

Stakeholders' Views on Ways to Reduce The Use of Plastic Bags and Its Environmental and Public Health Impacts in Sokoto Metropolis, Sokoto State, Nigeria

Aliyu Abubakar Shehu^{1*}, Faruk Usman Maiyaki², Muhammad Habibu Yahaya³, Sulaiman Aliyu⁴

¹Save the Nature Foundation, Sokoto, Nigeria

²Ministry of Basic and Secondary Education, Sokoto State, Nigeria

³Department of Biological Sciences, Nigerian Defense Academy, Postgraduate School Kaduna, Nigeria

⁴College of Basic and Remedial Studies, Sokoto, Sokoto State, Nigeria

*Corresponding Author

Background

Plastic shopping bags are mostly used for disposing waste, transporting goods, packaging items, and sometimes transporting food items and drinking water. However, inappropriate plastic and other waste causes huge negative impacts on environmental and public health (Schenck et al., 2019).

One of the enormous challenges with plastic bags (PB) in developing countries is that they block sewage systems (Adane & Muleta, 2011; Muhonja et al., 2018). When sewage passages are blocked, this causes foul odors and a breeding ground for disease vectors, such as mosquitoes, which are responsible for the transmission of malaria (Rayne, 2008). For example, in India and Bangladesh, sewage blockage has led to several human deaths. In India, for example, flooding in Mumbai led to the demise of a thousand individuals. This flood was as a result of the blockage of storm drains by plastic bags (Somanathan & Gupta, 2009). Consequently, different states in India and governments across the world placed legislation to reduce plastic bag consumption (Somanathan & Gupta, 2009).

In Nigeria, plastic bags are used in wrapping table water, biscuit, salt, ice cream and several other consumables. Polyethylene bags are used in all markets, restaurants, homes, and shopping centers in Nigeria. These bags are found in the entire streets and corners of the country, for example in Edo State and Ondo State in Nigeria (Aziegbe, 2007; Akinro et al., 2012). In Nigeria, most states and cities such as Ado-Ekiti encounter waste management problems as a result of poor management of waste (Adefemi & Awokunmi, 2009).

The improper and indiscriminate disposal of plastic bags in some areas of Sokoto is a problem that cannot be over emphasised, residential areas lack proper waste disposal systems and hence plastic bags generated from households are being disposed on the fringes of street corners, and culverts (Awosan et al., 2017). This problem is further compounded by the proximity of some dump sites to residential homes there by exacerbating environmental health risks especially in developing countries (Annamalai, 2015; WHO, 2017). Although the government has implemented this proposed ban, it may have widespread impacts across the country, given the reliance of millions of Nigerians on plastic bags for daily activities. The ban may be ineffective if the

government does not enforce it or if the general public does not support it.

The central motor park and the market square areas in Sokoto are not left out of this irony. commuters, resident hawkers and traders often smell the stale stench emanating from heaps/piles of solid wastes generated from these areas. However, despite the massive amount of plastic waste bags produced, people seem to be unaware or feel indifferent on their environmental impact in Sokoto state. Furthermore, there is lack of awareness and knowledge among the populace in Sokoto community on the environmental impact of plastic bags and the effect that it poses on the environment, which has invariably skyrocketed the problem at an alarming rate.

Taking into cognisance the magnitude and seriousness of the problems, it is therefore necessary that the aim of the research was focused on identifying stakeholder's views on ways to reduce the use of plastic bags and their negative environmental impacts in Sokoto community.

Keywords: Plastic, Bags, Waste, Environment, Health, Impacts, Sokoto

I. AIMS & OBJECTIVES

Aim: To assess stakeholders views on ways to reduce the use of plastic bags and the negative environmental impacts of plastic bags in Sokoto community.

Objectives:

- To find out opinions of environmentalists toward the ban of plastic bags
- To find out the opinions of community members toward the ban of plastic bags
- To identify socio-demographic factors that may influence respondents' attitudes towards the use of plastic bags.
- To find out the opinions of traders and consumers toward the ban of plastic bags

II. METHODS

Study site

The study was conducted in April and May 2019 in the Sokoto metropolitan area. Sokoto State, Nigeria.

Sampling

Stake holders’ views on ways to reduce the use of plastic bags and the negative environmental impacts of plastic bags in Sokoto community, convenience sampling, a non-probability sampling technique. The study was conducted among, residents, households, traders and consumers). Participants were approached and their consent sought before the interview. Thus, the population for this interview involved three groups: 1) traders and buyers 2) policy makers/environmentalists 3) community members (residents).

