

*Original Research*

# Plastic Bags Ban and Social Marginalization: Evidence from Morocco

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## Abstract

Biased socio-environmental policies often result in social resistance among the less well-off, hence hindering the effectiveness of such policies. The present research investigated the implications of the plastic bags ban in Morocco implemented in July 2016 and how it differentially impacted formal and informal sector workers including customers of informal economy markets. While formal markets succeeded in implementing the ban given the affordability of alternatives to plastic compared to their customers living standards, the informal markets vendors and customers not only could not afford these alternatives but also suffered from impoverishing effects of such policy as the findings of our research show. The paper concludes that the effectiveness of environmental policies relies heavily on their implementation within a wider framework addressing socio-economic inequalities and poverty among the informal sector workers especially in countries where the latter constitute a large proportion of the national economy.

**Keywords:** environmental policy, ethnographic research, informal sector, social problems, plastic ban

## Introduction

The global environmental impacts [1] of plastic bags; despite being inexpensive and convenient, are quite substantial. Among its manifestations is the solid waste contamination which can have many secondary

impacts on wildlife, wildlife habitat, and human health [2]. These plastic bags, which are lowly priced, are made up of non-renewable resources which last hundreds of years for their full degradation in addition to containing additives that pollute the environment [3]. Socially, plastic bags are a common means of carrying merchandise. For example, in many countries including in Israel, retailers, open-air markets, and shops distribute the bags, which are manufactured from high-density polyethylene (HDPE) and aimed to be used

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once, free of charge. After being used to carry goods from retailers to homes, most of the bags are disposed of or stored for reuse; in either case, they eventually reach the landfills. Some of the disposed of bags may be scattered and be carried away by the wind, creating an environmental nuisance in urban environments, on the roadside, and in open spaces [4].

Over the last decade, a remarkable shift in policies associated with plastic bags as a carrier of commodities has taken place in different countries across the world. Governments have applied strategies to ban the plastic bags such as the sale of lightweight bags, charging money to the customers and/or imposing taxes on stores that sell them.

[5] reported that with the implementation of regulatory policies, new problems emerge such as uneven governance, large differences in economic growth, and social welfare inequalities. In the social arena, the manifest problems are social fragmentation, resistance, and commercial violence.

The United Nations, through its Environment Programme (UNEP), established the Environmental and Social Sustainability Framework (ESSF) [6]. This framework sets a series of guiding principles, safeguards, and criteria that must be followed during the execution of environmental protection programs and projects to ensure their sustainability. Although this is only mandatory for the UNEP, other governments and organizations can learn from it. One of its guiding principles is that all projects must promote the financial sustainability of supported activities and seek to avoid negative economic consequences during and after project implementation (including to future generations).

Therefore, governments should seek proper alternatives and social preparation especially among the unprivileged segments of the population, before proceeding to the ban of plastic bags. Such preparation has not taken place in Morocco where it suddenly implemented plastic bags ban back in July 2016 resulting in widespread anger among people in the popular markets as well as and several disfunctions in the market of plastic bags itself which immediately turned to operate underground giving rise to higher prices and less quality of products circulating in the informal market. The unprepared character of the ban policy thus privileged the well-off populations who have access to formal markets where alternatives to plastic bags are both of high quality and accessible to their customers despite being relatively expensive. On the other hand, people at the lower tail of income distribution were left to the unregulated informal sector where plastic bags continued to be used but paid for at more expensive prices in comparison with the pre-ban period. Therefore, the ban worked well in the formal sector where expensive alternatives to plastic bags are available, but it failed in the informal sector including the popular urban and rural markets where plastic bags

play an important role in commercial transactions. The retail business always uses carrier bags or plastic bags as they are inexpensive, weightless but strong enough to carry the purchased products [7].

Indeed, it is not difficult to predict such failure, as the informal market employs more than 80% of labor force in Morocco. It is characterized by significant social and economic inequalities. Any successful policy should thus begin by considering its effect on the informal sector. Indeed as mentioned by Laurent et al. [4] "environmental problems are deeply social problems resulting from inequality in terms of income and power, thus inequality is as much as an environmental issue as the degradation of the environment is a social issue". This is even more relevant in the context of countries which lack efficient waste management and recycling practices such as the case of Mali, for example, where the proliferation of the use of plastic bags has important social and environmental consequences including litter, harming livestock, floods, and health-related problems [8].

