

**GHANA INSTITUTE OF JOURNALISM**



**EXAMINING COMMUNICATION STRATEGIES THAT PROMOTE SOLID  
WASTE MANAGEMENT**

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**A PROJECT WORK SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES  
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RESEARCH, GHANA INSTITUTE OF JOURNALISM IN PARTIAL FULFILMENT  
OF THE REQUIREMENTS FOR A MASTER OF ART DEGREE IN MEDIA  
MANAGEMENT**



**DECLARATION AND CERTIFICATION**

I, Patricia Ofori-Atta, hereby declare that this paper is my own work and has not been presented for a degree in any other university, and all materials used in this thesis have been duly acknowledged.


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**SUPERVISORS DECLARATION**

I hereby certify that this project work was done under my supervision. I hereby approve that the work is adequate in scope and quality for the partial fulfilment of their requirements for the award of a Mater's of Art in Development Communication.



.....  
01/10/2020

DR. BOATENG RICHARD

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DATE

SUPERVISOR

## **DEDICATION**

I dedicate this work my brother, Redeemer Buatsi, whose support, and contribution has led to the success of this project. I also dedicate this work to my Director of corporate affairs and communications at Zoomlion Ghana Limited, Mrs Emma Akyea Boakye.

## **ACKNOWLEDGEMENT**

My first thanks is to the almighty God for the strength to complete this project successfully.

Another big thank you goes to my supervisor, Dr. Boateng for your patience and guidance throughout the time of this work. God richly bless you.

I also want to send my heart felt appreciation to Redeemer Buatsi, as well as all who in diverse ways helped in making this project a success. God bless you all.

## **ABSTRACT**

The paper sought to examine the various communication strategies that can be used to promote the management of solid waste in our communities. This follows recent problems of cities and urban communities struggling to deal with the problem due to population increased, among others. The paper found that the most effective strategies that can be used to communicate waste management solutions are participatory communication strategies which include face to face communication, stakeholder engagements through town hall public meets, use of local media and posters as well as targeting young children in school by including waste management education in their curriculum. Other practical steps towards addressing communication gaps and problems in the waste management process are explored in this discussion. Ultimately, the paper confirms the importance of communication in the waste management process as an informative and educative vehicle necessary for the effective management of solid waste in our communities.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

Solid waste management has become a major problem in Ghana, particularly Accra, which is home to a lot of people including migrants from all parts of the country. Out of the nearly 30 million population in Ghana, about four million of them live in Accra (Ghana statistical service,2019). This figure is not surprising because a lot of migrants are settled all over the city in search of better jobs, school and opportunities. As the capital city of the country, Accra is noted for some level of development at least, more than other parts of the country.

This is where the sanitation challenge begins. Research has shown that, where there are more people settled in an area, the waste per capita increases. For example, according to Twumasi & Akwasi Kose (2014), where there is economic growth, standard of living is likely to increase. With this increase in standard of living comes a demand for more goods and services, which leads to an increment in the per capita waste generated (Narayana, T. 2008, Oteng-Ababio, M., et al.2012).

The issue of solid waste is evidently a problem in Accra, underscored by various media reports as a canker which must be dealt with. For instance, on Sunday, 21 January 2018, GhanaWeb, an online news portal published an article titled ‘disheartening state of sanitation in Accra’ in which they detailed the state of sanitation in Accra. According to the story,’ the state of sanitation in Accra is increasingly becoming disheartening by the day and continue to pose serious health threats to residents of the Capital and an embarrassment to the Country in general’. The story continued by referencing an annual phenomenon of flooding, which on June 3<sup>rd</sup>, 2015, claimed more than 150 lives in Circle, a suburb of Accra. Not only that, the article also decried the amount of solid waste scattered around the city.

The article cited above and other complaints from the general public make the issue of solid waste management a serious problem which needs serious attention. Of course, many scholars have worked extensively on some measures which can be used to combat solid waste. Notable works include the work of Zarri Minn et al (2010), Subash (2002), Twumasi & Akwasi Kose (2014) and Kathmandu (2012).

The interesting thing about all these scholars is that they all propose and or suggest similar approaches to tackling solid waste in urban cities. Their works are relevant for this study because they will provide valuable information on already existing literature upon which this study will be built. Some of these scholars, for example (Subash 2002) suggest that communication strategies are essential to the generation of a broad-based understanding of solid waste management. This means that he agrees that communication plays an important role in the management of solid waste. Other scholars, such as Asomani Boateng (2007), agree with this suggestion and have advocated for attention to be paid to communication in the planning and execution of solid waste management strategies.

In the light of these studies and subsequent recommendations from scholars, it is thus important to study the role communication plays in the implementation, or promotion of solid waste management in Ghana. But the attention of this study will not be focused on communication in general, but on participatory communication as a tool for promoting solid waste management in Accra. This is because studies such as those of Subash (2002) suggest that community participation plays a critical role in the success of solid waste management.

Thus, this study will focus on the community, and especially, how community participation can help in solid waste management, not as a development strategy, but as a communication strategy used to get the community involved in resolving the problem of solid waste.

## 1.2 Problem Statement

On Sunday, 21 January 2018, GhanaWeb, an online news portal published an article titled ‘disheartening state of sanitation in Accra’ in which they detailed the state of sanitation in Accra. According to the story, ‘the state of sanitation in Accra is increasingly becoming disheartening by the day and continue to pose serious health threats to residents of the Capital and an embarrassment to the Country in general’. The story continued by referencing an annual phenomenon of flooding, which on June 3<sup>rd</sup>, 2015, claimed more than 150 lives in Circle, a suburb of Accra. Not only that, the article also decried the amount of solid waste scattered around the city.

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Scholars have argued that he foremost purpose of solid waste management (SWM) strategies are to address the health, environmental, aesthetic, land-use, resource and economic concerns associated with the improper disposal of solid waste (Henry et al, 2006, Nemerow,2009, Wilson,2007).

However, solid waste management services generally in most sub Saharan African cities, can be referred to as inefficient, poor, and disorganized fuelled by rapid urbanization and coupled with ill designed interventions fraught with lots of challenges (Twumasi&Kose 2014)

Zarri et al (2010) conducted a study based in Myanmar where they paid attention to people’s participation in tackling solid waste. In their studies, they found that, in order to promote people’s participation in solving the problem of solid waste, people’s knowledge and skill must be developed. They also found that when people are empowered, they are more likely to

participate in tackling solid waste as a problem. That is not all, Zarri et al (2010) also found that, people should not only be aware of the problems of solid waste, they must be made aware of the harmful effects of their behaviour on themselves and the community as a whole. Rears & Ray(1993) agree with Zarri and his friends(2010) when they argued that general information was ineffective in changing people's behaviour

In addition, they also found that people were aware of solid waste problem that affect them, but they did not have a personal responsibility towards finding a solution to it. Again, at least 60 percent of the women respondents did not think their views were important or would be taken as far as tackling solid waste in the community is concerned. The research concluded by suggesting that, the success of tackling solid waste management strongly depends on people's behaviour, that is, when people are made to understand the issues.

In a similarly studies, Subash(2002) in his work 'Community participation in Solid Waste Management' argues that community participation, which he defined as the sociological process by which residents organise themselves and become involved at a level of living area, is the alternative mode of solving solid waste management. He extends this proposition by suggesting that communication strategies are essential and very important in this regard. His views are further supported by McDonald & Ball (1998) who argue that any form of waste management need to be communicated.

In this regard, all the scholars agree in principle that communication is key when it comes to solving solid waste problem. What these scholars fail to tell us, however, is how this communication should be done. What type of communication strategy should be used to communicate solid waste solutions? These questions are important because we have seen that scholars such as Zarri et al (2010), McDonald & Ball (1998) and Subash (2002) all agree that communication is key when it comes to solid waste management. Moreover, the focus of

municipal solid waste management should not only be technology centred strategies but also people centred (Abila and Kantola,2013)

Since the scholars cited in this study have agreed that community participation and communication are important in tackling solid waste management, this study will focus on what communication strategy or strategies can be used to get the community involved in tackling solid waste problem in Accra.

