

ATTITUDE OF URBAN DWELLERS TO WASTE DISPOSAL AND MANAGEMENT IN CALABAR, NIGERIA.

By

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Abstract

The problems of waste generation and management has become a serious issue of concern to many scholars in environmental studies. This paper critically examine the attitude of urban dwellers to waste disposal and management. One hundred and fifty copies of questionnaire were administered to residents in the area. Information such as the various classes of waste, frequency of waste disposal and methods of waste evacuation were obtained from the questionnaire. Finding revealed that family size has a great influence on waste disposal and generation which was evidence in the hypothesis with a calculated value of 7.32 greater than the critical value of 2.43 at 0.05 level of significance. Besides, environmental enlightenment has changed people's attitude towards waste generation and management in the area. This was affirmed in the calculated f-value of 3.18 greater than critical t-value of 1.97 at 0.05 level of significance. However, this result indicate that effective environmental enlightenment would help avert the attitude of urban dwellers to waste disposal and management in the area.

Key Words: *Urban dwellers, waste generation, attitude, waste disposal, human ecosystem.*

Introduction

The problems of waste generation and management in most cities especially in developing has become one of the intractable environmental problems facing urban centres. This situation could be attributed to low level of technology that is not sophisticated enough to handle the high rate of waste generation (Baum, 1973). Human population and rural-urban migration has increase through urbanization, natural increase rate and industrialization, yet the service rendered is not sizeable enough to control the high level of solid waste generated in urban areas and these has contributed to a large extent, the nuisance and the damaging effect of the urban environment (Sule, 2004). Today, the rate at which waste is being generated is about 70% as compared to the total rate of its disposal which is 30% (Edu, 2003). No doubt Edu (2003) argued that waste could be anything which may not be directly useful or needed by man. In Nigeria, the dehumanizing effects of these circumstances in our urban lives and brighted environments has often been cited and noted as contributing causes of Nigerian urban decay (Asuquo, 1979). Cross River State and Calabar in particular is not left out in this scenario despite the huge revenue allocated to waste disposal and management, the rate of waste generation and disposal is really alarming (Wegner, 1991). The region is crowded with biodegradable and non-biodegradable waste which posed great threat to urban environmental quality in the area. It is also surprise that the residents in the area are ignorance of the danger associated with indiscriminate waste disposal, even when the dump sites are provided, they still neglect it and liter their refuse on the environment. In this vein, one may ask why the residents are unable to manage their waste in an acceptable manner, what is then responsible for the negative attitude of the people towards waste disposal and management in the area? Therefore, the paper seek to evaluate the people's attitude towards waste disposal and management with specific reference to the waste

classification, disposal method, frequency of waste disposal and waste evacuation in the area.

Methodology

This study was conducted in Calabar municipality local government area of Cross River State. Six major streets were randomly selected for this study which include, Akim road, Akim barracks, Mekenge layout, Odu-Ika, Akim-Ikang and Ita-Asu streets. Data such as waste classification, waste disposal, frequency of waste and evacuation methods were obtained from the questionnaire administered to the residents in the area. A sample of population of 1,000 people were used, of which 150 respondents were randomly drawn from the sample population in 75 households. However, the data obtained were analyzed using the One-way ANOVA while the independent T-test was used to evaluate the degree of significant of the variables under investigation.

Study area

The study area comprises of two locations in Calabar municipality namely; Akim and Big-qua clans; it is located naturally within latitudes 4° - 59° and 5° – 13° North of the equator and longitudes 80° - 16° and 8° - 8° East of the Greenwich meridian. It is bounded in the north by Obutung and Ikpai clans, south by Duke Town, Efut Ekondo and Obufa Esuk clans. East by Ediba, Otop-Otop, Nyakasang, Edim-Otop, Satellite town and Unical ; and west by the Calabar river estuary. The socio-economic activities of this area is characterized by the entire human study trading, farming and employees of government and private sector, artisans, full time house-wives. A number of hotels and restaurants, fast food joints, super markets and private sector which produces pure water as well as mechanic, carpentry and welding workshop. However, the rest of the activities in the area are basically domestic in nature.

