EFFECTIVENESS OF SOLID WASTE MANAGEMENT PROGRAMS IN KENYA: A CASE OF KILIFI COUNTY

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DECLARATION

I hereby declare that this research report is my original work and has not been submitted for another dissertation in this university or elsewhere for the purpose of examination or otherwise.

SIGNATURE ……. **DATE……**

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This research report has been submitted for examinations with my approval as the Supervisor

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DEDICATION

I express my heartfelt indebtedness to my clique for the support they have accorded me in my pursuit for further education. A special mention goes to my dear wife Jacinta for the encouragement and dedication towards success in my studies. I cannot forget my four children, Shanice, Keith, Martin and Justin in their dedication and support. I also thank all others who have played a role or the other towards the fruition of this proposal. Above all, a special thank you to God, for His enormous grace and for making all this possible.

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ABBREVIATIONS AND ACRONYMS

C : Calculated chi-square

GWMO : Global Waste Management Outlook

H_o : Null Hypothesis

H_1 : Alternative Hypothesis

JICA : Japanese International Corporate Agency

NCC : Nairobi City Council

MSWM : Municipal Solid Waste Management

MRA : Multiple Regression Analysis

PPPs : Public-Private Partnership

SWM : Solid Waste Management

TQM : Total Quality Management

UNEP : United National Environmental Program

UNDP : United Nation Development Program

ABSTRACT

The Global Waste Management Outlook (GWMO), (2010), estimates solid waste (SW) production in Kenya at 2 billion tonnes which forms part of mandate county governments are responsible for disposal. Thus a need to make sure that the counties have efficient solid waste management (SWM) programs. The study was therefore done to evaluate the Efficiency of SWM Programs in Kenya- specifically Kilifi County, being guided by four specific objectives; How Public-Private Partnership(X_1), Community Participation (X_2), Budget Allocation (X_3) and Government Policy (X_4) Influence Effective SWM Programs in Kilifi county. Descriptive design with the target population of 1,453,787drawn from Kilifi County where multistage and random sampling techniques gave sample size of 72 subjects. Data was captured using questionnaires. Data analysis was through descriptive statistics and chi square to ascertain effect of the variables using SPSS. Findings were that all the four variables of the study indeed have effect to SWM programs in Kenya. X_1 Hypothesis test results revealed that the calculated $\chi 2(223.4 = P< .001)$. While X_2 indicated that, the $C\chi 2 =268.5$ = P-value in the asymptotic significance column was 0.00001. X_3 revealed $C\chi 2 =216.9$ where P-value was .00001. And X_4 established $\chi 2C=201.88$ with P Value and P-value was 0.0001. The study rejected all the H_O and accepted H_1 which established there was relationship between all the study variables and waste management programs. Illustration of R=0.532 represents the simple correlation; therefore, a moderate positive linear relationship among independent variables and effective SWM programs in Kenya existed. $R^2=0.283$ which indicated the total difference the dependent variable is clarified by the independent variables. In this case, the four independent variables explained 28.3% of the variability in effective SWM programs in Kenya and 72.7% variation in sustainable implementation being described by external issues not discussed in this research project. Regression analysis was done model equation; Effective SWM Programs (Y) =3.197+ 0.188 Public-Private Partnership (X_1) + 0.213 (Community Participation (X_2) + 0.177 (Budget Allocation (X_3) + 0.080(Government Policies (X_4). The model described that all the elements had a positive influence on the effective SWM programs. This regression equation proved that when all other elements are held constant (no determinants or elements) effective SWM programs would be 3.197. The study concluded, public-private partnership and availability and proper management of budget allocation as key determinants of effectiveness of the SWM programs. It also uncovered that community participation greatly weighs in on the performance of SWM programs thus improved greatly efficiency and effectiveness of the programs. Lastly, proper government policies must be imposed to ensure legal policy and regulatory frameworks to ensure proper governance of SWM programs and sustainability. Future research required in all Counties across the Country. This will bring relevant information that could be useful for policy framework that focuses on to promoting effectiveness of the SWM in Kenya.

Keywords: ***Public-Private Partnership, Community Participation, Budget Allocation, Government Policies and Effective Solid Waste Management (SWM) Program***

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Throughout history, development of human beings is always inherently connected to their capacity to control of solid waste because of its influence on community and ecological system. Waste management has an extensive very complex history and its origin can be traced way back in time (Nathanson, 2015). Here Greeks had difficulties bringing into line a waste eradication system to the increasing number of its residents, they also experienced land and sanitation challenges. In time solid waste was identified as a menace to both social and ecological matters because many cities had grown fast, which led to worsening of the waste management (Mezier, 2013).

As economic activity grows, so does solid waste generation in municipalities in terms of kg/capita/ day at a world scale. According to Japanese Corporation agency (JICA) study (2010), systematic solid waste collection service had been a challenge, dumping was done in open areas, on roads, on the streets and along waterways. Most dumpsites as a result of invasion by the animals and street kids (pickers) became breeding places for disease vectors, flies and rats. The dumps decomposition results to infection of water and soilthus contaminate food which causes diseases and or grave ecological issues. The uncollected garbage may additionally block drains and dam up stagnant water, encouraging the breeding of mosquitoes and other dangerous insects resulting to various diseases (JICA 2010).

Continuous rural-urban migration has resulted to increased urban waste thus management of these waste is a universal problem. United Nations Humanitarian Settlement Habitat projects estimates that the global metropolitan population would have increased to about 70 million by 2020 thus increasing slum dwellers (UN-Habitat, 2013). If situation continues as presently is and policies are not reversed, there will be around to 1.5 billion urban slum settlements by 2020.

