

SINGLE USE PLASTIC BAN AND MARKETING SCENARIO: POLICY AND IMPLEMENTATION

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ABSTRACT

The projected global plastics production in the year 2050 is close to 1800 million tonnes. If the present level of consumption and waste management practices do not change for better by 2050, there will be around 12 million tonnes of plastic litter in natural environment. Plastic production emits large amount of harmful pollutants which pollutes our soil, air and water. Plastic carrier bags have undergone many initiatives to limit their usage. This study examines the public policies and marketing scenario on plastic bag ban and its implementation in India. The goal of this study is to look at the public policy on plastic carrier bags in different locations of India. It provides a comprehensive account detailing the ban details and its marketing impact.

Keywords: Plastic Bags, Pollution, Plastic Ban, Usages, Plastic Ban Policies, Environmental Impact, Marketing Scenario.

INTRODUCTION

Plastic products have become part and parcel of everyone's life and become synonymous with our culture today. The projected global plastics production in the year 2050 is close to 1800 million tonnes from the last reported figure of 400 million tonnes in 2018. Much of the plastic products is designed in such a way that it needs to be disposed after a single use. The major concern is only a small percentage of all the disposed plastics is recycled and leaving the major chunk left without recycling. These non-recycled plastics land in the landfills, oceans etc. According to research, only about 9% of the world's 6.3 billion metric tons of plastic garbage has been recycled. Only 10% of the 9 percent that is recycled has been recycled more than once, while 12% of the garbage has been burnt. (Sunita, 2020). If the present level of consumption and waste management practices do not change for better by 2050, there will be around 12 million tonnes of plastic litter in natural environment. Plastic, the most toxic component, not only contaminates the soil, air and water but also is a non-bio degradable by nature. Plastic production emits large amount of harmful pollutants which pollutes our soil, air and water. Also, plastic is made from natural resources coal or natural gas, and oil, which are not only depleting fast but are also limited and hence are to be conserved and protected. The packaging business has seen the greatest increase in the usage of plastic, from water bottles to plastic layers in tea bags to plastic straws, glasses, plates, and just about anything else we package for consumption. (Sunita, 2020). Amongst the plastic products, used plastic bags which are the major source of environmental problems are not easy to dispose of. Almost all policymakers of countries across continents have embraced and realized the impact of using plastics on both human beings and animals besides the damage it creates in natural environment. Considering these major problems of production and usage of plastic bags, many governments across countries had banned the production, sale and usage of plastics bags. The worldwide consumption of plastic carrier bags is assessed around 0.75-1.25 trillion bags per annum, or 60-120 million bags every sixty minutes

(Spokas, 2008; Roach, 2003). However, plastic carrier bags also involve several other issues. By and large the distinctive profile and characteristic traits of plastic carrier bags have both made them prevalent, but furthermore led to difficulties leading to choking of drains and sewers, as well as presenting a risk to mankind and animal well-being. (Knoblauch et al., 2018). The lightweight parachute shape of plastic carrier bags allows them to be used in a wide range of situations; their endurance means they take several hundred years to decompose; and the low cost discourages recycling or reuse, with data indicating that only a small percentage is recycled or reused. (Ritch et al., 2009). Diverse categories and types of regulations surfaced including levis, bans, and extended producers' responsibility and so on. According to Nielsen et al (2019), contrasting to other polluting materials, plastic carrier bags have undergone many a initiative to limit their usage both through the government and non-government organizations, tallying around more than 150 public policies at all hierarchical levels Figure 1.

