

THE URBAN SANITATION CRISIS: A PROBLEM OF INSTITUTIONAL BREAKDOWN

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ABSTRACT

Solid waste management is an ever growing challenge, especially in urban centres in developing countries and has stimulated a growing consensus of multi stakeholder involvement. The solution to this challenge appears far in the future, since stakeholders work in isolation. This study, primarily seeks to assess the extent of stakeholder involvement in solid waste management and its resultant challenges. The case study research design was employed, using both qualitative and quantitative strategies, for the collection and analysis of data from 168 respondents. About 154 questionnaires were administered to randomly selected respondents. Focused Group Discussion (FGD), constituting 11 Chiefs and Opinion leaders and 3 semi-structured institutional interviews were held, for the District Environmental Health, Zoomlion Ghana Limited and the District Planning Unit. The study revealed limited engagement and coordination, among the solid waste management stakeholders. Inadequate logistics and material resources; non-regulation of waste management Companies by the Assembly, low involvement of key stakeholders, and ignorance were identified, as key challenges to effective and efficient solid waste management. Hence, a Multi-Stakeholder approach under which, all stakeholders are deliberately involved, well-coordinated and effectively engaged, in making critical decisions, planning, implementation and management of solid waste generated is recommended.

KEYWORDS: Multi-Stakeholder Approach, Effective and Efficient Solid Waste Management & Institutional Collaboration

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INTRODUCTION

Human existence is dependent on the use of material resources, which eventually becomes waste. As developing countries achieve greater socio-economic well-being, more waste per capita is realized and more critical is the need for effective and efficient waste management systems (Squires, 2006). In most developing countries, the generation of solid waste has become an increasingly important environmental issue, over the last decade, due to escalating population growth and changing life style, leading to new trends of unsustainable consumption concomitant, with increase in waste production. Such increases in solid waste generation, accompanied with shifting characteristics, pose numerous questions concerning the adequacy of conventional waste management systems, and their associated environmental, economic and societal implications (Al-Yousfi, 2004).

According to the United Nations Environment Programmer (UNEP), the collection, transportation, treatment, and disposal of solid waste, especially waste generated in medium and large urban centres, has become a huge challenge (UNEP, 2005). The varying trend in the characteristics of solid waste, without corresponding to improvement in technological processes and institutional restructuring, serves as hindrances to effective and efficient solid waste management. Al-Yousfi e'tal (2004) asserts that, *about 30% to 50% of the wastes generated in developing countries are never collected. Uncollected wastes, accumulated in vacant lots are simply discharged into water bodies. Because, of*

improper disposal and excessive littering, in many instances, the burden of waste collection is transferred from the collection system to the street cleaning system". This has stimulated a growing consensus, requiring immediate involvement of all stakeholders in the management of solid waste. Hence, it has become imperative for residents to come together with state authorities, in dealing with this challenge that has enormous environmental and human health effects (Kirunda, 2009).

An average of 1.2 kilograms solid waste per person, per day is generated in most Municipalities (UNEP, 2014) and hence, using orthodox management systems and procedures is proving futile. The management dilemma of solid wastes has been recognized, and is being tackled seriously worldwide. However, it is more challenging for most developing countries, mainly due to social and economic predicaments and poor priorities. Resulting in increased waste volumes in urban areas, due to increasing urban population, industrial growth, increased consumption by residents, and insufficient financial and material resources was to manage the collection and disposal of waste (Al-Yousfi, 2004).

As a possible remedy, the United Nations Conference on Environment and Development held in Rio de Janeiro in January 1992, in its declaration upheld that; Environmental issues are best handled with the participation of all concerned citizens, on a relevant level. On a national basis, each individual should have appropriate access to information, concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States should facilitate and encourage public awareness and participation, by making information widely available.

In Ghana, there exists a well-developed stakeholder engagement plan, for tackling the sanitation crisis at the District level. This plan identifies a number of state agencies and private sector institutions, as well as the citizenry as the key and relevant stakeholders, who are either affected by the urban sanitation challenge, positively or negatively or can affect the changes needed. However, over the years, the urban sanitation crisis seems to be worsening, raising questions about the efficiency and effectiveness of the stakeholder engagement plan. It was proposed that, the existence of formal procedures and guidelines to ensure effective stakeholder participation and consultation, would have contributed in more public awareness and commitment to the management of solid waste. This has not materialized and rather culminated in inefficiencies, in the use of resources in managing waste (Squires, 2006). The aim of this paper is to examine the impact, such as institutional meltdown is having on the sanitation crisis. Specifically, this paper addresses the following research questions

- What is the extent of stakeholders' involvement, in the management of solid waste in the Nkoranza North District?
- What is the level of co-ordination and collaboration among stakeholders in the planning, implementation and management of solid waste in the Nkoranza North District?

