
Cultural Beliefs on Waste and the need for Integration into Present Domestic Waste Management: Evidence from Selected Communities in Rivers State, Nigeria

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Abstract

In recent years, there has been a campaign for the integration of culture into development programmes particularly environmental management programmes for its success and sustainability. Culture is held, maintains a balance between humans, society and the physical environment and provides the context within which human activities occur. Thus, the aim of this study is to examine, from three communities, the cultural beliefs and practices on waste so as to identify aspects that underscore present domestic waste management (DWM) practices as well as those that can be integrated into present intervention methods to alleviate the problems of DWM in Nigeria. Hence, questionnaires, oral interviews and focus group discussion were employed for data collection, while descriptive statistics, bar charts and Kruskal-Wallis H test were used to analyse the quantitative data and the matrix table to present the qualitative data. Findings showed that while their cultural beliefs and practices which curtailed indiscriminate practices are no longer shared by majority of the residents, some aspects colour present methods of DWM. Also, while there has been no deliberate inclusion of their cultural practices into DWM interventions, consultation visible to relatively more percentage of residents at one of the communities reflected in a relatively less indiscriminate DWM practice. As a result, the study concluded that, though disappearing, the cultural beliefs and practices on waste should not be ignored as it still influences present DWM methods and practices and has aspects that if integrated could contribute to alleviating problems of indiscriminate disposal of waste.

Keywords: *Cultural Integration; Culture; Domestic Waste Management; Cultural Beliefs*

INTRODUCTION

There is an increase in the promotion of the importance of culture to achieving sustainable development. The rationale for this, according to Akpabio & Subramanian (2012), is that culture maintains a balance between humans, their society and their physical environment as well as helps the re-integration of people into the society (p.8). It is also held to maintain “global cultural diversity” (Maffi 2001, Maffi & Woodley 2010, as cited in Bohensky & Maru 2011, p.1). Thus, understanding areas in which cultural beliefs and practices can be integrated into environmental management programmes, in particular, is held to be not just important but vital to sustaining economic activities for a sustained development.

However, according to Head, Trigger & Mulcock (2005, p.252) despite the “widely disseminated” awareness on the cultural imperative to environmental management and its

sustainability, “many environmental problems continue to be intractable”. In other words, environmental problems persist owing to the standardization of the method of approach to environmental management. Their observation can be related to the problem of solid waste management in Nigeria- defined as a “systematic control of generation, storage, collection, transportation, separation, processing, recovery and disposal of solid waste” (Rodgers 2011, as cited in Chukwuemeka, Ugwu & Igwegbe, 2012, p.353). Despite the interventions of the Nigerian government at all levels in managing waste, particularly domestic waste, the problem still persists. Heaps of wastes littering the roads, streets and water ways, increase in waste generation and the mixture of environmentally degradable and non-degradable solid wastes are prevalent within urban and rural areas. Moreover, the environment and public health bears the brunt of solid waste hazards which has its ripple effect on economic activities. Environmentally, it degrades land, pollutes air and contaminates water bodies, and further impacts public health with outbreaks or increases in cases of cholera and diarrhea.

The importance of cultural integration for sustainable and successful intervention of environmental programmes has been captured by Schneider (1972) and Winston (1933), that culture furnishes the background within which human activities occur, which can impact on a multitude of societal functions, including the management of waste (as cited in Zender, 1999, p. 27). Also, according to Babe (1997) people’s actions are affected by the meanings they give to the objects of their interactions (as cited in Akpabio & Subramanian, 2012, p.6). This implies that to understand why people will engage in open-dumping of solid wastes irrespective of the government-provided public waste receptacles, the answer may lie in an understanding of the meanings attached to such acts of open-dumping owing to their interactions with their environment and others. It is also asserted that indigenous knowledge systems on environmental management provide very useful insight and tools for dealing with environmental challenges, averting biodiversity loss, reducing land degradation and minimizing the effects of climate change (UN System Task Team, 2012, p.4). Klubnikin et al in 2000 also asserted that indigenous knowledge is in actual fact scientific as it is obtained through methods that are “empirical, experimental and systematic” (as cited in Bohensky & Maru, 2011, p.5). This counters the opposing claims that indigenous knowledge is based on primitive theories pardoned by ignorance, certified by superstition and sustained by belief in magic and witchcraft (Azevedo, et al., 1991 in Akpabio & Subramanian, 2012, p.7).

