INFLUENCE OF COMMUNITY PARTICIPATION AND PERFORMANCE OF SOLID WASTE MANAGEMENT IN KIBRA SUB-COUNTY, NAIROBI COUNTY

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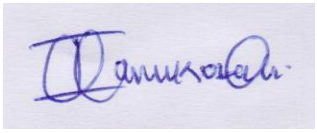
DECLARATION

I declare that this document and the research that it describes are my original work and that they have not been presented in any other university for academic work.



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SUPERVISOR'S DECLARATION

This research project is submitted with our approval as university supervisors.

Signature;  …… Date……29.6.2022……

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DEDICATION

I dedicate this work to my late mother Kevina Wepukhulu who encouraged and supported me both emotionally and financially. I am grateful for the moments I shared with you and I truly miss you.

ACKNOWKEDGEMENT

I would like to thank God Almighty for His grace and mercy, the strength and wisdom that He gave me to complete this research project. I wish to acknowledge the management of African Nazarene University for giving me the opportunity to study in their institution and also all my lecturers at ANU who have imparted me with knowledge and skill throughout the entire course. Also, I would like to express my gratitude to my supervisor Dr. Stella Karimi Silas in a special way for the guidance given for this project. Lastly, I wish to acknowledge the support and assistance received from my classmates of Post Graduate Diploma.

ABSTRACT

The purpose of this study was to examine influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County. The study was guided by the following research objectives; to determine the influence of awareness on the performance of solid waste management, to examine the extent to which campaign engagement influence the performance of solid waste management Kibra Sub- County in Nairobi County and to assess the influence of actors in solid waste management on performance of SWM Kibra Sub- County in Nairobi County. The target population of this study was 262 respondents in all the garbage collection companies in Kibera Slums. The slum has 7 sub locations and 7 garbage collection companies in each sub-location. A descriptive research design was used in the study. A sample determination table of Morgan 1970 was used to determine the population sample size of 152 that was involved in the study. Primary data was collected using a structured questionnaire. The collected data was cleaned, edited and coded to ensure good quality of the data. Coding of the data was done according to different variables and descriptive statistics such as frequencies, mode, mean, percentages and standard deviations was used for ease of interpretation. Tables were used to present data. The data was then analysed using descriptive statistics and Statistical Package for Social Sciences (SPSS V.24). The study found out that all the three variables, awareness, campaign engagement and SWM actors influence the performance of solid waste management in Kibra Sub-county. Therefore, the study recommends that the relevant stakeholder for example, NEMA, County Government and the Actors should arrange a workshop in Kibra and other slums in Nairobi to create awareness on the dangers of solid waste management so as people could identify the dangers of good solid waste management and improve in the performance. Campaigns also should be planned within Kibra sub-county.

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DEFINATION OF SIGNIFICANT TERM

Awareness in SWM: This is the effective communication between waste management organisations and citizens and it is essential to the efficient operation of waste management services. It involves the process of information sharing, waste separation and awareness programme of solid waste management.

Campaign Engagement: This is a tool used in sensitizing the community to waste management issues and in promoting sustainable day-to-day practices. Campaigns in solid waste management can be done through organizing workshop training on sensitizing on health hazards of solid waste and marking the warning signs of solid waste management.

Community Participation: This is a process by which residents organized themselves and became involved at all levels of a living area or a neighbourhood to improve the conditions of daily life. Participation includes creating awareness using campaigns and involving the solid management actors to improve performance.

Performance of Solid Waste Management: referred to as whole process of generating waste, collecting and transporting waste, and storing waste at transfer stations, street cleaning, proper disposing waste and waste recovery, recycling and reuse.

SWM Actors: These are relevant people or stakeholders on Solid Waste Management who through their work can influence society and shape things to come. They are assisted by volunteerism resources, and donor assistance. Solid Waste Actors include legislative bodies, relevant government departments and other government authorities, Local governments, control authorities among others.

Waste: is anything discarded by an individual, household or organization. As a result, waste is a mixture of different substances some of which are hazardous to health.

ABBREVIATIONS AND ACRONYMS

CBOs: Community Based Organizations

EPM: Environmental Planning Management

LGUs: Local Government Units

MSEs: Micro- and Small Enterprises

NGOs: Non-Governmental Organizations

NPM: New Public Management

PPP: Public Private Partnership

RWAs: Resident Welfare Associations

SWM: Solid Waste Management

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CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

This study examines the influence of community participation on the performance of solid waste management in Kibra Sub- County, Nairobi County. This chapter covers the background of the study, problem statement, the study objectives, research questions, and significance of the study, the scope, delimitations, limitations, and conceptual framework of the study.

1.2 Background of the Study

Solid Waste Management (SWM) is a major public service issue affecting both environment and public health (Awunyo, Ishak & Seidu 2013). That means it is not only limited to the collection of waste and its disposal, it requires the clear strategies for collection, transportation, sorting and recycling of waste. Solid waste management is highly affected by the culture of the people and their level of awareness. UN-habitant (2015) defines solid waste management as a regulation associated with control of generation, storage, collection, transfer, processing and disposal of municipal solid waste in a way governed by the best principles of public health, economics, engineering, aesthetics and other environmental considerations.

Solid waste involves the items that people no longer have any use for, which they either intend to get rid of or have already discarded. According to European Environment Agency (2013) many items can be considered as solid waste such as, household rubbish, sewage sludge, wastes from manufacturing activities, packaging items, discarded cars, old

televisions, garden waste, old paint containers. Therefore, all our daily activities can give rise to a large variety of different solid waste arising from different sources.

The major solution to have proper urban solid waste management is initiating the cooperation of citizens in the community. According to Moningka (2017) participation of citizens in solid waste management ought to be involved in proper collection storage, and safe disposal of solid waste. The term community in solid waste management participation means active and meaningful involvement of the beneficiaries in the management of solid waste. Participation of the community is generally limited to activities associated with primary collection of domestic refuse. For instance, some of the most common roles that communities could undertake are managing waste within the household and removing them from their premises, reducing waste production and facilitating recovery for the purpose of recycling and keeping public areas around the neighborhood clean (Moningka, 2017).

Community participation in waste management means that all stakeholders have a role to play in proper handling of solid waste. the stakeholders include: - The local authority, households, community leaders and community-based organizations (CBOs), micro- and small enterprises (MSEs) who are engaged in collection of waste for a service fee and also those who buy and sell recyclables, or who use waste-derived materials as the basis for small manufacturing. In addition, waste pickers and itinerant waste buyers are also the stakeholders in participation of solid waste management.

According to Moningka (2019) community participation is the sociological process by which residents organize themselves and become involved at the level of a living area or a

neighbourhood, to improve the conditions of daily life. The term community is defined as the whole population of a city; a section of the city; or an ethnic or social group within the city with a geographical boundary, whose residents share common concerns such as traffic congestion, flooding or uncollected garbage. Community is also viewed as a social group; referring to the group of residents who identify themselves as a community, because of the social or cultural relationships among them. Globally, community participation on solid waste management involves separating waste at household level, handing over separated waste to the waste collector and composting of organic wastes in backyards Blottnitz & Kasozi, 2010).

In global perspective, community participation is taken as a crucial aspect of solid waste management (Bulle, 2016). In United States of America, community participation in solid waste management has continuous good maintenance system, for instance to store the garbage in a specific bag or bin, to bring it to an agreed point, to separate it in dry and wet waste. Bulle (2016) further states that in the developing countries community participation maybe even more important than in developed countries because the developing countries are prone to diseases associated to poor solid management.

A study carried out by Craig and Mayo (2015) found out that community participation and empowerment are the widely advocated topic in Africa where there is poverty, polarization and social exclusion. According to World Bank (2018) community participation is seen 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.

In Kenya the management of solid waste services by communities themselves has received attention. The County Government of Kenya indicates that community participation in solid waste management has an important role to play in sustainable development through empowering the poor through participation (GoK, 2019). Slums in Kenya, for example the Kibra Slums in Nairobi County, NGOs Non-governmental Organizations are historically identified with community participation and empowerment. It is believed that NGOs are committed to support the communities and empower them towards development. The community as a whole can exercise power through participation and empowerment but without any negative effects upon the powerful. They can help themselves in the development and gain tools for self-reliance (GoK, 2019).

In Kibra with the help of community-based organizations, solid waste management projects activities are carried out by the residents. However, the communities are concerned with the collection and transport of solid waste from the neighborhood to a dumping site outside it. Secondary collection, for example, transport of the waste to the final disposal site and operation of this site, is usually carried out by the municipality.

1.2.1 Performance of Waste Solid Management

Solid waste performance and management is continually a great challenge at all levels that is in global, regional and local (Sakurai, 2012). The biggest challenge in the performance of solid waste management is in the hands of County Governments in urban areas. According to Squires (2016) the performance of solid waste management worldwide may be hindered by poor waste management for instance the collection process and transportation. In most developing countries including Kenya, solid waste is a major issue as appropriate disposal sites may be remote.

A survey conducted by UN-Habitat (2017) in London Imperial College concluded that solid waste is on average the most common type of waste produced in 20 cities in the world. The findings from the survey observed that high income areas, solid waste was about 29% of the waste generated whereas 63% of the total waste generated is from low-income areas (UN-Habitat, 2017). Regularly, subscription pick-up services are available for people paying a flat fee to have their waste picked up and disposed of. Other people can also subscribe to specialty services, like medical waste pick-up services, or confidential paper shredding and disposal services. If the solid waste can be managed and with proper arrangement waste can be a resource and used to provide employment opportunities that may contribute to poverty alleviation if the populations are informed, educated and included in the solid waste management decision making process (Squires, 2016).

In Kenya Performance of solid waste is done to minimize its adverse effects on human health, to the environment and for aesthetic purposes. The poor performance of solid waste management results to the increase of environmental diseases, the emission of foul smells unattractive environment and environmental pollution (Muniafu and Otiato, 2019). Kibra most solid waste is usually organic in nature and thus can be composed (Musgelia, 2015). The performance of waste is poor hence many Community-Based Organizations (CBOs) have taken up compost from Kibra waste for recycling and dump the non-recycled to Dandora dumping site.

