Collaborative Governance and Community Participation in Solid Waste Management in Lusaka

MICHAEL DAKA
University of Zambia
daka.micheal@yahoo.com

CLEVER MADIMUTSA
University of Zambia
clever.madimutsa@unza.zm

Abstract

Despite several stakeholders being involved in waste management, 85% of solid waste in Lusaka City is uncollected. The aim of this paper is to analyse the nature of collaborative governance and levels of community participation in domestic solid waste management in Lusaka. To ensure a successful analysis, the research used both primary and secondary sources of data. A sample of 121 people was engaged. The purposive and multistage sampling techniques were used to sample 6 key informants and 115 residents respectively. Semi–structured interviews and a questionnaire were used to collect data and qualitative data obtained were analysed using content analysis while quantitative data were analysed using descriptive statistics. Findings revealed that emerging economies like Zambia rely on stakeholder collaboration to manage solid waste. The stakeholders involved in this include residents, government officials and private companies. It is noted that decisions are made by government officials and private companies and communicated to residents during meetings. Furthermore, the City Council fails to reprimand non-performing private companies. This research therefore, recommends that the government should ensure that there is rigorous implementation of the *Local Government (Solid Waste Management) Regulation* by local authorities and that decision-making is collectively owned by all stakeholders involved.

Keywords: Collaborative Governance, Community Participation, Solid Waste Management, Planning

Introduction

Solid waste is one of the major environmental and developmental problems affecting urban communities in both advanced and emerging economies today (Hoornweg and Bhada-Tata, 2012). This kind of waste is generated by industrial, commercial, domestic and community activities (Environmental Council of Zambia, 2004). Generation of this waste is increasing faster than the rate of urbanisation (Hoornweg and Bhada-Tata, 2012).

The task of Solid Waste Management has traditionally been handled by either national, regional or local government or all the three levels of government in advanced and emerging economies based on the traditional paradigm of public administration (Robinson, 2015). However, the last two decades of the Twentieth Century saw this paradigm being criticised in practice for being inefficient and ineffective in the delivery of public services due to challenges faced by governments such as highly bureaucratic systems (Madimutsa, 2016). The criticism of this paradigm led to a paradigm shift in the delivery of public services including Solid Waste Management. The new paradigm emphasises collaborative governance. The term Collaborative Governance refers to:

> ''A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets'', (Ansell and Gash, 2008: 544).

In essence, the collaborations between the public and non-state stakeholders such as the private sector help in service delivery. Zambia is one of the emerging economies that have adopted Collaborative Governance in the management of solid waste. The use of this paradigm emerged in the 2000s when the country adopted the Public-Private Partnership Policy and the National Decentralisation Policy (Republic of Zambia, 2009, 2011a). These policies encourage the involvement of the private sector and local people in decision making, financing and coordination of public service delivery (Republic of Zambia, 2009, 2011a). Although Collaborative Governance has been adopted in Zambia, the country still fails to effectively manage solid waste especially in residential areas. The Environmental Council of Zambia (2004) shows that Lusaka City Council and private companies collected and disposed of 12 % and 3 % of Domestic Solid Waste respectively in Lusaka City. This leaves 85% of the solid waste uncollected indicating that Collaborative Governance is not effective in the management of solid waste in emerging economies like Zambia. This situation also raises questions regarding the extent to which local people are engaged in solid waste management.

This research therefore aims to analyse the nature of Collaborative Governance and the levels of community participation in Domestic Solid Waste Management in Lusaka, Zambia. This paper is thus divided into nine sections which include: Introduction, a Review of Literature on the Concept of Solid Waste Management, Theoretical Framework, Research Methodology, Methods of Domestic Solid Waste Disposal, and Roles of Actors in Planning for Domestic Solid Waste Management, the Challenges Faced by Members of the Local Community to Participate in Planning for Domestic Solid Waste Management, Conclusion and Recommendations.

Literature Review

The literature shows that there are many strategies used to manage solid waste in both advanced and emerging economies. These include engagement of the private sector to manage the waste, provision of receptacles for waste disposal, and waste generators paying for its disposal (Amasuomo, Tuoyo and Hasnain, 2015; Birhanu and Berisa, 2015; Chilinga, 2014; Din and Cohen, 2013; Gutberlet et al, 2017). Banga (2011) conducted a study in Uganda and found that households dispose of their waste by dumping and burying it in pits. In a similar vein, Chiemchaisri, Juanga and Visvanathan (2007) as cited in Ferronato and Torretta (2019) observed that 60 % of solid waste disposal in Thailand was carried out by open dumping. The dumping of waste has also been reported in other African countries such the Democratic Republic of Congo (Din and Cohen, 2013). Reyna-Bensusan, Wilson and Smith (2018) as cited in Ferronato and Torretta (2019) noted that 24 % of the total waste generated in the municipality of Huejutla in Mexico was burned by households of which 90 % was from rural areas. The burning and dumping of solid waste in open spaces and in rivers constitutes a serious health and environmental problem in Zambia, South Africa, Thailand and Mexico among other developing countries (Edema, Sichamba and Ntengwe, 2012; Kubanza and Simatele, 2019; Ferronato and Torretta, 2019).