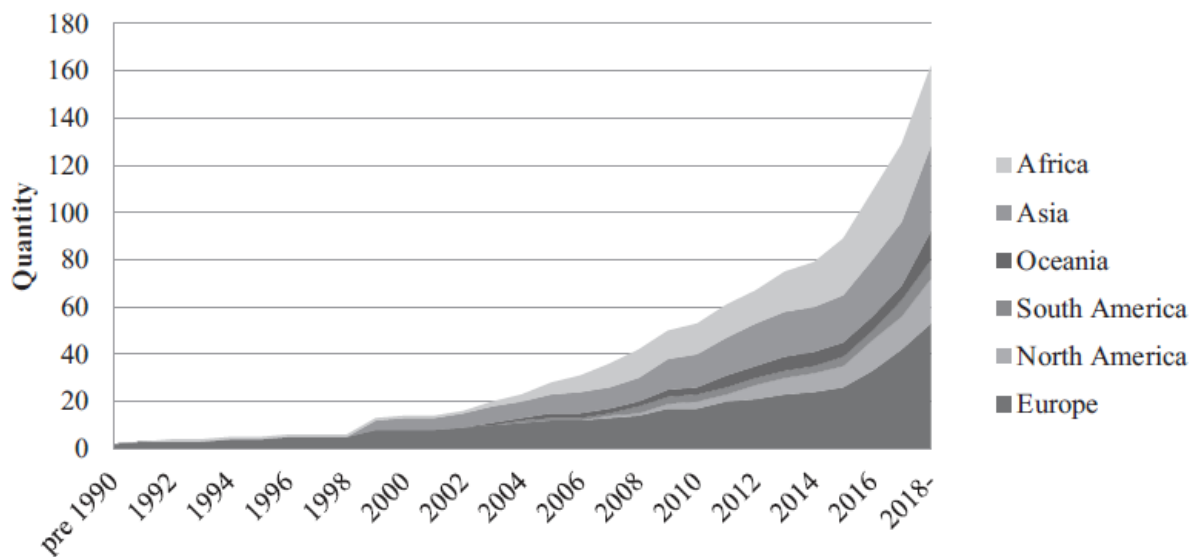


FIGURE 1
MAJOR PLASTIC BAGS REFORMS AND INITIATIVES BY DIFFERENT REGIONS – CUMULATIVE (NATIONAL AND MUNICIPALITIES > ONE MILLION POPULATION)

As compared to the USA, where annual per capita plastic consumption is the world's highest in the world at 110 kgs, India – at present – is having annual per capita consumption of around 10 kgs. However, an assessment by the Ministry of Petroleum and Natural Gas projects that the annual per capita consumption in India would reach to a level of 20 kgs by 2022. To address the concern of increasing per capita plastic consumption in the country, this study attempts to review the public policies on plastic ban and its implementation.

The goal of this study is to look at the public policy on plastic carrier bags in different locations of India and it provides a comprehensive account detailing the ban details and its impact. This article is organized as follows. After presenting the literature review in section two, section three describes the objective of the study. Section four deals with methodology detailing

the material and method and then in section five we analyze the plastic bag ban policies across different states in India and last section deals with discussion and conclusions.

LITERATURE REVIEW

With nearly 1.25 trillion plastic shopping bags used up every year, their usage is extensive, manifold, multilayered, and very convenient. Nonetheless, despite ease of use and attractiveness, community concern over the existing and forthcoming impacts of plastic shopping bags has been on the intensifying. Owing to intense public pressure for government measures, governments all over the world are taking steps to tackle the concerns coupled with plastic bag usage. As of now, a host of countries have effected umpteen measures which have effectively brought down the usage levels and made a significant ecological impact. However, there are other countries that have been very mediocre or have failed in notably reducing consumption and impacts.

The zeal and the drive to prepare and execute plastic bag policies vary across the world. For northern hemisphere countries it is always intense community pressure and judgmental press-coverage are the key motivators, while the perceptibility and perils of pollution plastic bags are the keys in southern hemisphere (Knoblauch et al., 2018). Well-being, safety and health reasons pushed the initial reforms, principally in the Indian subcontinent, but have also been a big source for policy changes in several Asian and African countries. Historical research on such prohibitions have fixated at either the country level, such as Israel (Ayalon et al., 2009), USA (Wagner, 2017) and Portugal (Martinho et al., 2017), the sub-national level, such as Buenos Aires in Argentina (Jakovcevic et al., 2014), or at the international level (Xanthos and Walker, 2017).