This comes the backdrop that, prior research, such as Zarri et al (2010) and Rears & Ray (1993) suggest that the top-down approach communication strategy has been ineffective in getting the community involved in tackling solid waste problems. Thus, this research will seek to establish the most effective communication strategy which can be used in solid waste management.

### **1.3 Research Questions**

Solid waste management has become a serious problem in most urban cities, Accra inclusive. For example, in their studies, Twumasi and kose (2014) admit that the solutions are inefficient, poor and disorganized fuelled by rapid urbanization and coupled with ill designed interventions fraught with lots of challenges, one of which can be traced to communication (Subash 2002).

This research thus, seeks to answer the following questions:

1. What communication strategy is most effective in solid waste management?
2. How can communication be used to effectively solve the problem of solid waste?
3. How can the community get involved in solving the problem of solid waste?

### **1.4 Research Objectives**

The researcher seeks to realise the following objectives after the study.

Generally, the researcher seeks to examine how communication can be used to effectively solve the problem of solid waste in Accra.

Specifically, the study seeks to:

- Examine the communication strategies/channels/tools to disseminate solid waste management solutions.
- Find out how the community can get involved in solving the problem of solid waste.
- To identify the forms of community involvement in addressing solid waste problems.

### **1.5 Significance of the research**

Solid waste management has become an important part of urban planning. At the same time, communication has been proven to be at the heart of executing any plan of action. Thus, this research will be important in the following ways.

1. It will serve as a source of new knowledge in the field of academia
2. It will also provide valuable information to those in charge of waste management on how to effectively communicate to solve the problem of solid waste
3. This study will also serve as a foundation upon which further research will be

### **1.6 Scope of the Research**

This study will focus on communication strategies which can be used to effectively address the problem of solid waste management. Using content analysis of previous research on the subject matter, the researcher study will be based on an analysis of the key findings in these studies and how they can be applied to the Ghanaian context. In all, six papers are sampled for the present study due to their relevance to the study.

### **1.7 Organisation of the Study**

The study will be placed in four (4) chapters. The first chapter will give a general introduction to the topic, research problems, questions, objectives of the study and significance of the study.

The second chapter will consider related literature on the study. Previous literature as well as theoretical frameworks underpinning this current study will be discussed. Chapter three will consider the methodology which was used for the current discussion as well as methodology which can be used to conduct the study in the future, whilst chapter four will present an analysis and conclusion on key discussions in the paper, having carefully reviewed what has been done in the past.

### **1.8 Limitation of the Study**

The coronavirus pandemic has brought with it many challenges including psychological stress that dragged the smooth progress on this research. As a global pandemic, the researcher was psychological disturbed as school activities were halted.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Waste management**

##### **Environmental communication**

The problem of solid waste is an environmental problem, and hence an environmental communication approach is necessary to understanding and tackling it. Environmental communication is defined as a planned and strategic use of the communication process to support development of effective policies and implementation of projects that are able to promote environmental sustainability (OCDE, 1999). According to Loureiro (2015), communication is a continuous process that defines goals to accomplish, and also looks for strategies to make the communication effective to allow a better reception and interpretation of the message. He also argues that it is important for the communicator to deconstruct misconceptions about meaning of what is communicated, in order to promote a better understanding of the message

Loureiro also suggests that, reporting about the environment concerns the community, thus, it is important to plan the whole process strategically. The concept of 3r is offered to assist the planning and implementation of communication strategies thus responsibility, rational and relevant. According to him, planning a communication campaign to encourage people to separate their waste for example will not conform to the concept of 3rs if the campaign fails to coordinate technical resources that will benefit the people.

Consequently, the author suggests that reliable information is required for better planning

#### **2.2 Barriers in Effective Community Participation**

In tackling issues related to community participation in solid waste management, it is important to understand the barriers that prevent effective community participation. Aberg (2000)

identifies environmental awareness as a major barrier in the communication of waste management solutions. According to him, lack of understanding on the impact of people's behaviour on the environment as people who are unaware of their behaviour usually will not have any course to work towards improving the situation. Thus, providing information on environmental impacts and threats related to waste management can influence peoples awareness.

Economists have analysed the role of financial incentives as a major set back in solid waste management solutions. According to Gardner & Stern (2002), information on incentives available for those who engage in proenvironmental behaviours increased a positive response among the public. Thus, when financial incentive was part of the communication of solid waste management strategies, people were encouraged to engage in positive behaviours that promote waste management. This suggests that a lack of personal incentives could be a barrier to participation in waste management solutions (Stern 1999).

To understand how to raise awareness on environmental issues and over some of these barriers, Valle suggests the following methods. In his study, the researcher surveyed some environmental activities that shape their values. It was found that when it came to attitudinal change regarding waste disposal, education and socialization plays a very important role (Valle et al., 2004). Thus, when it comes to environmental concern among the public, the territory of environmental consciousness seems to be localized and dependent on personal observation and experience (Gooch, 1996).

### **2.3 Participation in Decision Making**

Many studies have documented for a need for public inclusion in the decision-making process of waste management because it is very important in ensuring the success of waste management strategies. Tacis (2003) indicates that, waste management projects developed in consultation

with the public get a lot of public approval and prevents future conflicts that may arise. In one study in Europe, households were given books for them to write their ideas on waste disposal options after which the company in charge will implement the ideas after a careful selection of the best ideas. It was found that the technique was very successful, as households made very relevant and innovative suggestions that aided in developing exceptional waste management strategies for the community (Hambraeus, 2004). This suggests that when the community is part of the decision making process that seeks to address local problems in their communities, the results will be very positive.

According to Reed (1999), communication plays an important role in the waste management process. According to him, information materials aimed at communicating waste management programs must be made easy to understand, friendly and easy to interact with.

Evison and Read (2001) also point out that waste management promotion should take the form of marketing promotion, where promotional materials are aimed at changing people's attitudes positively. In addition, Windahl, Signitzer & Olson (1992) suggest that information must be given at the right place and time in order to ensure that there is full participation of the people.

## **2.4 Theoretical Framework**

This part of the discussion focuses on theories that are related to the study. The community participation theory of communications is discussed as well as the stakeholder theory of communications.

### **2.4.1 Community Participation Theory**

This study will be underpinned by the participatory communication theory. This is important because we have established that, in order to effectively address the issue of solid waste, there needs to be a community based approach (Subash 2002, Zarri et al, 2010, Asomani Boateng, 2007, Kathmandu, 2012).

Community participation is the sociological process by which residents organise themselves and become involved at the level of a living area or a neighbourhood, to improve the conditions of daily life (water, sanitation, health, education, etc.). It comprises various degrees of individual or collective involvement (financial and/or physical contributions, social and/or political commitment) at different stages of a project. Since it implies that residents set up management committees in charge of equipment.

Participatory communication is an approach based on dialogue, which allows the sharing of information, perceptions and opinions among the various stakeholders and thereby facilitates their empowerment. It is not just the exchange of information and experiences: it is also the exploration and generation of new knowledge aimed at addressing situations that need to be improved. Participatory communication tends to be associated with community-driven development, but it could be used at any level of decision making (local, national, international) regardless of the diversity of groups involved (Tufté & Mefalopulos 2009)

By actively engaging stakeholders from the start and by seeking a broader consensus around development initiatives, participatory communication has begun to be considered a crucial tool. This is partly because many conflicts and obstacles can be prevented if addressed quickly. Genuine participation also increases the sense of ownership by local stakeholders, enhancing sustainability.