The United Nations Millennium Development Goals has targets of having cities with no slums and to improve the lives of more than 100 million slum occupants significantly before 2020 (UNEP & UN-Habitat, 2013). The urban rural migration has increased waste generation where and increase in 7% of increase in waste in 2006 was noted compared to 2003 (UNEP, 2012), there is also an 8 per cent increase in waste per year between the year 2007 and 2011. In this regard, the counties and countries are required to carefully observe the projected trends and plan their waste disposal accordingly. Nevertheless, the counties may not tackle the waste issue diligently as they tend to face problems in managing wastes (Sujauddin, 2008). The main problems faced by the municipalities are lack of finance, poor planning, multifaceted nature of its operations and structural issues (Burntley, 2007). Other direct challenges are the rapid increase of waste production, waste management costs, scarce information on waste management and networks that ensure functionality of the programs. In addition to those, increased economic activity, rise in population and urbanization plus a need for an improvement in living standards have contributed to increased waste levels in most developing countries (Minghua, 2009). To curb this waste increase counties have a responsibility of efficiently and effectively managing waste in their areas and possibly reuse it.

According to Minghua, (2009) Solid wastes may be described as unused accumulated materials including garbage or scrap and or refuse of human activities. As a result of changing consumption patterns brought about by globalization, disposal of waste may lead to environmental degradation. Increased developmental activity in a country may result to solid wastes, for example in Accra, 2800 tons of solid waste is created daily while an equivalent of just 2200 tones is managed meaning 600 tones is left in the open affecting the environs. Environmental Protection Agency intervention in waste management report (Bodoe, 2014) revealed that Ghana experience floods because 97% of Ghana's government sewerage plants are not in working condition.

Urban centres experience major issues in handling of waste which cumulates and creates dumpsites in major city centers. Nairobi produces the most waste of 6.2 tones According to UNEP, (2015), which is mostly discarded at Korogocho, Mathare and Dandora dumpsites.

JICA in 2012 used the scientific methods on waste management in the Dandora dumping site but it was not successful, though it was the first phase. Waste continues to accumulate especially in the informal settlements because of a lack of dumping sites within the city this has affected garbage collectors who are unregistered. While the registered ones with trucks, pushcarts cue at the Nairobi's Dandora dumpsite trying to offload.

Scholars have retreated that waste increase is directly connected to population growth, suburbanization and economic activity (Mazzanti & Zoboli, 2008), which implies that as a nation grows economically the more waste it's likely to produce. Economic growth is paramount for birth developing and developed countries, this is because it is through economic development that it is able to improve the socio-economic welfare of its citizens. As a result waste generation is simply unavoidable in all economies despite its adverse effect on the social and economic welfare of inhabitants of a country (Wilson et al 2006). Challenges of waste managing in counties include: inadequate governing structures, unreliable private public partnership (PPP), inadequate assets to control solid waste and lack of right legislature (Ndum, 2013).

According to Ndum (2013), the best option of waste management would be the bottom-up approach. He indicates that a top-down approach to waste management may not be effective without organization of users in the community. Contribution of community reduces conflicts and confrontation in execution of SWM approaches. Outcome of his study shows that capacity development and initiatives are critical to waste management sustainability. Ndum (2013) study also established it is also important to carry out awareness campaigns for all community awareness on how waste management is paramount. Insufficiency that is pointed out from preceding studies is that there was a shortage of an all-inclusive system of handling waste, most studies projected a single solution to achieve a final disposal of all kind of industrial waste.

It is therefore significant for a manufacturing organization to embrace sustainable waste management systems that will be practical and environmentally, economically and socially acceptable (Hoveidi et.al., 2013). The employment of an integrated SWM decision support system is key. This model should therefore be all-round to accommodate social, economic and environmental elements.

1.2 Statement of the problem

The aggregate dense waste in the world is projected at around 2 billion tonnes by Global Waste Management Outlook (GWMO), 2010, which a country's municipalities are in charge of managing. Almost half of the solid watse is produced in highly developed areas in Europe, Canada, Asia. The main challenge faced by both developed and developing nations is proper disposing of waste (Gakungu, et al. 2012). In Kenya SWM is a crucial activity because rural-urban migration is increasing daily resulting to increased waste generation with constrained waste disposal resources. In addition globalization as resulted in increased industrial activity which means more poisonous industrial wastes continue to be generated while Kenyan government has devolved waste management to counties (Gakungu, et al. 2012). This challenging because of inadequate resources and poor planning (Ndum, 2013) whilst the impact poor solid waste management is being felt and becoming a menace as days go by. Poor solid waste management leads to accumulated garbage which become breeding places for bad germs which risks disease outbreaks for slums dwellers, blockage of drains hence causing floods, and the chemicals may affect fish in lakes and sea.

For the case of Kilifi County, SWM is a mandate of the Department of Environment, Natural resources and SWM in the County Government of Kilifi. Despite the availability of various policies and legislations aimed at providing a legal framework to coordinate SWM functions, poor enforcement of the same and a raft of many other factors are contributing to the current Kilifi County Reports (2018). Whereas the Community Based Organization (in this case the local youth groups) do collect waste and take them to a central place where the county government is supposed to collect the waste, the county fails to do so. Furthermore, the large populations outdoing the little infrastructure available, the unplanned settlements and the fact that there is the

issue of absentee landlordism have largely contributed the problem of unsustainable SWM practices in the area (GWMO), 2010

Besides, many of the settlers are tenants, and the fact that they do not have the security of land tenure inhibits them from contributing to any developmental issues. The low level of education on sustainable SWM practices by the residents of Mtwapa Township and its surroundings compounds the problem according to First County Integrated Development Plan (2013-2017).