In most of the cases studied and cited in various literature bans follow a definite administrative justification, a significant part of an environmental policy instrument. Such a judicious basis indirectly hints at an issue that is well-defined, relatively straight forward and linear with respect to root cause and its effect. For policy-makers, focusing on plastic bags can be an effective option to prove some kind of a step in response to the mounting pressure to reduce plastic pollution and its after effects (Clapp and Swanston, 2009). Detractors' disputes that this administrative prudence simplifies ecological and environmental issues and that plastic bans offer only short-term steps but are incapable of dealing with long-term matters, and for that reason are scanty solutions. The regulatory society stipulates both the target to be attained and also how it is to be achieved (Jordan et al., 2003). Furthermore, despite the supposed efficacy of bans, they often lead to general non-compliance and unlawful acts (Dryzek, 2014).

Objectives

Plastic carrier bags have been in the eye of the storm with public, policy makers, politicians and especially the eco-activists. A number of myriad measures to bring down the environmental liability of these bags have been effected and some more are being worked upon. This work research analyzes the real environmental facets of plastic carrier bags consumption and its use and also attempts to evaluate the effectiveness of the propositioned directives and guidelines in India.

Because plastic carrier bags are provided free of charge, the public has a predisposition to overuse them; consequently, a comprehensive educational programme should be implemented to address this issue. However, because the environmental burden imposed by plastic bags is more of a political correctness issue than a genuine environmental threat, solutions for reducing their

use should not include a large fee or the complete elimination of these bags. This would be highly impractical and infeasible. Sustainability practices ensure protecting the environment without destroying the natural resources and support the current and future generations. This is possible only with the cooperation of corporate and public. The aim of this research study is to identify how to reduce single use plastic use in India, given that the majority of population was involved in using it. Single use plastic bans have been implemented in several state and union territory in an effort to bring down the consumption of single use plastic and the associated waste and pollution. Observations in various states demonstrated that while single use plastic was being consumed, it was totally against the ban.

Methodology

To carry out this research, we collected information about the plastic ban policies across select states in India. The material for this study includes research articles on plastic bag ban policies including print and electronic media reports and several government information resources like official websites etc. In case of information availed from social media outlets, several channels have been explored to enhance the credibility and reliability. According to the Central Pollution Control Board, India created 3.3 million metric tonnes of plastic garbage per year in 2018-19. The top seven contributor states to India's overall plastic trash creation are depicted in Graph 1. (Sunita, 2020). Himachal Pradesh is the first state to implement the ban in the year 1995 with the Tamilnadu state being the last to implement the ban in the year 2019.

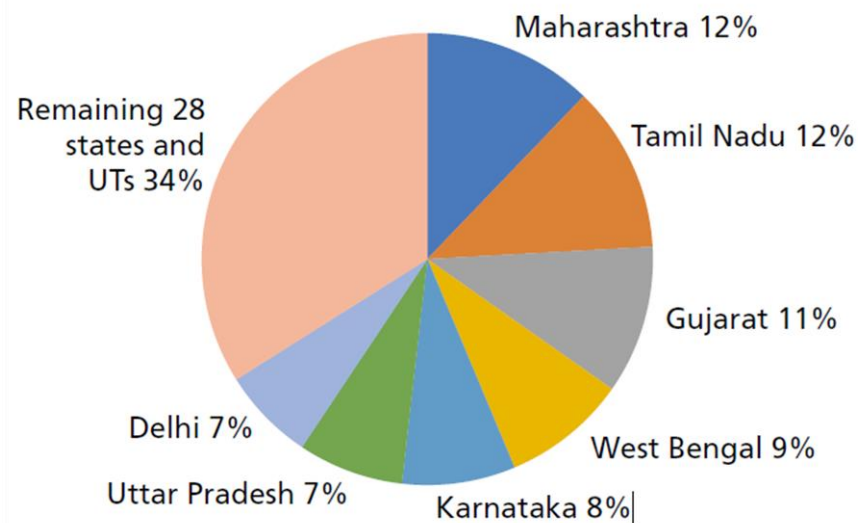


FIGURE 2
TOP SEVEN STATES IN INDIA AS PER THEIR CONTRIBUTION OF PLASTIC WASTE

Source: Central Pollution Control Board – Annual Report 18-19.

