



ABSTRACT

Environmental law is a collective term encompassing aspects of law that provide protection to the surrounding. The sample size for this research was two hundred (200) respondents from the selected individuals in the community; the instruments used for data collection are questionnaire and interview methods. The method used in analyzing the data was the simple mean and percentage which involves the use of presenting data in a tabular format and then calculated in percentage form. The Likert Scale of ranking order using a 4-point of Strongly Agreed (SA), Agreed (A), Strongly Disagreed (SD) and

PEOPLE'S AWARENESS OF ENVIRONMENTAL LAWS AND POLICIES ON SOLID WASTE MANAGEMENT IN SABON GARI LOCAL GOVERNMENT AREA, KADUNA STATE.

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Introduction

BACKGROUND TO THE STUDY

The first large-scale, modern environmental laws came in the form of the British Alkali Acts, passed in 1863, to regulate the deleterious air pollution (gaseous hydrochloric acid) given off by the Leblanc process, used to produce soda ash. In Europe, the Industrial Revolution gave rise to modern environmental pollution as it is generally understood today. The emergence of great factories and consumption of immense quantities of coal and other fossil fuels gave rise to unprecedented air pollution and the large volume of industrial chemical discharges added to the growing load of untreated human waste (Fleming, 2006). Environmentalism grew out of the amenity movement, which was a reaction to industrialization, the growth of cities, and worsening air and water pollution. In 1962, *Silent Spring* written by American Biologist Rachel Carson was published. The book cataloged the environmental impacts of the indiscriminate spraying of well-known synthetic pesticide Dichlorophenyl trichloroethane (DDT) in the US and questioned the logic of releasing large amounts of chemicals into the environment without fully understanding their effects on ecology or human health. The researcher suggested that DDT and other pesticides may cause cancer and that their agricultural use was a threat to wildlife, particularly birds (Carson, 1962).



Environmental law is a collective term encompassing aspects of law that provide protection to the surrounding, The sample size for this research was two hundred (200) respondents from the selected individuals in the community; the instruments used for data collection are questionnaire and interview methods. The method used in analyzing the data was the simple mean and percentage which involves the use of presenting data in a tabular format and then calculated in percentage form. The Likert Scale of ranking order using a 4-point of Strongly Agreed (SA), Agreed (A), Strongly Disagreed (SD) and Disagreed (D) was employed. The mean for every item was computed as $(4,3,2,1)/4= 2.50$. Hence, the items with mean exceeding 2.50 are accepted while those below 2.50 were rejected. The result shows that majority of the respondents are literate in which 42% of them have attained tertiary education only 8% of the sampled population have no formal education, The result further indicates 42% of the respondents disagreed that authorities have established guidelines on waste disposal and collection in Sabon Gari while 12.5% strongly agreed. It is recommended that police and judiciary should take their roles seriously on environmental management and government should mount strategic environmental campaigns to raise public awareness through the various existing media.

Keywords: Awareness, Laws, Policies, Waste, Environment.

In Nigeria, the administrative framework for Solid waste management is three tiered, thus consisting of national, state agencies as well as local government bodies. The Federal Ministry of Environment is the body charged with overseeing the protection of the environment as well as natural resource preservation to the end of achieving sustainable development. The NESREA (National Environmental Standards Regulations and Enforcement Agency) is the major federal body responsible for protecting Nigeria's environment; it is responsible for enforcing all environmental laws, regulations, guidelines and standards. NESREA act 2007 was created under the 1999 constitution of the federal republic of Nigeria (Section 20) it replaced the Federal Environment Properties. Act 1988 (Ejide 2017). The Environmental Protection and Awareness division promotes the protection of our natural environment, the health and well-being of our citizens, increasing awareness in environmental issues. It also facilitates the participation of Non-Governmental Organizations and civil society. In this light, the acceptance of pro-environmental behavior by general public to adopt sustainable life style is an urgent issue in protecting the environment. In order to ensure protection of the environment is better managed, all states in Nigeria (and their local government) have been given the capacity to create related environmental establishments, the sovereignty of which is limited to the state or local government area it has been established (Ogwueleka, 2009).