METHODS

The case study research design was used through both quantitative and qualitative methods, of collecting and analysis of primary and secondary data, to ensure the validity of findings. Different procedures were used to increase the dependability and reliability of the data and their interpretations (Zohrabi, 2013). Secondary data were obtained from a comprehensive review of relevant reports and internet literature, related to issues pertaining to the study objectives. Primary data was collected with the administration of a semi-structured household questionnaire, to 168 inhabitants in

eight communities and a structured institutional questionnaire to 5 Heads of the sanitation related institutions, in the Nkoranza North District (NND) and was conceptually focused on participation, in solid waste management. Institutions sampled for this study, included the Nkoranza North District Assembly, the District Environmental Health Division, Zoomlion Company Limited and Community Based Organizations (CBOs). Focus Group Discussions (FGD) were conducted for the Traditional leaders, Assembly and Unit Committee Members; with a group constituting eleven (11) persons. Participant Observation was used to gather relevant information about the numbers, that turned up for the National Sanitation Day exercise, and their roles and activeness of participants. Data obtained from the households was processed with the Scientific Package for Social Scientist (SPSS version 21), while critical analysis was used in the analysis of qualitative data, from the institutions and through the FGD.

RESULTS

Quantities of Solid Waste Generated

Waste generation in towns, in the Nkoranza North District is comparatively low, compared to cities like Accra and Kumasi, due to the relatively low population. The total quantity of solid waste generated in the district as of December 2015 was 2,640 tons, with more than half (55%) generated by households. However, less than 30% of the volume generated is collected and disposed of effectively, by the DEHO in collaboration with Zoomlion Ghana Limited. In 2014, 2,509 tons of waste was generated, but only 21.4% was collected. For 2011, only 9.2% of the total waste generated was collected and disposed off, at final disposal sites without further treatment. This affirms the assertion by Al-Yousfi, (2004) that, about 30% to 50% of the wastes generated in developing countries are never collected, leading to scenes as shown in Picture 1. This abysmal performance has been attributed to inadequate logistics and materials, as well as low commitment levels of citizens and institutions, to manage solid waste.



Figure 1: Quantity of Waste Collected From the Year 2011-2014

Source: DEHO, 2015



Figure 2: Refuse Dumpsite at Yefri

Source: Field survey, 2015

Role of Stakeholders

Good solid waste management is an important component of a strategy, for improving environmental health. In addition to the obvious aesthetic importance of a garbage-free living environment, uncollected solid waste rapidly putrefies in tropical climates, creating noxious smells, giving rise to polluting locates, providing breeding areas for flies and other insects, and in the wet season, mosquitoes. For a district to establish good and sustainable solid waste management, all the actors involved in solid waste issues, starting from solid waste generators to collectors, should be brought on board and made to participate actively in the process. There should be effective coordination among these stakeholders. More importantly, each stakeholder should know explicitly, his/her role to help, manage and sustain solid waste management. The following are the various stakeholders and their respective roles, in managing solid waste as enshrined in the Environmental Sanitation Policy, by the MLGRD (2001):

The Communities/Households

These are the primary stakeholders, who are the direct beneficiaries of any policies on solid waste management. About 70% of total waste generated in the NND is from households and the market. The roles of households include basically:

- Cleaning their surroundings daily.
- Temporarily store solid waste, to prevent indiscriminate littering.
- Carry solid wastes stored, to approve site, eg. dumpsites or skip containers
- Participate in any community cleanup campaigns, such as the National Sanitation Day exercises, to ensure a clean environment.

The role of the citizenry is very critical, as it goes to the foundation of the urban sanitation challenge. Once the inhabitants of an area decide to perform their role effectively, the issues of indiscriminate dumping, especially in open spaces and wetlands, choked gutters, unkempt surroundings and their attendant health problems would not arise. On the contrary, from the study, 64% of the respondents admitted having dumped some refuse in either an open space or a wetland

(refer to Figure 2). This is a clear violation of their civic responsibility and the Assembly's byelaws, and such offenders should be punished to deter others.