Analysing Plastic Bag Policies

Plastic carrier bags have long been the preferred choice of vendors and customers. Despite this, lightweight plastic bags have been brought to the attention of UTs and state authorities due

to a variety of environmental and other issues. As a result, a number of states and UTs have taken steps to reduce the use of all types of plastic carrier bags. Following table discusses the ban details and the current status of the ban and its implications in the selected seven states. See Table 1.

State	Population (2011 Census)	Ban Year	Ban Status	Plastic Waste Generated (tonnes)	
				FY 2018-19	FY 2019-20
Maharashtra	11,23,74,333	2018	Complete ban irrespective of thickness	4,09,630	4,43,724
Tamilnadu	7,21,47,030	2018	-	4,01,091	4,31,472
Gujarat	6,04,39,692	2021	Ban on plastic carry bags less than 50 microns	3,56,873	4,08,201.08
West Bengal	9,12,76,115	2019	Partial ban: restriction on usage and sale of plastic bags in ecologically fragile region, heritage and tourist centres	3,00,236	3,00,236
Karnataka	6,10,95,297	2016	Complete ban on production, usage and sales	2,72,776	2,96,380
Uttar Pradesh	19,98,12,341	2018	Complete ban on production, storage , supply, transportation, sale or use of plastic bags of any thickness	2,54,402	1,61,147.5
Delhi	1,67,87,941	2012		2,24,810	2,30,525

Source: Data based on Plastic Waste Management - Annual Report 2019-20.

Though these states have banned single use plastic, it's difficult to measure the effective implementation of the ban as organized method of capturing data is not in place. We explore the effects of the rule on consumers' bag use by using the policy implementation as a natural experiment and collecting state-level data before and after the implementation. With the exception of Uttar Pradesh, it is clear from the following table that plastic trash created in 2019-20 is more than in 2018-19 in almost other states. This could be attributed to a variety of issues, including the inefficient execution of the plastic ban. Consumers' attitudes toward the regulation, as well as some socioeconomic factors of consumers, all had an impact on bag consumption. However, the impacts of regulation vary greatly among consumer categories, as well as between areas and purchasing occasions.

Public Policy on Plastic Bag - Plastic Ban and their Types

Public policies and ordinances on plastic shopping bags have spread out across the world. Plastic carrier bag bans began at the local municipal level, predominantly on the Indian subcontinent by the end of the 1990 and in early 2000 (Clapp and Swanston, 2009). Since 2015, ten states in the United States have passed state-wide ordinances endorsing plastic shopping bag bans. This prevents local governments from enacting any plastic bag-related legislation on the grounds that it is a state-level concern rather than a provincial one.

According to the available literature on plastic bans, the African (Kenyan and Rwandan) examples show that the practice of banning plastic carrier bags creates a well-defined problem

where plastic pollution is directly linked to plastic shopping bags, and eliminating them eliminates the disadvantages. Nevertheless, the nature of ban enforced on the various forms of plastic carrier bags is at a considerable variance from one country/state to another. In China, only thin plastic carrier bags are banned and affected, the aim is to check plastic pollution and keep it under control (Zhu, 2011). It is also relatively commonplace to leave out bio-based or bio-degradable bags from bans, for example in Italy (2011), Wallonia (2017) and France (2016), either on environmental basis or to boost bio-mass industry (He, 2012).