According to Tufté & Mefalopulos 2009, to be genuinely participatory and truly effective, communication should occur among all parties affected, ensuring all have similar opportunities to influence the outcome of the initiative. Ideally, participatory communication should be part of the whole project process:

- Two-way communication should be adopted from the beginning and be applied consistently.

- Full participation by all stakeholders in any step of the process is not possible and, in some cases probably not desirable. Broad consensus may be enough.
- Inclusiveness must be balanced with consideration of stakeholders' time, resources, interests, and knowledge. After their input is considered, stakeholders may not need to be involved in detailed decisions beyond the scope of their interests.

## **2.5 Stakeholder Theory**

There is an increasing recognition of the effects of solid waste and its impacts on the environment in recent years. This recognition has also been argued by many scholars that an isolation of the primary players or actors in the waste generation and management cannot be an effective way of dealing with the situation due to the complex interactions that take place (Reed & Stringer 2016). Complex and dynamic challenges require engagement with diverse and often conflicting stakeholder and public priorities (Reed 2008). It has been claimed that more participatory approaches to tackling environmental challenges have the capacity to reduce conflict, build trust, and facilitate learning among stakeholders and publics, who are then more likely to support project goals and implement decisions in the long term (e.g. Beierle 2002; Reed 2008; de Vente et al. 2016)

Referencing Reed (2008), stakeholder can be defined as a process where public or stakeholder individuals, groups, and/or organizations are involved in making decisions that affect them, whether passively via consultation or actively via two-way engagement, where publics are defined as groups of people who are not affected by or able to affect decisions but who engage with the issues to which decisions pertain through discussion (after Dewey 1927) and stakeholders are defined as those who are affected by or can affect a decision (after Freeman 1984).

Scholars are divided on what form stakeholder must take and at what level stakeholders must be consulted in times of need to make collective decisions. For every example of a participatory process that has led to tangible environmental and social benefits, there is an example of a process that failed to meet its goals or the expectations of those who participated, or led to unintended negative outcomes (Reed 2008).

Because of this, scholars have tried to outline or develop some typologies of participation that promotes productive working relationships with the public or community (stakeholders) (e.g. Arnstein 1969; Pretty 1995). It is noted here that there a few of examples of some cooperation with the public that have not ended well as a result of disagreements over a clear leadership path and how the execution of tasks take form (e.g. Booth & Halseth 2011).

In that vein, reference is made of the U.K.'s Research Excellence Framework impact case study database (<http://impact.ref.ac.uk>; Research Excellence Framework 2014) which provides a number of examples of more consultative processes that have led to highly effective outcomes (e.g. consultation with policy, industry, and third sector organizations during the development of a carbon calculator, which led to a top-rated impact preventing windfarms being built on peatlands, Smith et al. 2012).

Emery and his friends argue that when stakeholder and engagement do not meet the outcomes of the organisation, conflicts may arise as a result. This may lead to a .conflict of interest in the group which may lead to other severe matters of mistrust and a total distaste for collaborative work (Emery et al. 2015).

## **2.6 Stakeholder Engagement**

Scholars have characterized community engagement in three ways that suggest how an organisation can effectively get the community involved in its projects for successful implementation and maximum results.

Firstly, engagement is characterized as bottom-up (initiated and/or led by citizen, public or special interest groups with limited formal decision-making power) or top-down (initiated and/or led by those with formal decision-making power who wish to empower interested parties with less power and diverse perspectives to make or contribute towards decisions) (Fraser et al. 2006; Reed 2008). Bottom up engagement, usually initiated or led by the community has been proven to be more effective as the community is allowed to make their own inputs, generate their own indigenous ideas and implementation plans for the successful execution of the program or project, or a successful tackling of the issue at hand. It is more preferable if the community is allowed to generate their own home-grown solutions because it will allow them take control of the problem as the organization only plays a supervisory role.

However, when the initiative is top down, it is usually difficult to carry the community along, as the strategies seem detached from their realities and they have no drive to run with the project since it was developed without their inputs or consultation.

According to Reed 2008, engagement may also be distinguished in relation to the different motivations and outcomes that the program or project envisions. For example, Reed argues that motives may be pragmatic, for example, in cases where better decisions that are more likely to be implemented are envisioned or normative, in which the democratic right or expectation that stakeholders and/or publics should participate in major decisions that affect them is prioritised (Reed 2008). The motives may also be to enhance trust in decision-making processes among publics and stakeholders (Rowe & Frewer 2004; Rowe et al. 2005).

From the discussions, it appears that for community participation to be effective, the motive of the project must be clear. In other words, community members will be more willing to engage in the program if they are confident that they will participate in a project which will positively affect their lives.

As de Vente et al. 2016 put it, different motives are linked to the pursuit of different outcomes from engagement. For example, pragmatic motives may be linked to the pursuit of outcomes relating to the decision or issue in which publics and/or stakeholders are engaged (such as environmental protection), whereas motives that are more normative or that seek to build trust and learning may be more likely to target benefits for participating individuals or groups (de Vente et al. 2016).

However we look at it then, community participation will be possible whether the motive is normative or pragmatic, as they all end up positively in favour of the community and their wellbeing.

Finally, different modes of engagement are possible, and lie along an information or knowledge exchange continuum, from approaches based more on one-way flows of information and knowledge to publics and stakeholders (communication mode) and seeking feedback from publics and stakeholders (consultation mode) to more two-way knowledge exchange and joint formulation of goals and outcomes (more deliberative and productive modes) (Rowe & Frewer 2004; Rowe et al. 2005). However, for communication participation to be successful, two way knowledge exchange is the best form of communication as it promotes the exchange of ideas and conveys a feeling of belonging and mutual respect of all stakeholders who are working together to tackle the common problem at hand.

## **2.7 Community Participation in Solid Waste Management**

Waste (1996) defines community as – “a group consisting of people living together in some form of social organization and cohesion. Its member share in varying degrees of political, economic, social, and cultural characteristic as well as interest. Community Participation - is the process by which individuals and families assume responsibility for their own health and welfare and for those of community and develop the capacity to contribute to theirs and the community development. They come to know their own situation better and are motivated to solve their common problems. This enables them to become agents of their own development instead of positive beneficiaries of development aid.”

Anschutz (1996) suggests that community participation is an important part of solid waste management as it is required because solid waste management is considered as a continuous maintenance system. According to him, community participation is very important than any other urban services based on the fact that waste is a very important issue and problem in the lives of urban settlement. It is recently that the management of solid waste services by the community members, in this regard, community participation in waste management has received attention.

However, for community management to work, community members or their leaders decide on their own on what to do and how to go about it in tackling the problem. Thus, community based solid waste management projects are activities that are delivered by the whole community themselves.

Bulle (1999) in his study states that all municipalities find themselves confronted with management and organizational problems in the fields of sanitation and waste management in the form of:

- Inability to comply with growing demands concerning waste dumps and waste collection,
- Technocratic aspects in decision-making systems,
- Lack of equipment, financial resources, municipal policies or legal frameworks

Craig and Mayo (1995) argue that community participation and empowerment are the widely advocated topic both in North and South when there is poverty, polarization, and social exclusion.

World Bank sees community participation as a means for ensuring that third world development projects reach the poorest in the most efficient and cost effective way sharing costs as well as the benefits through the promotion of self- help (Paul 1987, cited in Craig and Mayo, 1995). Brundtland commission also suggests that participation plays an important role in sustainable development. Thus, to strengthen the poor in the community, participation is key and plays a very pivotal role in the delivery of projects (Thomas 1992, cited in Craig and Mayo, 1995).

However, Cooke and Kothari (2001) argue that participation has become a big problem and has impacted negatively on the people who are supposed to help in delivering the project. They present participation as ‘tyranny’. Tyranny is the unjust exercise of power.