STATEMENT OF THE PROBLEM

Despite the outcry by waste management experts and findings from numerous researches on waste management in Nigeria, the problem of waste, particularly the methods of disposal by households still persists. In an attempt to address this menace in Rivers state, the Rivers State Waste Management Agency (RIWAMA) through social media platforms has tried to communicate directly with the general public in the state for information regarding waste, particularly on areas heaped with waste for prompt evacuation. This too has proven problematic as it has so far been reactionary, only evacuating waste heaped at dumpsites on compliant by residents at such areas. Waste is still being disposed indiscriminately. Culture, it is said, provides the context or “stage setting within which human activities take place, which can impact on a host of societal functions, including the management of waste” (Schneider 1972, Winston 1933 as cited in Zender, 1999, p. 27). Thus, it is important to examine the cultural beliefs and practices on waste so as to gain understanding on aspects that hinder and/or promote good waste disposal or management practices for better management and integration respectively by the government.

RESEARCH QUESTIONS

Three research questions guided the study;

1. What are the cultural beliefs and practices of waste in the communities?
2. What cultural beliefs and practices on waste underscore present domestic waste management practices in the communities?
3. What aspects of the cultural beliefs and practices can be deliberately integrated into and extracted from waste management intervention programmes by government for better waste disposal and management?

OBJECTIVES OF THE STUDY

Therefore, the objectives are to;

1. Identify the cultural beliefs and practices of waste in the communities under study.
2. Spot out the cultural beliefs and practices on waste that underscore present domestic waste management practices in the communities.
3. Identify aspects of the cultural beliefs and practices that can be deliberately integrated into and extracted from waste management intervention programmes by government for better waste disposal and management.

HYPOTHESIS

H₀. There is no significant difference in present domestic waste management practice between communities where cultural integration into intervention programmes on waste is visible to residents and communities where integration into intervention programmes on waste is not visible to residents.

LITERATURE REVIEW

Oloyede, Ayedun, Durodola & Peter (2014, p. 189) found that the problem of waste in Nigeria is that the rate of generation surpasses the rate of collection. Sharing similar conclusions, Uwadiogwu & Chukwu (2013, p.297) stated that the problem is not merely the rate of generation, but more of the degree of the effectiveness of its management. It has also been noted earlier by Cointreau (1982) and Poerbo (1991) that the problem of waste management persists in developing countries owing to the approach of “just getting rid of the trash with little or no attention on minimization and recovery” (as cited in Demanya, 2006, p. 50). This strategy, from observation in Nigeria and the present approach by the Rivers State Government to be specific, has not changed.

Other studies identified rapid population growth, industrialization and changes in consumption patterns as responsible for the rapid increase in solid waste generation and management problems (Afroz et al, 2009 as cited in Amalu & Ajake, 2014 p. 98). In other words, these factors are accountable for the increased volume of waste and according to Amalu & Ajake (2014, p. 98) the problem with waste generation and management will likely compound owing to the need to industrialize. Other factors identified are inadequate regulatory framework, uncoordinated institutional functions, low political will, low capacity to discharge duties, poor data information for planning, lack of access to appropriate technology, inadequate facilities, poor implementation of policies, poor funding, wrong attitude and lifestyle (Iriruaga, 2012, p.1; Agbesola, 2013, p.2). In agreement with Moruff (2012), these studies approached unsuccessful government interventions from the perspective of inadequate or misapplied project implementation (p.84). Although these aspects are important, the role of the cultural sensitivities of the generators of solid wastes, particularly those from households, is often overlooked.

From a cultural perspective, Rahman (2009) studied the traditional recycling practices of the people of the Ganges and the Brahmaputra basins in Bangladesh and found that rural home-based and short-cycled solid waste management ensured zero depletion of organic soil content (p.1). Demanya (2006) set out to study the role local knowledge plays in planning and managing urban solid waste. The study found that traditional knowledge played a significant role in the waste disposal and management practices of residents in Accra and Kumasi cities (pp. 153-156). Ajibade (2007) studied the indigenous knowledge systems of waste reuse and recycling in Nigeria and gathered that food and yard wastes were used to make animal feeds and flour for human consumption in the West, and at the Northern part of the country, organic waste from food, animal faeces, farmland and dead plants were used as manure to grow more crops after being left to decompose (p. 644). Moruff (2012) on cultural understanding of space and waste disposal habits revealed that most of the people studied disposed their wastes in gutters and open drainages because they believed that rainfall will always take the dirt away (pp. 86-87).