Our central hypothesis is that the social sector of the informal market cannot reach the 'zero-plastic' policy because it is a kind of hub where the plastic bags are not only an economic activity, but it is the only 'bread and butter' of several families. Therefore, this immediately implemented plastic ban has resulted in tremendous social resistance. This also questions the efficiency of the policy doubting its implementation considering the socio-cultural contexts of the same society. In other words, the policy has turned out to be a state-society conflict.

The present research aims at examining the impact of environmental policies on the social dynamic and dimensions of those directly affected in two popular markets in Rabat.

Similarly, the authors intend to shed light on these aspects from an anthropological point of view. Among the most important questions that the paper tries to answer are: how can we make sense of the fact that despite the ban, plastic bags continued to be sold and used in popular markets, while there is the circulation of alternative bags in branches and commercial centres? Does this have something to do with the large extent of the informal economy, which employs the majority of labor force in Morocco? How has the situation of people who used to sell plastic bags as a basic source of livelihood changed? How can a typology of resistance and new marginalization be classified in the light of this policy?

To answer these questions, the authors studied behaviours of vendors and customers in two types of markets; (i) formal (ii) informal, we argue that this policy has resulted in deepening socio-economic marginalization, and that the adaptability of this plastic ban in the informal markets is associated with social and economic inequalities in favor of the formal sector vendors and customers.

## Material and Methods

### Field and Method: Multi-Sited Ethnography

The present research uses a variety of research methods over an extended period of 10 months in two popular markets ("Buitates" and "El Kamouni") in Rabat, the capital city of Morocco.

The methodological framework of this research is based on ethnography, which captures the experiences of people in their social environment, but it also allows to relate the analysis derived from such settings to social macro structures [9]. It is well known that ethnography is a conceptual space whose boundaries are continually negotiated and constructed by researchers and participants [10]. Because the research developed in two different markets at the same time, the authors picked the multi situated ethnography as the main tool for the fieldwork.

More particularly, the authors were interested in understanding the experience of the main stakeholders involved (merchants and consumers) after the ban on plastic bags took place by favoring an interpretation based on their perspective, considering the influence of their social and spatial practices. The first extended ethnographic observation in the markets was conducted along with the interviews with the vendors. 50 short interviews were conducted with vendors of all types of food items. About 17 interviews were also conducted with plastic vendors, both wholesale and small vendors in the markets. More than 250 photos were taken in different places in the markets. Additionally, a survey was conducted with a sample of 100 customers focusing mainly on their attitudes towards the use of plastic bags. Finally, videos were recorded to capture the various types of the utilization of plastic bags in the researched popular markets.

### Units of Analysis: Rural-Urban Markets

As previously mentioned, the fieldwork was undertaken in two sites: one urban popular market in the city of Rabat called "Buitates" and "El Kamouni" market, a weekly market in the rural area in the suburbs of Rabat.

The name of the first one, "Buitates", means rooms in Moroccan dialect. The origin of its name goes back to the early 1960s, when the authorities provided a room and a toilet to each family that came from the rural areas to the city looking for a job. In the early 1970s, the market itself started to operate. Each vendor lived in the neighborhood and informally owned a few square meters in the market, that later become a quasi-ownership inherited within the family. Almost every family has a member working in the market. Thus, this market is the main economic unit for people living in the neighborhood. As far as the practice of using plastic bags is concerned, almost all vendors interviewed assert that customers insisted to be

provided with plastic bags for free, thus, compelling them to not abide the laws.

"In this market, plastic bags are central to our lives [...]. That one day or another they would disappear is almost unthinkable which makes us ask "who has designed this new law?" (vegetable seller at Buitates).

The second market, "El Kamouni", is a weekly market in the rural area surrounding Rabat city called "Sidi Allal Al Bahroau". The market is open every Sunday from early morning until the end of the day. The market's entry is mainly dedicated to sell used clothes and other equipment whereas the food items, vegetables and fruits are located inside where a stronger presence of rural women is usually noticed, selling milk and its derivatives. The plastic bag use here is much more relaxed than in the urban market. Both vendors and customers use them ostentatiously in all the market activities.

"In this market it is almost impossible that one day you can talk about zero plastic, nobody can think about it. Here most people who come every week from nearby towns use the plastic bags as a custom, because it helps you to order your purchased items, we have been using them for years [...] for me it is the same if they ban water or oxygen. The environmental damage seems to me as a mockery to the people here, the plastic does not harm, what harms to them is the absence of justice" (meat seller at El Kamouni).