Regarding the involvement of the citizenry in communal clean up campaigns, there was an evidence of apathy and political preferences, as some community members have intentionally decided never to partake in any communal cleanup campaigns, especially the National Sanitation Exercise. A particular respondent, when asked said *"I do not take part in the cleanup exercise, because it is not my work. I only make sure my compound is clean and neat. The national sanitation day exercise is a government agenda and a cheap way of accessing labor for cleaning up."* Source: Field Survey 2015.

Community Base Organizations (CBOs)

These are organizations, such as Fun clubs, Youth Associations, Market Women Groups, Keep Fit Clubs, Church Organizations, which undertake periodic communal cleanup campaigns, especially on national holidays. In Ghana, each community has a number of such groupings, though not formally registered with any institution. However, sanitation issues seem not to be their focus. The study revealed that, though the Nkoranza North District has a number of such organizations, they play relatively dormant and ineffective roles, to ensure a clean environment, with the exception of the Kranka Community Youth Association, which carries out public education at the information centers.

Nkoranza North District Assembly (NNDA)

The Metropolitan, Municipal and District Assemblies (MMDAs) are mandated by the ACT 462, with oversight responsibilities of Solid Waste Management in their jurisdiction. The NNDA was created in the year 2008. The roles of NNDA, as stated in the ACT 462 include:

- Design programs, plans and strategies to help manage solid waste
- Provide financial support to implement solid waste management programs and projects
- Provide technical backstopping on solid waste management process
- Monitor and evaluate solid waste management programs and projects
- Provide logistics and equipment to DEHO in aid of solid waste management.

The functions of the District Assemblies, regarding sanitation seem to be more of the management of the process, rather than direct collection. Most of these functions are implemented through the District Environmental Health Office (DEHO). In reality, all the Assemblies undertake the planning functions, such as designing plans, strategies, programs and projects, to address the sanitation challenges. Interestingly, after spending huge resources, both human and financial, these mostly good plans and programs are shelved. The usual excuse is the untimely release of external grants, such as District Assemblies Common Fund (DACF), District Development Fund (DDF) and low Internally Generated Funds (IGF). The case of the NNDA was no exception. Management of the Assembly complained about hindrances and these factors stated above were put in their bid, to ensure a clean district. For instance, in their 2014-2017 District Medium Term Development Plan (DMTDP), the plan was to procure 15 skip containers, before 2015. However, by the end of 2015, not a single container had been bought. The Accountant-General's financial audit report revealed that, all the funds allocated to sanitation had been spent on attending and organizing workshops and seminars. Hence, serious questions about the priorities of the Assembly and their determination to fight the growing sanitation challenges arise. This scenario is

common in all the 250 MMDAs, across the country and is a clear indication of why the sanitation challenge is steadily becoming a crisis.

Regulation of collection, either by the DEHO or private collectors is a key function of the Assembly (Schubeler et al, 1996). Such regulatory function can be undertaken effectively and efficiently, only when the Assembly is well equipped with well trained and knowledgeable staff, who also understands the existing sanitation dynamics. For most districts, ceding of sanitation collection to private companies is done, without any proper assessment of the strengths, weaknesses, opportunities and threats (SWOT). Hence, often easier to collect areas are rather ceded, while the Assembly struggles with the densely populated slums. This study has revealed that, the NNDA is not adequately empowered to make private waste management organizations accountable to them. This is because, the sanitation contracts were either signed at the MLGRD and hence, have no power on the contractors. The sanitation crisis has the potential of becoming a huge revenue source for the MMDAs, hence, ceding to private companies has to be done after proper financial analysis.

District Environmental Health Office (DEHO)

This is the NNDA unit, directly responsible for carrying out most of the roles of the District Assembly. The office is purposely created to deal with sanitation issues in the district and ensures good solid waste management in the district. They therefore, undertake the following:

- Help the Assembly prioritize the communities and areas, where solid waste management programs and projects are urgently needed.
- Recommend to DA appropriate and requisite materials and logistics, as well as the quantities needed to manage solid waste in the district.
- Daily visits to households to inspect their surroundings, whether they are clean or not, popularly known as sanitary inspection.
- Carry out regular sensitization programs on solid waste management in communities. This, according to DEHO officer is done monthly.
- Process defaulters of environmental bylaws, for appropriate legal remedy.