While these studies examined cultural practices of waste management, they failed to identify the cultural beliefs of waste and further how it underscored waste management practices and intervention programmes. In other words, they failed to identify aspects from cultural beliefs and practices on waste that if deliberately integrated into and extracted from current practices and interventions could provide useful insights and tools for combating the waste management problem still faced in the country. Thus, this study set out to address these.

CONCEPTUAL AND THEORETICAL FRAMEWORK

Local Ecological Knowledge (LEK): as a conceptual framework, it helps to illustrate the interconnectedness of human, environment and development to sustainable development. It emphasizes the significance of the cultural context of norms, values, practices and beliefs within the constellation of other multiple background factors (Akpabio & Subramanian, 2012, p.3) in understanding environmentally related phenomena. In other words, it emphasizes the consideration of the roles of cultural values, beliefs, norms, practices, alongside socio-economic factors and environmental contexts when embarking on development programmes. It holds that no particular problem can be solved by only the material aspect as the symbolic aspect also has to be considered given that people according to Babe (1997) are affected by their actions which are influenced by the meanings they give to the objects of their interactions (as cited in Akpabio & Subramanian, 2012, p. 6). Consequently, according to Usher (2000), it refers to all types of knowledge about the environment derived from experience and traditions of a particular group of people (as cited in Houde, 2007, p.3). Hence, it holds that the co-management of communities' resources pertaining to their immediate physical environment sustains the success of any environmental related development initiative (Houde, 2007, pp. 1-2; Leonard, Parsons, Olawsky & Kofod 2013, p. 9). It thus highlights the need for visible and participatory integration of communities by way of deliberate inclusion of aspects of beliefs and practices or by way of inclusion in the planning of programme intervention. It is thus apt in guiding a cultural contextual study on domestic waste management (DWM).

Durkheim's Theory on Social Solidarity: As a theoretical frame, it places emphasis on social ties. Where mechanical solidarity is characteristic of more homogeneous groups and organic solidarity is characteristic of more heterogeneous groups of specialized interdependent individuals (Oosterlynck & Bouchaute, 2013, p. 12; Marske, 1987, p. 2). For mechanical solidarity, which is a feature of traditional societies, when the bond (i.e. collective conscience) that holds the group together is weakened, particularly through large integration of populations with dynamic material and moral densities, so also is their social institutions of control weakened (Marske, 1987, p. 6; Breiger & Roberts 1998, pp. 243-244). For

Durkheim, “culture is the sum total of human beings’ collective efforts to come to grips symbolically with a complex and uncertain world” (as cited in Lincoln & Guillot, 2004, p. 4). As a result, when there is a weakening in the collective conscience that hold members of society together, particularly in ‘tribal’ societies “to which he (i.e. Durkheim) gave such attention” (p. 4), the normative control is equally weakened. Hence, this framework will further direct the study in the area of community integration and control on present DWM practices in the communities under study.

STUDY AREA

The study was carried out at Choba, Alakahia and Aluu communities. These communities, together, lie within the range of latitude $4^{\circ}32'N$ and $5^{\circ}00'N$, and longitude $6^{\circ}25'E$ and $7^{\circ}30'E$ Rivers State, South-South Nigeria (Ugwu&Nwosu [2009, p. 85]; Enyinna & Avwir [2010, p. 27]). Choba and Alakahia are among the ten communities that make up the Akpor kingdom in Obio-Akpor local government area (LGA), while Aluu is under Ikwerre LGA. These three communities play hosts to the University of Port Harcourt which has been said to impact their socio-economic livelihoods (Alagoa, 2012, p. 2). They have, since the opening up of their communities to the establishment of the University and other businesses, experienced an increase in immigrant population and consumption of packaged foods which thus reflects in the increase in the volume and nature of waste generated.