## Results and Discussion

### Permanence of Plastic Bags to Understand How the Informal Sector Works

As mentioned above, most vendors (and to a lesser extent customers) of popular markets characterized by prolific plastic bag use, despite the ban policy, belong generally to the informal sector economy. This extends to all kinds of vendors in popular markets as well as their families. Commerce activities, besides the construction sector, are the major component of the informal sector economy in Morocco. Thus, the informal economy is a major component of the national economy. Indeed, the informal economy in Morocco is estimated at between 30 and 40 percent of total income and employs or supports more than two thirds of the labor force. A simple trip to the regions of the country strikes the observer about small trades and local street activities that continue to flourish [11].

According to surveys conducted periodically by the High Commission of Planning, 1.68 million informal units were recorded in Morocco in 2013 against 1.55 million in 2007. Small commerce activities share 70% of the total informal activity [12]. Households are the main clients of informal units with 80% followed by other informal units (21%) and the formal sector (0.5%). The share of commercial activities in the Rabat region reached 50.1% whereas commercial activities

lacking a fixed premise (such as those in popular markets) represented 40% of total activities at a national level. This phenomenon is explained by the galloping urbanization, the rural exodus, the unemployment, the incapacity of the public authorities to regulate the general economic activity, the enormity of accumulated social deficits, the blatant inequality of socio-economic development between regions, the gaps in the legislative and regulatory framework, the rise of rural poverty and urban exclusion [11].

As far as the labor force is concerned, the informal commercial sector employs more than half of the total informal labor force with 53.2% (i.e., two million and two hundred thousand people). According to the same survey, the contribution of the informal non-agricultural sector to the national economy reached about 37.3% in 2007 contributing towards 14.3% of the national GDP. These reached 36.3% and 11.5% in 2014 [13]. The figures reflect the highly vulnerable nature of the informal sector and might explain, largely, the failure of implementation of environmental public policies without addressing it in a holistic perspective including the socio-economic dimensions. That is why these small trades for the majority are the only way to survive, that is to say, the development of the informal sector in Moroccan cities becomes one of the answers to the problem of job creation [14].

According to a report issued by International Labor Office [15], informal economy proliferates in contexts characterized by high levels of unemployment and partial employment as well as poverty, inequality, gender discrimination, and employment vulnerability. Employees of the informal sector also face long working hours together with the lack of collective negotiation and representation mechanisms. Their employment situation is generally unclear due to exclusion from social protection schemes as well as from safety, security, and health legislative measures. The report also argues that the new generation of anti-poverty strategies should be grounded on holistic policies where productive employment is combined with better living standards as well as the enhancement of social protection policies.

The findings of the present research showed that most vendors and their families in the popular markets share the same above-mentioned properties as well as other attributes such as poor housing quality, low income, low quality of consumer goods, etc. The opportunities provided by the social space in which they live are so limited that they would be insensitive to any public intervention that does not include enabling their socio-economic situation and environment. For reasons that will be highlighted in the findings section, policies such as plastic bags ban have but an impoverishing effect on the population working in the popular markets. Furthermore, for similar reasons, plastic bags in such a poor environment have also deeply rooted social benefits such as trash disposal, storing food items in the fridge, etc., as one of our interviewees put it: "The plastic usage continues, we cannot work without it. It

became an underground business that the government cannot control, we make our purchases early in the morning, and we use codes to make sure nobody outside our community can understand to make the purchases." (Fatihah: fruit seller at Buitates).

"The plastic never stopped from being used, and it will never end as a black market, its prohibition made a new market to produce it illegally, as the raw material that is used for various things is not controlled." (Nourdine: fish seller at Buitates).

### The Social Position and the Dispositions of Informal Sector Workers

The authors attempt to heuristically approach the main issue of this paper following the Bourdieusian theoretical approach according to which the categories of perception and appreciation (or the habitus) of social agents are not independent of the wider social structures in which they are socialized. The social structures denote the space of distribution of power and socially valued goods (the space of positions), whereas the habitus or the categories of perception and appreciation denote the schemes by which the agents make sense of the world (the space of dispositions). The former space generally determines the latter, which in turn shapes the decisions made by agents. Bourdieu argues that the status quo or the transformation of a given space depends on the extent to which there is a concordance between the social and mental (cognitive) structures, in other words between the space of positions and the space of dispositions. Under perfect concordance between the two spaces, the agents tend to preserve the status quo, for their categories of perception and appreciation are but of a reflection of the social structures [16].