In an attempt to address the problem of environmental pollution, African governments have decided to establish collaborative networks with various stakeholders including the private sector and local communities. The participation by local communities involves sorting, separating and recycling solid waste. However, the level of participation by local people in solid waste management is low (Amasuomo et al, 2015; Banga, 2011; Gutberlet et al, 2016). This has been attributed to various challenges that the local people face. These challenges include lack of information on Solid Waste Management activities, poor environmental management policies, high waste management fees, inadequate solid waste management facilities and lack of incentives to manage the waste (Kubanza and Simatele, 2019; Amasuomo et al, 2015; Banga, 2011; Din and Cohen, 2013; Edema et al, 2012; Gutberlet et al, 2017). United Nations (2018) observed that many cities in the world are failing in proper collection and transportation as well as environmentally sound treatment disposal of waste. This is also due to challenges faced by service providers such

as government agencies and private companies, such as a lack of willingness by members of the public to participate, lack of funding and inadequate infrastructure and equipment (Amasuomo et al, 2016).

The problem of solid Waste Management experienced in Africa is also found in other emerging economies such as Kosovo, Sri Lanka, Brazil and India (Gojani, 2015; Pinnawala, 2016; Poletto, De Mori, Schneider and Zattara, 2016). Although there are some similarities in the way solid waste is managed in Africa and other emerging economies, there are some differences. Gojani (2015) indicates that the residents of Gjakova in Kosovo actively participate in Solid Waste Management. Their role involves complying with the laws on waste disposal and reporting violators of the laws to the City Council. This form of participation is different from what happens in Africa where there is lack of willingness by members of the public to participate in Solid Waste Management activities such as sorting of the waste (Amasuomo et al, 2016). Nonetheless, the inadequacies associated with the government in Solid Waste Management are also found in other parts of the world. Omran and Gavrilescu (2008) noted that Vietnam municipalities lack equipment and capital in Solid Waste Management.

The problem of Solid Waste Management is not only faced by emerging economies but also some advanced ones such as the United Kingdom, Germany, United States of America and Japan (Cole, Osmani, Quddus, Wheatley and Kay, 2011; Schwarz-Herion, Omran and Rapp, 2008; Lober, 1996; Wada, 2011). However, there are some major and varied differences in the way solid waste is managed in emerging economies and advanced economies. Wada (2011) noted that incinerators are used in the process of managing solid waste in Japan. The use of incinerators to manage waste is not only found in Japan but also in other advanced economies like the United Kingdom (Cole et al, 2011). This approach is different from some African countries where waste is dumped and buried in pits (Banga, 2011; Chilinga, 2014; Din and Cohen, 2013). Wada (2011) further reveals that in Japan, waste management fees are embedded in tax payers' money. This strategy is different from the experiences in emerging economies such as Zambia where local people are required to pay directly for waste management to the service providers. This is in addition to a variety of taxes that citizens pay to the government.

Despite the literature providing valuable information on Solid Waste Management in both emerging and advanced economies, it is not comprehensive. Much of it focuses on the role played by stakeholders at the stage of implementing Solid Waste Management. The roles of these stakeholders especially members of the public at the planning stage of Solid waste Management are not adequately covered. It is this gap that this paper attempts to fill.

Theoretical Framework

This paper is guided by the assumptions of Governance Network Theory, Sherry Arnstein's Ladder of Citizen Participation and Agency Theory. Governance Network theorists such as Klijn and Koppenjan (2012) assume that policy implementation and service delivery occur in a network of actors. These actors depend on each other to achieve their goals (Klijn and Koppenjan, 2004). Huppe et al. (2012) assert that networks draw on resources from various participants to solve problems that cannot be handled by a single participant. In line with these assumptions, we believe that the task of Solid Waste Management is handled by a network of interdependent actors such as government institutions, private companies and local communities.

According to Klijn and Koppenjan (2012), governance networks are characterised by complex interactions between actors. The ''interaction patterns result in institutionalization of relationship between actors. These can be understood as patterns of social relations and patterns of rules'' (Klijn and Koppenjan, 2012:5). The rules are aimed at regulating the behaviour of the actors and influencing their performance (Klijn and Koppenjan, 2012; Koppenjan and Klijn, 2004). Meier and O'Toole (2007) call this process as network management, which involves managers who facilitate the interaction among the actors so that set goals are achieved. In line with this assumption, we expect the interaction among actors in Solid Waste Management to be guided by rules and that there are managers who facilitate the actors' interaction so that desired results are achieved.
Nevertheless, Governance Network Theory does not explain the levels of participation of network actors in decision making processes. These levels of participation can be explained by Arnstein's Ladder of Citizen Participation. According to Arnstein (1969), there are eight levels of citizen participation in political and economic processes. These are manipulation, therapy, informing, consultation, placation, partnership, delegated power and citizen control. These levels of participation are believed to be arranged in a ladder pattern. Arnstein (1969) further divides these levels of participation into three categories, namely, nonparticipation (manipulation and therapy), tokenism (informing, consultation and placation) and citizen power (partnership, delegated power and citizen control). At the levels of nonparticipation and tokenism, citizens are placed in committees, attend meetings and listen to the views of those in power. Although citizens may make contributions at these levels, their inputs do not add to decision-making (Brooks and Harris, 2008). However, at the level of citizen power, the citizens have full managerial power and make decisions together with those in power (Arnstein, 1969). Based on these assumptions, we expect citizens to participate in the process of Solid Waste Management in various ways. These include being members of committees, attending meetings and listening to the views of those in power, presenting their views to those in power but their views not being taken on board and making decisions together with those in power.