METHODOLOGY

A survey method was adopted using both qualitative and quantitative methods of data collection and analysis. Mixed methods were used to select the sample population. The simple random technique was used for selecting major compounds within the communities; stratified sampling for categorization along age groups; quota sampling to assign quota along age groups and indigene and non-indigene residents on 80 to 20 percent ratio respectively; convenient sampling to reach the defined target respondents willing to oblige; and the snowball sampling technique used for selecting respondents and participants for oral interview and focus group discussion (FGD) respectively. 1143 structured questionnaires were distributed with 1111 retrieved representing a 97% response rate. The FGD had 36 participants of 12 per community. There were 30 oral interviews of 10 participants per community. Descriptive statistics, bar chart and the Kruskal-Wallis H test was used to analyse the quantitative data while the matrix table was used to present the qualitative data.

RESULTS AND DISCUSSION

The matrix in table 1 presents the beliefs and practices on waste and its management. All three communities appear to have similar cultural waste management practices. Waste was not just regarded as dirt that needed to be discarded, it was also held to be food for spirit beings who rewarded households whose houses welcomed them with food (i.e. waste) when they visited at night. Thus, inflicting bad luck, poverty and illnesses on households whose houses didn't welcome them (i.e spirit beings) with food (i.e. waste) when they visited at night.

As a result, members of the communities did not sweep their houses nor dispose waste at night time. They also neatly disposed their waste gathered in buckets, baskets or basins only during the daytime and only at the designated individual compound's waste site called *Nkpokpow* which was usually a pit or a shallow ground. Those found littering their waste at the *Nkpokpo* site were made to pay a fine of one (1) local gin (also known as *kaikai* or *ogogoro*). The *Nkpokpo* was revered in the sense that it was a feeding ground for spirit beings in the communities. It also

Table 1: A Matrix on Cultural Beliefs and Practices on DWM

Variable	Choba	Alakahia				Aluu			
		FGD		OI	FGD	OI	FGD	OI	
		Y	N	Y	N	Y	N	Y	N
Beliefs	Waste is seen as dirt, but also served as food for several spirit beings	3	7	Waste is seen as dirt, but also served as food for spirit beings in the land.	2	8	Waste is seen as dirt as well as food for spirit beings in the community.	6	4
	Households of those who disposed waste at <i>Nkpokpo</i> (i.e. waste pit) were not afflicted with poverty and illness by spirit beings	3	7	If one swept at night, it was believed such a one swept away their prosperity and brought bad luck, poverty and illness to their household.	4	6	Households that swept at night and had their wastes disposed at night were believed to bring bad luck, illness and poverty to its occupants	6	4
	Illness and poverty were afflicted on households who swept their houses a night and disposed of the waste.	4	6	Waste gathered at night and at mornings must be disposed in the morning at the <i>Nkpokpo</i> to avoid being afflicted with bad luck, illness and poverty.	4	6	Waste was disposed only at the <i>Nkpokpo</i> (i.e. A pit or place for waste matters) during the daytime as it is a designated place for spirit beings to feast at night.	6	4
	The decomposed waste at the <i>Nkpokpo</i> was used to treat illnesses such as convulsion, madness, rashes and chicken pox either by dancing at the <i>Nkpokpo</i> site or applying the ashes from the <i>Nkpokpo</i> to the body.	3	7	Illness like convulsion, madness and chicken pox were healed by doing the <i>NkpokpovuruWakatanti</i> dance for 4 days (i.elet <i>Nkpokpo</i> carry the sickness away dance).	2	8	Sacrifices are done at the <i>Nkpokpo</i> to heal the sick from diseases such as mental illness, rashes and convulsion. The sick person is made to dance around the <i>Nkpokpo</i> , while in some cases the ashes were applied	6	4
				Waste disposed at the <i>Nkpokpo</i> (i.e where dirt is thrown) was believed to be good manure for planting, with the belief that the spirits that fed there left blessings there.	2	8	Decomposed waste from the <i>Nkpokpo</i> was believed to be good manure for growing crops as the spirit being that feasted there bless it	6	4
Practices	Waste was stored in buckets and baskets and then disposed at the “ <i>Nkpokpo</i> ”	4	6	Waste was stored in buckets, basins and baskets before disposed only at <i>Nkpokpo</i>	4	6	Waste was stored in buckets and baskets and then disposed at the <i>Nkpokpo</i>	6	4
	Waste was disposed only during the daytime	4	6	Waste was disposed only in the mornings	4	6	People disposed waste only at daytime.	6	4
	Swept homes only during the daytime	4	6	Swept only in the mornings and dirt packed were disposed immediately	4	6	Swept homes only in the mornings	6	4
	If sweeping at night, dirt was gathered and left on the ground.	4	6	Don't sweep at night, if sweeping must occur, the dirt was gathered and left on the ground.	4	6	Homes were not swept at night and when it was swept it was left unpacked on the ground	6	4
	Waste at the “ <i>nkpokpo</i> ” was burnt when full	4	6	Waste at the <i>Nkpokpo</i> was left to decompose and burnt when full	4	6	Waste at the <i>Nkpokpo</i> was left to decompose and burnt when full	6	4
Norms	No sweeping at night	4	6	No sweeping at night	4	6	No sweeping at night	6	4
	If one must sweep, dirt was gathered and left on the ground	4	6	If sweeping was required, dirt was gathered and left on the ground	4	6	Dirt must be left unpacked on the ground when swept at night	6	4
	Waste must be disposed tidily at the <i>Nkpokpo</i> in the morning. No littering of waste around the <i>Nkpokpo</i> .	3	7	All waste gathered must be disposed in the morning at the <i>Nkpokpo</i> tidily	4	6	Wastes were disposed in the mornings only at the <i>Nkpokpo</i> . Littering around the <i>Nkpokpo</i> was prohibited	6	4
	Defaulters caught littering paid a fine of 1 local gin (<i>kaikai</i>)	3	7	Defaulters caught littering the <i>Nkpokpo</i> site paid a fine of 1 local gin (<i>ogogoro</i>)	4	6	Defaulters of littering the <i>Nkpokpo</i> paid a fine of 1 local gin (<i>kaikai</i>). The fine is presently ₦3,000	6	4
	People were not compelled to observe these norms, compliance was based on their fear of what they have been told spirits afflict on defaulters.	3	7	The practice of the norms were based on personal belief which was basically observed by all. No one was compelled.	2	8	<i>Omu</i> (yellow freshly grown palm leaf) was a spiritual sign of authority placed at the <i>Nkpokpo</i> to prevent people from disposing waste until it was made tidy especially during sanitation days. It was also placed on some other places to	6	4