If nothing is done on SWM, the negative impacts such as exposure of residents to diseases because dumpsters are breeding grounds for disease-causing microorganisms, clogging of drains and effects of industrial effluents to marine sustainability which is a key revenue point for Kilifi may slow developmental progress in the county. Thus the county will lose funds that were to be used for other developmental projects being used in rescue and salvage activities. There is evidence that most waste is dumped openly and thrown into the sea thus posing dangers to the environment and thus cause hazards to the marine parks within the coastal strip (Kilifi County Integrated Development Plan (2019). This is an issue which might get out of hand, therefore, justification of the study to investigating an assessment on SWM Programs in Kenya; Kilifi County with a view of coming up with a sustainable and cost effective solutions.

1.3 The purpose of the study

The purpose of this study was to examine effectiveness of Solid Waste Management Programs in Kenya the case of Kilifi County.

1.4 Objectives of the study

The study was guided by these specific objectives:

- **i.** To establish how Public-Private Partnership influence effective SWM Programs in Kenya- Kilifi County
- **ii.** To assess how community participation influences effective SWM Programs in Kenya- Kilifi County
- **iii.** To evaluate how budget allocation influences effective SWM Programs in Kenya- Kilifi County

iv. To examine how Government policies, influence effective SWM Programs in Kenya- Kilifi County

1.5 Research Questions

This study questions were:

i. How does Public-Private Partnership influence effective SWM Programs in Kilifi County?
ii. How does community participation influence effective SWM Programs in Kilifi County?
iii. How does budget allocation influence effective SWM Programs in Kilifi County?
iv. How does Government policies influence effective SWM Programs in Kilifi?

1.6 Research Hypotheses

The research was guided by four hypothesis:

i. **H_0**There is no significant relationship between Public-Private Partnership and effective SWM Programs in Kenya.
   H_1There is a significant relationship between Public-Private Partnership and effective SWM Programs in Kenya.

ii. **H_0**Thereis no significant relationship between is between Community Participation and effective SWM Programs in Kenya.
   H_1Thereis a significant relationship between is between Community Participation and effective SWM Programs in Kenya

iii. **H_0**There is no significant relationship between Budget Allocation and effective SWM Programs in Kenya
   H_1There is a significant relationship between Budget Allocation and effective SWM Programs in Kenya
iv. **H_0**There is no significant relationship between Government Policies and effective SWM Programs in Kenya.

H_1 There is a significant relationship between Government Policies and effective SWM Programs in Kenya.

1.7 Significance of the study

The outcomes help establish relationship between PPP and effective SWM, and what method it may be enhanced for better service delivery. It will also define the level of public involvement in SWM can give more effective results. The study will also delve into other factors that have an effect on effective SWM such as such as budget allocations and government policies and if adopted will be of benefit to Kilifi County residents who shall be primary beneficiaries of a better environment thus, be able to adapt to better models and management strategies on Waste Management. They will acquire prerequisite knowledge on the same. This study is a source of knowledge for researchers. Key actors with on policy level, higher learning institution, legislation both national and county level will have information on an insight on such important changes and policy framework formulation

1.8 Basic Assumptions of the study/Proposal

The study presumed that Public-Private Partnership, Community Participation, Budget Allocation and Government Policies had an important influence on effective SWM. Additionally, was expected that all respondents will be informed of the research. Hence, an assumption that all respondents will give correct information truthfully.

1.9 Delimitations of the study

This work was done in Mtwapa Township located in Shimo la Tewa ward, Kilifi County. The study also focused to key stakeholders within the line ministries and resident's community among others. The study focused to investigating factors such as PPP, community participation, Budget allocation and environmental policies that may have a direct influence on the effectiveness of SWM Programs in Kenya

1.10 Limitations of the study

This research was restricted by several factors which include time constraint to cover the whole ward. However, the researcher will due to the sensitivity of SWM where many landlords did not follow proper procedures, they were reluctant to offer

information. However, the researcher assured the respondents of absolute confidentiality. COVID-19 was a key factors due to social distancing aspect. However, the researcher used drop off and pick approach on the questionnaires. And where need be called through phone for clarity with the stakeholders.

1.11 Definition of Significant Terms

Public-Private Partnership: is corporation formed between a public entity or agency and the private sector entity, which is designed in agreed upon terms; the funding, organizing, execution and effecting use of public sector facilities and services using expertise of private entity.

Solid Waste: Items or materials that are disposed of because the original consumer needs them no more.

Management Programs: Is the organization, controlling, planning of disposal functions of waste control. Refers to the assembly of projects that are accomplished as a group to achieve efficiencies of scale for the concerned parties**.**

Community Participation: People involvement in matters or problems that affect them. Hence where the society/Community take charge on matters that affect them.

Budget Allocation: Refers to the projected and approved budget for the estimated expenditure required for implementing programs planned.

Environmental Policies: A course of intentional/regulated action for environmental protection: Kenya parliament act on laws that affect environment foreign policy; the company's personnel policy examples among others.

1.12 Organization of the Study

This study was composed of five chapters. One containing background of the study, introduction, and statement of the problem, the purpose of the study, significance and definitions of significant. Chapter two was the literature review, variables and conceptual framework. Chapter three; methodology used, the research design, target population, sampling and sample size, data collection procedures and data analysis technique. Chapter four entailed data scrutiny, presentations and interpretations in accordance to four objectives reported. Chapter five dwelt on summary of findings, discussions, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provided an overview of previous literature reviews done on Effective SWM and reviews their deductions giving the gaps. It also provided the conceptual framework.

2.2 The Concept of Effective Solid Waste Management

Effective solid waste management leads to waste reduction and pollution prevention where the three terms are mainly used interchangeably. The aim is to reduce waste as well as toxicity of waste to the environment. This an area of concern for policy makers and researchers since despite this straightforward definition, it has been difficult for government to efficiently manage solid waste. Campaigns for solid waste management should focus on waste reduction to preserve the surroundings of the citizens to improve it's the living conditions (Tonglet, 2009).