Applying this framework to our research problem in a heuristic perspective (and not as an explanatory framework) proved to provide useful insights into the complex overlapping issues between the social and environmental dimensions. Social agents in the informal sector tend to be conditioned by the social structures that shape their perceptions not only about the environmental policies such as plastic ban but also public policies in general.

Workers of informal sectors are generally not entitled to social protection rights such as medical insurance, unemployment compensation or pension, etc. In other words, they are positioned in the lower tail of the distribution of wealth, resources, and power. Thus, they tend to consider environmental issues as irrelevant based on their socioeconomic status. Consequently, the plastic ban law seems worthless to them. Any change to their dispositions to favorable environmental protection policies would have to start by addressing their social concerns.

More particularly, informal sector workers with which the present research engaged, not only do they feel no concern with environmental issues as they are

addressed in the official discourse and action but report the difficulties and the impoverishing effects of such policies on them.

"Nobody can convince me that this policy is for environmental purposes, nobody cares about the environment, if we lack the basics." (Nezeha: egg seller at Buitates).

"It is good that one thinks of protecting the environment, but there are more important things to Nourdine: fish seller at Buitates).

### Plastic Ban in Morocco: an Astranged Policy

Morocco ratified almost all international conventions and covenants on the protection of the environment. It also hosted many international conferences such as the climate change conference in 2001 as well as the latest United Nations Conference COP22 [17]. All Moroccan laws related to environmental protection are inspired by the principles entrenched in these conventions including law 77.15 promulgated in July 2016 banning the manufacturing, commercialization, use, import and export of plastic bags.

For most vendors interviewed during the process of this research, such a policy does not make sense to them. Its origins and motivations sound estranged to them and to their main concerns. The plastic bags, from their experience, are very convenient for commerce as well as for storing food items and to waste disposal. Thus, although they are aware of the protective nature of the policy, they nevertheless have not experienced any harmful effect of the plastic bags on their daily lives.

Understandably, social agents may not always be aware of macro-factors, their first assessment criteria are usually the direct effect of policies on their daily lives. In this context, they assessed the plastic bags ban policy from the prism of its effect on their commerce especially the smallest commercial units in the popular markets. This feeling is exacerbated by the fact that the ban has not been effective at all. On the contrary, plastic bags continued to be informally (i.e., illegally) produced and used with much higher prices than in the past, thus opening the door for people with more financial capital to 'invest' in this area in the black market. One vendor said, "I don't trust the state because the plastic bags have not been banned; they only became expensive and a profit product for informal markets; all those who invest in it bypass all legal obstacles to sell it. We have also seen that many more people now want to invest in plastic bags because its profit margin is now greater, compared to the past". Another one told us, "I've worked in this market for many years; I have never seen such interest in plastic bags until the ban law entered into force which the government implemented without any alternative appropriate plan especially in informal markets [...]. Everything here is informal; everybody sells plastic as if they sell drugs." (Amin: Fish seller at Buitates)

Another vendor makes the same point in a similar vein: "[...] the plastic became more valued and expensive after the ban, everyone who wants to make more money starts investing in plastic, but they should hide to do so." (Ahmed: vegetable seller at El Kamouni)

This fact strengthened the feeling of vendors that the state's discourse is meaningless with no effects on the grounds, or as many of them put it: with exactly the opposite intended effect. To them, the government does not address issues that have a high concern of the population such as poverty, drugs, violence, poor dwellings, etc. The plastic bags, given their convenience and the low cost of their production, were so embedded in the day-to-day interaction as part of the 'service' of selling food items to the customers.

As a result, the plastic bags ban policy sound to most vendors and customers of popular markets as 'unreasonable' and exclusive. Indeed, our observation and multiple interviews in the markets showed that people reporting disagreement with this policy are among those experiencing poverty and multiple disadvantages in the areas of labor, housing, health as well as the kind of markets they shop from and the quality of items they purchase.

To conclude this section and based on the findings of this research, the authors conjecture that it is hard for those who do not equally benefit from the economic growth output, though they contribute to it, to adhere to the public policies, and in this particular context, to environmental protection policies. This is especially true when the implementation of these policies has a direct restricting effect on their income.