				prevent indiscriminate disposal of waste.			
Factors blamed for eroding belief	Economic: a) land development (pits don't exist); b) Increase in income; c) modernization d) urbanization	4	6	Economic: a) Land development (people hold back their land for sale now) b) Economic empowerment c) Urbanization	4 6	Economic: a) Economic empowerment (more money) b) Land development c) Increase in non-indigene population	6 4
	Religion: a) Christianity (belief now seen as fetish) b) Multiplicity of belief systems	4	6	Religion: a) Christianity b) Diverse cultural beliefs	4 6	Religion: a) Christianity (belief now seen as idolatry) b) Diverse cultural beliefs	6 4
	Education: People now more educated	4	6	Education: People are more enlightened	4 6	Education: People are now more educated	6 4
	Orthodox medicine: people now seek orthodox medicine when having rashes, convulsion, and mental illness	3	7	Orthodox Medicine: treatment of rashes, convulsion and madness are now sought at hospitals	2 8	Orthodox medicine: people now seek medical treatment.	6 4
	Government's intervention: a) evacuation of waste b) citing of waste dumpsites for collection	4	6	Government's intervention: a) evacuation of waste b) citing of waste dumpsites for collection	4 6	Government intervention a) evacuation of waste b) citing of dumpsites for waste collection	6 4
	Social: Influence of Uniport on social outlook	3	7	Social: Western lifestyle	4 6	Social: influence of University on the increase non indigene residents	6 6

Source: *Field Survey 2016*

Legend

FGD = Focus Group Discussion

OI = Oral Interview

Y = Number of oral interviewees with same response

N= Number of oral interviewees not aware of beliefs or made no mention of the item

provided healing abilities to certain illnesses particularly convulsion, rashes and mental illnesses, as well as good manure for farming with the belief that the spirit beings left blessings at the Nkpokpo site after feasting.