Attitude of people and its effect on the environment

An understanding of the ebb and flow of individuals and collective attitudes vis-à-vis specific issues, and the mind set associated with various options, is very crucial. And this is more clearly demonstrated in environmental affairs. Social scientist psychologists have defined "attitude" as a predisposition to a specific kind of behaviour. By this began in the 1960s with an attitudinal revolution. It was sparked by growing concern about local problems and propelled by articulated warnings, notably from Rachel Carson (1960) in *Silent Spring*. We see, in retrospect that it predisposes the generation of the 1960s to embrace environmental activism. Since the 1960s throughout the democratic industrialized world, public awakening to environmental danger has consistently been the catalyst for environmental policies and programmes. Attitude is referred to as a kind of "mental set" representing a predisposition to form a certain opinions (Kelly, 1971). This definition signifies that individual has different opinions to situation's. Most people have non-chalant attitude towards waste disposal this kind of person could be perceived as one who litters the environment like no man's business with no regards or respect to the environment. They don't consider the need to appraise or talk to people and neighbors around them for positive or negative behaviour. For example, if an individual is seen littering papers or any form of waste anywhere they do not seem to exhibit any annoyance or correction to such situation. They do not consider living in a clean as essential hence they cannot keep clean environment. They play passive role in sanitation activities and refuse to co-operate with others in cleaning up residential surroundings because of their negative attitude. Some educated and enlightened citizens also participate in these misconduct, According to Stahrl, E (1992) the main reason for the incessant growth of waste volumes in our urban centres is as a result of the ignorance of some dwellers towards the effect of indiscriminate dumping of refuse and the care free attitude of most of the dwellers, who know what should be

done but they are careless about it.... this is supported by Simon J. A.(1974) by saying that everybody wants their refuse to be taken away, nobody wants to take part in its disposal and management. Nest (1991) adds that people lack interest towards the management of the refuse they generate. According to him, although waste is generated by people, they show no concern towards its final disposal. This poor attitude may also be ascribed to the environmental protection agencies. Most times people pack their waste in dustbins for weeks without the agencies coming to evacuate them to the final point of disposition. As a result most people resort to pouring dirt recklessly on the streets, gutters expecting erosion to wash them into the river. Some dwellers also prefer to use undeveloped plots of land around their residence as the convenient point for waste disposal. Another scholar, Peter (1935) defines attitude as the mental and neutral state of mine (readiness) organized through experienced exerting a directive or dynamic influence upon individual response to all objects and situations with which it is related. The use of mental and neutral state" in the foregoing definition indicates that attitudes could not be observed directly but inferred from behaviours that is, the type of response possessed by an individual having the attitude. Observation here means that it is possible to train and motivate human being to develop attitudes and values, which culminate undesirable behaviour towards environment. The directing of behaviour towards an environment normally result in conscious utilization, manipulation and transformation of the environment in the manner consistent with the goals of environmental management, peoples negative attitude to waste disposal is a manifestation of their internal behaviour through socio-cultural and transitional orientation. It is true that if a person has a positive attitude towards an object, he /she will go a long way to support the object, so if an individual holds positive attitude to waste disposal, he will definitely increase his efforts to environmental sustenance. Attitude in this context can be defined in terms of the level of education, income rate and gender.

Odum (1986) states that society may unwillingly contribute to negative and deviant behaviour and attitudes based on the structure of its goals and opportunities. People know their own attitude not by inspecting their inside waste classification.

Findings

Classification of waste

The classification of waste as presented in table 1 shows that different types of waste were generated in the area. It was observed that vegetable was the major waste generated by the people with a value of 23.33% followed by Garbage with a value of 18.66%. Table 1 indicate that paper/grass were also generated in the area with a value of 16% compared to cans 15.33%, plastics 14.70% while wood/bones were on the least side with value of 12%. However, this result shows that majority of the waste generated in the area are biodegradable waste compared to non-biodegradable waste which when decomposed can be harmful to human health(Salvato, 1979).

Table 1: Waste classification in the area

Variables	Frequency	Percent
Garbage	28	18.66
Vegetable	35	23.33
Paper/glass	24	16.00
Wood/bone	18	12.00
Cans	23	15.33
Plastics	22	14.70
Total	150	100.00

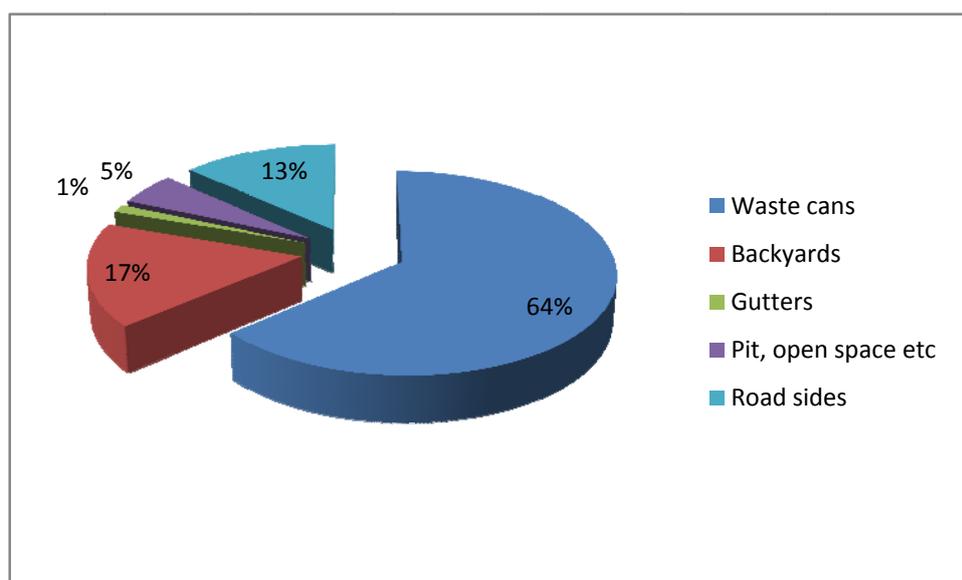
Source: Field survey (2011)