Nordic Council of Ministers proposed a slightly different type of market-based tactic which consisted of a plastic bag deposit scheme, though at an experimental stage and was loosely centered on a very successful deposit system for plastic beverage bottles in Germany. Denmark and Sweden also experimented by testing this deposit system in select stores and malls. Though it lead to a decline in consumption of plastic bags but comparatively very few bags were brought back and deposited to shops and stores (Singh and Cooper, 2017). Rwanda's strong approach comprised of baggage searches at airports, a 150 USD penalty for bringing in a plastic bag, and almost up to 12 months in custody for shopkeepers selling or disposing plastic carrier bags (Gregson et al., 2015). Kenya (2017) went one step ahead and implemented even stringent regulations with harsh punishments for the consumption, manufacture and selling of plastic carrier bags (Singh and Cooper, 2017).

Levies, Taxes and other Pricing Means

Price setting and pricing mechanism area also employed other than main policy instrument as an effective means to change behavior and curb plastic bag consumption. These can be in the form of taxes or levies that set a 'price' on plastic shopping bags, which were hitherto given to customers without any cost/charge. This research work offers an analysis of plastic carrier bag policy instruments that can be exercised in order to support policymakers in selected an effective plastic bag policy. Each of the instruments is appraised against environmental, economic, and social criteria, and is then scored by the expected outcomes and the impacts. Plastic carrier bag bans are tough, stringent, costly to stakeholders, and are very unlikely to be publicly accepted.

Any tax or levy on plastic carrier bags are costly, but enables consumer choice and generates revenue. While voluntary steps on the part of retailers and shopkeepers are inexpensive, they are weakly authorized and very nominally reduce impacts. Analyzed against all measures, literature review suggests that the economic instrument, a plastic carrier bag levy, is the most successful policy instrument for governments to address the issue of plastic carrier bags. The fundamental assumption is that stakeholders respond to costs and benefits by amplifying their self-interests; charging for bags always changes the behaviour (Dryzek, 2014). A different type of levy got implemented in Malaysia, where the buyers have to pay for plastic bags once in a week (Saturdays) (Zen et al., 2013). Taxes, subsidies and levies with an economic-based rationality have become foremost in environmental governance, and this was affected by the market and price-setting (Adger and Jordan, 2009). Various types of levies (for example Green Dot Schemes) are charged to account for the environmental costs of the article, and also for the recovery and recycling of it (Knoblauch et al., 2018).

In retailing places, the price of plastic shopping bags must be marked and charged clearly along with all the other commodities. Most levies, on the other hand, do not impose a cost on the producer, but rather on the consumer, with the fee collected going to the retailer or to the government as a levy or tax (Convery et al., 2007). The intrinsic challenge with economic rationality, according to critics, is that it reduces regulation to an economic value (Kronsell and

Bäckstrand, 2010). Furthermore, determining the 'correct' price can be difficult, because price variation affects individuals disproportionately, and these levies might generate cash for purposes other than the environment (Singh and Cooper, 2017).

Efficacy of Public Policies

The impact of public policies varies across many stakeholders along the plastic bag value chain, and it encompasses a larger set of guidelines and regulations than bans and pricing mechanisms that are solely focused on reducing the use of plastic bags (Steenngaard et al., 2017). Some critics argue that by focusing on specific plastic materials such as shopping bags, politicians neglect to account for some of the more significant, but less appealing, deviations that a substantial step toward a more balanced and sustainable plastic system would involve (Ritch et al., 2009). This presents policymakers with some difficulties, with some academics claiming that the nature of plastic and the behaviours it has helped to produce make it a difficult subject to govern and manage (Kronsell and Bäckstrand, 2010). This is partly due to ambiguity over the amount of plastic bags used, as well as a lack of evaluation of the outcomes of various initiatives and regulations (Knoblauch et al., 2018). In such circumstances, a more comprehensive policy framework targeting various forms of plastic materials, or the entire plastic ecosystem, would arguably be a better fit (Eriksen et al., 2014). Though decentralised, an increasing number of schemes can assist change individual plastic behaviours and beliefs while also acting as a catalyst for the plastic system as a whole, perhaps promoting a bigger transition in the governance of plastic and related materials (Knoblauch et al., 2018; Clapp and Swanston 2009).