Data collection

For traders and consumers, a structured questionnaire was used to collect data on demographics, education, occupation, and respondents’ use of and views toward plastic bags. For environmentalists and resident community members, a structured questionnaire was used to collect data on their opinions and beliefs towards the ban of plastic bags. Both questionnaires consisted of open- and closed-ended questions, which were coded for data analysis

The total sample size was (210) 100 customers, 100 residents, 5 environmentalists and 5 traders/shop owners. 100 customers were interviewed at the Sokoto Motor park, 100 residential homes were also sampled for the study. These included 50 residential homes from Tudunwada area, and 50 households from Kofar Atiku.

Data analysis

Data were analyzed using the IBM Statistical Package for the Social Sciences (SPSS).

III. RESULTS

Opinion of policy makers/environmentalists on the ban of Plastic Bags

Environmentalists were asked about what were their thoughts about the proposed ban’s implementation in Sokoto state. Most respondents (60%) responded in the affirmative that the ban should be implemented in Sokoto state, while a few respondents (30%) said no to the implementation of the proposed ban and (10%) didn’t know if they would support such ban. Among the Respondents who gave yes as their answers to the support of the bill’s implementation, (50%) attached their reasons for agreeing to the proposed ban to its importance on sanitation, (30%) of respondents said yes because they were frustrated about their dirty environment while (20%) simply accepted the proposed ban because they felt if the proposed ban was passed into law, it will become a law that must be obeyed by all and sundry. Furthermore, opinions from the same respondents were also sought on the most effective ways to stop the use of plastic bags in Nigeria. (50%) of the respondents opined that paper bags should be used as alternatives in place of plastic bags while (30%) opted for a total ban of plastic bags use and production, that there should be an existing body to pan out penalties for those that use and produce plastic bags and (20%) of respondents would prefer customers to pay for the plastic bags when they go for shopping.

Table 1: showing the opinion of environmentalists on the implementation of the proposed ban

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	60	60.0	60.0	60.0
	No	30	30.0	30.0	90.0
	Dont know	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

Table 2: showing respondent’s reasons for supporting the implementation of the ban

		if yes to above, state reasons			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	importance in sanitation	50	50.0	50.0	50.0
	obidience to law and order	20	20.0	20.0	70.0
	frustration about dirty environment	30	30.0	30.0	100.0
	Total	100	100.0	100.0	

Table 3: showing respondent’s support for the proposed bill on the ban of plastic bags

do you support the recent proposed Bill on the ban of plastic bags?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	90	90.0	90.0	90.0
	No	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

Table 4: showing opinion of respondents on the most effective way to stop the use of plastic bags in Nigeria.

do you support the recent proposed Bill on the ban of plastic bags?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Paper bags	50	50.0	50.0	50.0
	Customers to pay for PB	20	20.0	20.0	70.0
	Total ban and penalty	30	30.0	30.0	100.0
	Total	100	100.0	100.0	

Opinion of traders/consumers on the ban of Plastic Bags

Customers and shop owners were also asked about their opinions on the support of the proposed bill. Majority of the respondents (93%) said yes to support the bill while a few respondents (7%) said no to supporting the bill on the proposed ban. However, when asked about how the proposed bill may affect their business, majority of the respondents (72%) opined that their business may be affected by the proposed ban due to non-patronization by customers while (28%) also opined that the proposed ban on plastics bags may

leave customers unsatisfied when they come for shopping. On the issue of the most the effective way to stop the use of plastic bags in Nigeria, majority of the respondents (63%) were of the opinion that using paper bags in place of plastic bags may in the long run ameliorate the use of plastic bags, while (21%) preferred that customers to pay for plastic bags when they come for shopping and (16%) of the respondents opined that there should be a total ban of the use of plastic bags and appropriate penalties should be meted out to those who produce and use plastic bags.

Table 5: showing the view of customers, traders and shop owners support on the recent proposed bill on the ban of plastic bags

do you support the recent proposed Bill on the ban of plastic bags?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	93	93.0	93.0	93.0
	No	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Table 6: showing how traders/shop owners' business may be affected by the proposed ban. How might your business be affected by the proposed ban?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non-patronization by customers	72	72.0	72.0	72.0
	Unsatisfied customers	28	28.0	28.0	100.0
	Total	100	100.0	100.0	

Table 7: showing how the opinions of traders and customers vary on the most effective way to stop the use of plastic bags in Nigeria.

do you support the recent proposed Bill on the ban of plastic bags?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Paper bags	63	63.0	63.0	63.0
	Customers to pay for PB	21	21.0	21.0	84.0
	Total ban and penalty	16	16.0	16.0	100.0
	Total	100	100.0	100.0	