Indeed, it is argued that the participatory approach to waste management developed as a result of the failures of the top down approach, in which projects and strategies are developed and handed to community members. Thus, the participatory approach aims to get the community involved and encourage them, especially the marginalised, to make decisions that affect their lives. The participatory approaches to development are justified in terms of sustainability, relevance, and empowerment.

Cornwall argues that a community consists of both men and women who hold different power relations in the society. She is curious about what it means to be a man or woman in a given context in a community (Cornwall 1998 cited in Cooke and Kothari, 2001), which ,means that for community participation to work, an understanding of the power relations between men and women in the community needs to be understood. Unless participatory processes consider the relative bargaining power of so-called stake holders, they are in danger of merely providing opportunities to the more powerful (Ibid).

From our discussions so far, what we have established is the importance of community engagement in the waste management process. We have seen that previous literature has established this importance, having pointed out the negative implications of ignoring the community in the management process. However, the problem with literature reviewed is that although they underscore the importance of community participation in the waste management process, they do not provide the strategies that can be used to get the community involved. This has been the bane of this present studies, as the focus of this paper has been to adequately establish a process through which the community can be included in the decision-making process of waste management solutions.

Consequently, this section of the study has highlighted the following;

- Community involvement is an integral part of the waste management decision making process
- Without community participation, waste management decisions may be unsuccessful
- At the core of the waste management process is communication

However, previous literature has not been able to show the ‘how’ of the discussions thus far. For example, how can communication be used to get the community involved in important decisions that relate to the waste management process, having established the importance of these people as a core stakeholder group that can contribute to the success or failure of waste management strategies.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Methodology**

This section of the paper details the various methods used to conduct the present analysis. It includes the research design, data selection process, sampling and other strategies used to collect data for the present analysis.

#### **3.1 Design**

The research design used for the present study is the qualitative literature analysis methods. The qualitative research design is a research strategy that uses words to describe data. According to Crossman (2019), qualitative research is a type of social research that collects and works with non-numerical data and that seeks to interpret meaning from these data that help us understand social life through the study of targeted population or places (Crossman, 2019). According to Crossman, the qualitative research design helps explain phenomenon without quantifying them. In other words, the qualitative research method will help the researcher to be able to get deeper meanings beyond what quantitative data will give, thereby giving the researcher more understanding into the phenomenon under study.

The primary methodological purpose of this research thus is to review what has already been done in community participation and solid waste management over the period of 10 years from 2002 to 2012. This period is considered primarily because of the availability of literature spanning the dates mentioned above. The review process was employed to integrate results from a number of studies with different ways of classifying and measuring variables, communication, community participation and waste management. According to Krippendorff

(1980), Downe-Wamboldt (1992), Sandelowski (1995). Content analysis as a research method involves a systematic and objective analysis of phenomenon. It involves documentation and analysis, testing of theory in order to understand data.

The qualitative literature review was chosen due to the nature of the studies, as the researcher wanted to establish how the community can be involved in the waste management.

### **3.2 Sample and Sampling Technique**

The empirical articles collection process begun with an internet search of articles using key words such as communication and waste management, participation in waste management and participatory communication and waste management.

A purposive sampling technique was adopted for the purpose of collecting articles for this study.

As a result, the use of key words in search of articles dominated the data collection process, using google scholar as the main search engine for data search.

Only secondary data in the form of articles related to the topic under consideration were selected to be used in the discussion. As a general criterion for inclusion and exclusion, attention was given to only articles that carry keywords used in the search process, and those that do not carry keywords related to the search were excluded. In addition, date of publication was considered, as the researcher did not want too old articles, considering their relevance in today's contemporary times. It should be noted that although the articles used in this present discussion are somewhat old (from 2002 to 2012), they are quite recent in the context of the discussion and relevant, as newer literature on the subject is absent.

Keenly related to the present discussion among the sampled articles is the work of Twumasi & Kose (2014), Subash (2002), (Boateng 2007) and Zarri et al (2010).

### **3.3 Methodological Proposal**

This part of the research outlines the methodology which will be used for the study. It explores the research design of the study, the sample and sampling techniques, data collection instruments, population of the study, among others. Emphasis is laid of the various techniques the researcher will adopt to collect data for the research. In so doing, critical attention is given to the nature of data sought, carefully also considering the purpose of the research. Thus, the most appropriate research design that will enhance the data collection process is mentioned and discussed.

### **3.4 Research Design**

The research design describes the techniques and the nature of the study. It can be referred to as the overall strategy that is chosen to integrate the different components of the study in a coherent and logical way, thereby, ensuring an effective address for the research problem and it constitutes the blueprint for the collection, measurement and analysis for data (De Vaus, 2006).

For the present study, a mixed method approach is going to be adopted for the collection of data which includes the adoption of both quantitative and qualitative research methods. Creswell (1994), explained quantitative research as the phenomena by collecting numerical data that are analysed using mathematically based methods. Thus, the quantitative method will allow the researcher to be able to represent data using numbers, charts, tables, and mathematical equations. It will assist the researcher to be able to have a numerical view of the data and variables in the study to make meaning out of them. This method will be applied because it is flexible.

Qualitative research on the other hand is a type of social research that collects and works with non-numerical data and that seeks to interpret meaning from these data that help us understand social life through the study of targeted population or places (Crossman, 2019). According to Crossman, the qualitative research design helps explain phenomenon without quantifying them. In other words, the qualitative research method will help the researcher to be able to get deeper meanings beyond what quantitative data will give, thereby giving the researcher more understanding into the phenomenon under study.

The mixed method is being adopted due to the quality of information we will derive from adopting this method. The quantitative method of data collection for instance will provide us with accurate statistics and figures which will in return give us a vivid and understandable interpretation of results. The qualitative will also provide us with in-depth information on our topic since this method will enable us probe for more information from residents on their waste disposal habits and what they believe can be done to avert the problem.

The mixed method approach, as discussed will incorporate both quantitative and qualitative designs in gathering and analysing data. Thus, it will give the researcher better understanding of the topic, as the attitudes and feelings of the people is as important as the incidence of their waste disposal behaviour. The approach is also relevant to our current study as the researcher wants to understand into detail, the reasons why the people of Nima dispose solid waste in the manner they do, including their challenges, number of times they dispose waste or their waste is collected weekly and what can be done to improve the ,situation. All these requires both qualitative and quantitative strategies, hence the mixed method is considered.

### **3.5 Research Population**

According to Polit and Hungler (1993:37) , population as an aggregate of totality of all the objects, subjects or members that conform to a set of specifications. In other words, the

population of a study includes all the subjects in the region or locale of the study from which the study group is selected. In our case, the population of the study is the Nima community, located in Accra, Greater Accra region of Ghana.

According to the Ghana Statistical Services, the population of Nima community is about 2,909,643. Nima's population come from all over Ghana and some come from outside of Ghana. Over 20 languages are spoken in Nima. Nima is characterized by being poorly planned and densely populated. Nima is also known for its widespread adaptation of Internet Fraud. There are no proper systems in these areas. Most of the households do not have running water. Consequently, waste disposal in the area is a challenge, as the area battles incidence of heavy plastic litter whenever it rains in the area.

### **3.6 Sampling and Sampling Procedure**

A sample is the subset of a population selected to participate in a study. It is the fraction of the whole selected to participate in the research project (Brink 1996:133; Polit and Hungler 1999; 227). When dealing with people, it can be defined as a set of respondents (people) selected from a large population for the purpose of a survey. In this study, a subset of 500 residents will be selected out of the entire population to take part in the research. This process of selecting a portion of the population to represent the entire population is known as sampling (LoBiondoWood & Haber 1998:250, Polit & Hungler 1999; 95)

Sampling helps because:

- It is more economical to choose a sample of 500 instead of the entire population of students
- Time factor. A sample provides you with needed information about the research quickly.