There are quite a few cases of success in lessening plastic bag usage. A key constituent in the attainment of policy objectives is extensive backing from both the community and shopkeepers. Several reports have also recorded the cutback in plastic bag pollution in different countries (Poortinga et al., 2016; Martinho et al., 2017; Convery et al., 2007). The ban in the country of Rwanda is extensively reported as an exemplary example for plastic shopping bag bans, and has been very impactful in decreasing the use of plastic carrier bags (Hasson et al., 2007). Significant reductions are noted through pricing mechanisms carried out by England and Ireland. Great Britain (Poortinga et al., 2016) reported reduction of 85%, while Ireland (Convery et al., 2007) recorded a drop of 90% in the consumption of single-use plastic bags. In South Africa, on the other hand, an initial reduction of 80% in plastic bag usage was later reduced to 45% compared to pre-implementation levels (Dikgang et al., 2012;). In the Scandevian context, similar affinities have been reported.

Failure of Plastic Ban

As far as plastic bags are concerned, data signifies that key challenges to bans comprises of: absence of alternatives, the easier usability of the plastic shopping bags, easier accessibility of bags from neighboring areas, a lack of state administrative will and capacity, and resistance from, among others, trade unions and producers (Clapp and Swanston, 2009). In terms of volume produced, a decline in the use of plastic carrier bags has no substantial impact on the plastic sector (Nhamo, 2008). Concerns about the loss of jobs in plastic manufacture and distribution have led to refusal and resistance among plastic trade associations, trade unions, and policymakers (Clapp and Swanston, 2009). As happened in South Africa and Jordan, plastic ban can be devastating for local producers specializing in shopping bags, leading to considerable job losses and unrest (Saidan et al., 2017). Several studies indicates the significance of how retailers

notify about the schemes and policies (Muralidharan and Sheehan, 2016) and the accessibility of alternative to the realization of public policies on plastic shopping bags. The impact on retailers also varies, from extra income, to augmented administrative obligations.

In Sweden, food chains are projected to generate around SEK 250 million per annum from sales of plastic carrier bags (Singh and Cooper, 2017). The example of Rwanda, while inspiring to some, also shows how bans can be diluted and destabilized. Despite high fines, an emergent black market for plastic bags made up of imports from bordering countries has been reported (Martinho et al., 2017). In addition, there are many reports of partly imposed or limited-effect bans, mainly in developing regions of the Asian and African continents (Jakovcevic et al., 2014). Countries like Uganda (2007, 2010, 2015), Bhutan (1999, 2005, 2009) and Papua New Guinea (2015, 2009, 2005), have made a number of attempts to reintroduce existing regulations on plastic bags. As a result, policy outcomes vary widely from one nation to the other and in some cases have unwanted consequences. (Nhamo, 2008).

Results

Many questions have arisen as to whether the banning of plastic bags is just a political gesture or whether the goal is to lower down global plastic-pollution. (Xanthos and Walker, 2017). One of the proponents of the price of plastic bags, by relying on the payment method, they can provide more income for the owners of the stores, and it is less which is concerned with declining plastic sales (Martinho et al., 2017). Many restaurants and supermarkets rejected the ban, often relying on the plastic banning law creating flimsy laws to increase operating costs and confuse consumers (He, 2012). Li and Zhao (2017) argues that there may be pressure on the USA because here the petrochemical industry has seen the plastic as an “important” issue for its industry. From the perspective of plastic manufacturers, there are very few plastic bags in all of the companies approximately \$ 1.2 billion to \$ 374 billion. While this is only a tiny proportion of all plastic pollution, attempting to control the bag has become a symbolic burden because corporate players have invested in legal regulations for plastic bags (Romer and Foley, 2011).