IV. DISCUSSION

Opinion of environmentalists on the ban of Plastic bags

From the result, it was seemingly evident that most environmentalists were in support of the implementation of the proposed ban on plastic bags. The result of this research is similar to recent study carryout by (Pathak et al., 2019) that Member states in the European Union have implemented various actions to reduce the use of plastic bags. These actions show an organised approach where a number of useful tools are being applied, ranging from voluntary agreements with retail sectors, to the implementation of fiscal measures to the outright ban of plastic bags. (strange, 2011). Sanitation was one of the overwhelming views given by majority of respondents who were in support of the proposed ban. One of the magnitude problems today is the waste produced annually from the use of plastics and the long-term effects it has on the environment. According to the recent data by the U.S environmental protection agency, Municipal Solid Waste (MSW) generated in 2006 is 251 million tons. The growing amount of plastic waste and the small amount of plastics being recycled have two major environmental repercussions; one is the over consumption of petroleum and global warming, and the other is the accumulation of non-biodegradable plastic wastes. (Ningwei et al., 2009). Plastic bags can block waterways and further compound natural disasters. In 1988, poor drainage resulting from plastic bag litter clogging drains contributed to devastating floods in Bangladesh, causing several deaths as two-thirds of the country was submerged.

On the most effective ways to stop the use of plastic bags in Nigeria, majority of policy makers and environmentalist opined that perhaps alternatives to plastic bags may contribute in reducing the use of plastic bags. However, many countries such as Rwanda and Kenya enacted policies for banning use of plastic bags and its negative impacts (Mukhtar, 2018). This shows that either a replacement of plastic bags with paper bag or a discount issued to customers when they come with their plastic bags will help in the reduction of the use of plastic bags in Nigeria. If the federal government can require shop owners to give out paper bags or discounts to customers who bring their own shopping bags, it would help to reduce the use of plastic bags in Nigeria. These are just a few illustrations of areas where the use of plastics can be reduced. Nonetheless, there are other products in our household or stores where the use of plastic can be reduced if all of us as consumers give a little more attention, such as buying products packaged in paper instead of plastics or using reusable containers for food storage instead of plastic bags. For many, it is the lifestyle they are used to and might be hard to change ways of life all of sudden, but for the sake of better environment and safer future, it is not hard for everyone to try to reduce the use of plastics in their everyday life.

Opinion of traders/consumers on the ban of Plastic Bags

Most customers and traders that were interviewed were willing to support the proposed ban This showed that majority of the respondents are willing to support a ban on plastic bags if the proposed ban is passed into law. This is probable because most of the respondents are well aware of the adverse effects caused by plastic as reaffirmed by Shahnawaz et al., (2019) that highlighted the importance awareness as environmental protection and management strategy. Furthermore, it was noted that majority of shop owners decried that their businesses may be affected by the proposed ban due to non-patronage from customers and a few asserted their reasons to customers dissatisfaction, however, this could be influenced by efficacy and suitability plastic banning strategies used (Maguire et al., 2019; Abbott et al., 2019). This may be true as most customers in Nigeria especially those that purchase items in bulk often prefer their collectables in plastic bags. Majority of the customers and shop owners also agreed that using paper bags as alternatives to plastic bags may help reduce the use of plastic bags while a few preferred that customers pay for plastic bags when they come for shopping, as employed in different countries (Saleh et al., 2019; O'Brien & Thondhlana, 2019).

V. CONCLUSION /RECOMMENDATIONS

This research concluded that, Despite the significant positive perspectives of stakeholders' views and perceptive on banning of plastic bags due to its negative environmental and public health impacts. There is still need for partnership and collaboration among stakeholders as well campaign and awareness on its environmental and public health impacts in Sokoto.

The following recommendations were put forward for improvement.

- Waste management practices including plastic bags management should be incorporated in Nigerian curriculum as mandatory from primary to tertiary level.
- The law should be enacted to regulate the use of plastic bags in Sokoto and Nigeria.
- There is also urgent need for partnership and collaboration among stakeholders across health, environment, education and all the organs of government to ensure inclusive and acceptable policies for designing and implementation of waste management and public health policy in Sokoto and Nigeria at large.
- Researches are also needed in order to come up with evidence-based solution to waste and environmental protection in order to pave ways for interventions and development in relation to waste and plastic bag management.
- There is also need for partnership and collaboration between government and other non-governmental organizations in designing, implementing waste management policies and programs.

DECLARATION

The authors declare no conflict of interest in this research.

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