Consequently, the responsibility for solid waste management in Nigeria lies with local governments at state level as specified in Section 5(2) of Federal Environmental Protection Agency Act No. 1 of 1994; As inter alia stated:| “ It shall be the duty of each Local Government Authority in the State to locate, construct, and maintain public refuse receptacles in strategic places, where residents in its area may deposit their household waste” (FEPA, 2005). FEPA (2005) notes that,



amidst weak institutional structures, little has been achieved in ensuring people's compliance with the range of environmental management policies and laws in Nigeria.

Like any other state in Nigeria, the problem of solid waste management is a major environmental issue in Kaduna Metropolis. Waste generation is on the increase and only little effort is made by the community and government to address this problem. Ugwa (2006) in his work titled; Municipal Waste Management identified that waste generation in Kaduna state is on the increase and only little effort is made by the government and community to tackle the problem. Aondoakaa and Ishaya (2009) carried out a research on people's perception on the impact of urban generated Solid Waste in the environment of Gboko in Benue State; the study revealed that knowledge on the impact of solid waste on the environment is high among the educated inhabitant. However, it remains unclear what can cause the participation of people in environmental actions. In this research paper, hypothesis is established that more environmental awareness means more environmental behavior. The aim of the study is to investigate people's awareness of laws and policies on solid waste management in Sabon Gari Local Government Area, Zaria Kaduna state.

METHDOLOGY

For the purpose of this research the descriptive research design will be employed, this is because it is simple and direct to understand. The sample size for this research was two hundred (200) respondents from the selected individuals in the community; the instruments used for data collection include questionnaire and interview methods. The responses were analyzed so as to bring out a valid inference. Also interview was conducted on those who cannot speak English fluently. The method used in analyzing the data was the simple mean and percentage. This method involves the use of presenting data in a tabular format and then calculated in percentage form. The Likert Scale of ranking order using a 4-point of Strongly Agreed (SA), Agreed(A), Strongly Disagreed (SD) and Disagreed (D) was employed. The mean for every item was computed as $(4,3,2,1)/4 = 2.50$. hence, the items with mean exceeding 2.50 is accepted while those below 2.50 were rejected.

DATA PRESENTATION AND ANALYSIS

Table 1; Qualification of the Respondent

Certificate	Frequency	Percentage (%)
No formal education	16	8%
Primary Certificate	28	14%
SSCE	72	36%
Tertiary Education	84	42%
Total	200	100%

Source: Field Survey, 2021

From table 1 presented, it shows that 8% of the sampled population have no formal education, 14% of the respondents are Primary certificate holders, 36% are SSCE holders while 42% of the respondents have attained tertiary education. This indicates that, most members of the



community are literate and have attained the level of tertiary education. The high percentage of those with tertiary educational attainments indicates that respondents are educated and can easily co-operate in healthy solid waste management practices. Pacey (1990) emphasises on the importance of education to solid waste management, he reported that formal education is a prerequisite for positive change in sanitation behaviour, in a similar study by Onyema (2006) who stated that the people that are mostly involved in this laws and policies breaking are not educated and are mostly ignorant of their behavior.

Table 3 shows that the research statement 2,3,5,6 and 7 were all accepted. This is because the calculated arithmetic mean (\bar{X}) of all the items exceeded the theoretical mean (2.5) which is taken as cut-off point for rejection or acceptance, as the case may be.

S/N	Research Statement	Reponses				ΣF	ΣFx	\bar{x}	Remark
		SA	A	D	SD	%			
1.	-Authorities have established guidelines on waste disposal and collection in Sabon Gari.	25	29	84	62	200	415	2.1	Rejected
		12.5	14.5	42	32	100			
2.	-Dumping of hazardous substances in the environment is prohibited by the authorities concerned.	75	85	25	15	200	620	3.1	Accepted
		37.5	42.5	12.5	7.5	100			
3.	-Indiscriminate dumping of refuse is discouraged.	79	90	20	11	200	637	3.2	Accepted
		39.5	45	10	5.5	100			
4.	-There are penalty charges for those who dispose wastes indiscriminately in the community.	24	47	71	58	200	437	2.2	Rejected
		12	23.5	35.5	29	100			
5.	-Authorities do inspect premises, facilities and seize items that are harmful to the environment.	87	77	15	21	200	630	3.2	Accepted
		43.5	38.5	7.5	10.5	100			
6.	-Private sectors are involved in waste collection and disposal.	78	59	30	33	200	582	2.9	Accepted
		39	24.5	15	16.5	100			
7.	-There are environmental volunteers amongst the citizenry (waste pickers, itinerant buyers etc)	10	57	28	14	200	641	3.2	Accepted
		5	28.5	14	7	100			
8.	-Sensitisation Programmes are carried on to educate people on environmental Laws and problems	22	31	55	92	200	383	1.9	Rejected
		11	15.5	27.5	46	100			

Source: Field Survey, 2021



Table 3i; Awareness of People on the Laws and Policies on Solid Waste Management.