### Environmental Policy and New Forms of Marginalization and Poverty

#### *Small Vendors of Plastic Bags*

Among the consequences of the zero plastic law is that it did not consider the vulnerable situation of the small vendors. As the bags have not disappeared from the market, their prices increased from 25 MAD for 1 kg to more than 60 MAD, which resulted in halting their only source of income. Before the ban, their activity was stigmatized and precarious; after the ban, they found themselves in secondary activities such as helping vendors for a few coins. Many declared that after losing their prime source of income they converted into pickpockets or begging in the streets. Several interviewees in this group could not wrap their heads around on how the state wants to protect the environment but not them! One of them said: "an arbitrary law that oppresses poor people; we still struggle with education and unemployment, etc. This law deprives poor people of income and increases the income of wealthy people who invest in both plastic and alternative paper bags" (Abedlah: Plastic bag seller at Buitates)

"To be honest, this policy has practically left us on the street considering the complications with our vendors because of the daily increasing price of plastic bags. Today it costs around 60 to 70 dirhams per kg, which is quite high as compared to its previous price of 15 dirhams. Almost everyone now wants to invest in it. Unfortunately, there is no way to change to another job, not only me, all of us who lived of it" (Mohammed: Plastic bag seller at El Kamouni)

"We, as we sold plastic per unit, I see that this policy not only hurted us, but it also almost killed us, we are without capital, without a profession, with no alternative, then how can we continue, I am the one who feed my family, I am very depressed. How can this country come to think of removing bags from people who cannot read and write, nor have insurance?" (Rashid: Plastic bag seller at Buitates)

### Medium Plastic Vendors

For this group, whose main activity used to be investing in wholesale of plastic bags to small vendors as well as to other customers, the effect of the ban policy was not less than the former group. They live in precarious housing but managed to form a small capital to fund their activity. One interviewee declared that he used to make 1500 MAD per week, which enabled him to provide a living for a poor family among which some are sick and/or disabled, thus they cannot work. They also used to help small vendors who could pay them only after having sold plastic bags in the markets. Not only did their income decreased dramatically but they also have become the main targets of prosecution and high fines. Almost every interviewee in this group declared that the policy "is but a lie", enforced against the poor only and served as a source of income for the wealthier. A vendor of plastic in this category declared: "this law is not understandable to us; it made people like us more vulnerable; it decreased sales and income and created problems between vendors and customers who shop from here" (Rachid: Plastic bag wholesaler at El Kamouni)

"I can't stop thinking about the damage that this policy did to me because it almost blocked my life. Instead of thinking about how to live with it, I am going to court because I was fined." (Abedelhadi: Plastic bag wholesaler at Buitates)

### Vendors of Fish, Meat, and Vegetables

The same impoverishing effect of the ban policy was noted by members of this group. Before the ban, it was affordable and convenient, and they used to provide it to customers for free. One of the interviewees declared that plastic bags were like someone helping him in his business for free. Their concern is not with the ban but with its implications on their income and relationship with customers. Some of them declared that if only the ban was effective, affordable alternatives and

awareness of customers were raised, then it would have helped everybody to adapt to it. The fact that this was not the case, it locked up vendors in a difficult situation, since it was neither effectively banned nor customers accepted the expensive alternatives. All that this policy has achieved, one vendor said, was increasing the plastic bag's prices. The vendors are thus put in a difficult situation; they cannot increase their prices but, if they do not provide the bags, they don't sell and their goods are spoiled. Moreover, most vendors in these popular markets belong to vulnerable and poor social groups; they are bread earners for large size families and do not have any social benefits. As we shall see in the next section, this policy has had an impoverishing effect on various social groups.

"We as sellers are suffering from this policy, we cannot work as before, we must look for alternative strategies to survive. People demand that we have bags even if they already know the existence of the law, we must endure criticism from the people." (Fatima: fruits and aromatic herbs seller at Bouitates)

### The Social Uses of Plastic Vags

Most vendors cannot trace back when they started using plastic bags in their daily lives. They see it as an inheritance from former generations. They do not see it as solely instrumental but also bearing a social value through multiple practices such as storing food and other household items as well as covering concealing purchased goods away from neighbor's curiosity. An interviewee said, in the same vein, "Plastic bags are very useful, especially for us, the poor people, hiding our shopping goods from each other; it also serves us for waste disposal and for storing several things at home. Now this decision has not succeeded in eliminating plastic bags, it only made them more expensive." (Zineb: client at Bouitates).

The fact that plastic bags have both instrumental and social value make it hard for them to respect the ban without any affordable and convenient alternative. It follows that both vendors and customers in such settings do not and will not adhere to the ban. This has been confirmed in our observation visits to these markets during a relatively long period where plastic has been omnipresent.