Zoomlion Ghana Limited

This Company is a waste management organization, which operates nationwide. In the NNDA, it operates across the whole district, with its District Office in Busunya, the District Capital. It is expected to undertake daily cleaning of streets and gutters, and collects skip containers and disposes waste at the final disposal site. In practice, Zoomlion does not carry out its responsibilities, as mandated. A regular collection of solid waste from skipping containers is vital, to solid waste management in vicinity. Irregular collection can jeopardize the health of the people and also drag the image of the district into disrepute. Information gathered from the field indicates that, the irregular collection of waste at disposal sites is a challenge to the people. According to the company, skip containers are evacuated weekly. However, this assertion was disputed by the households, as 30% complained that, collection is done almost once every two months, while 38.5% criticized that collection can delay for up to three months. The irregular collection leads to skipping containers overflowing, as is shown in Figure 3.

The devastating aspect of this scene is that, these skip containers are located 1 minute walk from the market center, 30 seconds walk from the main station and about 4 minutes walk from Busunya R/C JHS. The people explained that, there was only one skipping container, located at the site. This got full and was never collected. To stop people from dumping on the ground, DEHO brought another skip container. It was observed in the survey that, the two containers had been full for about three months and had been left uncollected. Households around the area, the market women, pupils and teachers, as well as drivers and passengers complained bitterly about the unrelenting pungent smell and odour, this rubbish emitted.



Figure 3: Skip container Site at Busunya
Source: Field survey, 2015

The reasons gathered from the Zoomlion Office were that, the skip loader had been spoilt for about five (5) months at the time of the survey. Materials needed to fix the trucks were not available in the country and management had made the necessary arrangements, to address the problem as soon as possible. However, only 22.4% of respondents knew about the breakdown of the truck, indicating clearly a weak communication system.

Upon further inquiries, about the cause of their inability to deliver services as expected, the following reason was given; “Zoomlion is a private company, which can only pay its staff, when paid by the government through the DACF which is irregular. Hence, most of our staff engages in other economic activities, to make ends meet, such as going to their farms when they are supposed to be cleaning their assigned areas, in the morning. This makes it difficult to compel or punish them, to deliver when we know we haven’t paid them for about six (6) months. It is these same monies, we use to repair our vehicles and replace working equipments. Delay in payment, often leads to non-repairs of broken down vehicles, resulting in delays in evacuating skip containers from dumpsites, when they are full.”

Other Institutions

These are the schools, health centers, churches, government agencies in the district assembly. These institutions play various roles in managing solid waste. The roles are;

- Cleaning their surroundings daily and disposing refuse properly, at a designated site.
- The schools train children to know the essence of managing solid waste, which will enable them to be responsible adults in waste management.
- School going students are educated on the need, to ensure a clean and healthy environment, and are expected to

put this knowledge into daily practice.

Relationships between Key Stakeholders

The stakeholders are all working to ensure good solid waste management in the district. They operate with different levels of influence on the constituents. As schools exert greater leverage on children, within school going age, other institutions like CBOs and National Commission for Civic Education have the impetus to reach those outside the school going brackets. However, the study reveals that, most stakeholders were working in isolation. Thus, interconnection between stakeholders, in terms of communication and consensus building is limited. Stakeholders with a common goal should understand every issue, surrounding their goal. Unfortunately, some of the stakeholders, especially the primary stakeholders have limited knowledge in the management of solid waste, in their communities.

Stakeholder involvement is imperative, to the extent that, it can lead to more responsible behaviors, increased environmental awareness, and a higher willingness to pay among users of a waste management system (Arnold, 2000). Ghana as a member country of the United Nations has a responsibility to ensure that, all citizens and stakeholders on relevant levels participate actively, while having access to information bordering on environmental issues, including solid waste management, not only at the local level, but also at the national level. Analysis from the survey indicates that, the relationship among these stakeholders is not strong enough, to achieve a common goal, since most work is in isolation and are independent of each other. The following evidence confirms this assertion; there is virtually no line of communication between the DEHO and Zoom lion Company. Also, there is a disagreement between the community citizenry and the DEHO, on the location of skipping containers.