1.2.2 Awareness in Solid Waste Management

Globally, there is low attitude towards waste management among the communities. The major drawbacks concerning wastes management, especially in the developing countries are the ineffective waste collection strategies and the lack of disposal sites (Reyes, 2013).

It has been suggested, likewise, that practices of basic solid waste management are often neglected at the individual level.

While most people are aware of the negative impacts of mismanaged wastes on the environment, their negative attitude coupled with insufficient environmental knowledge among individuals usually corresponds to poor practices towards maintaining good environmental conditions (Licy, 2013). Enactment of certain policies relevant to improving environmental sanitation and community-perception on waste management is a matter of national urgency to minimize imminent outbreaks of diseases and adverse impacts on the economy due to loss of workdays, treatment cost, and clean-up activities. However, according to Vassanadumrongdee & Kittipongvises, (2018) waste management strategies through awareness and attitude has enhanced waste assembly system and community focus bearing fruits due to community participation in source separation of waste.

Ecological Solid Waste Management or Republic Act 9003 in the Philippines mandates the Local Government Units (LGUs) to implement programs on proper solid waste management at the municipal level (Reyes, 2013). Perception and attitude on disposal of wastes study by Fearon, and Adraki (2014) in Tamale Metropolis, Ghana, depicted that household attitude have significant impact on the motives to use dustbins in the future. In the review by Giusti (2009) on practices in managing wastes and their effect on human and environmental health, indicates that many of the inhabitants neighbouring the waste dumping sites suffer adverse effects on their health as well as environmental health.

According to Muthoni (2014) the major cause for the sustained rise in unmanageable SWM in Kenya is basic social factors such as trust, accountability, communication and commitment breakdown amongst the stakeholders. As a means to deal with and manage

wastes, communities in developing countries often turn to knowledge, attitude, practices, disposal techniques of waste (open burning and dumping) as the only option to handle waste materials and promote good hygiene and human health. As the priority in many developing nations to deal with increased industrial waste, attitude, practices, and knowledge as well as waste type, urbanization form instrumental variables in waste management (Blottnitz, 2015)

1.2.3 Campaigns Engagement in Solid Waste Management

Many stakeholders have come together to help in engagement of campaigns on solid waste management. Particularly, NGOs have helped in decreasing role of the state actors promoting the private sectors or the civil societies. It has also helped in promoting the common interest in international arenas. Engagement is very crucial in the performance of solid waste management. Campaign engagement is important because it involves improving the variable skills of all stakeholders (IFRC, 2019). Campaign engagement is one of the main pillars of the performance of solid waste management globally. Engagement is the involvement of electors, shareholders, members and other key stakeholders in planning and decision processes (Chow, 2013).

Creating awareness through campaigns means that there is contact of an individual to an idea through people engagement. According to the UN-Habitat (2018) municipalities have in the recent past come to the realization that they cannot successfully collect and remove waste without active engagement from community members who are the service users. A study conducted by UN-Habitat (2018) specifies that campaign awareness is a description of an individual’s an idea but may lack detailed information about it. For example, the community may know the name of an activity but may not know the details by using the

campaign people can be sensitized of solid waste management and improve its performance. Awareness makes one develop interest that is he/she becomes motivated to find more information about the new idea. Studies by Adongo, Kuuder, Amoako, Asare, Duwiejuah & Arthur (2015) indicated that community engagement in solid waste management as practiced by households and business operators is limited hence further compounding solid waste menace. Lack of awareness is one of the barriers to community participation. The author noted that any development campaign programme could be effective only when people are aware about it and the benefits that will accrue to them as a result of implementing it (Adongo et. al., 2015).

Historically, waste management policy development has largely evolved without significant input from the public engagement. Recent research has however suggested the involvement of the public in environmental policy-making as a way of developing citizen empowerment, increasing social responsibility and enhancing institutional legitimacy (Fahy, 2016). The public engagement through campaigns in the participation of solid waste management may promote good performance of waste management. In developing countries for example, the aspect of engaging stakeholders of waste management has been the bottom line for most operations in solid waste management (Chow, 2013).

1.2.4 Actors in Solid Waste Management

According to Kinyashi (2016) the success of community participation in solid waste management depends on other actors involved, such as municipal authorities, Community Based Organizations (CBOs), micro enterprises, and local leaders. Specifically, the

municipal authorities play a vital role since in most developing countries the local government is responsible for the delivery of basic services, like waste collection and disposal and for the implementation and enforcement of environmental legislation. In Latin America, for example, cooperatives and NGOs are actively engaged in the collection and separation of wastes in small scale composting enterprises. In Brazil and Argentina CBOs have emerged with a component of refuse collection, separation and composting (Cofie, 2016).

A study conducted by Pfammatter and Schertenleib (2012) revealed that CBOs can be involved in various activities such as promoting re-use and recycling of materials, hiring waste collectors, collecting fees for waste removal and making arrangements with local authorities to improve the performance of solid waste management. The actors can be a form of Local nongovernmental organizations (NGOs), community-based organizations (CBOs) or local associations such as Resident Welfare Associations (RWAs), Women's Associations and youth groups. These actors in solid waste management often use simple equipment and labour-intensive methods, and, therefore, can collect waste in places where the conventional trucks of large companies cannot enter. These actors may be initiated by community members who wish to improve the immediate environment of their homes (GoK, 2017).

1.3 Statement of the Problem

Though there is a lot of information in the community participation in the solid waste management globally, there is limited information. In Kenya there is generally lack in the use of procedures and guidelines for the public participation and consultation (Manandhar, 2019). A large quantity of solid wastes generated in most urban areas of Kenya originate from agricultural products hence there is bad attitude towards solid waste management. Kibra being in Nairobi County, the County government authority has a very low capacity

in solid waste management where actors in SWM have not taken their role in proper management of waste from the households.

Studies have been carried out by various scholars in international, regional and local levels on solid waste management. For instance, United Nations (2015) on waste disposal challenges have made MSW disposal a topical issue currently and further UN found out that the risks to human health and the environment due to improperly managed waste management projects are existent. Problems due to improper waste handling and uncontrolled dumping may lead to a range of problems, such as water contamination, attracting rodents and insects, and increase of flooding due to gullies or blocked drainage canals. It is upon this that this study will investigate the various methods of dealing with waste that has led to growing concern over waste management environmental performance in the country. This study therefore investigates the influence of community participation on the performance of solid waste management in Kibra Sub- County, Nairobi County to bridge that gap.

1.4 Purpose of the Study

The purpose of the study was to investigate the influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County.

1.5 Objectives of the Study

i. To determine how awareness influence performance of solid waste management in Kibra Sub- County, Nairobi County.
ii. To examine how the influence of campaign engagement on the performance of solid waste management Kibra Sub- County in Nairobi County

iii. To assess the influence of solid waste management actors on the performance of SWM Kibra Sub- County in Nairobi County

1.6 Research Questions

i. How does awareness influence the performance of solid waste management in Kibra Sub- County, Nairobi County?

ii. How does campaign engagement influence the performance of solid waste management Kibra Sub- County in Nairobi County?

iii. How does actors in solid waste management influence performance of SWM Kibra Sub- County in Nairobi County

1.7 Significance of the Study

The study findings are expected to be significant to the scholars for it will contribute to the existing body of knowledge; they will learn more about community participation and the performance of solid waste management. Further, researchers interested in this area of study will use the findings of this study and use its recommendations as a point of reference for further research.

In addition, the research is anticipated to be beneficial to the society. By initiating good solid waste management policies, it will lead to a healthy society because environmental pollution menace is addressed. Also, there is a reduction of extreme effects associated with wastes both solid and non-solid. It is hoped that the findings of this study will help raise awareness on issues pertaining to general waste management from community level to the national level.

1.8 Scope of the Study

This study sought to examine the influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County. The study population were all workers working in various garbage collection companies, other companies place

in Kibra Sub- County as a whole was inaccessible due to time and funds, the more the reason all garbage collection companies in Kibra Sub- County was chosen. This study was conducted in year 2021, and data was gathered during this period.

1.9 Delimitation of the Study

The study was delimited to Kibera slums in Kibra Sub- County in Nairobi County Kenya. The findings were not generalized to all the sub-counties in the entire nation. Kibra Sub-County was chosen because of Kibera Slums where the population is high hence a lot of solid waste is accumulated; the study in Kibera slum brought the awareness hence good performance of solid waste management in the area.

1.10 Limitation of the Study

This study focused on the community participation variables that were; awareness, campaign engagement and SWM actors on solid waste management. Despite of its significance, this study encountered some limitations. The data collection was restricted to only Kibra Sub-County; thus, the sample may not be wholly representative since people experiences and response would vary because of regional differences in terms of resources and neighbourhood environment. However, the study assumed that since the sample is subjected to similar community participation and almost similar environment, the results findings could be generalized the whole county. In this case, the performance of solid waste management in Kibra Sub- County wasl not used to generalize all the sub-counties in the entire nation. To reduce this limitation however, literature works was done widely to make references to issues being discussed which was of relevance to the other areas of the country where the Sub- County is situated. There was difficulty in the collection of primary

data from the respondents. This challenge was as the result of the seemingly reluctance of the community in Kibera to provide information relevant to the study. This was taken care of by convincing the respondents that the information submitted was anonymous and by submitting enough evidence that this study was just for academic purpose only. Thus, the information given was treated with utmost confidentiality.

1.11 Assumptions of the Study

In this study, it was assumed that all the respondents responded to all the statements in the questionnaires. Further, all the respondent were willing to provide honest and clear information, all the respondents were available and ready to respond to the study and the sub-counties in Kenya need to put more effort in community participation in solid waste management and improve the performance. It is also assumed that people attitude towards solid waste management changed and participation was improved. It is also assumed that actors in solid waste management will put more strategies concerning waste management and improve the management of solid waste management.