Waste disposal methods

Figure 1 which shows the methods of waste disposal indicate that 63.67% of the

people disposed their waste in cans before taking it to the final waste dump. This shows that majority of the people are more conscious to waste disposal. It was noticed in figure 1 that about 16.56% of the residents disposed their waste in their backyards; since the study area mainly an old traditional area, people don't believe in going out to dump site, their waste are dumped behind their houses which shows a poor attitude in the side of the people in waste management and disposal. This negative attitude can attract rodents such as rats, mosquitoes to the surrounding environment, hence causing health problems such as typhoid, malaria, dysentery, cholera and tuberculosis (Sule, 2004). It was observed in figure 1 that 13.3% the residents in the areas walk down to where the receptacles are to disposed their waste, attend drop to drop the waste on the road side, this attitude was common among the youth in the areas. However, 5.0% of the residents dump their refuse in the pit and open space while 1.27% of the people dump their waste in gutters.

Figure 1: Waste disposal methods in the area



Source: Field survey (2011)

Frequency of waste generation

The frequency of waste generated in the study area presented in table 2 shows that waste were disposed on daily bases with a value of 34% compared to every three days with a value of 32.67%. Table 2 revealed that in most cases waste are generated and kept for a week before they are disposed to dump site with a value of 22.67%. It was observed that in most cases waste are kept for months and days interval before they are disposed as both had values of 49 and 1.33% respectively. This set of people who keep their waste for a longer days are too reluctant to disposed their waste. This however, represent an improper attitude towards waste disposal in the area.

Table 2: Frequency of waste disposal in the area

Variables	Frequency	Percent
Daily	51	34.00
After 3 days	49	32.67
Weekly	34	22.67
Two weeks	8	5.33
Monthly	6	4.00
2.4days intervals	2	1.33
Total	150	100.00

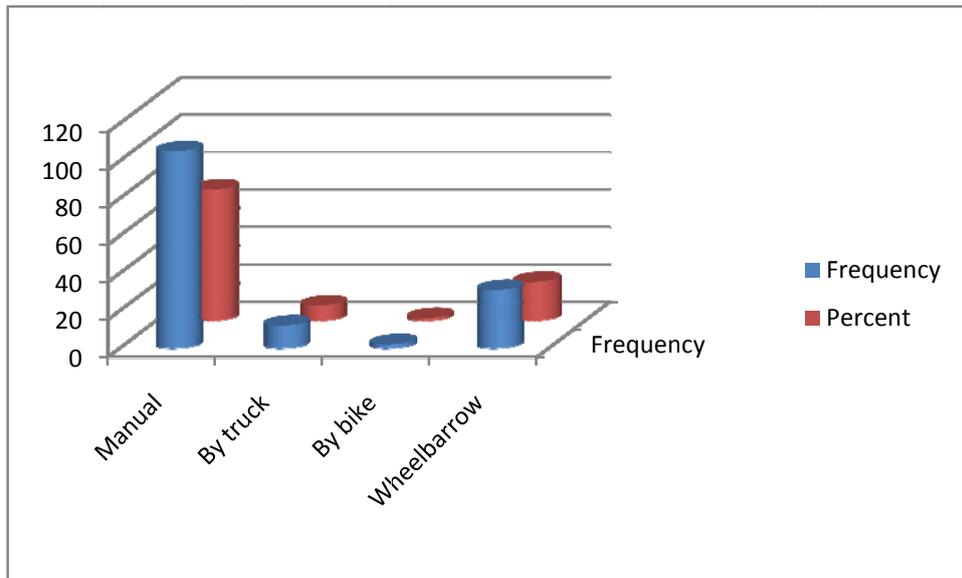
Source: Field survey (2011)

Methods of waste evacuation

The method of waste evacuation presented in figure 2 shows that 70% of the people used manual means in evacuating their waste to the final waste dump. This is because majority of the people live at close proximity to the receptacles. Figure 2 indicate that 20.4% of the people use wheelbarrow in waste evacuation. This could be attributed based on the volume of their waste generation and accessibility to dump sites. It was also observed in figure 2 that 8% of the residents used truck especially, where the their distance to dump site are far and when the debris are too large to

accommodate wheelbarrows. However, only 7% of the residents evacuate their waste through other means which are easier and cheaper to them.