However, it is deduced from item two that dumping of hazardous substances in the environment is prohibited by the authorities this statement was strongly agreed by 37.5% respondents and strongly disagreed by 7.5% respondents with mean score of 3.1. While item three shows that indiscriminate dumping of refuse is discouraged, the statement was strongly agreed by 39.5% respondents and disagreed by 5.5% respondent with a means score of 3.2. While item Five shows that authorities do inspect premises, facilities and seize items that are harmful to the environment the notion was strongly agreed by 43.5% and disagreed by 7.5% respondents with a mean score 3.5. While items six and seven shows that Private sectors are involved in waste management and there are environmental sanitation volunteers amongst the citizenry with a mean of 3.2 and 2.9 respectively. According to (Ahmed and Ali, 2004) the environmental volunteers are groups of waste management stakeholders that are usually not regulated or controlled by government agencies, they usually move from house to house and or street to street in search of wastes and or other recyclable waste materials, they are called scavengers and waste pickers. As Klijin and Teisman (2003) opined that because there is little appreciation for voluntary measures to protect the environment among the people, irresponsible methods of waste disposal have not been uncommon in the country and waste management has not been an exception.

Furthermore, the research statement 1, 4 and 8 were rejected, this is because the calculated arithmetic mean (\bar{X}) of all the items was less than the theoretical mean (2.5) which is taken as cut-off point for rejection or acceptance. Item one indicates 42% of respondents disagreed that authorities have established guidelines on waste disposal and collection in Sabon Gari while 12.5% strongly agreed. Item four implies that 35.5% of respondents disagreed that there are penalty charges for those who dispose wastes indiscriminately in the community while 12.5% agreed that charges are impose on offenders. Item eight indicates that 46% of the respondents disagreed that Sensitisation Programmes are carried on to educate people on environmental Laws and problems while 11% are of the opinion that sensitisation programmes are carried out.

Table 3ii: Awareness of People on the Laws and Policies of Solid Waste Management.

S/N	Research Statement	Reponses				ΣF %	ΣFx	\bar{x}	Decision
		SA	A	D	SD				
9.	The environmental laws and policies in the community have made great impact in terms of waste control in the environment.	21 10.5	13 6.5	75 37.5	91 45.5	200 100	351	1.8	rejected
10.	Environmental protection court has been established to enforce laws and policies in the community.	18 9	31 15.5	66 33	85 42.5	200 100	382	1.9	rejected
11.	Community Based Organizations also help in curtailing the solid wastes management problems that has overwhelmed the authorities.	85 42.5	78 39	26 13	11 5.5	200 100	637	3.2	Accepted
12.	In order to curtail the indiscriminate dumping of refuse, waste management	25 12.5	30 15	90 45	55 27.5	200 100	425	2.1	rejected



	authorities have been effective in waste collection.								
13.	There is cooperation between the people and the environmental health officials in charge of solid waste management.	77 38.5	81 40.5	28 14	14 7	200 100	621	3.1	Accepted

Source: Field Survey, 2021

The above table shows that the research statements 9, 10 and 12 were all rejected, this is because the calculated Arithmetic mean (\bar{x}) of all the items is less than the theoretical mean (2.5) which is taken as cut-off point for rejection or acceptance, as the case may be. Item eleven shows that the environmental laws and policies in the community have made great impact in terms of waste control in the environment this was strongly disagreed by 45.5% of respondents while those that strongly agree are 10.5% with an Arithmetic Mean of 1.8 which is rejected because is less than the theoretical mean (2.5). On Item ten 42.5% of the respondents strongly disagree that environmental protection court has been established to enforce laws and policies regarding solid waste management in the community while 9% agreed that the court has been established. Item twelve has a theoretic mean of 2.1, 45% of respondents disagree that waste management authorities have been effective in waste collection while 12.5% out of the respondents strongly agree.