Nonetheless, Arnstein's Ladder of Citizen Participation fails to explain the nature of the relationship between citizens and those in power. This relationship can be explained by Agency Theory. According to Agency theory, relationships involving two parties can be characterised by formal contracts which align the interest of the principal (one who wants something done) and the agent (one who offers the service) (Gauld, 2007). Based on this assumption, we expect agency relationships to exist in the process of managing solid waste. In this regard, the local authority has the responsibility of managing solid waste on behalf of citizens. This means that the citizens are the principals while the local authority is the agent. Since local authorities tend to subcontract private companies to manage solid waste on their behalf, local authorities become principals while private companies are agents. However, Moe (1984) contends that agency relationships can be affected by two problems, namely, adverse selection and moral hazard. Adverse selection occurs when one party has more knowledge of the issues involved than the other before entering the agency contract (Perrow, 1986). The risk of adverse selection makes it difficult for the principal to identify the best agent to award the contract (Stevens, 1993). For moral hazard, it arises from the failure by the principal to observe the activities of the agent as they perform their duties (Moe, 1984). Stevens (1993) argues that the risk of moral hazard disadvantages the principal when the agent changes his behaviour once hired. In line with these assumptions, we believe that citizens may have challenges to hold local authorities accountable in the process of Solid Waste Management. Similarly, local authorities may have challenges to select private companies and hold them accountable as they manage solid waste.

To promote the interest of the principal, agency problems need to be solved. Stevens (1993) asserts that monitoring, reporting and conducting institutional checks may help to deal with agency problems. The principal may also offer rewards or incentives to the agent for good behaviour and punishment for bad behaviour. In line with this assumption, we expect monitoring and reporting systems to be put in place to hold local authorities and private companies accountable in the process of managing solid waste. Furthermore, we expect local authorities and private companies that perform their duties satisfactorily to be given rewards while those that fail are punished.

Research Methodology

The research was conducted in Lusaka, the capital city of Zambia. Lusaka was chosen because it is one of the fastest growing cities in Africa. It has the largest population of people in Zambia. There are more than two million people residing in Lusaka (Central Statistical Office, 2013). The city is also characterised by a number of unplanned settlements due to rapid rural–urban migration witnessed in the country. This rate of urbanisation has resulted in the city having very high levels of solid waste generation compared to other cities in the country. Lusaka City has an annual waste generation per capita of around 201 kilogrammes (United Nations Human Settlement Programme, 2010). The research was conducted between 11 December, 2017 and 25 February, 2018.

The research collected both qualitative and quantitative data. On one hand, qualitative data was presented in narrative form. On the other hand, quantitative data was numerical in nature and it comprised descriptive statistics such as frequencies and percentages. A mixture of qualitative and quantitative data was adopted because it provides a better understanding of a research problem than either qualitative or quantitative data alone (Kothari, 2004). Two sources of data were used in this research, namely, primary and secondary sources. The primary sources of data were residents of Lusaka and officials from the government and private companies while the secondary sources of data were documents focusing on Collaborative Governance, Community Participation and Solid Waste Management.

The population from which the sample was drawn was 904,635 people who were 18 years and older in Lusaka District, and this was the population of people who were eligible to vote during the national elections within Lusaka District (CSO, 2012). A sample of 121 people was engaged in the research, comprising 6 key informants and 115 residents. This means that the sample was 0.01 % of the targeted population. The key informants included 2 officials from Lusaka City Council (LCC), 3 managers of private waste management companies and 1 member of the Ward Development Committee (WDC). The 115 residents comprised 75 males (65.2%) and 40 females (34.8%); an indication that the sample was dominated by males. This is because there are more male headed households than those headed by females in the district.

The key informants were selected using purposive sampling while the residents were selected using multistage sampling. The first stage of sampling the residents involved stratification of the residential areas in Lusaka into low, medium and high density areas. At this stage, the lottery technique was used to select one residential area from each stratum. Roma Township was selected from the low density areas, Libala Township from the medium density and Chainda compound from the high density areas. The residential areas were stratified so that each category could be represented in the sample. The second stage involved using systematic sampling to select households from the sampled residential areas. The first household in each residential area was chosen using convenience sampling. Thereafter, a skip interval of five was used to select 25, 40 and 50 households from low, medium and high density areas, respectively. The sample size for each residential area reflected the population density in relation to other residential areas. In other words, the smallest sample of households came from low density areas while the largest sample came from high density areas. The third stage of sampling involved the use of purposive sampling to select the head of each of the sampled households. Multistage sampling was adopted to minimise biases in the sampling process.

Semi–structured interviews were used to collect data from the key informants and a questionnaire was administered to the household heads. The duration of the interviews ranged from 17 to 45 minutes. The two methods were used so that comprehensive data could be collected. Furthermore, efforts were made to ensure reliability and validity of the data. This was achieved by designing the research instruments in such a way that the questions were logically related. The responses from each informant/respondent were also checked for their logical relationship. Only responses that were not contradicting the corresponding questions were taken to be reliable. These are the responses presented and discussed in this paper. Qualitative data were analysed using content analysis while quantitative data were analysed using descriptive statistics.