### New Forms of Resistance and Social Negotiation

Indeed, during the whole period of fieldwork, the authors have not noticed any change in the practices of customers shopping from popular markets, since they continued to require plastic bags as part of the service even though they were aware of the new policy and subsequently imposed penalties. Thus, most of the customers have not seen themselves concerned with the policy, which resulted in an emerging tension between them and the vendors. Vendors used to provide plastic

bags free of charge before the entry into force of the ban law, and so customers continued to require it, which has put more pressure on the former than on the latter.

Vendors found themselves trapped in a new web of relationships with both customers and authorities. Since the first weeks of the ban, their daily and weekly income decreased. One of the vendors said: "the customer does not care; if you do not provide free plastic bags, they change you for another vendor" (Nouridine: fish seller at Buitates). This created a new situation of competition between vendors; not on the quality of food items but on whether a vendor has plastic bags to offer for free or not.

Some vendors adopted various strategies to cope with this situation, such as providing bags only for those who purchase above a certain amount (150 MAD); others slightly increase prices of vegetables and fruits to cover for the plastic cost but they are constantly confronted with customers' resistance especially the poor who not only use them for shopping but also storage and waste disposal purposes. One customer said, "I have come to this market for ages; after the zero plastic law we spend a lot of energy and time with vendors, they only provide it if you buy above a certain amount of money; poor people used to buy small quantities of vegetables and other food items; now vendors become selective and alternatives are not affordable for many people; the biggest problem is that the plastic is not banned it all; it is everywhere but less accessible than before" (Alal: vegetable seller at El Kamouni).

"Nobody gained from that policy except the rich [...]. Here in Morocco, we are the majority. Here I think and continue to think that the last thing that interests us is the environment because primarily we lack the first necessities" (Fetah: vegetable seller at Bouitates).

#### Attitudes and Practices of Customers Toward Zero Plastic Policy

In this section, we briefly present the findings of a survey conducted with 200 customers randomly met in the streets, mainly in the city of Rabat and its surrounding areas. A master sample of all shoppers in Rabat from which we could draw a random representative sample was not available to us, instead, we used a reasoned sample including both men and women who shop from different settings: supermarkets, street vendors and popular markets. The aim of the survey was not to generate inferential statements about the whole population or to strictly compare with the findings of the ethnographic research but to put these into a relatively wider context. The authors particularly attempted to match the stories of vendors, who did not agree with the zero plastic policy and reported its impoverishing effect on their lives, as well as with the attitudes and practices of a subset of customers who shop from popular markets, and other types of markets where the policy has been effectively implemented such as the supermarkets.

Our sample included 103 women and 97 men. 4.5% were aged below 19; 55.5% were aged between

