impacts, buyers and sellers prefer plastic bags due to convenience and affordability.
  - Alternatives are costly or impractical for many users.
  - Legal enforcement and awareness campaigns are key to reducing plastic bag usage.
  - NGOs and CSOs can promote eco-friendly practices and support public education initiatives.
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## Executive Summary

Marketplaces are significant hubs in the battle against plastic bag pollution due to the high volume of people they attract. This policy brief utilized interviews employing qualitative methods to gather data. A total of 45 individuals, comprising 30 sellers and 15 buyers, were interviewed in Bago. As for finding, plastic bag users are unwilling to change their plastic bag consumption even though they know the environmental issues of using plastic bags because they have many challenges to face. Furthermore, this study revealed that on average, a single seller uses 1.9 kg of plastic bags per day and 57 kg per month. Extrapolating from this, the estimated monthly plastic bag usage in the marketplace amounts to 1.487 tons, a substantial figure. Hence, marketplaces play a pivotal role in mitigating plastic bag pollution. The study suggests that Non-Governmental Organizations (NGOs) and Civil Society Organizations (CSOs) should conduct regular awareness campaigns at these venues to educate participants on the environmental impact and health hazards associated with plastic pollution. And to raise public awareness of its imperative to emphasize that such negative consequences infringe upon human rights.

## Introduction

Nowadays people suffer the effects of various types of pollution, which leads to the disturbance of environmental rights. Moreover, developing countries suffer more than developed countries. Plastic pollution is a global problem nowadays, especially plastic bag pollution ( Marnn, et al., 2021). These bags became popularized rapidly in the last quarter of the 20th century (Jalil, et al., 2013). In Myanmar, the pollution risks are more visible without research. The rivers and oceans of Myanmar and other countries cannot sustain the water clean due to plastic bags ( Marnn, et al., 2021). And it gradually leads to water pollution and water scarcity too. According to the survey of plastic in the Irrawaddy river basin, home to 60% of Myanmar's population, an estimated 119 tons of plastic waste wash into the ocean every day from the mouths of the Irrawaddy. Primarily from the population in the deltaic area of the Irrawaddy Region, contributing an estimated 32 tons, Yangon is estimated to contribute 29 tons of plastic per day (Myanmar Center for Responsible Business, 2019).

In 2022, the United Nations General Assembly affirmed everyone's right to a clean, healthy, and sustainable environment, highlighting the interdependence of human rights and

environmental health (United Nations Development Programme, 2022). As human rights and the environment are interdependent, a healthy and sustainable environment is necessary for the full enjoyment of a wide range of human rights, such as the rights to life, health, food, water sanitation, and development, among others (UNDP, OHCHR, and UNEP, 2023).

Bago City was selected as a study site because the main landfill of the city burns every summer and also pollutes the air. Bago City frequently comes to face flooding (Phyo, 2017). Especially, plastic bags can be seen in the river and disposed of in small landfills beside the landside and the river. It leads to pollution. Moreover, the Bago River is one of the basins and flows to the Yangon River, a marine estuary in southern Myanmar, to the Gulf of Martaban of the Andaman Sea (The Editors of Encyclopaedia Britannica, 2023). Therefore, it can cause marine pollution and there is a considerable problem for marine life.

Most domestic plastic bags come from the market where many people meet and market sellers and vendors consume plastic bags. Therefore, the marketplace is one of the important sources and a considerable source to control and reduce plastic bag

pollution. The effective mitigation methods are needed for the above situation.

This study aims to examine the amount of plastic bags consumed in daily life, investigate the reasons behind using plastic, and examine consumers' perceptions regarding their awareness of environmental issues caused by plastic bags.

## **Methodology**

The study employed semi-structured interviews at two marketplaces in Bago: the vegetable market and the household goods market. Using a simple random sampling method, the interviews were designed to capture qualitative data, focusing on the perceptions and attitudes of plastic bag consumers. A total of 45 individuals were interviewed, 30 sellers and 15 buyers providing a balanced perspective on plastic bag usage. Sellers and buyers formed the core of the research, with sellers playing a crucial role as plastic bag distributors, thus justifying their higher representation in the interviews. The objective of interviewing buyers was to gain insight into their perceptions of plastic bags consumption. The interviews were conducted face-to-face, ensuring direct engagement at the marketplace. To ensure comprehensive data, the study included different types

of sellers: 4 fish and meat vendors, 2 vegetable sellers, 4 grocery store owners, 3 fish paste vendors, 2 clothing sellers, 4 food stall vendors, 2 fruit sellers, 1 cosmetic seller, and 6 from other categories. Buyers were selected randomly as they visited the market and willingly participated in the interview.