1.12 Theoretical Framework

The study was guided by the two theories that are relevant in this study. The theories include: Diffusion of innovations theory and Urban Ecology Theory.

1.12.1 The Diffusion of Innovations Theory

This theory was proposed and developed by Rogers 1962 which states that new concepts, methods grow over time by spreading in other areas. This theory is associated with the awareness and attitude variable which is an instrumental for it accounts to the spreading of the different methodologies of waste management concepts across the country and to a

greater world. The theory forms the basis of various researches in the recent past, integrating innovation into knowledge, attitude, and practice stages of innovation adoption (Hubbard & Hayashi, 2003).

Continuous environmental awareness in slums is a key concept to this theory because it consists of creating awareness to the community to participate on solid waste management through cultivating through sensitizing the community's attitude and perception on solid waste management. Most studies attitudes and knowledge have procured a positive and significant relationship between community participation and performance of solid waste management (Bowman and Roth, 1984). The Diffusion of Innovations Theory is relevant to this study as it points out how levels of awareness and attitude towards community participation could be raised to positively affect performance of solid waste management. For all measured concepts, the findings will indicate a positive relationship between community participations' attitude, awareness, practices and performance of solid waste management.

1.12.2 Urban Ecology Theory

Urban ecology theory was established in German which is associated by the idea that humans (participatory) influence the natural environment in urban centres. The theory originates from the biology notion of the interaction of living things and their environment in times where urban centres (cities) were not considered a study field for ecologists, biologists and environmentalists (Kim, 2014). This belief emerges from the natural sciences domain in European countries and was put forward by scholars who wanted to

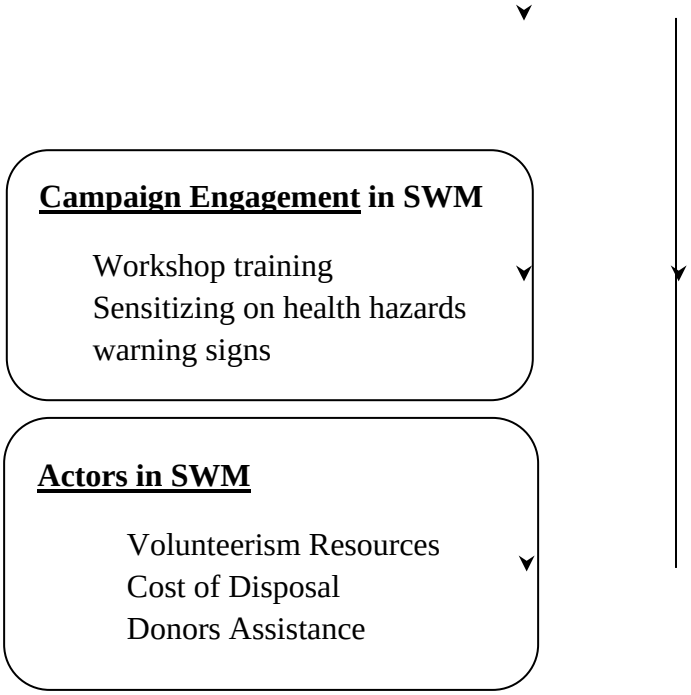
demonstrate that humans living in cities had similar interactions with nature as plants in their own ecosystems by using the principles of ecology (Tan Yen Joe, 2012). The idea that cities were indeed ecosystems also provided the possibility to re-examine cities and to add other components to biotope and ecological interpretations.

This theory is associated with the engagement of human beings and it is relevant to this study because human behavior and its impact on the natural environment, and explorations on urban growth and its influence on the transformation of land can affect urban ecology. In this study, the theory has indicated that having campaign engagement, environmental awareness does not necessarily mean having better environmental attitude towards waste management it means that there is need for the community to participate through awareness, engagement and actors to evaluate strategies adopted in order to change people's habits, behaviour and traditions to have better performance of solid waste management in cities.

1.13 Conceptual Framework

The study was based on the following conceptual framework. A conceptual framework is defined as a hypothesized model identifying the concepts under study and their relationships. The study was guided by the conceptual framework as shown in Figure 2.1 relating the dependent and independent variables. The independent variables include; awareness and attitude, campaign engagement and SWM actors while the dependent variable is performance of solid waste management.

Independent Variables



Source: (Author, 2021)

Figure1: Conceptual Framework ***Influence of community participation and performance of solid waste management in Kibra Sub-County, Nairobi County***

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the empirical review. In the empirical literature review, the findings are critiqued to establish the knowledge gaps.

2.2 Performance of solid waste management

Globally, the generation of solid waste has grown rapidly due to high population growth, urbanization and consumption behaviour (World Bank, 2017) in the developed countries in the last three decades the per capita generation of solid waste has increased due to expansion of industries and innovations of manufacturing products (AFDB, 2015). According to the World Bank Report (2017) in the developing countries the solid waste generation has increased due to high population growth and change in the living standards leading to high consumption of resources.

The performance of solid waste management in the developed countries has made good progress on SWM as they have applied pro-active policies and sound institutions. For example in the USA the policy framework on SWM is in collaborative efforts involving all levels of government, federal state and local entities (World Bank Report, 2014). In Africa challenges of SWM are varied and complex ranging from infrastructure, poor funding, institutional management, regulatory among other issues (AFDB, 2014).

A study done by Okot – Okumu (2017) found out that poor public perception for example collection in social welfare reluctance to pay for waste collection ammo g the poor has led to under performance of solid waste management. In Kenya the performance of SWM is bureaucratic and any operational decision causes delay because it is done by the senioe management in the environmental departments in many counties which leads to poor SWM (NEMA, 2019). A study conducted by Kasozi and Vobn Blottnitz (2019) on the role of NEMA in SWM in Nairobi revealed that there is no monitoring mechanisms on the

enforcement of environmental law which has led to poor waste disposal and collection methods.

2.3 Awareness and Performance of Solid Waste Management

The existence of a wide knowledge gap necessitates the need for environmental researchers to investigate the community attitude and awareness on the issue of managing solid wastes and provide recommendations to relevant stakeholders (Abang, 2016). Many studies have been conducted to seek the level of awareness and attitudes concerning the performance of solid management. Ahmad (2015) did a study to examine the attitude, practice and level on awareness. The study targeted secondary schools in Municipality of Los Baños in Philippines. The study population was 101, 884 respondents as of 2010 census (NSO, 2013). The study revealed that the roots of continuing problems on solid wastes towards improved environmental affects the performance of solid waste in the Municipality of Los Baños. The study recommended that maintenance of good environmental should serve as model community of the environment in the entire country.

Lawson and Lawson (2016) posit that In Europe on the efficacy of Non-Governmental Organizations (NGOs) on agriculture wastes in the urban centres of the developing counties, the study found out that about 70-80 % of the generated urban waste produced in developing countries is agricultural origin which is biodegradable. The large quantity of solid waste is generated by communities. The study recommended that if communities can organize and plan well, communities can successfully and profitably manage solid waste in appropriate way.

A study conducted by Karout & Altuwaijri (2012) on impact of community health awareness and intervention on knowledge and attitude on waste product management and disposal in Rajasthan University. The study used a questionnaire as a data collection tool to collect data. From the study the findings revealed that more knowledge on diseases and health risk associated with waste accumulation for the group that attended the training and education programs, positive attitude on managing wastes, and improved waste handling practices which include recycling household wastes. The observation showed an increase in community participation in cleaning and other environmental protection activities helps in the performance of solid waste management in the community level.

According to the study done by Eneji et al (2016) determining the impact of waste disposal and the performance of solid waste management in Tanzania Kigoma showed that the attitudes towards waste affects performance of waste management. The study used regression model and tested hypotheses at 0.05 level of significance. The implication of the results is that the Kigoma residents showed that they have very negative attitude towards waste management and disposal, while the second hypothesis tested also showed a significant influence of indiscriminate disposal of waste and the health status of the residents of Kigoma Tanzania. The study concluded that because of the negative attitude the residents of Kigoma have towards the management and disposal of their waste, it has some significant influence on their health status.

In Kenya Rodic and Wilson (2017) argues that a review of the goals of modern SWM in general, and particularly MSW disposal are to protect human health and the environment, conserve resources, treat waste before disposal, and to create employment, especially for the teeming unemployed youth in sub-Saharan Africa including Kenya. Song (2015)

investigated the impact on human health in municipal waste, and effect of bio aerosol exposure from sewage plant treatment. Results found that municipal waste had adverse impact outcome on health for the population neighbouring dumping sites and nuclear installation. In addition, Olapiriyakul, (2017) indicates that because of high rates of resource consumption, cities face serious problems of high volumes of waste, characterized by inadequate disposal technologies, high costs of management, and the adverse impact of wastes on the environment. The main waste disposal practices in wastes have a significant influence on environmental hygiene and human health. Increase in population in urban centres such as Nairobi has resulted in increased waste management challenges. Lack of funds in the department of urban sanitation and regulations related to sanitation in the city attributes to the increased challenges above.

2.4 Campaign Engagement and Performance of Solid Waste Management

According to the National Development Plan of (2017) the most severely affected are those large slums where uncollected solid waste is a major cause of the high rates of diseases, disabilities and deaths, especially among the children. Generally, the quantities of solid waste are on the increase causing an enormous strain on disposal facilities. Thus, although cities are seen as the engines of economic development, failure to manage the impact of rapid urbanization is threatening human health, environmental quality and urban productivity.