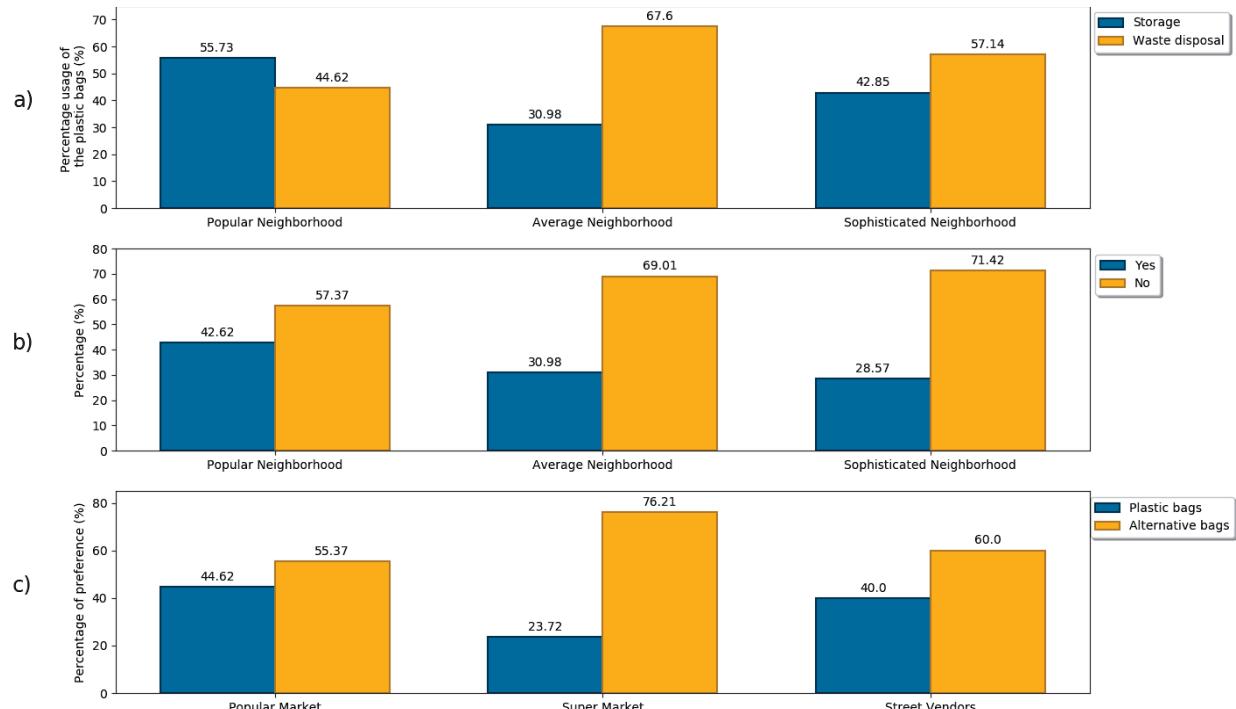


Fig. 1. Results of the survey ( $N = 200$ ) applied to customers to know their preferences and opinions. a) Shopping bags preference by types of the markets. b) Plastic usage by type of neighbourhood. c) The impoverishing effects of Zero plastic policy. Source: Survey designed by authors.

20 and 39 years old; 29.5% between 40 and 59, and 10.5% above 60. As far as the types of markets they use, 24% use weekly popular markets, 31% from daily popular markets in their neighborhoods, 30% from supermarkets, and finally 15% shop from street vendors.

Fig. 1a) shows the preferences of shopping bags between plastic and proposed alternatives. Unsurprisingly, almost 45% of those who shop from popular markets (daily and weekly) prefer plastic bags against 55% who opted out for alternatives; 40% of customers who shop from street vendors also prefer plastic bags. Lastly, even if plastic bags are unavailable in supermarkets where the policy has been effective, still some 24% prefer plastic bags. These findings point out to the fact that many customers, as ethnographic research has shown, prefer to stick to plastic bags for other reasons than just shopping, namely storage and waste disposal.

Fig. 1b) shows the typology of plastic bags used by the types of the neighborhoods. It turns out that whatever the type of neighborhood, a large proportion of our sample use the plastic bags for storage and waste disposal, though those who live in average and sophisticated neighborhoods tend to use the plastic bags for waste disposal rather than storage compared to the people living in popular neighborhoods.

Finally, a question that we have drawn based on ethnographic research concerns the impoverishing effect of the policy on vulnerable populations (Fig. 1c). About 43% of our sample who live in popular neighborhoods believe it is the case, followed by 31% among those who live in average neighborhoods and lastly 29% representing those who live in sophisticated neighborhoods.

Some of these findings are corroborated by ethnographic research, especially the issues of social inequality raised by vendors and customers of popular markets and which, from their perspective, are ignored by the government's policies and undermined environmental protection efforts. The findings also overlap with a survey conducted in three cities (Casablanca, Agadir, and Tetouan) by an NGO called "Zero Zbel" (i.e., zero waste) covering 235 customers (approximately the same sample we used in our survey). 49% among respondents asserted that the level of use of plastic bags remained the same or increased; 60% among vendors asserted that 80 % of their customers continued to insist to be provided with plastic bags when they shop, and 88% among vendors confirmed the rise of prices for plastic bags after the implementation of the ban.

## Conclusion

Based on extended ethnographic research in two popular markets in Rabat, the capital of Morocco, the present paper assessed the impact and the receptivity of the plastic ban policy implemented in Morocco starting

from July the 16<sup>th</sup>, 2016. The authors argued that while the ban was effective in formal market economy, it did not work in the informal market economy which constitute a large proportion of the Moroccan economy and employs more than two thirds of the labor force. The findings of our fieldwork showed that the informal vendors in informal markets, as well as their customers, generally do not obey the plastic ban law. They do not see it as an urgent issue as compared to social and economic problems they are experiencing, nor as an equitable policy benefiting the whole population.

On the contrary, they perceive it negatively, because instead of making the ban effective, it has rather transferred the production and commercialization of plastic bags to the "black market" resulting in a significant rise in prices and strengthened the position of new groups of "capitalists".