Methods of Domestic Solid Waste Disposal in Lusaka City

There are two methods used to dispose of domestic solid waste in Lusaka City. These are legal and illegal methods and their details are discussed below:

Legal methods of domestic Solid Waste Disposal

The legal methods of disposing of domestic solid waste in Lusaka City involve a network of actors. These actors are private waste management companies, LCC and the residents. The roles of these actors are prescribed by *The Local Government (Solid Waste Management) Regulations* (Republic of Zambia, 2011b). This approach to Solid Waste Management agrees with the Governance Network Theory which assumes that networks operate on the basis of rules aimed at regulating the behavior of the actors and influencing their performance (Klijn and Koppenjan, 2012; Koppenjan and Klijn, 2004). This finding is similar to experiences in other emerging economies like Kosovo where regulations are used in the management of solid waste (Gojani, 2015). It is also similar to what is obtaining in advanced economies like the United Kingdom (Cole et al, 2011).

The regulation in Zambia empowers local councils to contract private companies to manage waste on its behalf (Republic of Zambia, 2011b). This finding is in line with the argument by Meier and O'Toole (2007) that networks require someone to facilitate the interaction of actors so that set goals are achieved. The regulation also empowers Local authorities to guide the contracted companies on the implementation of the regulation, approves their operations, monitor and review their performance and take corrective actions for poor performance such as terminating the contract (Republic of Zambia, 2011b). LCC contracts Franchise companies and Community Based Enterprises (CBEs) which operate in suburbs and peri-urban areas respectively. The contract shows that LCC entered into an agency relationship with the private companies to manage solid waste on its behalf as argued by the Agency Theory (Gauld, 2007).

Nonetheless, the residents are required to pay money to the contracted companies to have their waste collected and disposed of. This finding is similar to experiences in some African countries like the Democratic Republic of Congo where residents pay waste management fees (Din and Cohen, 2013). The idea of residents paying for Solid Waste Management is also practised in advanced economies like Japan where residents pay waste management fees (Wada, 2011). However, people classified as poor in some African countries do not pay for waste management. According to the Department of Environmental Affairs (2010) indigent citizens in municipalities of South Africa have access to free refuse removal services.

There is however, a difference in the way Solid Waste Management fees are paid by residents in some African countries and advanced economies. The residents of some African countries are required to pay directly for waste management while in some advanced economies; the fees are embedded in the tax payer's money. The payment of waste management fees by some poor residents in Zambia who are also subjected to paying several taxes to the government such as income and sales taxes worsen their poverty situation.

The findings show that the majority of the residents in Lusaka City, 86 out of 115 based on the sample residents (74.8%) use the above-mentioned method of waste disposal. The fees paid for waste management vary from one residential area to another. These fees are illustrated in Table 1. The amounts are in Zambian Kwacha (K). The exchange rate is United States Dollar (US$) 1 is equal to K13.

Table 1. Waste Management Fee Versus Residential Area.

Residential Area	Waste Management Fee (K)	Total
High Density	30	34
Medium Density	50-120	30
Low Density	80-250	22
Total		86

Source: Author's elaboration.

The amount of money paid by the residents for waste management to the private companies is based on the companies' perception of the residents' ability to pay. These amounts are determined by private companies in consultation with the local authority which approves them (Republic of Zambia, 2011b). The general belief in Zambia is that the poorest people in the cities reside in high density areas and pay the lowest amount while rich people reside in low density areas and pay the highest amount. The exact amount of money paid by residents per month in high density areas covered by this research is K30

(US$2.50), in medium density areas ranges from K50 (US$4.17) to K120 (US$10) and low density areas ranges from K80 (US$6.67) to K250 (US$20.83) as shown in Table 1.

The variation in the amounts paid by these residents is based on a number of factors such as additional materials provided by the private companies. One resident who pays K120 (US$10) indicated that "he pays such an amount because the company provided a big movable plastic bin". As noted above, the residents in medium density and low density areas pay higher amounts than those in high density areas because they are perceived to be medium income earners and rich people respectively. Therefore, the variation in the fee is based on a positive price discrimination used by private companies, and based on distinguishing features such as additional materials provided and type of residential area among others. This finding is also similar to experiences in other African countries like Ethiopia (Birhanu and Berisa, 2015). It is also similar to what has been reported in advanced economies like Germany (Schwarz-Herion et al., 2008).

Illegal methods of domestic Solid Waste Disposal

The illegal methods of disposing of domestic solid waste in Lusaka City involve the use of rubbish pits and open grounds. These methods are considered illegal by *The Local Government (Solid Waste Management) Regulations* (Republic of Zambia, 2011b). Despite the regulations being in place, some residents continue to dispose of their Domestic Solid Waste using illegal methods. The findings reveal that 29 out of 115 sampled residents in Lusaka City (25.2%) use illegal methods to dispose of their Domestic Solid Waste. The phenomenon of using illegal methods to dispose of Domestic Solid Waste is also found in other cities in Zambia such as Ndola and Livingstone (Edema et al, 2012; Chilinga, 2014). This finding is similar to what happens in other African countries like Uganda and the Democratic Republic of Congo (Banga, 2011; Din and Cohen, 2013). This finding is also similar to the experiences in advanced economies like Japan. Wada (2011) asserts that stations located along the main roads in Aomori City are used by residents to dump their refuse.