There is a more elaborate definition of waste management as prevention, and/or reducing the generation of hazard and campaigning for 3Rs reuse, recycle and recovery. The use of the 3Rs (reduce, reuse and recycling) can help in minimizing wastes (Franchetti, 2009) and Schall, (2012) proposes proper treatment through composting and/or burning to disposal waste. Regional strategy is key for proper disposal of waste both at local and national level by Read et al. (2008). Sustainability issues of SWM practices are pointed out in the various definitions using the 3Rs.

2.2.1 Public-Private Partnership and Effective Solid Waste Management (SWM) Programs

The public-private partnership is an effective SWM strategy as it ensures the involvement of the locals in management of waste of a county (JICA, 2010). Involvement of the citizens and private businesses can improve waste management as counties have limited resources, poor planning and mismanagement despite it being their responsibility to collect and manage wastes. The partnership with the citizens come in handy as they can promote quality and volume of service in waste

management. Conversely the UNESCA, 2011 report established that the solutions for effective waste management may not be well supported by the public and private partnership alone, though it can be used to improve strategy implementation to deliver positive outcome for waste management.

PPPs are arrangements the private sector steps up to undertake the responsibilities of the government for the mutual benefit of the partners (World Bank,2011) because mostly likely a privately owned institution may be better organized than a public one especially if it's on a performance contract. The PPPs can be inform of a contracted or transferred responsibility to accomplish an objective for the public entity, this leads to enhanced performance in terms of innovative and efficient operations, qualified personnel and easy access to funds to expand their capacity (UNEP 2011).

PPP provisions can be made in numerous ways, but power organization and policymaking is done together for mutual benefits of both parties. The objective of the partnership is to harness benefits of the private developer efficiency and expertise and public interest protection by the government (Ahmed, Ali, & Mon, 2006). The private citizens and businesses are sensitized on the waste amangement issues as part of social responsibility. The private sector's participation cannot be ignored since it's more efficient, accountable and has a holistic management style (World Bank 2011). Capabilities of the private segment can help minified waste that is produced daily because of the increase in population (UNESCAP, 2011). To add to the PPP a third party that is the citizens can improve the PPP service delivery, through payment for the service and be responsible in their disposal practices thus improve the SWM programs positively. Such an arrangement can make the service receiver more accountable and lead to better sanitation and waste disposal efforts in the area (Ahmad et al., 2006, UNESCAP, 2011).

The main four types of PPP; contracting, Design_Build_Finance_Operate, Build_own_operate, leases and service contracts as determined by EU(2012),thud these partnerships main objective is to improve service delivery efficiency. The models each has its own challenges and major mutual benefits for the stakeholders thus work together is crucial to reach goals. Thus before agreeing on the most suitable PPP

ideology, the nation's level of civil maturity and socio-cultural condition should be taken into account (UNDP, 2005).

2.2.2 Community Participation and Effective Solid Waste Management Programs

Community is a group of people that are related and form cohesion (Waste, 1996). The associates of the community share various norms in political, social and economic activities therefore they share a number of interests. To protect their interests members of have to come together which is a process known as Community Participation where inhabitants of a community take charge of their well-being and prosperity of the community and/or cultivate the capacity to improve their development as well as the community advancement at large. This motivated by the fact that they better understand their problems and can suggest better mechanisms to improve their welfare.

Community participation can be used as a solid waste management initiative and improve efficiency of services of the county/ country at large (Anschutz, 1996). SWM is a continuous maintenance program and therefore including the community is crucial for successful implementation. Educating the community of importance of waste management can improve and reduce wastes in urban areas it's only recently that this phenomena has received attention. Members of the community undertake the area-based SWM projects where the members are charged with the obligation to collect and disposal of waste in a dumping site and secondary collection is done by the counties (Ndum, 2013).

In a study done by Bulle (1999) its norm for county councils in the South to be confronted with management issues on solid waste management which include inadequate dumpsites, increased waste production and bureaucratic structures, poor legislation and limited financial resources. Community participation is seem as a cost effective model and eliminates poverty by creation of employment and healthy individuals (Craig & Mayo, 1995). A point emphasized by the World Bank because it helps undeveloped countries to give cost effective services while promoting self-help (Paul 1987). To guarantee sustainable development it is important to empower the poor through participation (Thomas, 1992). Community participation in SWM should

become the new norm for both National and County governments in the less developed countries. Therefore, for any project thrive, community participation is a pillar/ cornerstone because many county governments are constrained in terms of resources and therefore not able to deliver this basic service in the community (Pokhrel & Viraraghavan, 2005).

It has been determined when the local governments engage their community in service delivery they are most likely to achieve better results and improve their resource base (Pokhrel & Viraraghavan, 2005). Community participation creates a sense of ownership of development intiatives and thus ensures sustainability of the projects (World bank, 2016) However it was established by Kalwani, (2009) that despite the benefits of community participation in SWM may not realize its benefits because there is lack of proper mobilization, planning and coordination of the community to engage in SWM. It concluded that metropolises lacked commitment to engage the community SWM programs (Kalwani, 2009).

2.2.3 Budget Allocation and Effective Solid Waste Management Programs

(Seaga, 2001) implies that budget is an outline of spending and revenue over project's lifecycle. It is a projection of the probable costs incurred by undertaking planned tasks. Realization of programs are dependent on financial planning. An expert and a clear methodology to budget planning can assist in persuading financiers, donors and development banks thus make finances for the project available. It is crucial to obtain the inputs such as human resource, travel expenses, equipment and consumable, required for a project so as to realize the goals of the project (Philip et al., 2008).

The expenses should be clearly pointed out, listed and classified accordingly in order to organize costs for proper budgeting. The materials should be classified as indirect and direct expenses where the direct costs are ascribed directly to the project and can be pointed out by the user whereas the indirect cost may not be tracable to the project but its justifiable to keep the operations running (EC, 2009). Further, (Mddiadmin, 1996) explains that funds invested in Total Quality Management is used up as follows: as part of the implementation phase in activities such as procurement of materials,

training and the learning curve as well as part of the continuity of the TQM program. Many initial training costs are opportunity costs and don't give any cash flows but are a considered to be useful for success of the program.

