

Effectiveness of Plastic Ban Policies: A Case Study of Local Markets in Mumbai

Dr. Gangotri S.Nirbhavane.

Associate Professor, Environmental Studies department, Dr. Ambedkar College of Commerce and Economics, Wadala, Mumbai, India – 400 031.

Abstract-

The increasing environmental hazards caused by single-use plastics have led to strict regulatory measures across India. This study examines the effectiveness of plastic ban policies in local markets of Mumbai through primary data collected from 20 shopkeepers. Using interviews and observational methods, the study evaluates changes in plastic usage, adoption of alternatives, and economic implications. The findings reveal partial compliance with the ban, increased use of eco-friendly substitutes, and moderate cost burdens on vendors. The study highlights the gap between policy implementation and ground realities, emphasizing the need for awareness, enforcement, and affordable alternatives.

Keywords-Plastic ban, sustainability, local markets, Mumbai, environmental policy

Introduction-

Plastic pollution has emerged as a major environmental issue globally, affecting land, water bodies, and ecosystems. Studies have shown that improper plastic waste management contributes significantly to marine and terrestrial pollution (United Nations Environment Programme, 2020; World Bank, 2022).

In India, the government has implemented bans on single-use plastics to reduce environmental degradation. The Plastic Waste Management Rules, 2018 introduced by the Ministry of Environment, Forest and Climate Change provide a regulatory framework to control plastic usage. Maharashtra, including Mumbai, has enforced strict plastic regulations since 2018.

Local markets play a significant role in determining the success of such policies, as small vendors are primary users of plastic carry bags and packaging materials. Previous studies suggest that the effectiveness of such bans depends largely on enforcement and behavioural change among stakeholders (Gupta & Somanathan, 2019). This study focuses on evaluating the real impact of plastic ban policies at the grassroots level by examining behavioural and economic changes among shopkeepers.

Objectives of the Study-

1. To analyse changes in plastic usage patterns after the ban
2. To identify alternative materials adopted by shopkeepers
3. To evaluate the cost implications of switching to alternatives
4. To assess the level of awareness and compliance among vendors

Research Methodology-

Study Area-

The research was conducted in some selected local markets of Mumbai.

Sample Size-A total of 20 shopkeepers from different types of retail shops (grocery, vegetable, clothing, and general stores) were selected.

Data Collection Methods-

Primary Data collected through structured interviews with shopkeepers and direct observation of packaging practices.

Secondary Data taken from Government reports such as the Central Pollution Control Board (2021), Research articles related with environmental studies.

following variables were studied-

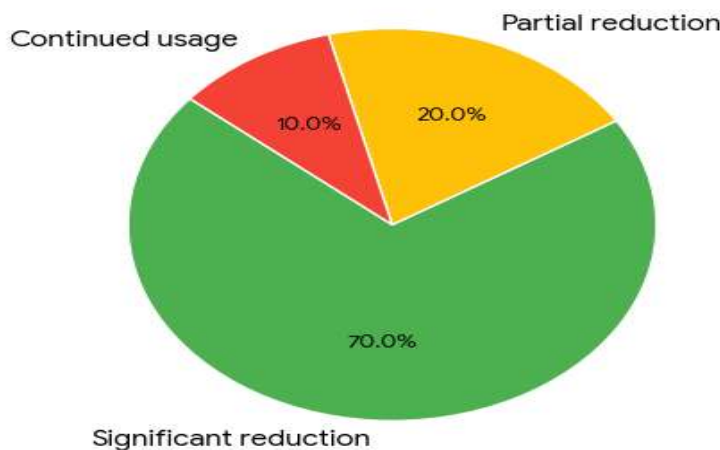
Plastic usage trends, Types of alternatives used, Cost impact, Awareness and compliance level

Results and Analysis-

1. Change in Plastic Usage

Out of 20 shopkeepers 14 reported a significant reduction in plastic usage, 4 reported partial reductions and 2 still continued usage due to customer demand.