The reasons attributed to residents engaging in illegal methods of Domestic Solid Waste disposal include; their failure to afford waste management fees, non-availability of private companies in residential areas, inconsistent manner in which private companies collect the waste and lack of information on the legal methods of Solid Waste Disposal. The inconsistent manner in which private companies collect waste shows that the City Council has failed to monitor their activities. This finding is in line with the risk of moral hazard as argued by the Agency Theory that moral hazard arises when the principal fails to monitor the activity of the agent and hence activities are not done as contained in the contract (Moe, 1984). This finding, therefore, implies that local authorities are weak in the implementation of the *Local Government (Solid Waste Management) Regulation* to the extent that private companies have been left unchecked thereby allowing them to

maximise profits at the expense of service delivery. This finding is similar to experiences in other African countries like Nigeria and Ethiopia (Amasuomo et al, 2015; Birhanu and Berisa, 2015).

Despite the low levels of awareness on the legal method of Domestic Solid Waste disposal by some residents, WDCs and other government officials have continued to urge residents to use the legal method. This finding shows that civic education does not play a significant role in the disposal of Domestic Solid Waste. The WDC is in charge of fostering and coordinating development activities in wards. The affairs of the WDC are managed by an executive committee. However, their activities can be highly politicised, resulting in some wards being denied the opportunity to establish such committees. In communities that do not have WDCs, organs of the ruling political party such as political ward committees tend to take up their place. The Community Development Officer stated that:

> "In communities, there are ward structures formed by the local authority called WDC and one formed by the political party in power called political ward committee. Lusaka City Council had formed six WDCs but was later told to halt the process by the Ministry of Local Government until such a time it will be allowed. And so, where the WDC is not available, LCC works with the political structure to foster development in the ward".

The above revelation shows that there is political interference in the management of solid waste in Zambia. In wards where WDCs are not available, ruling party members interfere in the management of solid waste. They help residents who use the illegal methods to escape punishment. The head of Waste Management Unit however, indicated that ''despite the many calls that we receive from ruling party officials not to effect punishment to their people, we adhere to their request but still go ahead to warn and caution their people to use the legal method". This finding is similar to experiences in other countries like Ethopia (Bjerkli, 2013).

Looking at the reasons for illegal solid waste disposal presented above, questions can be raised regarding the extent to which the residents participate in the process of planning for solid waste management. This is the issue to be covered in the next section.

Network Actors and their Roles in Planning for Domestic Solid Waste Management

Planning for Domestic Solid Waste management in Lusaka City is done through a network of actors. These actors include LCC, private companies, WDC, councillors and the residents. However, political interference in developmental issues such as solid waste management, as earlier observed prevents good governance to prevail at a local level as citizens have no

access to WDCs which are non-partisan where they can participate. This situation makes citizens to be passive actors in matters affecting them despite the appearance of participatory decision-making. The Community Development Officer stated that:

> ''Residents in communities are involved in planning indirectly through their representatives, the WDC members . . . So, we as officials from LCC, sit with the WDC and plan on how to improve solid waste management. After the meeting, the WDC take the information to their people. So, if we plan with WDCs then it means we are planning with the community as WDCs are representatives of the community".

The above finding shows that civic leaders such as Councillors are not accountable to the residents who elected them.

The process of engaging the residents in solid waste management is handled by WDCs and councillors who organise meetings to discuss the duties of private companies and those of the residents. The chairperson for WDC stated that "planning for solid waste management in Chainda compound is done by the WDC, area councillor, Tehila Enterprise- a private company, council officials present in the ward and the public through their zonal leaders". The secretariat of the WDC writes notices of the meeting and all the members of the WDC are invited to attend the meeting. On the actual day of the meeting, the WDC chairperson takes the lead in facilitating the deliberations. This finding agrees with Klijn and Koppenjan (2012) who argue that governance networks involve complex interactions between actors, which require some form of management to guide the deliberations between actors towards problem solving, policy formulation, implementation and service delivery.

Nevertheless, decision-making processes in solid waste management tend to be influenced by the network managers rather than the residents. The WDC chairperson indicated that:

> ''During the meeting, zonal leaders, Tehila Enterprise and market committees present reports on the management of solid waste. The reports are then deliberated on and solutions to the problems raised in form of decisions are made. For instance, the committee agreed that K30 [US$2.50] be the amount each resident pays for solid waste disposal [per month]. The decision is later communicated to the residents using a megaphone. After decisions are made, a general public meeting is organised where all interested residents in the compound [residential area] are invited and normally these meetings take place at the

community hall during the working days so that the area councillor and other stakeholders attend".