There are three types of income for MSWM aaccrding to Appasamy and Nelliyatt, (2007) they are property taxation, grants and user charges. Other cash in approaches being used are deposit fund and volume-based systems in areas such as Tokyo, Jakarta and Bangkok (UNEP 2015). They are required to recycle by their laws through compulsory deposits and return specifications. Additionally, levies are charged directly and or indirectly through taxes on the property. Therefore, incase capital costs must be considered other substitute financing means are required. A case in point is in India where subsidies and grants are allocated for solid waste management. In regard to SWM, most households willingly pay for the services but partial cost for solid waste management.

Equally, policies not properly regulated and enforced result to none or low investment in disposal technologies. Various funding possibilities are thus been pursued, including PPPs and carbon tax to encourage efficiency through better technologies (Appasamy & Nelliyatt, 2007). To ensure effective MSWM, a collaboration of government and privately-run services is required keeping in mind the PPPs that have been replicated. Carbon financing should equally be explored in order to promote the use of Clean Developmental Mechanisms. The study further concluded that, in accordance to Financing and Incentives Schemes for SMW conducted by the EC, explicit methods are required for specific areas. A case in example is in Belgium where MSWM is financed through a domestic waste tax that is fixed and payable yearly. Denmark on the other hand employs differential collection scheme in form of weight-based for internal waste from the community and organizations. Italy uses "tagged bag" scheme with a fee which dependent on the fixed collection levy or recycling and compositing of bio-waste. To sum up, estimating definite SMW cost is challenging, as it may not be possible to get all the components on time. Therefore all stakeholders' responsibilities in PPPs should be clearly identified to prevent or reduce conflict.

Various factors are responsible for ineffective SWMS (Egun, 2009). These factors include rapid urbanization, population growth leading to expansion of cities, poor urban planning and diminishing financial resources (Bolaane and Ali, 2004; Katusiimeh et al., 2012). The Despite the high expenditure incurred in waste collection and management, SWM is tstill a problem (Addo et al., 2015). Approximately 20-50% of the overall municipal budget is allocated for waste management but still, waste collection is not fully covered (Bello et al., 2016).

In Africa the government is in charge of providing SWM amenities this has led to inefficient service delivery and thus they are largely blamed for the mess in urban centers (Akaateba and Yakubu, 2013). For instance, Kenya's Vision 2030 recognizes economic growth and urbanization coupled with climate change all of which to a larger extent may impact negatively on the environment, hence necessitating sustainable environmental management. These global changes put pressure on the declining natural resources and environment at large. Therefore, a strong environmental policy needs to be put in place to sustain trade activity whilst qualifying impact of fast progress, (Kenya, 2007). Kenya has therefore mandated the local authorities (now the County governments) to manage solid waste (Waweru & Kanda, 2012). Despite devolving this function, there are challenges including low capacity in terms of human resource and technical issues plus insufficient finances (Longe et al, 2009). Therefore, SWM has been deteriorating (Muniafu and Otiato, 2010) prompting other players like NGOs), CBOs and private companies to come in (Waweru & Kanda, 2012). This has successfully been reinforced by the World Bank through embracing the public sector away from the control of the public sector.

2.2.4 Government Policies and Effective Waste Management Programs

Kui Li (2007) determined that Ministry of protection agency in Stockholm is charged with responsibility of supervising the municipals on SWM issues. The ministry has policies that protect the user and the environment while guiding the process of SWM to ensure efficiency. This contrary to the Kenyan case where it's the mandate of the counties to establish the environmental programs and oversee them through.

To ensure a safe environment it the SWM program must ensure the collect and dispose waste in an effectual manner. To do this the government must ensure the enact laws and regulations to protect the public and encourage participation or regulate it for defaulters to pay taxes (FEBA: FRN, 1991). The poor administration of the counties are the core causes for poor sanitation and waste managing. Shortage of important facilitation, uncontrolled dumping of waste and lack of coordination of stakeholders have added to the problems. To add to this redundant policies and lack of awareness on efficient waste disposal have contributed to poor service delivery as far as SWM programs are concerned (Ikiara, 2004).

The Kenyan government has been prompted to review its laws and policies on SWM in order to retort to the ecological contests and ratify the environmental management and Coordination Act (EMCA) of 1999. Which makes it the mandate of the citizens to protect the enviroment and improve it to guarantee a clean and safe habitant. The provision are in line with the Kenyan vision 2030 as well as in the constitution act 42 which states that every citizen must to enjoy a clean and safe environment for the benefit generations to come. Further in Section 69 (2) it is the duty of all Kenyans to ensure sustainable protection of natural resources for enjoyment of further generations.

Obirih – Oparah (2003) concludes that citizens are dissatisfied by their administration because of the inefficient services on SWM. The study recommended privatization of SWM or working together in private and public partnership. The Accra study shows that the administration has been unsuccessful in the initiating of the private segment in SWM.

In Nairobi County the Department of Environment charged with making SWMS work. The city council has laid down policies to regulate and help in administration SWM. It has established taskforce to directly deal with SWM in the city to ensure employee have the required tools and equipment as well as a framework for guiding strategies on SWM. Private companies offering SWM services are contracted by the city council. The laws help the council to enforce the bylaws aimed at improving the SWM and PPP (World Bank, 2005).

The challenges in SWM by counties has hindered efficient delivery of services. With proper regulations, the issues lies in employing them efficiently to improve solid waste management. Allowing private partnership would one area where if allowed or laws reviewed there are many companies from private sectors who wish to venture into this, however, frustrated by the protocol on licensing.