Change in Plastic Usage Among 20 Shopkeepers

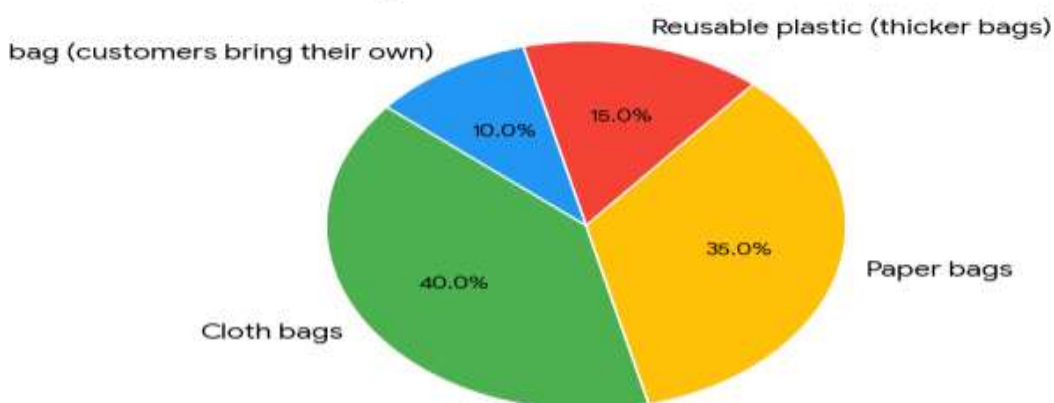


Out of the 20 shopkeepers surveyed, a clear shift toward reduced plastic usage was observed. A majority, 14 shopkeepers, reported a significant reduction in their use of plastic materials, indicating a strong adoption of environmentally friendly practices. Additionally, 4 shopkeepers mentioned that they had achieved only partial reductions, suggesting that while efforts are being made, complete elimination of plastic has not yet been possible due to certain operational or supply constraints. However, 2 shopkeepers continue to rely on plastic products, primarily due to persistent customer demand and expectations. Overall, the findings reflect a positive trend toward minimizing plastic usage, though some challenges remain in achieving complete sustainability. This indicates that while the ban has reduced plastic consumption, complete elimination has not been achieved. Similar findings have been reported in earlier studies highlighting partial compliance due to socio-economic factors (Gupta & Somanathan, 2019).

2. Adoption of Alternatives-

The study found the following alternatives being Used-Cloth bags (40%), Paper bags (35%) Reusable plastic (thicker bags) (15%), No bag (customers bring their own) (10%)

Adoption of Alternatives to Plastic

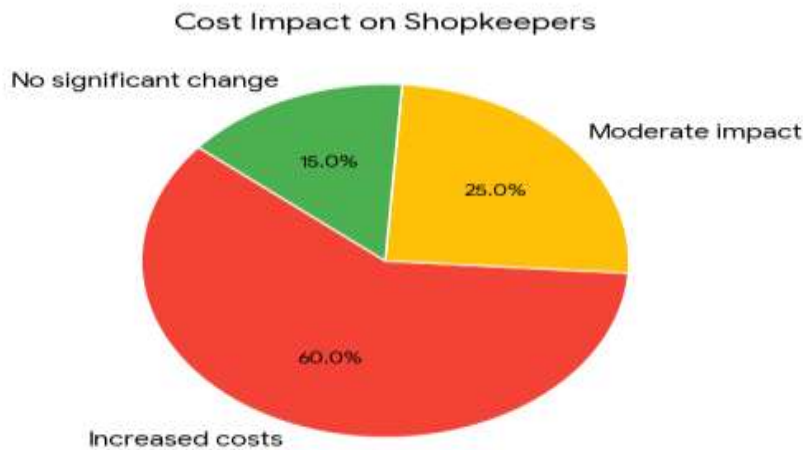


The study highlights a gradual shift toward sustainable alternatives to conventional plastic bags among shopkeepers. Cloth bags emerged as the most commonly used option, accounting for 40% of the alternatives, reflecting their durability and eco-friendly nature. Paper bags were the next preferred choice at 35%, indicating their widespread acceptance as a biodegradable substitute despite limitations in strength and reusability. Additionally, 15% of shopkeepers reported using reusable plastic bags, which are thicker and designed for multiple uses, thereby reducing single-use plastic consumption. Notably, 10% of the responses indicated a practice where no bags are provided, as customers bring their own carry bags. This trend suggests increasing awareness and participation among consumers in reducing plastic waste. Overall, the

findings demonstrate a positive inclination toward sustainable practices, with a mix of traditional and innovative alternatives being adopted. Cloth and paper bags are the most commonly adopted substitutes. This aligns with findings that consumers and vendors gradually shift towards eco-friendly alternatives when regulations are enforced (Sharma & Bansal, 2020).