The domination by network managers makes it difficult for residents to participate in planning for solid waste management. The findings show that 10 out of 86 residents (11.6%) who pay waste management fees attended meetings to discuss duties of private companies in Lusaka. Most of the people who attend such meetings reside in high density areas. The majority of the sampled residents representing 88.4 % who pay waste management fees never attend community meetings that pertain to solid waste management and these are the ones who reside in medium and low density areas. This situation is worsened by the absence of WDCs that are supposed to be organising local people to discuss developmental issues. This was the case in the medium and low density areas at the time of this research which operated without any WDC in existence. Residents in these areas stated that "private companies refuse to collect certain type of waste such as plastic containers, dry trees, among others and are inconsistent in the collection of waste". This is despite the presence of Health Inspectors in these areas who present reports on a regular basis on the management of solid waste by both the residents and private companies to the City Council for action. However, residents indicated that this situation has been going on for a long time and the council has not taken any action on private companies. This finding indicates that the City council is not adequately discharging its roles as per mandate.

The findings reveal that 5 out of 10 residents representing 50% who attended the meetings tried to contribute to the deliberations. Their submission was that the waste management fee be reduced from K30 [US$2.50] to K20 [US$1.67] per month. Nonetheless, the views of the residents were not incorporated in the final decision. This is because the organisers of the community meeting argued that the decision had already been made by the WDC and the private company. This finding is in line with the assumptions of Arnstein's Ladder of Public Participation which argued that citizens attend meeting but their input do not add to decision-making (Brooks and Harris, 2008).

The domination by privileged actors in solid waste management also makes the residents who attend community meetings not to participate in the deliberations. This is the situation that the 5 out of 10 residents (50%) who attended the meetings found themselves in. They indicated that they did not contribute to the deliberations because the WDC just came to inform them about the decision made on solid waste management in Chainda residential area and that there was no need for further debate. This finding is in agreement with Arnstein (1969) who noted that at the level of ''informing'' in the Ladder of Public Participation, information flows from public officials to citizens without no channel for feedback provided. The residents further indicated that the WDC came with a predetermined figure for waste management which it had agreed with the private

company before meeting the residents. The power to dictate the decision by these actors is based on different factors. The WDC, a sub structure of the City Council has the responsibility to ensure that waste is managed and a good report is submitted to the Council, and thus, agrees with demands of the private company which ventures in business to maximise profits regardless of the economic standing of the residents. This finding is in line with Cornea et al (2017) who argued that representatives of the State at multiple scales, whose power and legitimacy are based on different factors, use power in different ways which help the implementation of the project.

Although private companies fail to collect solid waste regularly as earlier observed, no action is taken by the City Council against them. Instead, they are commended for their good work. The Managing Director stated that ''our performance is evaluated by a Health Inspector on a daily basis and quarterly by the City Council . . . and so far, our performance is appreciated by the Council which actually wants to give us more areas to service". On the other hand, community leaders are used to pacify the residents and perpetuate capital accumulation by private companies. The chairperson for WDC stated that "zonal leaders in Chainda residential compound collect information such as the number of households paying or not for waste management and the frequency of waste collection by private companies from the residents". As observed earlier, despite this information being collected, the final decision is made by WDCs in conjunction with private companies. This implies that the acts of soliciting information from the residents and inviting them to attend community meetings are meant to pacify rather than embrace them in the decision-making process. This finding is in line with Edelenbos and Klijn (2006) who argued that decisions in networks are approved by representative bodies, not the citizens.

Challenges for Community Participation in Planning for Domestic Solid Waste Management

Residents do not only face challenges at the stage of making contributions to deliberations in community meetings but even to attend them in the first place. As noted earlier, only 10 out of 86 residents (11.6%) who pay waste management fees had attended the meetings to plan for solid waste management in their communities. The majority of the sampled residents, 76 out of 86 (88.4%) never attended the meetings. The main reason for residents not participating in the planning process is that there are no meetings held in the local communities. This challenge affects 68 out of 76 residents (89.5%) who do not participate in planning for solid waste management. This challenge is common in all the three categories of residential areas in Lusaka City. However, the situation is worse in medium and low density areas because they do not have any WDC to organise such meetings. This finding is similar to the experiences of other African countries. Amasuomo et al. (2015) indicate that members of the public in Abuja, Nigeria, are prevented from

active participation in waste management by poor government policies and lack of the necessary support from the government and other stakeholders.

The other challenge that prevents residents from participating in planning for solid waste management is lack of time. Residents in this category tend to be busy attending to their personal activities when community meetings are called. The findings show that 8 out of 76 residents (10.5%) are affected by this challenge. Nonetheless, the residents cannot be entirely blamed for failing to attend community meetings due to their busy schedules. They find themselves in this situation because of poor government policies. As stated earlier by the WDC chairperson:

> "After decisions are made, a general public meeting is organised where all interested residents and organizations in the compound [residential area] are invited and normally these meetings take place at the community hall during the working days so that the area councillor and other stakeholders attend".

This revelation shows that public meetings are called at the time that is convenient to government and private sector officials as opposed to the residents. Like government and private sector officials, some of the residents are in formal employment. On one hand, it is convenient for government and private sector officials to organise and attend public meetings during working days because this is the time, they perform their official duties including interacting with local communities. On the other hand, residents who are in formal employment use working days to attend to their duties as assigned by their employers thereby being too busy to attend community meetings. As such, only unemployed residents have time to attend community meetings during working days. With low community attendance at such meetings, it becomes easier for the government and its private sector partners to dominate decision-making processes. This problem of poor government policies preventing active community participation in waste management is not unique to Zambia. It is also found in other African countries like Nigeria (Amasuomo et al., 2015).