2.3 Theoretical Framework

This section brings out the important theories of the study research survey. The study will use Systems Theory and Factionalism Theory.

2.3.1 Systems Theory

Systems theory as introduced by biologist Bertalanffy (1930) is model that recognizes that an organ doesn't exist on its own but depends interrelationships that overlap between separate disciplines to achieve an objective. A "system" is a complex interaction of related components come into a particular environment to achieve whatsoever purposes required to attain the organization's objective. Systems theory is about exploring how people acclimatizes to its environment through adjustments in its structure, so as to maintain and achieve a better status quo. In the National/ County government in question, for SWM to work it must create the structures processes to favorably give efficient service and identify the stakeholders who will aid in delivery of SWM objectives.

2.3.2 Factionalism Theory

The factionalism theory identifies the worst side and the benefits of uprising in the cities. As the cities grow there is innovations and creativity which may lead to increase wastes, crimes and impersonality. For this study dumping may be a threat and a blessing in some instances. This is because SMW may be a source of livelihood for some people but may irritate others if not efficiently done.

There are self-help groups that scavenge in the dumpsites and are able to sustain their daily needs from the urbanization effect. The youth are engaged in recycling activities which work in two fold reducing the waste and protecting the environment (Ndum, 2013).

2.4 Conceptual Framework

The study sought to describe the correlation between the variables of the study by developing the conceptual framework. Hence the dependent variable in this study is the Effective SWM Programs. Measured in terms of Efficiency Management and Availability of Partnership. The independent variables are Public Private Partnership (Private Sector, Private Contracts, Conducive Rules and Effectiveness), Community Participation (Community Control Project Ownership Diverse Skills and Decision Making), Budget Allocation (Timely Resources, Sources of Funding, Top Management Support and Resources Control) and finally Environmental Policies Protocol Concern, Change of Laws, Dogmatic Policies and Corruption. Moderating variables for the study are the International Treaties and Political Interference that affect either positively.

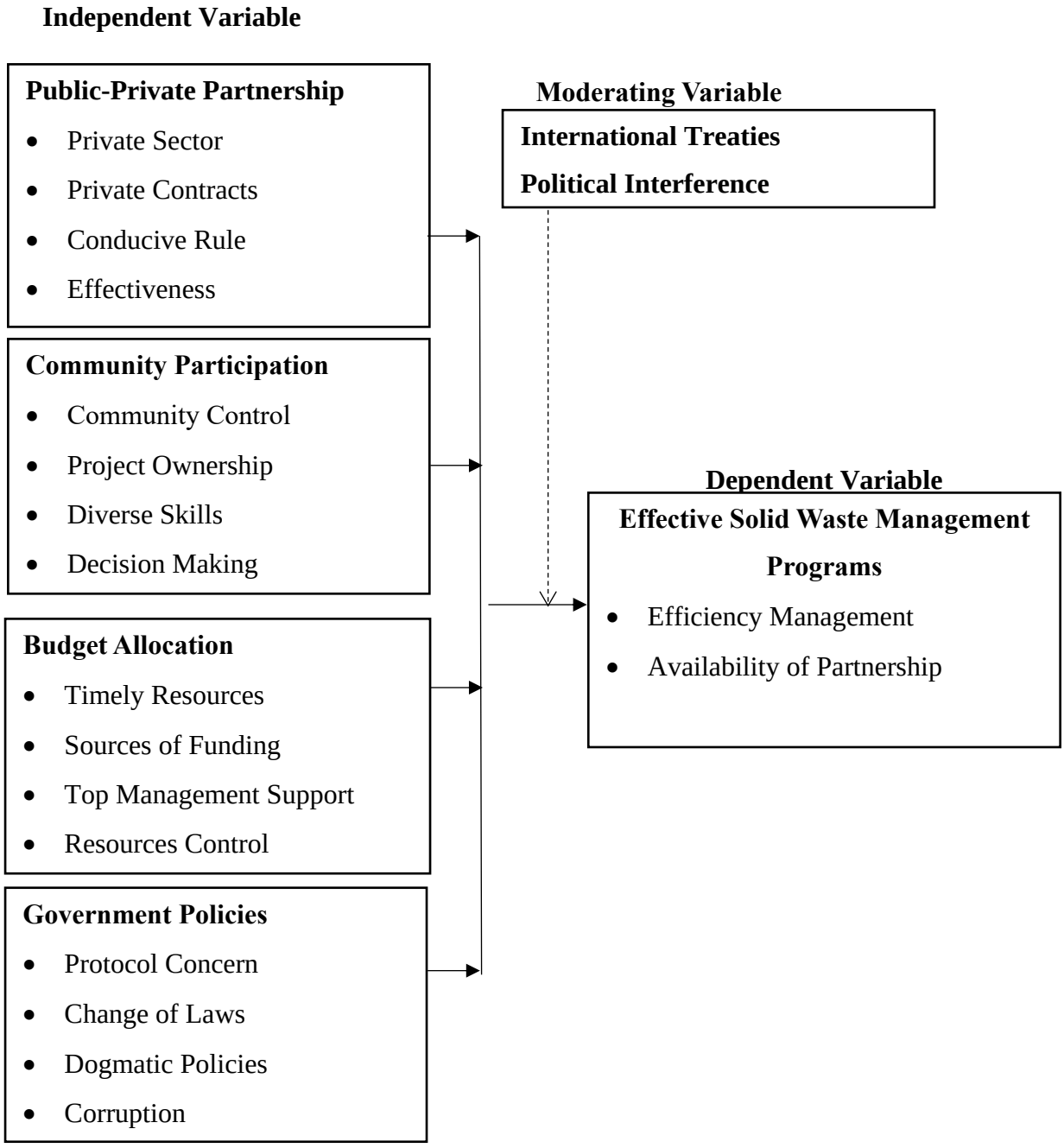

Figure 1: Conceptual Framework: Source, Author June 2020

2.5 Knowledge Gap

This level the study discussed research knowledge gap as illustrated and related in table 2.1.