A study conducted by Asrat, (2016) in Addis Ababa, Ethiopia. The aim of the study was to examine the effects of campaign engagement and the performance of household waste management in Arada sub-city, Addis Ababa. The study used primary data sheet to collect

data on the selected household in Arada. The study revealed that even though household solid waste service is given to the population in the sub-city, the service is considered poor by the population due to institutional, socio-cultural and financial factors such as lack of adequate facilities for solid waste collection and disposal services, displeasure of the workers with incentives, unfair placement and improper use of waste containers, inadequate assignment of budget to the sector, illegal ways of disposing wastes, and insignificant participation of the community in the waste 27 management. The study suggested that the policy of waste management could address different approaches with the current study area.

2.5 Actors of SWM and Performance of Solid Waste Management

In the developing countries and effort to confront the worsening solid waste management services, the most governments approach different donors to assist in terms of equipment through Sustainable Project financed by UNDP. The Sustainable Project introduced the Environmental Planning Management (EPM) process with the overall aim of supporting the capital cities to promote Public Private Partnership (PPP). The main aim was to bring together the various stakeholders on the urban scene, including central and local governments, the private sector, various donor organizations, and the CBOs, to agree on strategies to address the environmental problems of cities.

A study done by Van Dijk (2016) on the role of New Public Management (NPM) to private sector and involvement in solid waste collection services found out that the extension of the market mechanisms of the New Public Management (NPM) to private is still an emerging issue, especially in developing countries. The study further showed that

contracting out solid waste services to the private sector and charging for services rendered by the private sector are still faced with difficulties.

Van Dijk (2016) in his study further states that public services delivery such as water supply, sanitation and solid waste services have been failing in developing countries for a long time despite the NPM and decentralization of local service delivery to the local governments. The expected improvements in service delivery have often not been achieved. Obviously, decentralization alone was not enough to bring about improvements in service delivery, and therefore private sector involvement in public service delivery was introduced (Van Dijk, 2016).

In Kenya, Nairobi County waste management is carried out by various actors or stakeholders. They include the county government, non-governmental organizations, community-based organization and private operators (GoK, 2017). The national government is mandates with the responsibility of coming up with legal and instructional framework for the management of solid waste. County government on the other hand have the responsibility of providing services for the collection and the disposal of wastes

According to Ngau and Kahiu (2009) Non-governmental organizations and community-based organizations are mostly found in informal settlement such as Dandora, Kayole and Kibera where solid waste is dumped near roads, drainage systems and other undersigned areas. Both CBO and NGOs act as the connection between the government and the private sectors.

2.6 Summary of Review of Literature

The literature reviewed in summary included the conceptual and the theoretical review of participation of the community in creating awareness, engaging in campaign, and engaging the actors in the performance of solid waste management. A number of approaches have been attempted to address the problem in different parts of the world and the experience for developing countries and towns have been portrayed. The reviewed literature is therefore used to guide the study and identify the gaps therein.

2.7 Research Gap

According to the literature review in this study, various studies in different places by different researchers have investigated the effects of community participation and the performance of solid waste management. For example, Olapiriyakul, (2017) found out that municipal waste had adverse impact outcome on health for the population neighboring dumping sites and nuclear installation. Further the author observed that the main waste disposal practices in wastes have a significant influence on environmental hygiene and human health. Eneji et al (2016) on their study showed that the attitudes towards waste affect performance of waste management.

Karout & Altuwaijri (2012) revealed that more knowledge on diseases and health risk associated with waste accumulation for the group that attended the training and education programs, positive attitude on managing wastes, and improved waste handling practices which include recycling household wastes. Ahmad (2015) examined the attitude, practice and level on awareness and recommended that maintenance of good environmental should serve as model community of the environment in the entire country. Van Dijk (2016) found

out that the extension of the market mechanisms of the New Public Management (NPM) to private is still an emerging issue, especially in developing countries especially, in Kenya.

However, given the different environment and situation of different aspects, this study reveals the gap for community participation in the awareness and attitude area. Therefore,

Therefore, this study seeks to fill the gaps by studying the influence of community participation on the performance of solid waste management in Kibra Sub- County, Nairobi County, Kenya to bridge the gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives a description of the methods that was used influence of community participation and performance of solid waste management. The chapter contains the target population that was used to do the study as well as method of data collection. The data analysis was also discussed in this chapter of methodology.

3.2 Research Design

Research design is a plan outlining how information is to be gathered for an assessment or evaluation that includes identifying the data gathering method(s), the instruments to be used/created, how the instruments is administered, and how the information is organized and analysed (Cooper and Schindler, 2014). The study employed descriptive research survey design for it portrays an accurate profile of situations. This was designed to describe the characteristics of a particular phenomenon in a situation. It was used to obtain information concerning the current status of the Kibra, to survey what exits with respect to the conditions in a situation. The design helped the researcher obtain information concerning the current status of the relationship between community participation and performance of solid waste management in Kibra Sub- County, Nairobi County.

3.3 Research Site

The study was conducted in Kibera Slums in Kibra Sub- County which is located in Nairobi County. This Sub- County was chosen because of its location in slums that was ideal for the study for it constituted high population density hence had a lot of solid wastes from the households.

3.4 Target Population

A population study is the total number of people that the study intends to get information from. In this particular study, the researcher targeted all the garbage collection companies in Kibera Slums. The slum has 7 sub locations and 7 garbage collection companies in each sub-location giving a total of 262 target population.

Table 3.1 Target population

Categories	**Target population**
Kibera (Focus Face Group)	70
Lindi (Clean up Services)	51
Olympic (Usafi Initiative)	20
Makina (Huduma Community)	65
Laini Saba (Laini saba Garbage collectors)	22
Gatwekera (Gatwekera Cleaning Services)	10
Silanga (Home and Away Collectors)	24
Total	**262**

Source: (Researcher Survey, 2022)

Table 3.1: Target Population

3.5 Determination of the study sample

The sample will be obtained from the population by stratified sampling. According to Mugenda (2013), stratified sampling is the selection of samples in a manner that the subgroups existing in the population reproduce more or less in the sample.

In this study the stratified random sampling technique will be used since the concerned population is not homogeneous and it could be divided into strata or groups to acquire the

sample. Each sub-county in Kibra will form the basis of the strata. This way, individuals chosen from each stratum will form a mirror representation of the population. The use of stratified sampling in the study will help lower error, cost and workload hence making it easier to obtain high quality information as proposed by Cooper and Shindler (2014).

3.5.1 Sampling Procedures

According to Orodho, (2012), sampling is the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group. Denscombe (2014) argues that no specific rules on how to obtain an adequate sample have been formulated. He suggests that in a homogenous population, a small sample would be required while a heterogeneous variable situation, a large sample is required. In this study Morgan Krejcie (1970) sample size determination table was used as shown in the below table. Now that the study population is 262, a sample size of 152 was used (Confidence Level = 95%, Margin of Error = 5%)

Table 3.2 Sampling procedure

Categories	Target population	Sample size	Sampling procedure

Kibera (Focus Face Group)	70	41	Simple random sampling
Lindi (Clean up Services)	51	30	Simple random sampling
Olympic (Usafi Initiative)	20	12	Simple random sampling
Makina (Huduma Community)	65	38	Simple random sampling
Laini Saba (Laini saba Garbage collectors)	22	13	Simple random sampling
Gatwekera (Gatwekera Cleaning Services)	10	6	Simple random sampling
Silanga (Home and Away Collectors)	24	14	Simple random sampling
Total	**262**	**152**	

Source: (Author Survey, 2022)

3.5.2 Study Sample Size

The size of the sample is the last part of the number of statistics that the property has learned to obtain information about everything. The size of the sample is an integral part of any research study where the objective is to negotiate the population of the sample. The creation of inferences in the population requires that the sample be free of errors.

Table 3.3 Sample Size

Categories	Target population	Sample size
Kibera (Focus Face Group)	70	41
Lindi (Clean up Services)	51	30

Olympic (Usafi Initiative)	20	12
Makina (Huduma Community)	65	38
Laini Saba (Laini saba Garbage collectors)	22	13
Gatwekera (Gatwekera Cleaning Services)	10	6
Silanga (Home and Away Collectors)	24	14
Total	**262**	**152**

Source: (Researcher Survey, 2022)

3.6 Data Collection

The data collected for this study was mainly primary. According to Sekaran and Bougie (2013), primary data is information gathered directly from the respondents and for this study questionnaires were used. The questionnaire designed for this study consisted of five sections. Section A captured demographic information, section B focused on the influence of awareness on the performance of solid waste management, section C: aimed at the influence of campaign engagement on performance of solid waste management, section D focused on the influence of SWM actors on performance of solid waste management and section E captured information on performance of solid waste management.

3.6.1 Data Collection Instruments

For the purpose of this research, data was collected using structured questionnaires. A questionnaire is a set of questions that are carefully designed and given in exactly the same form to a group of people in order to gather data about some topic which is of interest to the researcher. Questionnaires are appropriate for studies since they collect information

that is not directly observable as they inquire about feelings, motivations, attitudes, accomplishments as well as experiences of individuals. Mugenda & Mugenda (2013) refers to structured questionnaires as questions which are accompanied by a list of all possible alternatives from which the respondents select the answer that best describe their situation. Orodho and Kombo (2012) state that, such questions are easier to analyse because they are in the immediate usable form.

This research adopted the use of Likert scales so as to order the questions in such a way that they indicate the presence or absence of the characteristic being measured, (Mugenda & Mugenda, 2013). The researcher delivered the questionnaires to the respondents in person. The questionnaire was designed to have 2 sections. The first section was designed to analyse the general information about the respondent so as to help determine the respondent's capacity in answering the questions in regards to the three objectives of the study. The second section sought to establish respondents' opinions in respect to the three objectives of the study as community participation and performance of solid waste management.

3.6.2 Pilot Testing of Research Instruments

The piloting was then organized in order to affirm the instruments validity and reliability in generating the expected data. This was important in order to ensure that they yield reliable and valid data on the basis of which the results, conclusions and recommendations are drawn (Sekaran & Bougie, (2016). The instruments were piloted on a population that is similar to the target population of Dandora in Nairobi which was not included in the main study. According to Orodho (2012) participants in the pilot study should be drawn from similar population from which the main participants 'are selected. To establish

validity of the instruments using the pilot study, the pre-test of 10% of the total target population was used.