3. Cost Impact-

12 shopkeepers reported increased in the costs, 5 reported moderate impact, 3 reported no significant change.

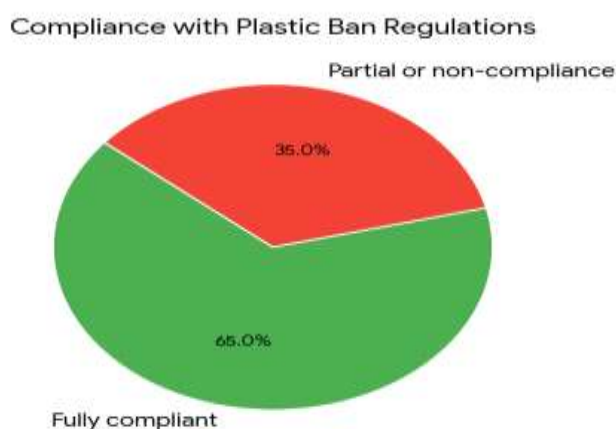


The study reveals that the transition away from conventional plastic usage has had varying cost implications for shopkeepers. A majority of 12 shopkeepers reported an increase in operational costs, likely due to the higher price of sustainable alternatives such as cloth and paper bags. Meanwhile, 5 shopkeepers indicated a moderate impact on costs, suggesting that while expenses have risen, they remain manageable within their business operations. On the other hand, 3 shopkeepers reported no significant change in costs, possibly due to strategies such as passing costs to customers, bulk purchasing, or encouraging customers to bring their own bags. Overall, the findings suggest that while the shift toward eco-friendly practices are largely positive, it does come with financial considerations for many shopkeepers.

Eco-friendly alternatives are more expensive than plastic, affecting small vendors' profit margins. Studies by the World Bank (2022) also emphasize the economic burden of transitioning to sustainable materials, particularly for small businesses.

4. Awareness and Compliance-

16 shopkeepers were aware of plastic ban regulations, 13 were fully compliant and 7 showed partial or non-compliance.



The study indicates a relatively high level of awareness among shopkeepers regarding plastic ban regulations. Out of the total respondents, 16 shopkeepers were aware of the existing rules and guidelines, reflecting effective dissemination of information and growing environmental consciousness. In terms of compliance, 13 shopkeepers were found to be fully adhering to the regulations, demonstrating a strong commitment to following the mandated norms. However, 7

shopkeepers exhibited partial or non-compliance, suggesting the presence of challenges such as lack of strict enforcement, customer demand, or difficulty in adopting suitable alternatives. Overall, while awareness levels are encouraging, the gap between awareness and full compliance highlights the need for continued monitoring, support, and awareness initiatives.

Lack of strict enforcement and customer demand were key reasons for non-compliance. According to the Central Pollution Control Board (2021), enforcement challenges remain a major barrier in effective implementation of plastic waste policies in India.

Discussion-

The findings suggest that plastic ban policies in Mumbai have been effective. While awareness levels are high, economic constraints and consumer behaviour continue to hinder full implementation.

Shopkeepers face challenges such as higher cost of alternatives, lack of affordable eco-friendly options and customer resistance to paying for bags.

These findings are consistent with global observations that policy effectiveness depends on affordability and public participation (United Nations Environment Programme, 2020). However, positive trends such as increased use of cloth bags and reduced dependency on single-use plastics indicate progress toward sustainability.

Conclusion-

The plastic ban in Mumbai has contributed to a noticeable reduction in single-use plastic consumption in local markets. However, the effectiveness of the policy is limited by economic and behavioural factors. Strengthening enforcement, providing subsidies for alternatives, and increasing public awareness can significantly improve outcomes.

Recommendations-

1. Government should subsidize eco-friendly packaging materials
2. Awareness campaigns for consumers and vendors
3. Strict monitoring and penalties for violations
4. Promotion of reusable bags among customers
5. Encouraging innovation in low-cost sustainable alternatives

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