Table 2.1: Research Gaps

Objective	**Researcher/Author**	**Findings/Conclusion**	**Knowledge gap**
1). To establish how Public-Private Partnership, Influence effective SWM Programs in Kenya: Kilifi County	**JICA (2010)**	They proposed that gathering and movement or disposal of solid waste will improve if they involve the private entities because they have transparent monetary systems as well as processes that are efficient Thus SWM is easier, goal oriented and more cost effective.	The study showed clearly that the private businesses were needed to efficiently run the SWM programs. It also established the need to involve individual citizens into the SWM proragms to ensure reduction of waste and protection of the ecosystem.

2). To assess how Community Participation Influence Effective SWM Programs in Kenya: Kilifi County	**Kalwani (2009)**	The results incated that community partcipation was crucuial but had not been achieved due to poor mobilization and planning. The community was not well empowered in PPP and local resources were not put in the picture. It was also established that the county councils wasn't committed in community participation.	The study found that communication of policies by the conties should be improved as it will help in effective performance of SWM programs. When the community is involved then there will be a sense of ownership and this guarantees successful implementation as everyone feels part and parcel of the solution their participation in different levels.
3). To evaluate how Budget Allocation, Influence Effective SWM Programs in Kenya: Kilifi County.	**Appasamy& Nelliyatt, (2007).**	Their findings were that lately, various funding alternatives have been pursued, including PPPs and carbon tax to promote efficiency through better technologies in the managing solid Waste	This study established that resource mobilization was critical for success of SWM programs. It established that when budgeting process is transparent and accountability is well done the monies are

			used to achieve the intended objective. Counties budgeting committees should allocate enough resources for SWM programs
4). To examine how Government Policies, Influence Effective SWM Programs in Kenya: Kilifi, County	**Obirih - Oparah (2003)**	The study established that government fail in their role in SWM and thus the people are often disappointed by this inefficiency. It recoomended privatization of the sector and pointed out the importance of PPP in SWM.	This study focused on involving the government, more importantly, examine how existing policies affect SWM and recommend policy changes. It recommends taking into consideration the capabilities of the county stuff, resources as well as a mechanism to get community to participate in SWM programs.

2.6 Summary of Chapter

The literature review discussed all the four objectives critically. The study was supported by the systems and factionalism theory that covered well how the two theories interlinked with the study variable. Conceptual framework as illustrated in figure 1 indicated clear the relationship of both the variables and with the third in moderating variable coming. The chapter finally discussed the knowledge gap that was clearly in table 2.1 illustration.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covered the study design and methodology used. Other items covered in this chapter were the data collection and accuracy test instruments used, the sampling design and data collection procedures, ethical considerations, data collection and operational terms of the variables.

3.2 Research Design

The study used the descriptive survey design. This design when adapted enables a researcher get information from respondents through developing an insight into the phenomenon under study. It ensures that data is collected without altering the context of study. Descriptive survey design was vital due to its nature of studying the characteristics of a given situation. In this case, the intention was to undertake an assessment of effective SWM Programs Kenya.

3.3 Target Population

Kilifi county population is 1,453,787 population data from Kenya National Statistics Bureau-KNSB Kenya Census (2019).Due to time constraint the study focused to a leaner target population for households within Shimo La Tewa Ward of Kilifi South Constituency and other significant informants within line ministries of Kilifi County Government, National Government and stakeholders within private sectors were15 thus making another cluster of the target population.

3.4 Sample Size

Sampling is the process of picking the sampling units to be used in the study. It describes sampling frame as the all populace selected for a study. A representative sample size with level of confidence margins of errors adapted Yamane Formula of (1967). Hence

$$n = \frac{N}{1 + Ne^2}$$

Where

n = sample (required responses)

e2 = Margin of error= 95%

N = sample size

The target population was households drawn from the entire Kilifi county population. Computing the information at 95% level of confidence level then the margin of error = 0.05 therefore;

$$\mathbf{n= \frac{1,453,787 \text{ people}}{1+1,453,787(0.05)^2}}$$ **Therefore, n = 399.88 approximately 400**

3.4.1 Sample Technique and Procedure

That Kilifi County has seven constituencies a multi stage and random sampling was applied. In this case the researcher divided (400 by 7= 57.14). The research was carried out in Kilifi South, Shimo La Tewa Ward, Mtwapa Township. The assumption that Shimo La Tewa Sub Location was able to provide of 57 Participants + 15 Significant Informants = 72. The composition of the sample size was drawn from Household Heads within 14 administrative urban development centers for residents of Mtwapa. Other participants were drawn from line ministries and other stakeholders who made the list of significant informants. These are; Civil servants, implementers, program managers for solid waste programs and regulators the National Environment Management Authority (NEMA). The sampling technique used was cluster within Mtwapa Township as selected for the purpose intended as in Table 3.1.

Table 3.1: Sample Size

CLUSTERS SAMPLE SIZE	
MTWAPA CLUSTER HOUSE HOLDS	
1. Majengo	4
2. Sokoni	4
3. Mtomondoni	4
4. Mzambarauni	4
5. Kwa Be CharoYaa	4
6. Mtaani	4
7. Maweni	4
8. Barani	4
9. Kanamai	5
10. Mtepeni	4
11. Kwa Breki	4
12. Mikanjuni	4
13. Kwa Nyambura	4
14. Kwa Goa	4
SIGNIFICANT INFORMANTS	
1. Civil Servants	3
2. Program Managers	3
3. NEMA Official	3
4. Solid Waste Management Experts	3
5. Private Investors Official	2
TOTALS	**72**

Source: Kilifi County Government June 2020

3.5 Data Collection Methods

Data was gathered using a questionnaire and observation. The questionnaire as the main research instrument and Likert scale questions were used for data collection as the responses were be easily quantifiable and subjective to computation. Secondary

data was sourced from existing literature published. Kothari analysis of questionnaires (2012) argues that they generate data an organized and ordered manner.

