

Traditional Institutions and Cultural Domestic Waste Management in Choba, Alakahia and Aluu Communities in Rivers State

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Abstract

This study set out to examine the role of traditional institutions as custodians of culture and the local ecological knowledge of three communities on domestic waste management (DWM). The study found disturbing local ecological knowledge of lands, forests and bushes as repositories for waste disposal of all sorts of domestic wastes. But, also found comparatively, that the strength of a traditional institution on DWM is crucial to reducing indiscriminate waste disposal. Thus, reducing negative environmental and health impacts that stifle economic growth. It however recommends that Government should key into this by engaging traditional institutions in communities beyond disposal sites and evacuation of waste, to strengthening their capacity to engage community residents to adopt environmental friendly DWM practices of sorting and recycling waste. As a result, encourage private sector investments on recycling of different kinds in these communities where their wastes can be disposed for incentives.

Keywords:

Traditional institutions, Local ecological knowledge, Culture, Domestic waste management

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Background to the Study

With the economic recession and the urgent need to diversify the economy, the focus of the Nigerian government, at all levels, is now on the real sectors of the economy such as agriculture, manufacturing, solid minerals and even entertainment. But, waste in general, which has now been redefined as a resource with immense economic benefits, is not given same priority attention save for being an environmental and health problem. Thus, focus on domestic waste in particular has basically taken the form of issues bordering on sites for disposal and evacuation by the government.

Furthermore, with the current shift from econometric development models to sustainable human development (Maraña, 2010, pp.3-4), culture is now being promoted to be central to achieving sustainable development. According to Akpabio & Subramanian (2012), culture is held to maintain a balance between humans, their society and their physical environment, as well as helps the re-integration of people into the society (p. 8). Therefore, it is supposed that traditional or local ecological knowledge should not be isolated from scientific knowledge if development programmes are to be sustained. Thus, lies the need to focus on the cultural sensitivities of a people in which development is targeted at. The reason being that “all people 'have culture' in that they are socialised to think about land [i.e. environment] and natural species in particular ways” (Head, Trigger & Mulcock, 2005, p. 252).

Additionally, people in the process of consumption generate waste. It has been opined that culture 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). In other words, waste disposal in most communities are guided by certain local or cultural norms or the local ecological knowledge of the people. Thus, the influence of traditional institutions, being the “custodians” and sustainers “of culture” (Nweke, 2012, p. 206), on the domestic waste management of a people ought not to be undermined.

Statement of the Problem

When it comes to domestic waste, the cultural or/and the local ecological knowledge and the role of traditional institutions on domestic waste have not been considered both by government and academic research. Studies on solid waste management in general have too often approached it from the perspective of “inadequate or misdirected project implementation” (Moruff, 2012, p. 84).

Yet the problem of solid waste and domestic waste management (DWM) to be specific, still persists in the country. Waste is still being heaped indiscriminately on road sides, in water bodies, at undeveloped land and buildings with the volume ever increasing, not sorted and largely not recycled.

Research Questions

Two research questions were raised to guide the study:

1. What are the traditional institutions on DWM in the communities and their strength to influence good DWM practices?

2. What are the dominant local ecological knowledge of waste in the communities?

Objectives of the Study

Thus, the objectives of this study are to:

1. Identify the traditional institution(s) that enforce cultural norms on DWM and its strength in influencing good domestic waste management practices in each of the communities.
2. Identify the dominant local ecological knowledge of waste of the residents in each communities.

Hypothesis

There is no significant difference in present DWM practice between a community with weak traditional institution to enforce cultural norms on domestic waste and a community with stronger traditional institution to enforce cultural norms on domestic waste.

Assumption

The study assumes that:

DWM practices in a community is a reflection of the dominant local ecological knowledge on waste.

Empirical Review

A lot of studies have tried to understand and establish factors responsible for the problems so far associated with waste management in general. Factors identified to be contributing to the problem of waste management are “inadequate regulatory framework”, “uncoordinated institutional functions”, “low political will”, “low capacity to discharge duties”, “poor data information for planning”, “wrong attitude from waste generators”, “crude open dumping and burning without air and inefficient air control”, and “informal waste pick or scavenging activities” (Iriruaga, 2012, p. 1; Amalu & Ajake, 2014, p. 98; Agwu, 2012, p. 84).