The purpose of having the pilot study is to refine the study‘s instruments, that is, by participants giving feedback on the clarity of the questions, content, language, relevance of the items to the intended group, redundancy of the questions, difficulty of the questions, time taken to answer the questions as well as the layout and length of the questions validity can be enhanced. Moreover, it tested whether there is ambiguity in any item and if the instrument can elicit the type of data anticipated and also being appropriately was addressed. The pilot study confirmed the validity of the instruments. The researcher discussed the responses with the participants and any item found to be vague was rectified and any grammatical error was corrected.

3.6.3 Instrument Reliability

Reliability of an instrument concerns the degree to which a particular instrument can consistently yield a similar result over a number of repeated trials (Orodho, 2012). Reliability is a test of reliability, consistency or credibility. The test elements are divided into two halves with elements that match the content and difficulty, and the score of the two halves scored separately. For tests that are reliable, the scores of the two halves have a high association (Orodho, 2012). The instruments’ reliability was estimated using the Cronbach's Alpha Coefficient, which measures the internal coefficient. For a test to be termed as acceptably reliable, it must be at least 0.70 at α=0.05 confidence level is acceptable (Gable and Wolf, 2003).

3.6.4 Instrument Validity

According to Robinson (2017) content validity is established by an expert. As a result, the researcher consulted research experts to review the contents of the instruments. The comments, concerns and suggestions raised by the experts were adequately incorporated in the final instruments that were administered to the respondents. To enhance validity of the instrument, they were given to two experts (my supervisors) for scrutiny and objective comments were used for amendment. In pre testing was done to determine whether the questions are acceptable, answerable and well understood by the respondent.

3.6.5 Data Collection Processing and Analysis

Data collection procedures refer to the process of gathering data after the researcher has identified the types of information required for the research. Prior to undertaking the study, the researcher requested permit from the African Nazarene University giving authority for data collection process, then the Nacost and an introductory letter.

The data collected from the questionnaires was edited for completeness; it was then analysed using descriptive statistics in form of frequencies and percentages. Descriptive statistics was important since they provided the foundation upon which correlational and experimental studies emerge; they also provided clues regarding the issues that should be focused on leading to further studies (Mugenda & Mugenda, 2013). According to Cooper and Schindler (2011) the reason for data analysis is to synthesize gathered data to manageable size, applying statistical methods, establishing summaries and seeking trends and tendencies. The data was analysed using Statistical Package for Social Sciences (SPSS. V.24). the analysis entailed computation of descriptive statistics (frequencies and percentages). The information was then presented inform of tables so as to facilitate a clear

interpretation of results and assist in drawing conclusion. Thereafter, discussions were immediately followed explaining on the same.

3.7 Legal and Ethical Considerations

To carry out the study, permission was sought from the chiefs from the selected sub-locations in Kibera slums m using the letter of admission from Africa Nazarene University and enough proof that the research is a requirement for award of post graduate diploma in the business School of Africa Nazarene University and is being done only for academic reasons. The participants in the research were informed of what the study is all about so as to made their own judgment on whether to participate or not. In this case, the study was introduced to the respondents and be informed about the purpose of the study and why their participation was important. In order to protect the privacy of the participants, confidentiality was guaranteed by assuring the participants that the information provided was only used for academic purpose and that it was not released to anybody else. Over and above that, the researcher acknowledged every source of information for purposes of honesty and transparency.

CHAPTER FOUR

RESULTS AND DATA ANALYSIS

4.1 Introduction

This chapter presents the findings of the research on the influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County. The data was analysed through descriptive statistics. The chapter begins by giving the response rate of the respondents, followed by their profiles and then the findings on the community participation and performance of solid waste management. Descriptive statistics are then presented according to the objectives of the study followed by the summary of the findings. The results are presented using tables.

4.2 Response Rate

Questionnaire return or completion rate is the proportion of the sample that participated as intended in all the research procedures. This study targeted 152 respondents, out of whom 102 respondents filled and returned their questionnaire giving a response rate of 66%. The statistical authors have recommended a response rate of at least 50% to be adequate. The response rate was therefore deemed adequate for the study.

Table 4.1: Response Rate

Questionnaires		**Frequency**	**Percentage**	
Responded		102	67	
Did not respond		50	33	
Total		**152**	**100**	
Source: Author (2022)				

This Table 4.1 represents the number of questionnaires distributed and the number which was filled and returned then it's represented in terms of percentage.

4.2.1 Background Information

This section deals with the demographic information of the respondents which include; gender, age, level of education, number of years worked in the organization and the current section of the respondents. It is presented in terms of percentages.

4.2.2 Respondents' Gender

The study sought to establish the gender of the respondents. The findings are shown in Table 4.2 below.

Table 4.2: Gender

	Frequency	**Percentage**
Male	64	62.7
Female	38	37.3
Total	**102**	**100**

Source: Author (2022)

The findings in Table 4.1 show that 62.7% of the respondents were male while 37.3% were female. Even though male respondents were the majority, responses emanated from both genders, therefore disparity and a good representation for the study.

4.2.3 Respondents' Age Bracket

The respondents were asked to indicate their age and the findings are as below

Table 4.3: Age Bracket

Age	**Frequency**	**Percentage**
18-30 years	25	24.5
31-40 years	24	23.5
41-50 years	30	29.4
51 and above years	23	22.5

Total	**102**	**100**

Source: Author (2022)

The age of the respondents was grouped into categories as presented in Table 4.3 and the respondents were required to tick appropriately. From the analysis, 29.4% of the respondents were drawn from 41-50 years, 24.5% were drawn from 18-30 years, 23.5% and 22.5% were 31 – 40 years and 51 and above years respectively. This implies that even though most of the respondents were above 25 years old, the responses emanated from a varied age group thereby providing diverse information for the study.

4.2.4 Respondents' Level of Education

The respondents were required to indicate their highest level of education and the findings are as shown in Table 4.4 below.

Table 4.4: Level of Education

Education Level	**Frequency**	**Percentage**
Primary	19	18.6
Secondary	20	19.6
Tertiary	34	33.3
Degree	29	28.4
Total	**102**	**100**

Source: Author (2022)

From the findings in Table 4.4, 33.3% of the respondents had tertiary level of education 28.4% had graduated with degree, 19.6% and 18.6% had reached secondary and primary level respectively. Those with tertiary level were the majority. These findings show that respondents from various education levels were involved thereby providing information on the different levels of education perspective on the influence of community participation and performance of solid waste management thus influencing the performance of solid waste management.

4.2.5 No of Years Worked

The respondents were requested to indicate their number of years worked in the garbage management company and the findings are as shown in Table 4.5.

Table 4.5: Number of Years Worked

	Frequency	**Percentage**
Less than 3 years	21	20.6
3 – 5 years	20	19.6
5 – 10 years	53	52.0
Over 10 years	8	7.8
Total	**102**	**100**

Source: Author (2022)

As per the findings in Table 4.5, majority 52% of the respondents had worked for a period of 5 – 10 years, 20.6% had worked for less than 3 years, 19.6% had worked for 3 – 5 years and 7.8% had worked for over 10 years. The majority of the respondents had worked for 10 years. This shows that the findings were relevant and reliable in ascertaining the influence of community participation and performance of solid waste management in Kibra Sub-County since the respondents had worked for a considerable period of time.

4.2.6 Current working section

The study sought to establish the respondent's working section in the garbage management company.

Table 4.6: Respondent's Section in the Company

	Frequency	**Percentage**
Management section	18	17.6
Disposal department	60	58.8
Collection section	24	23.5
Total	**102**	**100**

Source: Author (2022)

Table 4.6 demonstrates respondents' section in the company. The results of the analysis reveal that, majority 58.8% were working at disposal section, 23.5 were working at the collection section and 17.6% were working at management section. The study show that majority of the respondents were as the disposal section.

4.3 Presentation of Research Analysis and Findings

4.3.1 Awareness and performance of solid waste management

Firstly, the study sought to determine the influence of awareness on the solid waste management. The respondents were then asked to indicate the extent to which the following awareness statements influence performance of solid waste management in Kibra Sub-County in Nairobi County, Kenya. A scale of 1-5 was provided where 5= Strongly Agree (SA) 4= Agree (A) 3=Undecided (U) D= Disagree (D) 1=Strongly Disagree (SA). According to Kothari (2008) a positive median should be over medium 3 on the Likert scale. From the responses, mean and standard deviation were used for ease of interpretation and generalization of findings. In this study a median of 3 and above was treated as a positive result while a lower score was treated as a negative result.