Since the demand of plastic bags by customers of such markets persists, this puts vendors in a difficult situation, trapped between the threats of receiving fines from authorities and the pressure of customers demanding plastic bags.

This policy is then perceived not only as inappropriate to the reality of informal sector vendors, but it also has an impoverishing effect, already deemed low and insufficient, and enlarge the scope of unemployment among street vendors who used to make a living from selling the plastic bags.

The paper concludes that the effectiveness of plastic bags ban relies heavily on addressing socio-economic inequalities and poverty among the informal sector workers and their families.

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## Conflict of Interest

The authors declare no conflict of interest.

## Reference

1. HOCHSTETLER K. Tracking presidents and policies: environmental politics from Lula to Dilma, *Policy Stud.*, **2017**, doi: 10.1080/01442872.2017.1290229.
2. BIO Intelligence Service, Assessment of impacts of options to reduce the use of single-use plastic carrier bags, Final Report prepared for the European Commission – DG Environment, **2011**.
3. TARIQ R., SHEIKH N.A., XAMÁN J., BASSAM A. An innovative air saturator for humidification-dehumidification desalination application, *Appl. Energy*, **228** (July), 789, **2018**, doi: 10.1016/j.apenergy.2018.06.135.
4. AYALON O., GOLDRATH T., ROSENTHAL G., GROSSMAN M. Reduction of plastic carrier bag use: An analysis of alternatives in Israel, *Waste Manag.*, **29** (7), **2025**, Jul. 2009, doi: 10.1016/j.wasman.2009.02.016.
5. WANG L., LU J. Analysis of the social welfare effect of environmental regulation policy based on a market structure perspective and consumer, *Sustain.*, **12** (1), **2020**, doi: 10.3390/SU12010104.
6. UNEP, UNEP Environmental and Social Sustainability Framework (ESSF), no. February, **2020**.
7. Asmuni S., Hussin N.B., Khalili J.M., Zain Z.M. Public Participation and Effectiveness of the no Plastic Bag Day Program in Malaysia, *Procedia - Soc. Behav. Sci.*, **2015**, doi: 10.1016/j.sbspro.2014.10.238.
8. BRAUN Y.A., TRAORE A.S. Plastic Bags, Pollution, and Identity, *Gend. Soc.*, **29** (6), 863, Dec. **2015**, doi: 10.1177/0891243215602101.
9. HAGE G. A not so multi-sited ethnography of a not so imagined community, *Anthropol. Theory*, **5** (4), 463, Dec. **2005**, doi: 10.1177/1463499605059232.
10. FITZGERALD D. Towards a Theoretical Ethnography of Migration, *Qual. Sociol.*, **29** (1), 1, Mar. **2006**, doi: 10.1007/s11133-005-9005-6.
11. ROUGGANI K.M., BOUTHIR Y. Secteur informel - économie informelle: quelle contribution pour le développement de l'économie marocaine, *Rev. Econ. Kap.*, no. **6**, **2014**.
12. Haut-Commissariat au Plan du Maroc, Introduction De Monsieur Ahmed Lahlimi Alami, Haut Commissaire Au Plan A La Présentation Des Résultats De L'enquête Nationale Sur La Sphère Des Activités Informelles Au Maroc, **2018**.
13. High Commission for Planning, National survey on the informal sector, 2014 & 2017, Morocco, **2014**.
14. BOURAKKADI H., MOUNIR Z. Le Secteur Informel au Maroc, Étude Exploratoire de l'Emploi Informel Artisanal Dans la Région Fès Boulemane, *Rev. JBE*, **2** (1), 41, **2014**.
15. International Labor Office, Transitioning from the informal to the formal economy, in International Labor Conference, 103<sup>rd</sup> Session, **2014**.
16. HOLMES O.W., BOURDIEU P., WACQUANT L.J.D. An Invitation to Reflexive Sociology., *Am. Hist. Rev.*, **99** (5), 1644, Dec. **1994**, doi: 10.2307/2168398.
17. MICHAL NACHMANY, SAM FANKHAUSER, TERRY TOWNSHEND, MURRAY COLLINS, TUCKER LANDESMAN, ADAM MATTHEWS, CAROLINA PAVESE, KATHARINA RIETIG, PHILIP SCHLEIFER JOANA SETZER GLOBE Climate Legislation Study: A Review of Climate Change Legislation in 66 Countries. Fourth Edition," London, UK, **2014**.