Conclusion

Advanced and emerging economies in the world rely on stakeholder collaboration to manage solid waste. In Zambia, these collaborations involve local authorities, private companies and local communities. Private companies are engaged to manage solid waste on behalf the local authorities. Although local communities in Zambia are engaged in the process of solid waste management, their views are not taken on board as only views of private companies are considered in decision-making. Local authorities in Zambia do not adequately implement the *Local Government (Solid Waste Management) Regulation*

resulting in communities having a lot of uncollected solid waste despite waste management fees being paid to private companies. This situation is attributed to political interference experienced by local authorities and their failure to reprimand poor performing private companies.

Policy Recommendations

To ensure effective community participation in solid waste management, the following are possible recommendations:

Policy implementation

There is need for rigorous implementation of the *Local Government (Solid Waste Management) Regulations* by local authorities. To this end, local authorities should ensure that there are adequate finances and human capital and those non-performing private companies are held accountable.

Forming of Ward Development Committees

It is recommended that; Government should consider allowing local authorities to continue forming WDCs. These committees allow participation of stakeholders at grass root level.

Enhancing collaborations among stakeholders

It is recommended that; Local authorities should ensure that decision-making is collectively owned by all stakeholders who have a stake in solid waste management and that collaborations among them are enhanced.

References

Amasuomo, E., Tuoyo, O.J.A., & Hasnain, A.S. (2015). Analysis of Public Participation in Sustainable Waste Management Practices in Abuja, Nigeria. *Environmental Management and Sustainable,* Vol. 4. No.1, pp. 180-193.

Ansell, C., & Gash, A. (2008). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory, Vol.* 18, No. 4, pp. 543-571.

Arnstein, S. R. (1969). A Ladder of Citizen Participation, *JAIP*, Vol. 35, No. 4, pp. 216-224.

Banga, M. (2011). Household Knowledge, Attitudes, and Practices in Solid Waste Segregation and Recycling: The case of Urban Kampala. *Zambia Social Science Journal, 2(1),* 27-39.

Birhanu, Y., & Berisa, G. (2015). Assessment of Solid Waste Management Practices and the Role of Public Participation in Jigjiga town, Somali Regional State, Ethiopia. *International Journal of Environmental Protection and Policy,* Vol. 3, No. 5, pp. 153 – 168.

Bjerkli, C.L. (2013). Governance on the Ground: A study of Solid Waste Management in

Addis Ababa, Ethiopia. *International Journal of Urban and Regional Research,* Vol. 37, No. 4, pp. 1273-1287.

Brooks, R., & Harris, E. (2008). Efficiency Gains from Water Markets: Empirical Analysis of Watermove in Australia, Agricultural Water Management Vol. 95, No. 4, pp. 391-399.

Central Statistical Office. (2012). 2010 Census of Population and Housing: Volume II-National Descriptive Tables. Lusaka: Central Statistical Office.

Central Statistical Office. (2013). 2010 Census of Population and Housing: Population and Demographic Projections 2011 – 2035. Lusaka: Central Statistical Office.

Cornea, N., Veron, R., & Zimmer, A. (2017). Clean City Politics: An Urban Political Ecology Of Solid Waste in West Bengal, India. *Environment and Planning,* Vol. 49, No. 4, pp. 728-744.

Chilinga, G. (2014). An analysis of Public Perception of Domestic Solid Waste Management: The case of the make Zambia Clean and Health Programme in Livingstone. *International Journal of Plant, Animal and Environmental Sciences,* Vol. 4, No. 1, pp. 136-151.

Cole, C., Osmani, M., Quddus, M.A., Wheatley, A.D., & Kay, K. (2011). Household Waste Management in the UK: Current Practices and Challenges. Castro, F., Vilarinho, C., & Carvalho, J. (Eds). *Proceedings of the First International Conferences on Wastes: Solutions, Treatments and Opportunities* 12- 14 September 2011: 56 - 61. Guimaraes, Portugal.

Department of Environmental Affairs. (2010). National Policy for the Provision of Basic Refuse Removal Services to Indigent Households. Pretoria: Department of Environmental Affairs.

Din, Y. G., & Cohen, E. (2013). Modelling Municipal Solid Waste Management in Africa: Case study of Matadi, the Democratic Republic of Congo. *Journal of Environmental Protection,* Vol. 4, No. 5, pp. 435-445.

Edelenbos, J., & Klijn, E.H. (2006). Managing Stakeholder Involvement in Decision Making: A Comparative Analysis of Six Interactive Processes in the Netherlands. *Journal of Public Administration Research and Theory,* Vol. 16, No. 3, 4 pp. 17-446.

Edema, M. O., Sichamba, V., & Ntengwe, F.W. (2012). Solid Waste Management. A case study of Ndola. *International Journal of Plant, Animal and Environmental Sciences,* Vol. 2, No. 3, pp. 248 – 255.

Environmental Council of Zambia. (2004). National Solid Waste Management Strategy for Zambia. Lusaka: Environmental Council of Zambia.