## **Findings and Discussion**

### **Perception of Plastic Bags Users**

Most buyers prefer to use plastic bags when they bought something from the market because plastic bags are easy to use, getting free, and formerly. But some buyers prefer paper bags because they said that they wanted to reduce plastic bags (BI-5, 7, 8 – 9/1/2024 and BI-12 – 10/1/2024). As from the sellers' answers, just 40% of buyers rejected the plastic bag. Most sellers prefer to use plastic bags too. There are the same reasons that the plastic bags are cheap and as much as they need. One seller answered, "The leaves and paper are troublesome and the resources are less" (SI-5 – 24.12.2023). One person said, "I don't want to use plastic bags but I don't know the solution and I cannot use papers like others because I sell fish paste. Therefore, I can reduce by using one plastic bag for one buyer but some buyers don't like. As for me, the best

solution is the buyers need to bring something to put" (SI-11 – 26.12.2023).

Most sellers and buyers have positive mindsets to reduce and control environmental pollution but face many challenges. Most sellers are interested in alternatives to plastic bags but have no other option.

According to the interview, plastic bag users know about the environmental pollution as the result of plastic bag consumption. Many plastic bag users are aware of environmental issues and dealing with human rights, but they continue to use plastic bags due to their convenience. This behavior leads to environmental problems such as flooding, air pollution from burning landfills, etc., harmful to a healthy environment. However, they are unaware of the consequences of their actions.

And then, among 15 participants of buyers, except some participants don't want to use when the plastic bag cannot get free and the sellers don't use the plastic bag (interviewed with BI-1 – 8/1/2024, BI-9, 10 – 10/1/2024 and BI-14 – 11/12/2024). Moreover, buyers don't want to use plastic bags by taxing except one buyer (interviewed with BI-1 – 8/1/2024). Buyers have the same reasons such as getting free and easy to use and can get everywhere. One buyer

answered that when the government enforces upon the plastic bags by tax, she will always bring the shopping bags (interviewed with BI-7 – 9/1/2024).

When asking the options for controlling, most sellers answered the effective way to plastic bags is law enforcement. But for buyers, sharing awareness is the best way of controlling the method. In the interview, one seller said, “The best way is controlling with the law because we need the force from the government and most people know about the plastic bags pollution and the effects, so the legal control is the only one solution” (interviewed with SI-11 – 26/12/2023). One buyer said “for our country, the sharing knowledge should do as the first step and should do weekly or monthly campaign, the best effective way is the sharing method according to my country’s condition” (interviewed with BI-12 – 10/1/2024).

Most buyers are unwilling to pay fees or taxes for plastic bags and used plastic bags because they are accustomed to from sellers. Sellers think that legal regulations are the most effective way to control plastic bag pollution, while buyers think that legally and share awareness about environmental pollution.

## **The Condition of Plastic Bags Consumption at Marketplace**

Based on information from the market representative, there are approximately 313 sellers across the two markets. To estimate the average kilograms of plastic used by these sellers, calculations were made using two key assumptions. The average daily usage of plastic bags for one seller is 1.9 kg, 57 kg per month. Thus, the estimation of the monthly usage of the whole two markets is 1487 kg or 1.487 tons. This amount is noticeable and noteworthy. Consequently, the marketplace is one of the considerable places to reduce the plastic bags pollution. By controlling and reducing plastic bag consumption in the marketplace, plastic bag pollution can be mitigated indirectly, promoting respect for human rights. Furthermore, buyers reported that most of the plastic bags at home come from marketplaces and 60% of household plastic bags come from this source. Hence, the marketplace is one of the major sources of plastic bag pollution.

## **Conclusions**

This study finds that monthly plastic bag consumption in the selected sites is 1.487 tons and it is quite high that leads to harm to the environment. The perception of users and makes the assumption to reduce plastic bag

pollution and to choose the effective approach for the mitigation process via policy making. From this mitigation, I can lead to environmental justice and human rights too. Thus, stakeholders, social community and consumers can minimize, reject, and reuse.

While this research does not comprehensively cover all aspects of controlling and mitigating plastic bag pollution. However, it will provide for future studies that should be done at supermarkets and small shops or different areas. This will find the controlling methods and finally implement actions to mitigate plastic bag pollution. That will help to create a cleaner and healthier environment that will have a positive impact on people's lives.

### **Recommendations**

According to the data, the use of plastic bags needs to be addressed and minimized. As a result, CSOs and NGOs should focus on marketplaces to reduce plastic bag usage campaign not only encourages vendors to reduce plastic waste but also supports efforts to decrease overall plastic consumption. These campaigns are beneficial, with clear and effective objectives. As a result of such efforts, many sellers are now aware of plastic pollution and the environmental impact of plastic bag

usage. Therefore, similar awareness campaigns should be conducted frequently. It's crucial to raise awareness about environmental issues and the consequences of harmful behaviors. In addition, efforts should focus on changing the attitudes of plastic bag users and helping to shift their mindset toward reducing consumption. For buyers, strategies like distributing flyers, posters, and organizing game-based competitions, with shopping bags as a gift, can be effective. NGOs should also consider providing sellers with alternatives to plastic bags and supporting these campaigns through funding.

### **Implications**

NGOs and CSOs can

Lead initiatives to raise awareness among plastic bag users through campaigns like the 'No Thank You' campaign.

- ❖ Organize similar awareness campaigns monthly as an initial step
- ❖ Provide education on how to establish a clean and healthy environment in the community
- ❖ Introduce affordable plastic bag substitute products to the market sellers

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