Table 4.7: The effects of Awareness on the Performance of SWM

Statements	SA	A	U	D	SD	Mean	SD
1.The county council organizes citizen panels to discuss solid waste management issues	1(1)	6(6)	41(40)	46(45)	8 (8)	3.52	0.766

2.The county council carries out domestic waste management people surveys	4(4)	50(49)	40(39)	5(5)	3(3)	3.50	0.625
3.Domestic waste management people surveys improve domestic waste management practices among residents	53(52)	39(38)	4(4)	3(3)	3(3)	3.53	0.670
4.Partner meetings are held between residents, business operators and the county council	45(44)	41(40)	3(3)	10(10)	3(3)	3.66	0.735
5.The county council sensitizes residents on proper solid waste management practices during the stakeholder workshops	8(8)	15(15)	6(6)	70(69)	3(3)	3.67	0.691
6.Stakeholder workshops are effective channels of improving domestic waste management practices by residents and business owners	12(12)	79(78)	6(6)	3(3)	1(1)	3.67	0.691
7.The county council carries out domestic waste management people surveys which are adequate	1 (1)	76(74)	13(13)	8(8)	4(4)	3.67	0.785
Composite mean and standard deviation						**3.60**	**0.709**

Source: Author (2022)

As shown in Table 4.7 above seven (7) statements were developed to measure the influence of awareness and performance of solid waste management in Kibra Sub-County, the mean

values varied from 3.50 to 3.67 which shows that the respondents agreed that awareness influences the performance of solid waste management in Kibra-Sub-country in Nairobi County Kenya. In particular, the county council organizes citizen panels to discuss solid waste management issues out of 102 respondents 1(1%) strongly agreed 6(6%) agreed, 41(40%) neither agreed nor disagreed, 46 (45%) disagreed and 8 (8%) strongly disagreed. This statement generated a mean of 3.52 and standard deviation .766. The second statement was the county council carries out domestic waste management people surveys again out of 102 respondents 4(4%) strongly agreed 50(49%) agreed 40(39%) were undecided 5(5%) disagreed and 3(3%) strongly disagreed. The statement had a mean of 3.50 and standard deviation .625

The third statement was domestic waste management people surveys improve domestic waste management practices among residents out of 102 respondents 53(52%) strongly agreed 39(38%) agreed 4(4%) were undecided 3(3%) disagreed and strongly disagreed each. The statement had a mean score of 3.53 and standard deviation of .670. The fourth statement was Partner meetings are held between residents, business operators and the county council and out of 102 respondents 45(44%) strongly agreed, 41(40%) agreed 3(3%) were neutral, 10(10%) indicated disagree and 3(3%) indicated strongly disagree. This statement generated a mean of 3.66 and standard deviation .735. On the county council sensitizes residents on proper solid waste management practices during the stakeholder workshops statement out of 102 respondents 8(8%) indicated strongly agree, 15(15%) indicated agree 6(6%) indicated neutral, 70(69%) indicated disagree and 3(3%). The statement generated a mean of 3.67 and standard deviation .691. The sixth statement was stakeholder workshops are effective channels of improving domestic waste management

practices by residents and business owners and out of 102 12(12%) strongly agreed, 79(78%) agreed, 6(6%) were undecided, 3(3%) disagreed and 1(1%) strongly disagreed. This statement generated a mean score of 3.67 and standard deviation .691. The last statement was the county council carries out domestic waste management people surveys which are adequate and out of 102 respondents 1 (1%) indicated strongly agree, 76(74%) indicated agree, 13(13%) indicated undecided, 8(8%) indicated disagree and 4(4%) indicated strongly disagree. The statement generated a mean of 3.67 and standard deviation .785. This implies that creating awareness on solid waste management improves performance this is in line with Ahmad (2015) who found out that lack of awareness practice are the roots of continuing problems on solid wastes towards improved environmental.

The study reveals that creating awareness in the solid waste management is a key factor in the performance. Lack of sensitization is the roots of continuing problems on solid wastes towards improved environmental and has negatively affected the performance of solid waste in not only in Kibra Sub-county but also in Kenya in general. Solid waste management through awareness has brought surveys that have improved domestic waste management practices among residents of Kibra Sub-county. The study revealed that the county council sensitizes residents on proper solid waste management practices during the stakeholder workshops through stakeholder workshops that have improved solid waste management practices by residents and business owners.

4.3.2 Campaign Engagement and Performance of Solid Waste Management

Secondly, the study examined the extent to which campaign engagement has influenced the performance of solid waste management in Kibra _Sub-County in Nairobi County

Kenya. Again the respondents were asked to indicate the extent to which campaign engagement has influenced solid waste management. A scale of 1-5 was provided as follows: 5=Strongly Agree (SA) 4=Agree (A) 3= Undecided (U) 2=Disagree (D) 1=Strongly Disagree. (SD) From the responses, mean and standard deviation were used for ease of interpretation and generalization of findings. The findings are clearly illustrated in the Table 4.8 below.

Table 4.8: Extent to which campaign engagement influence SWM

Statements	SA	A	U	D	SD	Mean	SD
1. Campaigns have ensured that proper waste separation is carried out in the area	78(77)	10(10)	9(9)	2(2)	3(3)	3.67	.719
2. Stakeholders are empowered through campaigns to carry out recycling of solid waste	43(42)	12(12)	31(30)	7(7)	9(9)	2.28	1.315
3. Campaigns have improved the performance of the waste collectors who always adhere to the designated days for waste collection	44(43)	38(37)	10(10)	4(4)	6(6)	2.19	1.210
4. Through campaigns solid waste collection service are satisfactory to the residents of Kibra sub-county	56(55)	34(33)	4(4)	5(5)	3(3)	1.97	1.164
5. Campaign engagement of solid waste management between stakeholders have increased the efficiency of domestic waste management	27(27)	17(17)	32(31)	15(15)	11(11)	2.66	1.307
Composite mean and standard deviation						**2.55**	**1.143**

Source: Author (2022)

According to the extent to which campaign engagement influence performance of solid waste management the mean values varied from 1.97 to 3.67 which shows that campaign engagement does not influence performance of solid waste management as depicted by low mean scores of most statements. Specifically, the first statement measured which was; campaigns have ensured that proper waste separation is carried out in the area, the response was as follows 78(77%) indicated strongly agree, 10(10%) indicated agree, 9(9%) indicated undecided, 2(2%) indicated disagree and 3(3%) indicated strongly disagree. This statement generated a mean of 3.67 and standard deviation .719. Second statement was stakeholders are empowered through campaigns to carry out recycling of solid waste out of 102 respondents 43(42%) strongly agreed, 12(12%) agreed, 31(30%) were neither agreed nor disagreed, 7(7%) disagreed and 9(9%) strongly disagreed. The statement had a mean score of 2.28 and standard deviation 1.315. The third statement was campaigns have improved the performance of the waste collectors who always adhere to the designated days for waste collection out of 102 respondents 44(43%) indicated strongly agree, 38(37%) indicated agree, 10(10%) indicated undecided, 4(4%) indicated disagree and 6(6%) indicated strongly disagree. The statement generated a mean score of 2.19 and standard deviation 1.210.

Fourthly the statement analyzed was through campaigns solid waste collection service is satisfactory to the residents of Kibra sub-county and the response was as follows; 56(55%) strongly agreed, 34(33%) agreed, 4(4%) were undecided, 5(5%) disagreed and 3(3%) strongly disagreed. The mean value was 1.97 and standard deviation 1.164. Finally, the statement analyzed was campaign engagement of solid waste management between

stakeholders have increased the efficiency of domestic waste management respondents' response was 27(27%) indicated strongly agree, 17(17%) agree, 32(31%) undecided, 15(15%) disagree and 11(11%) strongly disagree. the mean score was 2.66 and standard deviation 1.307. The overall mean or average mean of all statement was 2.55 and standard deviation 1.143. This finding concurred with Asrat, (2016) who examined the effects of campaign engagement and the performance of household waste management. The study revealed that lack of campaigns on solid waste management in the household leads lack of adequate facilities for solid waste collection and disposal services, displeasure of the workers with incentives, unfair placement and improper use of waste containers, inadequate assignment of budget to the sector and illegal ways of disposing wastes. This study implies that campaign engagement in Kibra Sub-county do not influence performance of solid waste management. People should be informed about the dangers of solid waste through campaigns because campaigns can increase the efficiency of domestic waste management and make collection service are satisfactory. If campaigns through community participation are always adhere to the designated days for waste collection performance will be improved. Campaigns can help the resident to learn recycling of solid waste and ensure that proper waste separation is carried out perfectly in Kibra Sub-County.

4.3.3 The influence of Actors of SWM and Performance of Solid Waste Management

The third objective was to assess how actors influence solid waste management on performance of SWM Kibra Sub- County in Nairobi County.

The study first set out to establish the extent to which actors influence the performance of solid waste management and mean and standard deviation was used to ease data interpretation. The findings are clearly illustrated in the Table 4.9 below.

Table 4.9: Extent to which SWM Actors influence SWM

Statements	SA	A	U	D	SD	Mean	SD
1.The actors have ensured that the designated waste collection points are provided through stakeholders partnerships	8(8)	74(73)	9(9)	2(2)	10(10)	3.67	.719
2.Through dialogue, solid waste actors have designated days for waste collection in Kibra sub-county	74(73)	9(9)	4(4)	7(7)	8(8)	2.28	1.315
3.Actors of solid waste management have brought the appropriate waste storage techniques which are employed by stakeholders through consultations	8(8)	63(63)	15(15)	14(14)	2(2)	2.19	1.210
4.Partnerships between SWM actors has improved waste collection and transportation of solid waste from Kibra Sub- County	56(55)	34(33)	4(4)	5(5)	3(3)	1.97	1.164
5.Empowerment of the SWM actors and relevant stakeholders to carry out recycling has increased the efficiency of domestic waste management	2(2)	14(14)	17(17)	69(68)	0(0)	2.66	1.307
6.There is adequate dialogue among actors and relevant stakeholders in waste management	11(11)	13(13)	56(55)	19 (19)	3(3)	2.66	1.307
7.The SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County	11(11)	13(13)	56(55)	19 (19)	3(3)	2.66	1.307

8.The SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County	11(11)	13(13)	56(55)	19 (19)	3(3)	2.66	1.307
Overall composite mean and standard deviations						**2.593**	**1.204**

Source: Author (2022)