In sampling the respondents for the study, a purposive sampling technique will be adopted. This

is because, the respondents in the study, for example in Nima, use different services apart from zoomlion. Hence, to be able to get households which use zoomlion services, they must be sampled deliberately and not randomly. The same technique will be used to select the respondents for the interview from zoomlion because, only those at the communications department, specifically the ones in charge of Nima area are needed for the study.

500 residents will be selected at random from the total population of residents from the Nima community for the study. This sample was chosen due to the following reasons:

**Time constraint:** The time frame for conducting and submitting the research is limited hence a smaller sample is most appropriate.

**Resources:** there is little resources available for conducting the research therefore a sample of 500 residents best fits the budget of the researcher.

**Population:** the total number of the population is too large to use, hence a sample of them will be used to generalize over the whole.

For the interview, 5 communication managers at zoomlion Ghana Limited in charge of the Nima area will be sampled for the study.

### **3.7 Instrument for Data Collection**

Data collection is the process of gathering and measuring information on targeted variables in an established systematic fashion, which then enables one to answer relevant questions and evaluate outcomes. The goal for all the data collection is to capture quality evidence that allows analysis to lead to the formulation of convincing and credible answers to the questions that have been posted.

Regardless of the field of study, accurate data collection is essential to maintaining the integrity of research. But the selection of appropriate data collection instruments clearly delineated instructions for their correct use reduce the likelihood of occurring.

A formal data process is necessary as it ensures that data gathered are both defined and accurate and that subsequent decision based on arguments embodied in the findings are valid. The process provides both a baseline from which to measure and in certain cases an indication of what to improve. The instruments that will be used for collecting data is questionnaire and interview guides.

The residents will be questioned using survey questionnaires. Questions related to the nature of communication between service providers, especially zoomlion, as far solid waste management in the area will be asked and the responses will be collected, recorded and analysed in comparison with the results from the in-depth interviews conducted with the service provider. The questions will be aimed at identifying the relevant issues and objectives of the study and structured in a way to ensure that objectives stated would be fulfilled through the response provided. The questionnaires will be divided into two sections. The first section will deal with respondents' demographic data such as gender and age. The second section will be made up of both open –ended and closed-ended questions.

Open-ended questions are questions that ask respondents to provide unstructured or spontaneous answers or to discuss an identified topic (Merrigan & Huston 2004). The open-ended questions will enable respondents to give reasons for their choices of answers. While, closed- ended questions (sometimes called forced choice) ask respondents to “choose from a fixed set of alternatives or to give a single numerical value”. The combination of both type of questions will enable us to solicit adequate information from the respondents.

Respondents for this study will be divided into two segments. First, the general population of the Nima community will be studied. Second, the service providers, for this study, Zoomlion will also be a subject of study. For zoomlion, in-depth interviews will be conducted to establish the kind of communication strategies they employ in their operations specifically towards managing solid waste in the Nima community. In research, interview is the one where two

people talk or converse about the mutual and common in interest. According to Kvale (1996) the researcher either takes the role of a miner (digging metal from the earth) or the traveller who wanders and collects the information and opens it as a story later. Conversation is the basis of all interviews. Conversation may have different forms ranging from a small talk to a research interview. Research interview is a professional interview. However, obtaining information through conversation in social science is hardly counted as method till date. Sociologist and anthropologist have long been using interview to obtain the necessary information.

### **3.8 Data Analysis**

Data analysis according to Yin (2003) involves examining, categorizing, tabulating, or otherwise recombining the data. This means data analysis can also be said to be an expansion of data to make meaning using different methods, whether quantitative strategies or qualitative representations. Weber (1990) also argues that analysis is a systematic method for analysing textual information in a standardized way that allows evaluators to make inferences about the information.

Thus, data from the present studies will be analysed using both qualitative and quantitative methods. Graphs, tables, and charts will be used to represent data that will be collected as well as an explanation in the form of textual representation will be offered for qualitative data. Recorded voices or interviews for example, will be transcribed into textual formats and analysed using inferential analytical frameworks while quantitative data will be didactically analysed.

## CHAPTER FOUR

### 4.0 Introduction

This part of the paper presents a discussion of key findings and conclusions from the discussions advanced in the literature review of the paper. The presentation in this part of the paper also includes propositions for addressing the problems identified during the analysis, as well as provide a recommendation for future studies.

### 4.1 Analysis and Discussions

The discussion was an enquiry into finding out the best communication strategies to use in tackling solid waste in our communities. The search for the best way to tackle the problem begun with a search for documents that have worked on assessing how solid waste problem is addressed at the community level. While the study wanted to find out how the problem of solid could be addressed, inspiration was taken from previous research to establish some key indicators on the best way forward.

From the discussions, we found that community participation is the best way to address municipal solid waste in the community. This is because the waste produced in the community is produced by the same residents that live in these communities. The idea thus is that for the best solution to addressing the problem, the community must be consulted on the best way forward. However, one principal problem is how the community could get involved. This will be addressed in the coming paragraphs but first, we discuss the most salient findings from the discussions of previous literature on the topic.

In the first place, we discover that the underlying problem of solid waste management in our communities is the lack of understanding of environmental problems. We establish this from the work of Aberg (2000), who argues that a lack of understanding of peoples actions on the environment is the reason why people seem not to care about the problem of waste in their

communities. This means that people ordinarily do not have a sense of responsibility towards the environment simply because they do not know the implication of their actions on the environment. Thus, the first step to addressing this challenge is to let the people know how their actions can negatively affect the environment. This can be done through education and skills training according to Zarri et al (2010).

Zarri et al also identifies similar problems when he suggested that the capacity of the people on waste management practices must be developed. What this suggests is that community members lack an understanding on the implications of their actions as well as the presence of waste on their health and well-being. Thus, the first step to addressing this is to inform the people by giving them valuable information about the environment, the implication of the action and how they can live environmentally friendly and healthy lifestyles.

Secondly, Gardner and Stern argue that people are aware of the implications of their actions. In fact, they know that waste is bad for their existence and health in the community, but they just decide to not to take any positive actions that can solve the problem. According to them, the community refuses to take actions because there is a lack of incentives in place to encourage people to take positive actions. Incentives such as rewards, financial incentives and commendations are valuable ways of encouraging the public to take positive actions that seek to promote positive waste management practices. Based on this, it is then important for waste management agencies to consider putting in place strategies that seek to promote the rewarding of positive actions that promote solid waste management practices such as waste separation and recycling as well as keeping the community clean. Community and individual reward schemes can be put in place, where the whole community can be rewarded as the cleanest community in the month or year, as well as instant rewards for those who establish community groups that promote sanitation in the community.

From the ongoing discussion, we find from the work of Anschutz (1996) that community participation is the most important part of the waste management process. This is seen as a continuous process, meaning the community cannot be ignored in the planning and delivery of waste management strategies. According to Anschutz, the community is the single most important engagement stakeholders in the waste management process, hence they must be involved in every aspect of the planning and delivery process.

The world bank report supports this idea. They suggest that community participation is the only means through which the poorest parts of the community can see development in an efficient and cost-effective manner. This means that when the community is involved in the waste management process, the waste management service providers will be able to save cost because the amount that will hitherto be spent on contracting the services of experts to plan and deliver strategies will be used to engage the community, who will charge no money in giving out their local ideas that are more relevant in delivering efficient results.

In addition, the Brudtford commission has suggested community participation as the waste management strategy that promotes sustainability. Thus, instead of one-time strategies that characterise top-down waste management approaches, the community participatory strategy ensures that there is continuity of strategies even after implementation. The participatory communication strategy will be discussed later in this part of the paper.