However, there are a few studies that have considered cultural or local knowledge systems and practices on DWM. Rahman (2009) studied the traditional recycling practices of the people of the Ganges and the Brahmaputra basins in Bangladesh. The study revealed that the 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) set out to capture the indigenous knowledge systems of waste reuse and recycling in Nigeria that can be adopted in managing solid waste in Nigeria. The study gathered that food and yard wastes were as a matter of culture, used to make animal feeds and processed into flour for human consumption particularly in the Western part, and at the Northern part of the country, organic waste from food, animal faeces, farmland and dead plants were left to decompose and then the compost used as manure to grow more crops (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).

However, these studies overlooked the role of traditional institutions on DWM. The findings from the study by Jimoh, Ikyaaagba, Alarape, Obioha & Adeyemi (2012) on how local practices and institutions, guided by traditional laws and taboos promote wildlife conservation and the limitations thereof found that the weakening of “the *Ejagham* clan”, who are custodians of their taboos, led to the decline in the population of most of their forbidden animals, thus impacting on the positive impact of the culture to wildlife conservation (p. 216). Also, from their findings on water supply and sanitation, Akpabio & Subramanian (2012) asserted that “programme intervention will have to depend on available local institutions and groups in a manner that utilizes dialogue and information dissemination practices to succeed” (p. 23). It is, thus significant not to overlook the strength of traditional institutions on DWM of communities guided by cultural belief systems predicated on local ecological knowledge that equally should be understood.

Conceptual and Theoretical Framework

Local Ecological Knowledge (LEK): as a conceptual framework, helps illustrate the interconnectedness of human, environment and development tripod to sustainable development. This framework emphasizes the significance of the cultural context of norms, values, practices and beliefs within the collection 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. The reason being 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). Thus, 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 is thus apt in guiding a cultural contextual study on 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 the nature of traditional institutional control on DWM practices in the communities.

Study Area

The study was carried out at Choba, Alakahia and Aluu communities. These communities, together, lie within the range of latitude 4°32' N and 5°00' N, and longitude 6°25' E and 7°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 the consumption of packaged foods which thus reflects in the increase in the volume and nature of waste generated.

Methodology

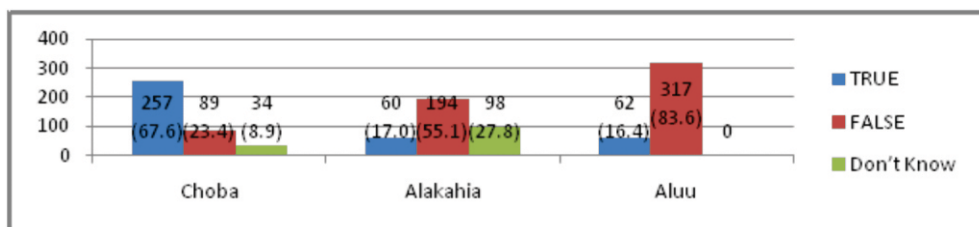
The study adopted a survey method using both qualitative and quantitative methods of data collection and analysis. Mixed methods were used to select the sample population. 1143 structured questionnaire were distributed with 1111 retrieved representing a 97% response rate. The focus group discussion (FGD) had 36 participants, 12 per community, while 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

Figure 1.1 A-D shows the belief system of what the natural environment is, with regard to waste, to residents in the three communities which subsequently influenced their waste management practices. The figure shows in B-D that bushes, forest and land are seen as waste repositories. While in A, only Choba community has a considerably higher percentage of 67.6% of its residents holding the local ecological belief that water bodies are repositories for waste disposal as the water is believed to further transport the waste disposed in it. This belief system reflected in the nature of present DWM practices shown in table 1.1. Results in the table established that there is a significant difference in present DWM practice between a community with weak traditional institution to enforce cultural norms on domestic waste and a community with stronger traditional institution to enforce cultural norms on domestic waste with a significance level of $p=0.000 < 0.5$.