Consumer response to the ban: There is no evidence that government policies prohibiting the use of plastic bags have resulted in widespread changes in consumer behaviour (Poortinga et al., 2016). User attitudes to public policies on plastic shopping bags varied from quite positive in some areas, such as in Ireland, to extremely negative in others. (Convery et al., 2007), to the instances where customers do not care of bans despite the risk of heavy penalties or even at times incarceration. These investigations validates a far from standardized customer reaction, which should be taken into account while designing and executing plastic ban and other related policies (Kasidoni et al., 2015).

Reported effects: The effectiveness of an obligatory ban on throwaway plastics is investigated in this study. Even though the 'Say No' to Plastic Bags campaign was well-known, there was only a minor degree of compliance. The effect of the ban was moderate based on the general attitude, level of knowledge and practice of the consumers. The compulsory method caused a nominal level of cognitive dissonance, and the likelihood of withdrawal of practice in the long run, but the differences were not substantial. The swift and extensive emergence of an anti-plastic shopping bag norm and attendant regulatory policies in recent years forces a rethinking of current understandings of norm dynamics and policy execution. According to the findings, a blanket ban may not be the best possible answer in underdeveloped nations with little enforcement power. Low-cost information interferences, the availability of alternatives to plastic bags, and subsidies for the usage of recyclable bags could be used in its stead. The results show

that when these initiatives are combined, the percentage of customers who bring their own plastic bags increases.

Environmental issues in ban: Plastics are making a rising influence to sustainable progress and development (Rochman et al., 2013). For example, over an expected lifetime of 50 years, the usage of window frames and insulating materials made of plastic in structures save many times the energy needed to produce them. Plastics for packaging purposes provides defense against damage and dirt contamination, thus saving extensive volumes of material and energy. Selecting suitable disposal strategies for plastic waste also aids in protecting the environment (Geyer et al., 2017). According to Edwards and Fry (2011), alternative carrier bags made of paper or cotton emit between 5 to 130 times the amounts of CO₂ as plastic carrier bags. This demonstrates that when it comes to plastic shopping bags, toxicity and permanence are given greater weight than carbon emissions. This highlights the broader discussion on plastic as a material, in which health, pollution, and the anthropogenic impact on animals, rather than carbon footprints or climate change, take center stage (Gross, 2017). More than half of plastic bags in the United States are recycled into waste bags (Wagner, 2017). Furthermore, prohibiting the use of plastic bags may cause environmental difficulties in other areas (Steensgaard et al., 2017).

After the implementation of plastic bag taxes/levies in Portugal, the use of trash bags increased by 12%. (Zen et al., 2013; Martinho et al., 2017). The impact and repercussions of alternative types of bags are consistently ignored by public initiatives promoting plastic carrying bags. As a result of the dangers of these public measures, the use of some types of plastic bags has decreased, but not the overall use of plastic carrier bags (Wagner 2017); (Ayalon et al., 2009); (Zen et al., 2013).

These concerns echo some of the most common criticisms of "plastic bans" as an environmental policy tool in the literature, namely that they simply "simplify the matter," "cause civil disobedience," and "are incapable of dealing with long-term problems" (Carter, 2007; Dryzek, 2014).

Conclusion

When it comes to waste management, public initiatives that promote the use of plastic carrier bags account for a very small percentage of the total waste collected by weight. While banning plastic bags has resulted in job losses in the waste management industry in some cases, such policies appear to have a limited impact. However, the effects of public rules and policies on plastic bags from the standpoint of solid waste management highlight the need for more comprehensive policies on plastic trash. Given that plastic pollution is a key driving force behind governmental legislation prohibiting the use of plastic shopping bags, efforts should be made to reconcile the desire to reduce plastic bag consumption with sustainable waste management techniques.

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