Items eleven and thirteen are accepted because the calculated Arithmetic mean (\bar{x}) of the items exceeds the theoretical mean (2.5) which is taken as cut-off point for rejection or acceptance, the items both have the mean of 3.2 and 3.1 respectively. 42.5% respondents strongly agree that Community Based Organizations also help in curtailing the solid wastes management problems that has overwhelmed the authorities, according to (Wilson et al. 2009) some communities which cannot access enough facilities to maintain their environments clean due to large amount of solid waste accumulations tend to form CBOs for their safety. Generally, these people mainly undertake primary collection and street cleaning. Also about 40.5% of the respondents agree that there is cooperation between the people and the environmental health officials in charge of solid waste management while 7% responded disagreed. Kayode and Omole, (2011) in a similar study in Ibadan metropolis noted that lack of cooperation between the people and the environmental health officials in charge of solid waste in Ibadan metropolis makes the enforcement of environmental law and order to be ineffective in the core area.

SUMMARY

The high percentage of those with tertiary educational attainments indicates that respondents are educated and can easily co-operate in healthy solid waste management practices. Most of the respondents agreed that dumping of hazardous substances in the environment is prohibited by the authorities this statement was strongly agreed with a mean of 3.1 and respondents are much aware that indiscriminate dumping of refuse is discouraged, authorities also inspect premises, facilities and seize items that are harmful to the environment with a mean score 3.2 and 3.2 respectively. While items six and seven shows that Private sectors are involved in waste collection and disposal and there are environmental sanitation volunteers amongst the citizenry with a mean



of 3.2 and 2.9 respectively. Where as the research statement 1, 4 and 8 were rejected, this is because the calculated arithmetic mean (\bar{X}) of all the items was less than the theoretical mean (2.5). Most of the respondents have disagreed on the notion that authorities have established guidelines on waste disposal and collection in Sabon Gari , most respondents are also unaware of penalty charges for those who dispose wastes indiscriminately in the community only a few are aware. This implies that people in the community are not fully aware of the dos and don'ts regarding waste management, it also implies that there is no penalty for dumping waste indiscriminately in the environment. From the research it is deduced that there are no sensitisation programmes carried-out to educate people on environmental Laws only 11% are aware that there are sensitisation programmes carried out.

Table 3ii shows that the research statements 9, 10 and 12 were all rejected, this is because the calculated Arithmetic mean (\bar{x}) of all the items is less than the theoretical mean (2.5). the statement that environmental laws and policies in the community have made great impact in terms of waste control in the environment was strongly disagreed upon with a mean of 1.8. Item ten most of the respondents strongly disagree that environmental protection court has been established to enforce laws and policies regarding solid waste management in the community while few agreed that the court has been established. Item twelve has a theoretic mean of 2.1 most respondents disagree that waste management authorities have been effective in waste collection. Items eleven and thirteen are accepted because the calculated Arithmetic mean (\bar{x}) of the items exceeds the theoretical mean (2.5) which is taken as cut-off point for rejection or acceptance, the items both have the mean of 3.2 and 3.1 respectively. 85 respondents strongly agree that Community Based Organizations also help in curtailing the solid wastes management problems that has overwhelmed the authorities and 40.5% of the respondents agree that there is cooperation between the people and the environmental health officials in charge of solid waste management.

CONCLUSION

Conclusively, the review of literature was done in order to grasp the public concern and its involvement in environmental policies. there are relatively limited number of study on environmental awareness in developing countries and those exited lack a policy oriented view. Therefore, it is quite urgent that empirical study on environmental awareness to be carried out in developing countries in order to: first, to collect basic information, second, to justify the validity of method and third, to incorporate the outcome into the environmental policy making process.

RECOMMENDATIONS

The following recommendations were made to guide the study

1. There is no doubt the low level of environmental awareness in Sabon Gari Local Governement Area could affect individual's behavior and environmental habit towards his environment. Therefore, government should mount strategic environmental campaigns to raise public awareness through the various existing media in Gari Local Gouvernement Area.
2. There is the need for government to formulate a solid waste management national policy to facilitate the development of appropriate laws to govern the management of solid



waste, but not much has been done to that effect, although the local government may have the power to come up with by-laws on any issue in their areas of jurisdiction, it may still be difficult for them to come up with such when there is no guiding policy at national level.

3. The police and judiciary should take their roles seriously in environmental management, particularly in the enforcement of environmental laws, hoping that this will change the way Nigerians interact with the environment.
4. Government should ensure that resources released for environmental management programs are judiciously utilized for the purpose for which it was released.

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