Cornwall (1998) also adds to the ideas thus far by suggesting that, in order to ensure effective community participation and implementation of strategies, power relations that exist in our communities must be carefully analysed and understood. What they mean by this suggestion is that, in local communities such as Ghanaian communities, women are the ones in charge of sanitation and waste management at the household level. However, major decisions are usually taken by men. This situation means that when waste service providers enter communities, they tend to only involve the men in decision making that involve waste management practices,

leaving women, who are the key group in implementation. Thus, for the community to be truly involved in waste management strategy delivery, there is a need to adequately understand these power relations and make sure that the key people in the waste delivery process are not excluded in the planning and implementation process.

From the discussions, we find that the community are important stakeholders in delivering solid waste management strategies, as Tacis (2003) rightly argued. He is of the view that the community must be included in the decision-making process of any waste management strategy. Hambraeus (2004) also adds that the community is a hub of ideas, and service providers must try to get ideas from the community through innovative means. This also means that service providers should try as much as possible to get closer to the people through different means in order to get their ideas regarding strategies to tackle solid waste problems confronting them. This will ensure that indigenous ideas are generated to respond effectively to the local problems.

#### **4.2 Communication Strategies Identified**

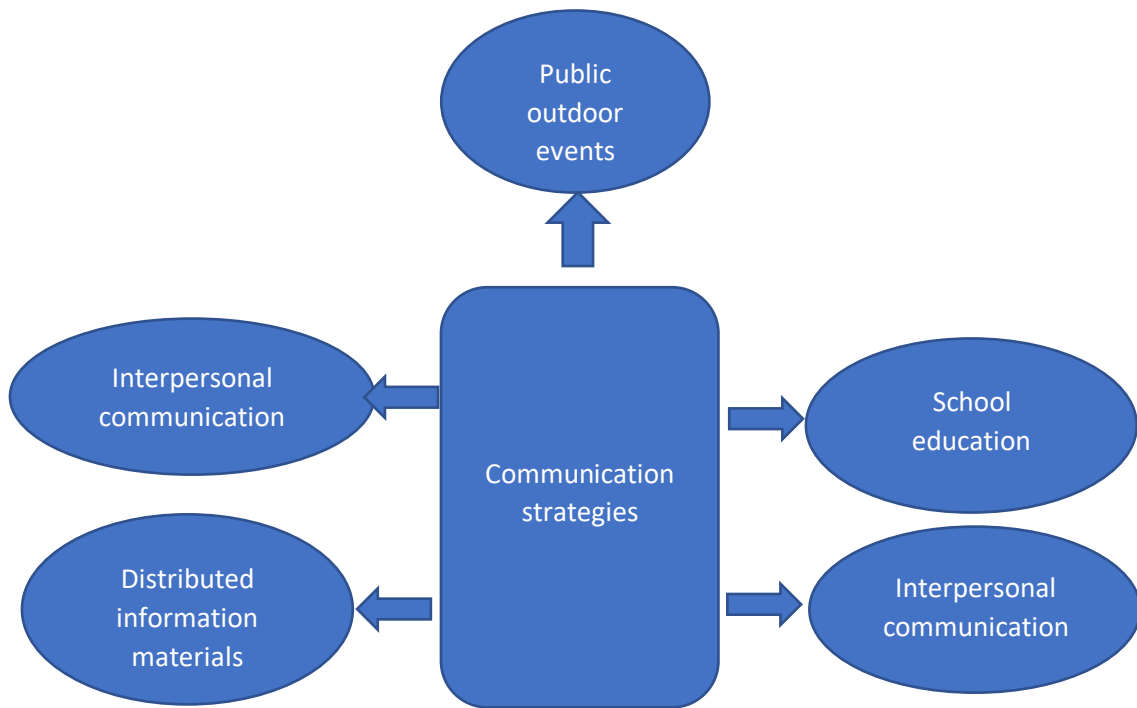
From the work of Stavchuk (2005), we found that a waste management hierarchy can be used to plan the delivery of solid waste management solutions at the community level and this is consistent with propositions from other scholars such as Zarri et al (2010) and Smith (2012). School education has been found to be very useful as a communication tool that targets children at a tender age. This is because in the socialisation process, these children can easily learn proenvironmental behaviours that ensures that the next generation engage in positive waste disposal behaviours. This is a long-term strategy that will ensure that our communities in the near future does not witness the kind of waste generation and littering currently being witnessed. Children engaged in environmental education are considered the future generation,

who will gradually make positive environmental impacts that will promote waste management practices.

Distributed information materials have also been identified as a strategy that will promote information among the public to effectively address solid waste problems. We found that this approach has been used extensively by municipalities, and they are more effective than other modern communication tools. For example, local authorities may publish relevant information on utility bills of consumers that can serve as important informative tools.

In addition, public events and mass media campaigns as a communication strategy has been used to educate and inform the public on strategic waste management information. For example, the use of public townhall meetings as well as media advertising has been cited as strategic means of getting valuable information to the public.

Interpersonal communication has also been cited widely by scholars as a communication strategic. Interpersonal education and workshops have been cited as means of getting waste management information to the public. This has been identified as a very important part of the communication process, as the people will feel more involved in the waste management process.



***Fig.4.1 communication strategies for a successful solid waste management***

### **4.3 Discussion of Objectives**

The objectives of this paper set out to find out communication strategies that can be used to promote solid waste management. At the end of the discussion based on relevant literature, we found the following answers to our objectives.

In the first place, we wanted to find out what communication strategy is most effective in solid waste management. Our finding points us to community participation as the best communication strategy that ensures that community and municipal solid waste problems are addressed. Essentially, the stakeholder theory becomes relevant in this regard. As we have seen from Reed (2008), bottom up communication strategy is the best form of communication as far as stakeholder and community participation is involved, as it promotes the inclusion of the people and leads to the generation of new ideas. Vente et al (2016) also support this view by arguing that community participation and bottom up communications builds trust and leads to a more bigger support for projects since they are usually initiated by the people or in consultation with the people (Smith 2012).

Bottom up communications as a communications strategy that supports community participation has been seen to be more effective than top down approaches that usually fail because the views of the people are not considered in the decision-making process. Rowe & Frewer also point out that bottom up communications enhance trust in the decision-making process that supports the successful implementation of projects. Metalopulos (2007) also reveal that two-way communication strategy is the most effective communication strategy that ensures that there is full participation and inclusiveness in delivering projects.

From the discussions thus, we find out that the best communication strategy need for the implementation and delivery of solid wate management solutions is the use of bottom up, twoway communications using stakeholder and community participation models.