As per the influence of actors on performance of SWM Kibra Sub- County in Nairobi County eight statements were developed the first was the actors have ensured that the designated waste collection points are provided through stakeholders partnerships generated the following results 8(8%) strongly agreed, 74(73%) agreed, 9(9) indicated neutral, 2(2%) disagreed and 10(10%) strongly disagreed. This statement generated a mean of 3.67 and standard deviation .719. Through dialogue, solid waste actors have designated days for waste collection in Kibra sub-county results were as follows 74(73%) indicated strongly agree 9(9%) agree 4(4%) indicated neutral, 7(7%) indicated disagree and 8(8%) indicated strongly disagree. This statement generated a mean of 2.28 and standard deviation 1.315. on whether actors of solid waste management have brought the appropriate waste storage techniques which are employed by stakeholders through consultations 8(8%) indicated strongly agree, 63(63%) indicated agree, 15(15% were neutral 14(14%) indicated disagree and 2(2%) indicated strong disagree. This item had a mean of 2.19 and standard deviation 1.210. Partnerships between SWM actors has improved waste collection and transportation of solid waste from Kibra Sub- County findings were as follows 56(55%) strongly agreed, 34(33%) agreed, 4(4%) were neutral, 5(5%) disagreed and 3(3%) strongly disagreed. The statement generated a mean of 1.97 and standard deviation 1.164. Empowerment of the SWM actors and relevant stakeholders

to carry out recycling has increased the efficiency of domestic waste management the response was as follows 2(2%) strongly agreed, 14(14%) agreed, 17(17%) were neutral and 69(68%) disagreed. It generated a mean score of 2.66 and 1.307. On there is adequate dialogue among actors and relevant stakeholders in waste management 11(11%) strongly agreed, 13(13%) agreed, 56(55%) were neutral 19 (19%) disagreed and 3(3%) strongly agreed. This item had a mean of 2.66 and standard deviation 1.307. The SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County results were as follows; 11(11%) indicated strongly agree, 13(13%) indicated agree, 56(55%) were neutral, 19(19%) disagreed while 3(3%) indicated strongly disagree. The statement had a mean of 2.66 and standard deviation 1.307. The final statement developed was the SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County the finding were 11(11%) strongly agreed, 13(13%) agreed, 56(55%) were neutral 19(19%) disagreed while 3(3%) strongly disagreed. The statement generated a mean of 2.66 and standard deviation 1.307. These results agreed with Van Dijk (2016) who investigated the role of New Public Management (NPM) through actors to private sector and involvement in solid waste collection services found out that the solid waste actors bring extension of the market mechanisms which help the issues of waste management especially in developing countries.

This implies that the actors of SWM in Kibra Sub- County in Nairobi County influence the performance of solid waste management. This could be because in general, the actors have ensured that the designated waste collection points are provided through stakeholders

partnerships. Also the SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County.

4.3.4 Performance of solid waste management in Kibra Sub- County in Nairobi County

The study finally sought to evaluate the respondents' measures on performance of solid waste management in Kibra Sub- County in Nairobi County as illustrated in the table below.

Table 4.10: Performance of Solid Waste Management

Statements	SA	A	U	D	SD	Mean	SD
1.There are effective measures for solid waste management	0(0)	32(31)	21(21)	37(36)	12(12)	3.28	1.037
2.Performance of SWM IS challenge at Kibra Sub- County	0(0)	11(11)	24(24)	56(55)	11(11)	3.65	.814
3.The performance of solid waste management is hindered by poor collection process and transportation.	1(1)	4(4)	53(52)	43(42)	3(3)	3.35	.623
4.Illegal dumping has made performance of solid waste poor	16(16)	34(33)	15(15)	24(24)	13(13)	2.84	1.303
5.We are aware of danger posed by poor SWM	32(31)	8(8)	39(38)	16 (16)	7(7)	2.58	1.269

6.There are adequate disposal options and sites for SWM in the County	30(29)	21(21)	29(28)	14 (14)	8(8)	2.50	1.264
7.The disposal options and sites of SWM are managed well	35(34)	18(18)	23(23)	19(19)	7(7)	2.46	1.317
Overall composite mean and standard deviations						**2.746**	**1.155**

Source: Author (2022)

According to Table 4.8, majority of the respondents did not agree that performance of solid waste management in Kibra Sub- County in Nairobi County was good. Specifically, findings on there are effective measures for solid waste management 32(31%) indicated agree, 21(21%) indicated neutral, 37(36%) indicated disagree, 12(12%) indicated strongly agree. This statement had a mean of 3.28 and standard deviation 1.037. Secondly, on performance of SWM is a challenge at Kibra Sub- County 11(11%) agreed, 24(24%) were neutral, 56(55%) disagreed and 11(11%) strongly disagreed. The statement had a mean of 3.65 and standard deviation .814. The performance of solid waste management is hindered by poor collection process and transportation findings were 1(1%) strongly agreed, 4(4%) agreed 53(52%) were neutral, 43(42%) disagreed and 3(3%) strongly disagreed. The item generated a mean score of 3.35 and standard deviation .623. Illegal dumping has made performance of solid waste poor response was as follows; 16(16%) indicated strongly agree 34(33%) indicated agree, 15(15%) indicated neutral, 24(24%) indicated disagree while 13(13%) indicated strongly disagree. The statement attracted a mean of 2.84 and standard deviation 1.303. On we are aware of danger posed by poor SWM 32(31%) strongly agreed, 8(8%) agreed, 39(38%) indicated neutral, 16 (16%) disagreed and 7(7%) strongly disagreed. It generated a mean of 2.58 and standard deviation 1.269. There are adequate

disposal options and sites for SWM in the County the findings were 30(29%) strongly agreed, 21(21%) indicated agree, 29(28%) indicated neutral 14 (14%) indicated disagree while 8(8%) indicated strongly disagree. This statement had a mean of 2.50 and standard deviation 1.264. According to the disposal options and sites of SWM are managed well 35(34%) indicated strongly agree, 18(18%) indicated agree, 23(23%) indicated neutral 19(19%) indicated disagree, 7(7%) strongly disagree. The item generated a mean score of 2.46 and standard deviation of 1.317.

The findings imply that performance of solid waste management in Kibra Sub- County have ineffective measures for solid waste management which is hindered by poor collection process and transportation. In addition, illegal dumping has made performance of solid waste poor and the residents are no sensitized on the danger posed by poor SWM. The study further revealed that there are inadequate disposal options and sites for SWM in the area where the disposal options and sites are not managed well.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study findings, discussions, conclusion and the recommendations given after considering the study results. The purpose of the study was to investigate the influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County. The study answered the following research questions how does awareness and attitudes influence the performance of solid waste management in Kibra Sub- County? How does campaign engagement influence the performance of solid waste management Kibra Sub- County in Nairobi County? And how does actors in solid waste management influence performance of SWM Kibra Sub- County in Nairobi County?

5.2 Discussion

The main objective of the study was to establish the influence of community participation and performance of solid waste management. This section will discuss the study finding and link the findings with the literature review.

5.2.1 The influence of awareness on the performance of solid waste management

The study found out that creating awareness in the solid waste management is a key factor in the performance. These findings are similar to Ahmad (2015) who conducted a study and examined the practice and level on awareness of the solid waste. It is similar to this study as revealed that the roots of continuing problems on solid wastes towards improved environmental affects the performance of solid waste in the Municipality of Los Baños was

lack of awareness. Ahmad (2015) recommended that maintenance of awareness of good environmental should serve as model community of the environment in the entire country. Abang (2016) findings went contrary to thes findings as it revealed that there is existence of a wide knowledge gap necessitates the need for environmental researchers to investigate the community attitude on the issue of managing solid wastes and provide recommendations to relevant stakeholders. In line with this Eneji et al (2016) on the impact of waste disposal awareness and the performance of solid waste management in Tanzania Kigoma showed that the awareness towards waste affects performance of waste management has a greater effect. The implication of the results is that the Kigoma residents showed that they have very negative attitude towards waste management and disposal. The study concluded that because of the negative attitude the residents of Kigoma have towards the management and disposal of their waste, it has some significant influence on their health status.

5.2.2 The influence of campaign engagement on the performance of solid waste management

From the findings the study shows that campaign engagement does not influence performance of solid waste management as it has not ensured the proper waste separation in Kibra Sub-county. These results is contrary to Asrat, (2016) who examine the effects of campaign engagement and the performance of household waste management in Arada sub-city and found it the campaigns have positively affected solid waste management. But National Development Plan of (2017) had same findings with this study which suggested the implementation of policy of waste management which could address different approaches for proper solid waste management.

5.2.3 The influence of actors in solid waste management on the performance of SWM

The study implies that actors play an important role in the solid waste management in Kibra Sub-county. This was similar to a study done by Van Dijk (2016) on the role of New Public Management (NPM) to private sector and involvement in solid waste collection services found out that the extension of the market mechanisms of the New Public Management (NPM) through the actors to private is still an emerging issue, especially in developing countries. Also Ngau and Kahiu (2009) together with this findings found out that actors for example the Non-governmental organizations and community-based organizations are mostly found in informal settlement such as Dandora, Kayole and Kibera where solid waste is dumped near roads, drainage systems and other undersigned areas has improved that solid waste management.

5.3 Summary of Main Findings

5.3.1 Awareness and SWM Performance

Seven statements were developed to measure the influence of awareness and performance of solid waste management in Kibra Sub-County, the mean values varied from 3.50 to 3.67 which show that the respondents agreed that awareness influences the performance of solid waste management in Kibra-Sub-country in Nairobi County Kenya. The county council organizes citizen panels to discuss solid waste management generated a mean of 3.52 and standard deviation .766. The second statement was the county council carries out domestic waste management people surveys had a mean of 3.50 and standard deviation .625. Domestic waste management people surveys improve domestic waste management practices among residents had a mean score of 3.53 and standard deviation of .670. Partner

meetings are held between residents, business operators and the county council generated a mean of 3.66 and standard deviation .735. The county council sensitizes residents on proper solid waste management practices during the stakeholder workshops generated a mean of 3.67 and standard deviation .691. Stakeholder's workshops are effective channels of improving domestic waste management practices by residents and business owners generated a mean score of 3.67 and standard deviation .691. The county council carries out domestic waste management people surveys which are adequate generated a mean of 3.67 and standard deviation .785.