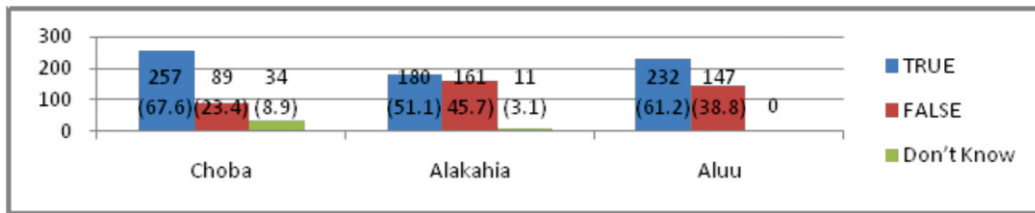
Figure 1: Local Ecological Knowledge on Waste

A) Local Ecological Knowledge on Waste for Water Bodies



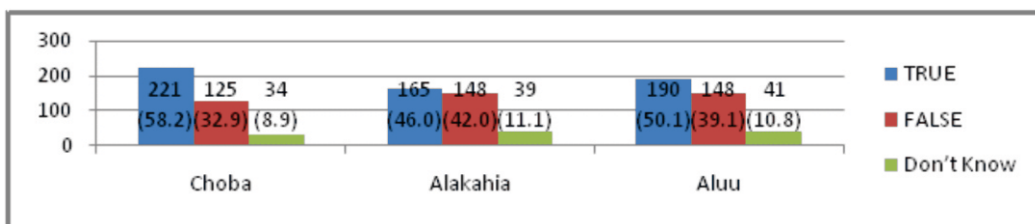
Source: Field Survey 2016

B) Local Ecological Knowledge on Waste for Bushes



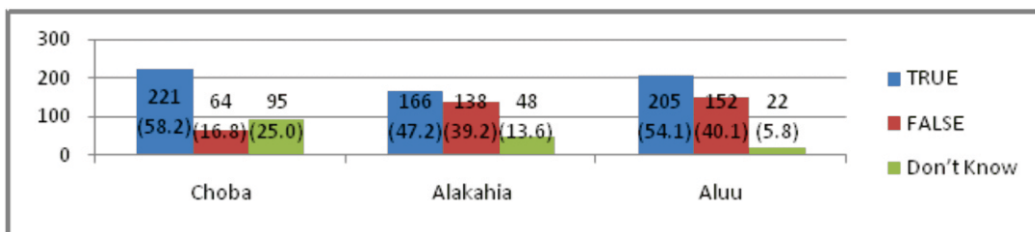
Source: Field Survey 2016

C) Local Ecological Knowledge on Waste for Forest



Source: Field Survey 2016

D) Local Ecological Knowledge on Waste for Land



Source: Field Survey 2016

Table 1.1 shows Aluu community as having the strongest traditional institution on DWM with a p-value of $0.000 < 0.5$ and 3.6% strength difference from Alakahia and a p-value of $0.000 < 0.5$ with a 4.1% strength difference from Choba community. Alakahia has no significant difference in traditional institutional strength compared with Choba with a p-value of $0.745 > 0.5$ given the narrow margin of difference in its mean rank score with Choba, where Alakahia had 368.28 and Choba 364.85.

Table 1.1: Summary of Kruskal-Wallis H Test on Traditional Institutional Strength and Nature of Present DWM Practice