An interesting feature of their cultural practices was that the norms were not imposed on people. But, people observed them for fear of the consequences that the spirit beings inflicted on defaulting persons and/or households. Another reason was the belief of the healing ability of the ashes from and the site of the *Nkpokpo* on certain illnesses. These were what made residents to dispose their waste only at daytime and only at the *Nkpokpo* according to some of the participants in the FGD sessions and oral interviews at the three communities examined.

Consequently, these cultural practices on DWM tend to underscore current DWM practices of common dumpsites, open dumping of waste with regards to non-bagging of waste before disposal; and the practice of storing waste in buckets, baskets and now cartons before transporting to central waste dumpsites. Conversely, from careful examination of the data, it was noted that the day time disposal of waste facilitated the ability of traditional monitoring officials to spot offenders of indiscriminate disposal. This also further inculcated proper disposal habits from fear of being caught and punished by the traditional monitoring officials together with that of the fear of being afflicted with poverty and illness from spirit beings.

Furthermore, results showed that there is a significant difference in present domestic waste management practice between communities where cultural integration into intervention programmes on waste is visible to residents and communities where integration into intervention programmes on waste is not visible to residents. Thus, rejecting the null hypothesis (H_0) and

Table 2: Result on Visibility of Integration into Waste Intervention Programmes

Variables	P-Value	Aluu	Alakahia	Choba
Visibility of Cultural integration into Present DWM Intervention Programme (Independent variable)	0.000 less than 0.5	Aluu (427.42)	Alakahia (389.96)	Choba (332.70)
		p=0.000 Vs Choba (332.70) η^2 =4.7%	p=0.004 Vs Choba (344.77) η^2 =1.1%	p=0.000 Vs Aluu (427.42) η^2 =4.7%
		Aluu (403.16)	Alakahia (325.99)	Choba (344.77)
		p=0.000 Vs Alakahia (325.99) η^2 =3.3%	p=0.000 Vs Aluu (403.16) η^2 =3.3%	p=0.004 Vs Alakahia (389.96) η^2 =1.1%
Nature of present DWM practice (Dependent variable)	0.000 less than 0.5	Aluu (565.34)	Alakahia (468.05)	Choba (195.15)
		p=0.000 vs Choba (195.15) η^2 =73.8%	p=0.000 Vs Choba (272.43) η^2 =23.7%	p=0.000 Vs Aluu (565.34) η^2 =73.8%
		Aluu (536.84)	Alakahia (182.06)	Choba (272.43)
		p=0.000 vs Alakahia (182.06) η^2 =71.6%	p=0.000 Vs Aluu (536.84) η^2 =71.6%	p=0.000 Vs Alakahia (468.05) η^2 =23.7%

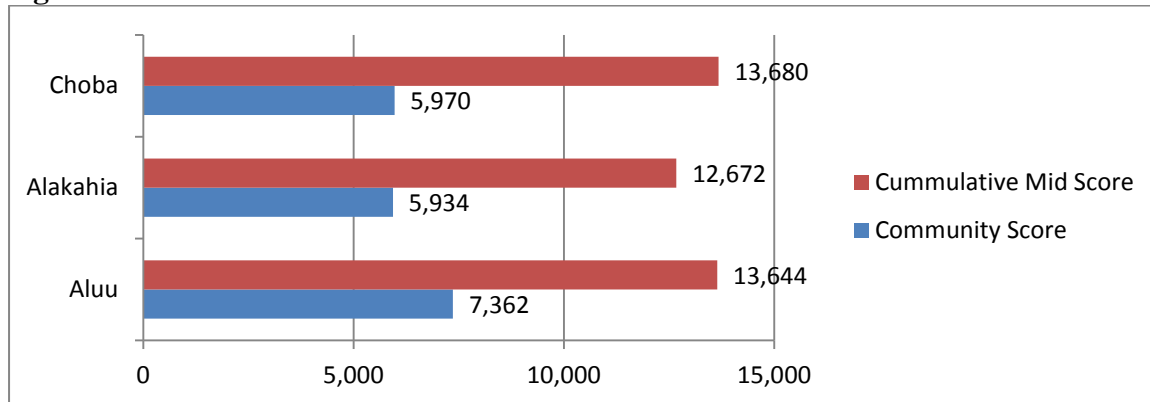
Source: IBM SPSS Statistics 21 from Field Survey, 2016