Challenges

Waste management has become a contemporary issue in the memo of several governments, especially among countries that are suffering from the dependency syndrome (Paul, 2014). Governments, development partners and Non-governmental Organizations incessantly allot sizeable amounts of financial and technical resources in a form of grants and services in addressing urban waste management problems and challenges in developing economies (Paul, 2014). In spite of these interventions, the current environmental sanitation status of Ghana leaves much to be desired (MLGRD, 2001). Is there anything wrong with development policies regarding solid waste management? Or perhaps, the problems and challenges of solid waste management emanate from weak institutional arrangements? These questions were well answered during the survey where several issues were pointed out as factors impeding solid waste management in the district. After analysis of these factors, it was unearthed that there were major challenges confronting solid waste management. The challenges confronting the District with regard to solid waste management were identified as follows;

Non-Regulation of Zoomlion Ghana Ltd

Generally, privatization of waste collection has been deemed to contribute significantly, to improving the environmental sanitation situation in our cities. Zoomlion Ghana Ltd is paid directly by MLGRD and hence, NND is not empowered to play the watchdog role, resulting in poor service delivery, such as communal containers usually overflowing with heaps of waste, before they are collected for disposal, as shown in Picture 1. Additionally, the skip containers are not covered, while being transported. This makes the refuse fall off and litter the communities, when being transported. NND can only address such challenges through the Ministry with all the associated bureaucracies.

Public Attitude towards Waste Management

The reckless littering among the populace in the communities is inimical to solid waste management in the district. Also, due to blatant disregard for the environment, people litter the environment indiscriminately. In the district, people who cannot travel long distances to dispose of solid waste resort to open gutters and open spaces disposal. Parents usually send children to dispose household solid waste. The height of the children hinders them from disposing off their refuse into the refuse containers but rather on the ground. Interestingly, these are the very people complain of filth in the environment. Unfortunately, a respondent during the field survey asserted that, *“If waste is not dumped indiscriminately, waste management companies would have nothing to do because they are being paid for cleaning our environment”*

Low Involvement of Key Stakeholders

The primary stakeholders are reluctant to play an active role in issues concerning solid waste management basically due to ignorance and poor communication between the solid waste management departments and the communities. The survey proved that 84.42% of the interviewees have never participated in the National Sanitation Day exercise while 49.35% refused to attend sensitization programs on solid waste management.

Blame Game among Sector Institutions

Whenever there is a public outcry regarding the filth in the communities, Zoomlion Ghana Ltd are fast to point accusing fingers at the MMDAs for non-payment of monies owed them. In rebutting their claim, the MMDAs blame the MLGRD for not releasing the District Assembly Common Fund for payment of sanitation services. The case is the same as the Nkoranza North district. This does not augur well for solid waste management.

Inadequate Logistics and Materials

The District does not have adequate logistics to help waste management institutions to function properly. This hinders mandated institutions from practicing decent methods of solid waste treatment like sanitary land filling. This challenge is incidentally acknowledged in the Environmental Sanitation Policy which captures it as transfer of environmental sanitation functions performed by Central Government agencies to the Assemblies without transferring the accompanying budgets, personnel and equipment (MLGRD, 2001). This makes the districts ineffectual in playing their role.

CONCLUSIONS

Stakeholder involvement is very relevant as it promotes responsible behavior, increased environmental awareness and a higher willingness to pay among users of a waste management system (Arnold, 2000). Effective stakeholder engagement can also lead to empowerment of stakeholders with limited access to decision-making power and resources as stakeholders do not have an equal starting position. Meaning, stakeholder involvement should aim at empowering the weak and underprivileged groups in the planning and implementation of a waste management system. Nevertheless, the current trend of rapid population growth and its commensurate waste generation patterns are critical and requires urgent and effective involvement of all stakeholders in managing increasing volumes of waste and the changing waste types.

The contribution of stakeholders to a successful solid waste management system cannot be overemphasized. This study revealed that stakeholders are vital instruments in planning, implementing, monitoring and evaluation of policies and programs to manage solid waste. Ignoring stakeholders in any act purported to manage solid waste has catastrophic ramifications of obstructing successful management processes. It was found that stakeholders are the pillars on which plans

to manage solid waste are built on. This research therefore advocates for a multi stakeholder engagement as an appropriate solution to the current fragmented procedures.

The communication between secondary and primary stakeholders (households) is low largely due to weak institutional capacities of solid waste management units and companies in the district. To ensure accountability and effectiveness in the management of solid waste in the district, Zoomlion Ghana limited should be paid directly, by the District Assembly and not by the MLGRD. There are often delays in payment of Zoomlion Ghana Ltd workers, which affect the smooth discharge of their duties in the District. Workers of Zoomlion turn to relinquish their responsibilities, during non-payment of salaries to engage in other economic activities, such as farming and petty trading in order to make ends meet. This results in heaps of refuse in public places and mountains of uncollected refuse at public dump sites, which create an unhygienic and unsightly environment, leading to the outbreak of preventable diseases.

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