Variables	P-Value	Aluu	Alakahia	Choba
Strength of traditional institution on DWM (Independent variable)	0.000 less than 0.5	Aluu (414.70) $p=0.000$ vs Choba (345.39) $\eta^2 =4.1\%$	Alakahia (368.28) $p=0.745$ vs Choba (364.85) no significance	Choba (345.39) $p=0.000$ vs Aluu (414.70) $\eta^2 =4.1\%$
		Aluu (396.21) $p=0.000$ vs Alakahia (333.48) $\eta^2 =3.6\%$	Alakahia (333.48) $p=0.000$ vs Aluu (396.21) $\eta^2 =3.6\%$	Choba (364.85) $p=0.745$ vs Alakahia (368.28) no significance
Nature of present DWM practice (Dependent variable)	0.000 less than 0.5	Aluu (565.34) $p=0.000$ vs Choba (195.15) $\eta^2 =73.8\%$	Alakahia (468.05) $p=0.000$ vs Choba (272.43) $\eta^2 =23.7\%$	Choba (195.15) $p=0.000$ vs Aluu (565.34) $\eta^2 =73.8\%$
		Aluu (536.84) $p=0.000$ vs Alakahia (182.06) $\eta^2 =71.6\%$	Alakahia (182.06) $p=0.000$ vs Aluu (536.84) $\eta^2 =71.6\%$	Choba (272.43) $p=0.000$ vs Alakahia (468.05) $\eta^2 =23.7\%$

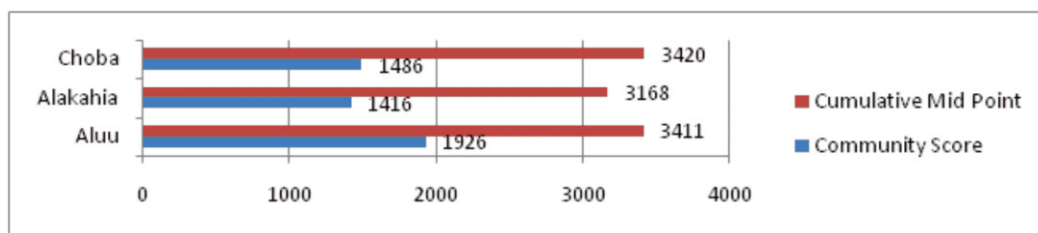
Source: IBM SPSS Statistics 21 from Field survey, 2016

However, the strength differences in their mean rank scores were reflected in the significant differences in their present DWM practice. With a significance level of $p = 0.000 < 0.5$, it has quite a large difference size of 23.7%. While Aluu has a very large effect size of 71.6% compared with Alakahia and 73.8% compared with Choba. As a result, by measure of the effectiveness of the traditional institution designated to enforce the cultural norms on DWM at Aluu, their present DWM practices are less indiscriminate when compared to Alakahia and Choba. Also the effect size of the difference in the indiscriminate level is wider with Choba which has the lowest mean rank strength of institution score than with Alakahia with a slightly higher mean rank strength of institution score than Choba.

Although Choba and Alakahia had no significant difference in the strength of their respective traditional institutions on DWM, the very little insignificant difference in their mean rank strength of traditional institution on DWM scores shows to account for the significant difference in their present DWM practices. Thus, indicating that Alakahia is even further less indiscriminate in its present DWM practices than Choba. This suggests that no matter how little the difference between communities are, with respect to the effectiveness of the traditional institution that enforce cultural norms on DWM, it is expected that there will be a significant difference in their present DWM practices. It is important to note that the level of institutional strength differences in all three communities fell short of their community cumulative mid-point score based on a 5-point Likert scale on three (3) indicators ranging from strongly agree, scored 5, to strongly disagree, scored 1. The indicators were existence of institution, respect for institution and adherence to norms. Figure 1.2 shows that Aluu has the

highest score on the strength levels with a score of 1926 compared to Alakahia and Choba. The indication here is that no matter how weakened the traditional institution at Aluu is, the extra effort paid off in the relatively lower level of indiscriminate DWM practice.

Figure 2: Cumulative Score for the Communities on Strength of Traditional Institution on DWM



Source: Field Survey, 2016

This result corroborates earlier findings with regards to the importance of the existence of strong cultural institutions to the success of environmental related intervention projects or programmes in communities. Driving home this importance, Jimoh et al (2012) asserted that “the success of traditional systems resource conservation relies heavily on the presence of a homogenous ethnic or cultural community sharing similar values and experiences” (p. 216). Also, Akpabio & Subramanian (2012) asserted that “programme intervention will have to depend on available local institutions and groups in a manner that utilizes dialogue and information dissemination practices to succeed” (p. 23).