accepting the alternative. Table 2 shows that cultural integration into present DWM programme is more visible to residents at Aluu community with a p-value of $0.000 < 0.5$ and a large difference size of 4.7% when compared with Choba, and 3.3% when compared with Alakahia. The effect size or difference of 1.1% between Choba and Alakahia is comparatively small but still significant in difference with a p-value of $0.004 < 0.5$ where Alakahia has more visibility of integration than Choba. The nature of differences in visibility level of cultural integration into present DWM programmes also reflected in the same way in the differences in the nature of present DWM practices in the communities. Again, Aluu community showed to have a relatively significant less indiscriminate DWM practice with a p-value of $0.000 < 0.5$ and with an effect size or difference size of 73.8% compared with Choba and 71.6% compared with Alakahia. Also Alakahia shows to be less indiscriminate than Choba with p-value of 0.000 with a difference size of 23.7%.

The result validates the major tenets of the traditional ecological knowledge that the integration of the cultural aspects of a community with regards to environmental management aids the success as well as sustenance of the intervention programme. It is important to note that out of the indicators used for the analysis: knowledge of consultation; deliberate inclusion of cultural beliefs; feeling of ownership of programme; and knowledge of joint monitoring, knowledge of consultation no matter how little the percentage was, but relatively higher with Aluu, must have contributed to the significant difference in the present DWM practices compared with Choba and Alakahia. Another factor is that of the differences in the nature of social relationships amongst residents, where Aluu has relatively more trusting close neat relationships. The reason given for this close neat relationship is that Aluu community relatively was last in opening up its community to development by non-indigenes.

This further validates Durkheim's theory on social solidarity that the weakening in the collective conscience through vast immigration of mixed cultures, the social institution of control is equally weakened. This can be seen from the data presentation in table 1 on the factors that have led to the erosion of their cultural beliefs and practices on waste. Despite the present relatively less indiscriminate DWM practice at Aluu community, in general, the three communities fell short of their respective cumulativemidpoint scores for good DWM practices since government intervention in DWM in their communities as shown in figure 1. This places emphasis on the difference consultation, that brings about a sense of ownership, can bring to present methods of DWM no matter how little the percentage of the resident population having the knowledge might be. However, there was barely any agreement to deliberate inclusion of aspects of their cultural practices as most of the residents sampled were unaware of the cultural beliefs of the communities on waste. Thus, depicting the dearth of their beliefs on waste.

Figure 1: Current DWM Practices Cumulative Score for the Communities



Source: Field Survey 2016

CONCLUSION

Based on the results, the study concludes that the cultural practices of communal dumpsites, and disposal of waste previously store in buckets and baskets without being bagged reflects in the present practices of DWM in the communities by way of collective dumpsites and disposal of un bagged wastes. Also, day time disposal of wastes was key to reducing indiscriminate disposal at dumpsites and unapproved areas as it facilitated easy spotting of indiscriminate waste disposal violators. Finally, visible cultural integration into DWM intervention programmes no matter how little the percentage of the resident population aware, can make a difference positively in combating the problems with indiscriminate DWM. As a result, the cultural aspects of waste management should not be ignored, though disappearing with regards to knowledge but still underscores present practices.

RECOMMENDATIONS

The study thus makes the following recommendations:

1. *Deliberate Inclusion of Positive Aspects of Cultural Belief on DWM:* Government should include aspects of cultural DWM that help put negative DWM practices under check. The daytime disposal of waste should be adopted so as to facilitate the monitoring and enforcement of good disposal practices.
2. *Collaboration with Traditional Institutions:* Collaborate with traditional institutions in the communities to strengthen the institutions, irrespective of the weakening through the weakening of common beliefs, for effective monitoring, spotting and punishment of defaulters for deterrents.
3. *Visibility and inclusiveness of Consultation for Community Cooperation:* Consultation should go beyond mere allocation of general dumpsites accessible to the government, to include an assessment of existing cultural practices so as to integrate areas that promote good DWM practices. Such consultations should be visible to and inclusive of all stake holders in the communities so as to generate cooperation from residents in the communities.

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