5.3.2 Campaign Engagement

According to the extent to which campaign engagement influence performance of solid waste management the mean values varied from 1.97 to 3.67 which shows that campaign engagement does not influence performance of solid waste management. Campaigns have ensured that proper waste separation is carried out in the area, it generated a mean of 3.67 and standard deviation .719 Stakeholders are empowered through campaigns to carry out recycling of solid waste had a mean score of 2.28 and standard deviation 1.315. Campaigns have improved the performance of the waste collectors who always adhere to the designated days for waste collection generated a mean score of 2.19 and standard deviation 1.210. Through campaigns solid waste collection service is satisfactory to the residents of Kibra sub-county the mean value was 1.97 and standard deviation 1.164. Finally the statement analyzed was campaign engagement of solid waste management between stakeholders have increased the efficiency of domestic waste management the mean score was 2.66 and standard deviation 1.307.

5.3.3 SWM Actors

As per the influence of actors on performance of SWM Kibra Sub- County in Nairobi County eight statements were developed the first was the actors have ensured that the designated waste collection points are provided through stakeholders partnerships generated a mean of 3.67 and standard deviation 719. Through dialogue, solid waste actors have designated days for waste collection in Kibra sub-county generated a mean of 2.28 and standard deviation 1.315. Actors of solid waste management have brought the appropriate waste storage techniques which are employed by stakeholders through consultations had a mean of 2.19 and standard deviation 1.210. Partnerships between SWM actors have improved waste collection and transportation of solid waste from Kibra Sub-County generated a mean of 1.97 and standard deviation 1.164. Empowerment of the SWM actors and relevant stakeholders to carry out recycling has increased the efficiency of domestic waste management generated a mean score of 2.66 and 1.307. There is adequate dialogue among actors and relevant stakeholders in waste management had a mean of 2.66 and standard deviation 1.307. The SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County had a mean of 2.66 and standard deviation 1.307. The SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County generated a mean of 2.66 and standard deviation 1.307.

5.4 Conclusions

Firstly, the study sought to determine the influence of awareness on the solid waste management. The study revealed that creating awareness in the solid waste management is a key factor in the performance. Lack of sensitization is the roots of continuing problems on solid wastes towards improved environmental and has negatively affected the

performance of solid waste in not only in Kibra Sub-county but also in Kenya in general. Solid waste management through awareness has brought surveys that have improved domestic waste management practices among residents of Kibra Sub-county. The study revealed that the county council sensitizes residents on proper solid waste management practices during the stakeholder workshops through stakeholder workshops that have improved solid waste management practices by residents and business owners.

Secondly, the study examined the extent to which campaign engagement has influenced the performance of solid waste management in Kibra Sub-County in Nairobi County Kenya. From the analysis the study implied that campaign engagement in Kibra Sub-county does not influence performance of solid waste management. People should be informed about the dangers of solid waste through campaigns because campaigns can increase the efficiency of domestic waste management and make collection service are satisfactory. If campaigns through community participation are always adhering to the designated days for waste collection performance will be improved. Campaigns can help the resident to learn recycling of solid waste and ensure that proper waste separation is carried out perfectly in Kibra Sub-County.

The third objective was to assess how actors influence solid waste management on performance of SWM Kibra Sub- County in Nairobi County. The findings revealed that t the actors of SWM in Kibra Sub- County in Nairobi County influence the performance of solid waste management. This could be because in general, the actors have ensured that the designated waste collection points are provided through stakeholders partnerships. Also the SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County.

The study finally sought to evaluate the respondents' measures on performance of solid waste management in Kibra Sub- County in Nairobi County. The findings implied that performance of solid waste management in Kibra Sub- County has ineffective measures for solid waste management which is hindered by poor collection process and transportation. In addition, illegal dumping has made performance of solid waste poor and the residents are no sensitized on the danger posed by poor SWM. The study further revealed that there are inadequate disposal options and sites for SWM in the area where the disposal options and sites are not managed well.

5.5 Recommendation

The study has revealed that awareness in the solid waste management is a key factor in the performance, lack of creating awareness among the residents of Kibra is the roots of continuing problems on solid wastes towards improved environmental and has negatively affected the performance of solid waste in not only in Kibra Sub-county but also in Kenya in general. Therefore, the relevant stakeholder that is NEMA, County Government and the Actors should arrange a workshop in Kibra and other slums in Nairobi to create awareness on the dangers of solid waste management so as people could identify the dangers of good solid waste management and improve in the performance. By creating the awareness, proper waste management would be adhered to and create clean environment.

Campaigns also should be planned within Kibra sub-county. These may be useful as it can sensitize on proper waste management from disposal to transportation. The use of Lorries, posters, can be of good help. And lastly SWM actors for example CBOs, NGOs, Government and any other should come together and agree on the proper ways of solid

waste management so that residents of Kibra Sub-county can have a clean and health environment.

5.6 Areas of Further research

This study sought to establish to investigate the influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County. Other researchers could look at other community participation variables practices in other countries. For example, awareness, campaign engagement and SWM actors variables could be studied independently so as to compare the findings.

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APPENDICES

APPENDIX I: INTRODUCTION LETTER

Date…….

Dear Respondent,

I am a student at Africa Nazarene University taking a Post-Graduate Diploma in Monitoring and Evaluation. I intend to carry out a research on the influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County. Your responses to the questions provided will make the study a success and your responses will be treated with utmost confidentiality. Please read the questions carefully and provide the right answers to the questions as honestly as you can.

I will be grateful if you kindly spare some time to fill the questionnaire.

Yours Faithfully,

Irene Wamukota

APPENDIX II: QUESTIONNAIRE

The purpose of the study is to examine the influence of community participation and performance of solid waste management in Kibra Sub- County, Nairobi County. Please provide your sincere feedback by responding to the questions below.

Instructions: Please tick in the brackets (√) as appropriate.

Section A: Demographic Information

Gender: Male ( ) Female ( )

Age bracket

18 – 30 years ( ) 31 – 40 years ( ) 41 – 50 years ( ) 51 and above ( )

Highest level of education

Certificate ( ) Diploma ( ) Degree ( )

Masters ( ) Others Specify.....

No. of years worked in garbage management company

Less than 3 years ( )

3 – 5 years ( )

5 – 10 years ( )

Over 10 Years ( )

1 section

Management section ( )

Disposal department ( )

Collection section ( )

SECTION B: THE INFLUENCE OF AWARENESS ON PERFORMANCE OF SOLID WASTE MANAGEMENT IN KIBRA SUB- COUNTY, NAIROBI COUNTY

In the table below, rate the extent to which you agree with the following statements on the influence of awareness on solid waste management practices in Kibra Sub-County using 1 – 5 likert scale guidelines provided where 1- Strongly Agree 1 - Agree 3- Undecided 4- Disagree 5- strongly Disagree

Statements	**1**	**2**	**3**	**4**	**5**
1.The county council organizes citizen panels to discuss solid waste management issues					
2.The county council carries out domestic waste management people surveys					
3.Domestic waste management people surveys improve domestic waste management practices among residents					
4.Partner meetings are held between residents, business operators and the county council					
5.The county council sensitizes residents on proper solid waste management practices during the stakeholder workshops					
6.Stakeholder workshops are effective channels of improving domestic waste management practices by residents and business owners					
7.The county council carries out domestic waste management people surveys which are adequate					

SECTION C: THE INFLUENCE OF CAMPAIGN ENGAGEMENT ON PERFORMANCE OF SOLID WASTE MANAGEMENT KIBRA SUB- COUNTY IN NAIROBI COUNTY

In the table below, rate the extent to which you agree with the following statements on the influence of campaign engagement on solid waste management practices in Kibra Sub- County using 1 – 5 scale guidelines provided where 1- Strongly Agree 1 - Agree 3- Undecided 4- Disagree 5- strongly Disagree

Statements	1	2	3	4	5
1.Campaigns have ensured that proper waste separation is carried out in the area					
2.Stakeholders are empowered through campaigns to carry out recycling of solid waste					
3.Campaigns have improved the performance of the waste collectors who always adhere to the designated days for waste collection					
4.Through campaigns solid waste collection service are satisfactory to the residents of Kibra sub-county					
5.Campaign engagement of solid waste management between stakeholders have increased the efficiency of domestic waste management					

SECTION D: THE INFLUENCE OF SWM ACTORS ON PERFORMANCE OF SOLID WASTE MANAGEMENT KIBRA SUB- COUNTY IN NAIROBI COUNTY

In the table below, rate the extent to which you agree with the following statements on the influence of SWM actors on solid waste management practices in Kibra Sub-County using 1 – 5 scale guidelines provided where 1- Strongly Agree 1 - Agree 3- Undecided 4- Disagree 5- strongly Disagree

Statements	1	2	3	4	5
1.The actors have ensured that the designated waste collection points are provided through stakeholder partnerships					
2.Through dialogue, solid waste actors have designated days for waste collection in Kibra sub-county					
3.Actors of solid waste management have brought the appropriate waste storage techniques which are employed by stakeholders through consultations					
4.Partnerships between SWM actors has improved waste collection and transportation of solid waste from Kibra Sub- County					
5.Empowerment of the SWM actors and relevant stakeholders to carry out recycling has increased the efficiency of domestic waste management					
6.There is adequate dialogue among actors and relevant stakeholders in waste management					
7.The SWM actors have come up with a legal and instructional framework for the management of solid waste in Kibra Sub- County					

SECTION E: PERFORMANCE OF SOLID WASTE MANAGEMENT IN KIBRA SUB- COUNTY IN NAIROBI COUNTY

Please indicate your opinion as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guideline

1- Strongly Agree 1 - Agree 3- Undecided 4- Disagree 5- strongly Disagree

Statements	**1**	**2**	**3**	**4**	**5**
There are effective measures for solid waste management					
Performance of SWM IS challenge at Kibra Sub- County					
The performance of solid waste management is hindered by poor collection process and transportation.					
Illegal dumping has made performance of solid waste poor					
We are aware of danger posed by poor SWM					
There are adequate disposal options and sites for SWM in the County					
The disposal options and sites of SWM are managed well					

Thank you for your participation.

APPENDIX III: MAP OF THE STUDY AREA