It is important to note that, unlike Akpabio & Subramanian (2013), and like Jimoh et al (2012), the cultural beliefs and practices on DWM in the three communities are fading away as the traditional institutions that ought to sustain such are basically non-existent as gathered from the FGD and oral interviews. The *Elekwanne* (i.e. traditional sanitation inspectors) at Choba no longer exists, the *Wonodi Anele Age Group* at Alakahia, and the *Ishi Omukoro* (i.e. head of youths) at Aluu also no longer exists in the capacity of enforcing the traditional norms on DWM. However, the community development committees (CDCs) have now taken up the role, in the areas of monitoring sanitation exercises and ensuring participation of residents in such clean-up exercises, but without the same authority that the initial institutions wielded. The beliefs that waste is food for spirit beings who feast on it at night and thus must not be disposed at night time but at day is not held nor shared by most of the residents. But comparatively, though few, more residents at Aluu still share or hold the cultural beliefs on waste than at Choba and Alakahia.

Other beliefs are that; households whose houses are swept at night and waste disposed at night are inflicted with economic hardship and illnesses; and both ashes from decomposed waste and the communal sites itself where waste was disposed, referred to as the *Nkpokpo* was used for treating illnesses. These beliefs are barely known anymore. It is not surprising as the very traditional institutions responsible for its perpetuation have been weakened. Top on the list of factors responsible for its weakening is government's intervention in the evacuation of waste in the communities. Others are the increase in non-indigene population,

Christianity, presence of the University, education and enlightenment, and change in the communities' social outlook.

This confirms established knowledge that traditional institutions are indeed “custodians” and sustainers of culture (Nweke 2012, p. 206). Thus, when weakened, the perpetuation of homogenous beliefs and practices are undermined as put across by the 'social solidarity' theoretical framework guiding this study. The finding further substantiates the assertion from the works of scholars like Anoliefo et al, 2003; Lingard et al, 2003; Bhagwat & Rutte, 2006 (as cited in Ngara & Mangizvo, 2013) generally on conservation and environmental degradation, that the “resulting breakdown of informal, self-imposed restrictions of traditional institutions on land and resource use is threatening species and habitats that were once afforded protection by such traditions” (p. 21).

Conclusion

From the foregoing, it is evident that though the level of indiscriminate DWM cuts across all three communities, it is lesser, comparatively, at Aluu owing to its relatively stronger traditional institution in enforcing and monitoring cultural norms on DWM activities. Moreover the traditional ecological knowledge of bushes, forests and lands in the three communities contribute to the present nature of indiscriminate DWM practice. The only difference is that the level of the strength of the traditional institution at Aluu community in checking the DWM practices of its residents minimizes the degree of their indiscriminate DWM practices. As a result, strengthening of traditional institutions on DWM in these communities will go a long way in improving the present state of DWM practices in the communities.

Recommendations

Owing to the established importance of traditional institutions to reduce indiscriminate DWM practices in the observed communities, it is recommended that:

1. Government should go beyond mere consultations for designating dumpsites and simply evacuating unsorted accumulated waste to engaging residents of communities to understanding their local or cultural perception of waste, as well as perception of the role of their immediate environment to waste. This is to better equip the government with knowledge on how to integrate existing good local or cultural practices and manage harmful practices to reduce negative impact on environment, health and economic activities.
2. The role of traditional institutions on dwm, which are now domiciled in cdcs, should be strengthened through a co-management system in managing domestic waste not just as dirt, but as a wealth creation resource through recycling.
3. Government should create opportunities through incentives for investments in recycling of various categories of waste in the communities from private corporations.
4. Furthermore, government should liaise with the communities through their traditional institutions on dwm to organize a two-way access for the collection of recyclable wastes. That is, a way for recycling companies to collect recyclable materials from residents and a drop-off mechanism of recyclable wastes by residents at such companies in return for incentives. This will create job opportunities, wealth and improve the environment, as well as reduce health and environmental hazards.

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