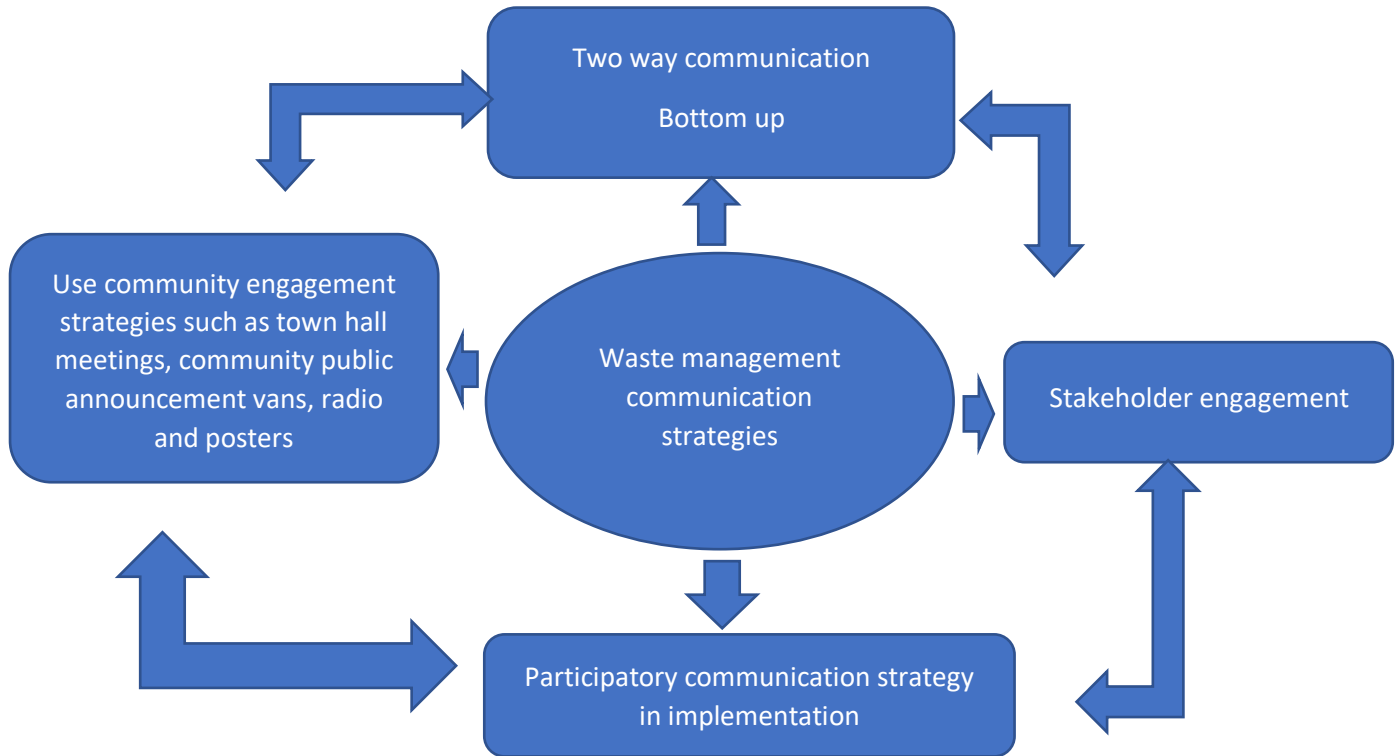
Our second objective was to find out how communication can be used to solve solid waste problems. We discover that as a tool to tackle solid waste, it is first important to identify the problems that prevent people from engaging in positive environmental practices that promote a clean environment. Thus, people must be informed about the negative implications of their actions and inactions, and they must be encouraged to join service providers to develop ideas that address solid waste problems in their communities.

Community announcement vans can be used to spread educative information that will help people take positive actions as well as the use of billboards, social media, radio announcements and posters that have educative messages promoting solid waste management strategies. In doing this, the aim will be to adequately communicate the waste management solutions to the people, because when they are aware, they will be able to act. The communication can take the form of messages that highlight negative effects of negative actions to change the attitude of the people as well as giving them valuable information about how to keep their community clean.

The third objective of the study was to establish ways in which the community can get involved in tackling solid waste problems in the community. From our discussions, it has been found that incentives can be introduced by service providers to community members who promote positive environmental practices such as waste separation and proper disposal. There can be a provision where service providers will pay individuals who gather solid waste materials for recycling as well as reward the cleanest communities with waste disposal tools to encourage other communities to engage in positive environmental practices.

#### 4.4 Summary of Discussions

Based on the discussions thus far, a graphical concept of the various communication strategies that can be used to promote solid waste management is presented below.



**Figure 4.2 conceptual framework of waste management communication strategy**

The figure above shows a graphical representation of waste management communications strategies that can be used to address the problem of solid waste in our communities. We identify the importance of two-way, bottom up communications which ensures that the people are involved in the decision making process. The bottom up communications strategy is part of the participatory communications strategy that involves communication from the people to management or service providers. This means that waste management service providers must listen to the people in their bid to effectively address solid waste problems in the community. They must get closer to the people and listen to their challenges and ideas as well as suggestions on the best way to address the challenge. Also, the two-way communication approach indicates

the existence of feedback, as a key part of the communication process. The service providers must make sure that they create channels that ensure that feedback is received from the community on their waste management strategies in order to improve the services and integrate the people's ideas into their next strategies.

In addition, community engagement strategies such the use of community announcement vans, posters and organising community town hall meetings are important and strategic communication channels that can be used to effectively engage the community, get ideas and also educative and inform them.

#### Recommendations for future studies

This study used qualitative literature review to examine communication strategies that can be used to promote solid waste management. From our discussion, we found that participatory communication strategies, such as the use of bottom up and two-way communication approaches are the best ways to engage the public to promote solid waste management solutions. We also find from the analysis that stakeholder engagement is very important, as well as the use of interactive channels that engage the community to develop new ideas.

Based on the present study, the researcher recommends the following to be considered for future studies.

Future researchers should use a mixed method of research to examine the current strategies being used to address solid waste management

Future studies can consider assessing the extent to which the current communication strategies being used to tackle solid waste problem is successful

In addition, the researcher recommends that future research should concentrate on finding out local communication strategies that can be used to address solid waste problems.

## **4.5 Conclusion**

The present discussion focused on the communication strategies that can be used to promote solid waste management. Consequently, we found that the best communication strategy to use to engage the public in the solid waste management process is the use of a participatory model of communication which integrates bottom up and two-way communication techniques. Based on this, we argue that public engagement in the waste management process is an important part of solid waste management service delivery. Engaging the public is important because it makes them feel part of the project and they will give their all in making sure that the goals of the service provider are achieved. Also, when the people are part of the planning and decision-making process, it gives them the opportunity to own the project and work towards its successful implementation.

On the basis of the discussions advanced in this paper so far, we consider the importance of extending this research to establish and document new insights in the planning and delivery of communication strategies that seek to drive the delivery of solid waste management solutions in communities. This is because the discovery of new knowledge is driven by research, and the discovery of new insights is important in ensuring the successful delivery of projects in the future.

## REFERENCES

- Åberg, H. (2000). Sustainable waste management in households—from international policy to everyday practise. Experiences from two Swedish field studies.
- Abila, B., & Kantola, J. (2013, January). Municipal solid waste management problems in Nigeria: Evolving knowledge management solution. In *Proceedings of World Academy of Science, Engineering and Technology* (No. 78, p. 292). World Academy of Science, Engineering and Technology (WASET).
- Asomani-Boateng (2007). Closing the loop, Community-Based organic solid waste recycling, Urban gardening and land use planning in Ghana, west Africa. *Journal of Planning and Research*.
- Beierle, T. C., & Cayford, J. (2002). *Democracy in Practice: Public Participation in*.  
 Beatrice A., Jessi k. (2013). Municipal solid waste management problems in Nigeria; evolving knowledge management solution (world academy of science engineering and technology ) Vol.7.
- Booth, A., & Halseth, G. (2011). Why the public thinks natural resources public participation processes fail: A case study of British Columbia communities. *Land use policy*, 28(4), 898-906.
- Cooke, B., & Kothari, U. (Eds.). (2001). *Participation: The new tyranny?*. Zed books.  
 Creswell, J. W. (1999). Mixed-method research: Introduction and application. In *Handbook of educational policy* (pp. 455-472). Academic Press.
- Crossman, A. (2019). An overview of qualitative research methods: Direct observation, interviews, participation, immersion, focus groups.  
 De Vaus, D. (2001). *Research design in social research*. Sage.
- Dietz, T., Gardner, G. T., Gilligan, J., Stern, P. C., & Vandenberg, M. P. (2002). Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions. *Proceedings of the National Academy of Sciences*, 106(44), 18452-18456.
- Downe-Wamboldt, B. (1992). Content analysis: method, applications, and issues. *Health care for women international*, 13(3), 313-321.
- Emery, C. F., Olson, K. L., Lee, V. S., Habash, D. L., Nasar, J. L., & Bodine, A. (2015). Home environment and psychosocial predictors of obesity status among community-residing men and women. *International journal of obesity*, 39(9), 1401-1407.
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of advanced nursing*, 62(1), 107-115.
- Hambraeus, O. (2004). Waste Management in Swedish Municipalities. [Online] Available: [http://www.sweden.se/templates/cs/Article\\_\\_\\_\\_\\_7899.aspx](http://www.sweden.se/templates/cs/Article_____7899.aspx)