Ferronato, N., & Torretta, V. (2019). Waste Mismanagement in Developing Countries. A Review of Global Issues. *International Journal of Environmental Research and Health 16,* 1060. doi: 10.3390/ijerph16061060.

Gojani, A. (2015). Citizens' Attitudes and Participation in solid Waste Management: A case of Gjakova. [Master's thesis. Norwegian University of Life Sciences].

Gould, R. (2007). Principal- agent theory and organizational change. *Policy Studies,* Vol. 28, No. 1, pp. 17-34.

Gutberlet, J., Kain, J.-H., Nyakinya, B., Oloko, M., Zapata P., & Campos, M.J.Z. (2017). Bridging Weak Links of Solid Waste Management in Informal Settlements. *Journal of Environmental and Development,* Vol. 26. No. 1, pp. 106-131.

Hoornweg, D., & Bhada-Tata, P. (2012). What a Waste: A Global Review of Solid Waste Management. Urban Development Series. *Knowledge papers Number 15.* Washington, D.C: World Bank.

Huppe, G. A., Creech, H. & Knoblauch, D. (2012). *The Frontiers of Networked Governance.* Winnipeg, Canada: International Institute for Sustainable Development.

Klijn, E.H., & Koppenjan, J.F.M. (2012). Governance Network Theory: Past, Present and Future. *Policy and Politics*, Vol. 40, No. 4, pp. 187 – 206.

Koppenjan, J. F. M., & Klijn, E.H. (2004). Managing Uncertainties in Networks: A Network Approach to Problem Solving and Decision Making. London: Routledge.

Kothari, C.R. (2004). Research Methodology: Methods and Techniques. New Delhi: New Age International Limited.

Kubanza, S., & Simatele, M. D. (2019). Sustainable Solid Waste Management in Developing Countries: A case study of Institutional Strengthening for Solid Waste Management in Johannesburg, South Africa. Journal of Environment Planning and Management, Vol. 63, No. 1, pp. 1-14.

Lober, J. D. (1996). Municipal Solid Waste Policy and Public Participation in Household Source Reduction in Madison." *Waste Management and Research,* Vol. 14, No. 2, pp. 125-143.

Madimutsa, C. (2016). Implications of Public Sector Reform for Public Sector Unions in Zambia: A Case Study of the Civil Servants and Allied Workers Union of Zambia in Lusaka District. [PhD thesis. University of the Western Cape].

Meier, K., & O'Toole, L.J. (2007). Modelling Public Management: Empirical Analysis of the Management-Performance Nexus. *Public Administration Review,* Vol. 9, No. 4, pp. 503-527.

Moe, T.M. (1984). The New Economics of Organizations. *American Journal of Political Science,* Vol. 28, pp. 739-775.

Omran, A., & Gavrilescu, M. (2008). Municipal Solid Waste Management in Developing Countries: A Perspective in Vietnam. Environmental Engineering and Management Journal, Vol. 7, No. 4, pp. 461-478.

Perrow, C. (1986). Complex Organizations: A Critical Essay. Random Home: New York.

Pinnawala, M. (2016). Community Participation in Solid Waste Management: The Case of Kurunagala Municipal Council in the North Western Province of Sri Lanka. *Malaysian Journal of Science,* Vol. 35, No. 2, pp. 63 – 72.

Poletto, M., De Mori, R.P., Schneider, E.V., & Zattera, A.J. (2016). Urban Solid Waste Management in Caxias Do Sul/ Brazil: Practices and Challenges. *Journal of Urban and Environmental Engineering,* Vol. 10, No. 1, pp. 50 – 56.

Republic of Zambia. (2009). *Decentralization Implementation Plan (2009-2013).* Lusaka: Ministry of Local Government and Housing.

Republic of Zambia. (2011a). *Public-Private Partnership Policy and the Act 2009.* Lusaka: Ministry of Finance and National Planning.

Republic of Zambia. (2011b). *The Local Government Act (Laws, Volume 16, Cap. 281): The Local Government (Solid Waste Management) Regulations.* Lusaka: Government Printers.

Robinson, M. (2015). *From Old Public Administration to the New Public Service: Implication for Public Sector Reform in Developing Countries.* Singapore: UNDP Global Centre for Public Service Excellence.

Schwarz-Herion, O., Omran, A., & Rapp, H.P. (2008). A Case study on Successful Municipal Solid Waste Management in Industrialised Countries by the example of Karlsruhe City, Germany. *Journal of Engineering, of the faculty of Engineering Hunedoara,* Vol.6, No. 3, pp. 263-273.

Stevens, J. B. (1993). The Economics of Collective Choice. Boulder: West View Press.

UN–HABITAT (United Nations Human Settlement Programme. (2010). *The Sustainable Cities Programme in Zambia (1994–2007): Addressing Challenges of Rapid Urbanization*. Nairobi: UN–HABITAT.

United Nations (2018). Tracking Progress towards Inclusive, Safe, Resilient and Sustainable Cities and Human Settlements. Nairobi, Kenya.

Wada, N. (2011). Municipal Solid Waste Management In Japan-Present Situation and Characteristics. *CIRIEC Working Paper Number. 3*. Japan: CIRIEC.