Figure 2: Methods of waste evacuation



Source: Field survey (2011)

Result analysis

The influence of family size on the rate of waste generation presented in table 3 revealed that the calculated f-value of 7.32 was obtained as the value of the influence of family size on waste generation and disposal. This value is found to be greater than the critical f-value of 2.43 at 0.05 level of significance with 4 and 145 degrees of freedom based on this, the null hypothesis was rejected while the attenuate hypothesis is retained. The interpretation of this result shows that family size has a significant influence on waste generation as presented in table 3. The extent to which enlightenment has brought about changes in people’s attitude towards waste disposal was reflected by a calculated t-value of 3.18 greater than the critical t-value of 1.97 at 0.05 level of significance which indicate that environmental enlightenment has a

significant influence on people's attitude towards waste disposal and management in the area.

Table 3: Family size and people's attitude in waste generation and disposal

Group	Family size	N	X	SD
	1-2	28	33.06	4.86
	3-4	21	33.19	5.63
	5-7	49	38.28	3.49
	8-10	41	37.63	4.81
	11 and above	11	37.46	4.06
Source of variations	Ss	df	Ms	f
Between	253.68	4	64.42	
				7.32*
Within groups	1255.70	145	866	
Laudable	D	X	SD	t-value
Total		1509.38	148	
Variable	N	X	SD	t-value
Extent of attitude change	150	36.23	4.73	3.18*
p-population mean score =	35.00			

Source: Data analysis (2011)

Fishers' LSD of the influence of family size on the rate of waste generation

To find out whether the class of family size significantly influences the rate of waste generation, the fishers' least significance difference (LSD) post hoc test was used as shown in table 4. The fishers least significance difference presented in table 4 shows that a significant t-values was observed between groups 1 and 3, 1, 4; 1 and 5; 2 and 3; 2 and 4; and between groups 2 and 5. There is however, significant difference between groups 1 and 2, 3 and 4 and between groups 3 and 5. The interpretation of this shows that there was a significant difference in the rate of waste generation between the group that the t-values are significant. In each of such cases, the calculated t-values are observed to be greater than the critical t-value of 1.97 at 0.05 level of significance.

Table 4: Fishers' LSD of the influence of family size on the rate of waste generation

Group	Family	1	2	3	4	5
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size	(n ₁ -28)	(n ₂ -21)	(n ₃ -49)	(n ₄ -41)	(n ₅ -11)
1-2	33.06	-0.13	-5.22	-4.57	-4.40
3-4	-0.15	33.19	-5.09	-4.44	-4.27
5-7	-7.49*	-6.63*	38.28	0.65	0.82
8-10	-6.33*	-5.62*	1.04	37.63	0.17
11 and above	-4.96*	-390*	0.84	0.17	37.46
		Msw = 8.66			

Source: Data analysis (2011)

Note: Group means are on the diagonal

Difference between group means are above the diagonal

Fishers' LSD test values are below the diagonal

Recommendations

It has been observed that Calabar municipality accept waste disposal and management is revolutionarized the problems of waste disposal and management would continue to persist. Therefore, the following measures are hereby recommended if the negative attitude of the people to waste disposal and management must be averted.

- Effective campaign should be carried out for men to see the necessity of consciousness with regards waste disposal and management.
- Government should re-introduced the monthly sanitation in order to make a lot of urban dwellers become more conscious of the purity of their surroundings.
- Government should provide adequate funds for proper execution of environmental programmes. This would help secure new modern waste management technology that could help correct the negative attitude of citizens towards waste disposal and management.
- Open dump sites should be declared out of bound as they are always in a state of abuse.

Conclusion

Today, the attitude of urban dwellers to waste generation and disposal has caused great damage to the human ecosystem. The poor attitude of urban dwellers to waste generation and disposal has impacted negatively on the human health and sanity. The study revealed that the residents in Calabar municipality were not conscious of the implication of poor waste management which has resulted to the poor nature of the environment in the area. However, since environmental enlightenment changes the people's attitude to waste management and disposal, it is therefore the responsibility of the various agencies in the industry to ensure effective waste management and disposal in order to avoid health implications in the area.

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