- Henry, K.R., Yongsheng Z., and Jun D. (2006). Municipal Solid Waste Management Challenges in Developing Countries – Kenyan Case Study. *Waste Management* 26 (2006) 92-100. Science Direct, Elsevier.
- Kvale, S., & Brinkmann, S. (2008). *Interviews: Learning the craft of qualitative research interviewing*: Sage Publications, Inc.
- Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. Sage Publications, Inc.
- Krippendorff, K. (1980). *Content analysis*. Beverly Hills.
- LoBiondo-Wood, G., & Haber, J. (1998). *Nursing Research: Methods. Critical appraisal and Utilization.*, Mosby, St Louis.
- Manira G. (2012). Community participation in global waste management Kathmandu. Department of Geography, University of Bergen, Norway.
- Mefalopulos, P., & Tufte, T. (2009). *Participatory Communication*. World Bank Group.
- Merrigan, G., & Huston, C. L. (2004). *Communication research methods*. Wadsworth publishing company.
- McDonald S., & Ball R. (1998). Public Participation in plastics recycling scheme. *Resour.conserv.recycl.*,22;123-141.
- Minn Z., Srisontisuk S., & Laohasiriwong W. (2010). Promoting peoples participation in solid waste management in Myanmar. *Research Journal of Environmental Science*.
- Narayana, T. (2008). Municipal Solid Waste Management in India: From Waste Disposal to Recovery of Resources. *Waste Management* Vol. 29, No.3, pp. 1163-1166.
- Nemerow, N.L., 2009. *Environmental Engineering: Environmental Health and Safety for Municipal Infrastructure, Land Use and Planning, and Industry*, sixth ed. Wiley, Hoboken, N.J.
- Oteng-Ababio, M., et al. (2012). *Solid waste management in African cities: Sorting the facts from the fads in Accra, Ghana*, Habitat International.
- Read, A. (1999). "A weekly doorstep recycling collection, I had no idea we could!" Overcoming local barriers to participation. *Resources, conservation and recycling*, 26, 217-249.
- Reed, M. S. (2008). Stakeholder participation for environmental management: a literature review. *Biological conservation*, 141(10), 2417-2431.
- Reed, M. S., & Stringer, L. C. (2016). *Land degradation, desertification and climate change: Anticipating, assessing and adapting to future change*. Routledge.

Reed, M. S., Vella, S., Challies, E., de Vente, J., Frewer, L., Hohenwallner-Ries, D., ... & van Delden, H. (2018). A theory of participation: what makes stakeholder and public engagement in environmental management work?. *Restoration Ecology*, 26, S7-S17.

Reed, M. S., Fraser, E. D., & Dougill, A. J. (2006). An adaptive learning process for developing and applying sustainability indicators with local communities. *Ecological economics*, 59(4), 406-418.

Subash A. (2002). Community participation in solid waste management .

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human ecology review*, 81-97.

Tacis. (2003). Support to waste management in Kaliningrad Oblast. Public Awareness Raising Strategy. Brussels: Tacis information office.

Thomas T., and Paulo M.,(2009). Participatory communication-A practical guide, Washington DC.

Twumasi S.A., Kosoe E.A. (2014). Solid Waste management in urban areas of Ghana; issues of experiences from Wa. Journal environment pollution and human health. Science and education publishing.

Wilson, D.C., 2007. Development drivers for waste management. *Waste Management & Research* 25 (3), 198-207.

Valle, P., Reis, E., Menezes, J., & Rebelo, E. (2004). Behavioral determinants of household recycling participation. The Portuguese Case. *Environment and behavior*, 36(4), 505-540.

Oteng-Ababio, M., et al. (2012). Solid waste management in African cities: Sorting the facts from the fads in Accra, Ghana, Habitat International.

Subash A.,(2002). Community participation in solid waste management .

Thomas T., and Paulo M.,(2009). Participatory communication-A practical guide, Washington DC.

Twumasi S.A., Kosoe E.A.,(2014). Solid Waste management in urban areas of Ghana; issues of experiences from Wa. Journal environment pollution and human health. Science and education publishing.

Wilson, D.C., 2007. Development drivers for waste management. *Waste Management & Research* 25 (3), 198-207.



## APPENDIX

### Questionnaire

My name is Patricia Ofori-Atta, a masters student at the Ghana institute of Journalism studying media management. I am current conducting a study on communication strategies used in promoting solid waste management in Accra as a requirement towards the award of an MA in Media management.

Please assist me complete these questionnaires. You are assured that responses you provide in this exercise will be treated with the highest ethical considerations and will be used inly for academic purposes. No other third party will have access to your responses, and it will be kept anonymous. Thank you.

#### Biography

1. Sex

- a. Male
- b. Female

2. Age .....

3. Work status

- a. Employed
- b. Unemployed
- c. Student

**A. Objective 1 Examining the communication strategies/channels/tools to disseminate solid waste management solutions in Accra.**

4. Do you live in accra?

1. Yes
2. no

5. If yes, which side of accra do you live?

.....

6. Which of these waste management services do you use?

- a. Zoomlion ghana limited
- b. J. Stanley-Owusu & Company Ltd
- c. City Waste Management Co. Ltd.
- d. Zesta Environmental Solutions Ltd
- e. EPIC Window Cleaning Services
- f. Others, please specify

7. How do you get information from your waste management service provider?

Please tick all that apply

- a. One on one home service
- b. Social media
- c. Television
- d. Newspapers
- e. Radio
- f. Billboards
- g. Friends

h. Others, please specify

8. In your view, do you receive enough relevant information from your service provider regarding their services?

- a. Yes
- b. No

9. Do you think the medium used to send out information is effective?

- a. Yes
- b. No

10. From the list of channels listed above, which one do you think is more effective in informing you about the activities of your waste management service provider?

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.....

11. On a scale of 1 to 10 where 1 is the lowest and 10 is the highest, please rate the relevance of **information you receive from your service provider**

**B. Objective 2 To Find out how the community can get involved in solving the problem of solid waste in Accra**

12. Does your waste management service provide involve you in decisions concerning waste management in your area?

- a. Yes
- b. No

14. If your answer is no, do you think the public, including yourself need to be involved in decisions concerning how waste management can be improved in your area?

15. From the list below, which of the strategies below will be best in getting you and your community involved in taking decisions and actions concerning waste management in your area?

Please tick all that apply

- a. Compensating community members for voluntary separation of waste
- b. Forming community sanitation groups
- c. Encouraging recycling activities
- d. Getting information from media
- e. Others , please specify .....

**C. Objective 3 To identify the forms of community involvement in addressing solid waste problems in Accra.**

16. Do you think the community needs to be involved in the waste management process? a.

Yes

b. no

17. How do you think the community, including yourself, can get involved in the waste management process?

- a. When community groups are set up
- b. When there is adequate compensation for those who take positive actions aimed at reducing waste in the community
- c. When the community is given the necessary information required to encourage positive attitude change
- d. When there is collaboration between waste management service provider and the community

18. Which of the above would you say the best way to get the community involved?

.....

19. Do you think community participation is important in the waste management process? a.yes

b.no

20. Please put your final words here if you have anything more to

add.....  
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.....  
.....  
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**Interview Guide**

- 1. Please tell me your name and position
- 2. How long have you been working in the company?
- 3. What means does the company communicate with the public regarding waste management service?
- 4. Is the community part of the communication and waste management deliver process?
- 5. How does the company get the community involved in waste management delivery in Accra?
- 6. Are there any specific forms of participation available that the company uses? Please name some of them.