3.5.1 Pilot Testing of Research Instruments

Piloting is done to ascertain the efficiency of the research instrument. Kothari (2008) defines reliability is a test of consistence of results obtained. Pilot testing was done with key informants where 10% of the questionnaires was administered before full the distribution. To establish reliability a test-retest method was done on data collected. Discussions were held with the respondents to help them understand the questionnaire if needed.

3.5.2 Validity of Research Instruments

Validity is the exactness and weight of a number of propositions or opinion (Kothari, 2004). Here the researcher did a pilot study with respondents from the County Government of Kilifi cluster the part of significant informants. This was around 10% of the questionnaires which was to ensure corrected information was captured and in case not, then correction. Another way of ascertaining was through classmates and colleagues through the help the university supervisor from the University of Nairobi.

3.5.3 Reliability of Research Instruments

Reliability can be referred to as ability to repeat and consistently determine an outcome a severally. A pre-test study was piloted to find components of the study the unit of study to eliminate any indistinctness so as to realize a high degree of precision. In addition, the concept of split-half reliability by (Cohen and Swerdlik, 2001) affirms that test is fast and economical thus not requiring two test administrations. In this study, the study saved on time and costs. Questions in the questionnaire were split into two using odd and even numbers allocating each item to one half of the test equally. A coefficient of 0.8 was achieved thus, ascertaining reliability for use.

3.6 Data Collection Procedures

Data was collected using a questionnaire to achieve the search objective (Mugenda & Mugenda, 2011). The instrument was filed with the aid of the assistants hired from Kilifi County Government. The researcher was the team leader throughout during the research.

3.7 Ethical Considerations

The researcher took responsibility of explaining the drive of the study before seeking answers from the respondents. The consent to participate was sought through a transmission letter from the University and another from the researcher attached in appendices. Privacy and secrecy of the material provided by the respondents was assured. The nature of this investigation study called for their opinion willingly and of high ethics in terms of regarding and keeping the self-respect of respondents. Finally, they were assured that, none of their names shall appear anywhere while reporting the findings.

3.8 Data Analysis Techniques

Data analysis involves gathering, modelling, and transformation to get information for use to explain the variables (Mugenda, 2003). Questionnaires used for data collection were corroborated to guarantee that they were accurately filled. The analysis used descriptive statistics and chisquare and Multiple Regression Analysis (MRA) and presenation was doen using American Psychology Association (APA) Tables. MRA model to measure the relationship and significance between variables:

$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where: Y = Effective Solid Waste Management Programs

X^1 = Public-Private Partnership

X^2 = Community Participation

X^3 =Budget Allocation

X^4 = Government Policies

ε= Error Term

3.9 Operational Definitions of Variables

The operational definition of the variables as measured in this study was presented in table 3.2

Table 3.2: Operational Definition of Variables

Objective	Independent Variable	Indicator	Scale	Measure Tool
1). To establish how Public-Private Partnership Influence effective SWM Programs in Kenya	**Public-Private Partnership**	• Private Sectors • Private Contracts • Conducive Rules • Effectiveness	Likert	Descriptive
2). To assess how Community Participation Influence Effective SWM Programs in Kenya	**Community Participation**	• Community Control • Many Contracts • Conducive Rules • Private Sectors	Likert	Descriptive

3). To evaluate how Budget Allocation, Influence effective SWM Programs in Kenya	**Budget Allocation**	• Timely Resources • Source of Funding • Top Management Support • Resources Control	Likert	Descriptive
4). To determine how Government Policies, Influence effective SWM Programs Kenya	**Government Policies**	• Protocol Issues Concern • Change of Laws • Dogmatic Policies • Corruption	Likert	Descriptive

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter analyzed data collected with regards to Effectiveness of SWM Programs. Data was collected to establish how Public-Private Partnership, Community Participation, Budget Allocation, and Government Policies SWM Programs in Kenya

4.2 Questionnaire Return Rate

Data was taken from all 72 respondents. Questionnaires and checklists were individually overseen assisted by a research assistant from Kilifi County. All questionnaires fully completed and returned reflected 100 % per cent return rate as showed in Table 4.1.

Table 4.1: Response Rate

STATUS	Frequency	Percentage (%)
Targeted	72	100
Respondent	72	100
Discrepancy	**N/A**	**N/A**

Description of findings in Table 4.1, confirmed 100 % of respondents return rate. A reflection of just that all informants were fully involved in this study. In any social survey, above 70% response rate is considered sufficient for any research where the decision may be generalized. Thus, the response rate was excellent according to Mugenda Mugenda (2012).

4.3 Demographic Characteristics of respondents

Information on Gender, Age, Academic Education Qualification, Professional Occupation and Experience on effective waste management programs as in Table 4.3

Table 4.2: Respondents Personal information

STATUS (%)	Frequency	Percentage
GENDER CATEGORY		
Male	34	47.22
Female	38	52.78
AGE CATEGORY		
Below 25 Years	08	11.11
26-35	12	16.67
26-35	14	19.44
36-45	28	38.89
Above 46	10	13.89
EDUCATION CATEGORY		
Secondary Level	12	16.67
Diploma Level	14	19.44
Higher National Diploma	10	13.89
Degree Level	30	41.67
Post Graduate	06	08.33
PROFESSIONAL OCCUPATION		
Civil Servants/NEMA	15	20.83
Community-Based Organizations	23	31.94
SWM Company Directors	10	13.89
Programs Management Experts	17	23.61

Private Investor-Donor	07	09.72
EXPERIENCE ON SOLID WASTE MANAGEMENT		
Below 1 Year	05	06.94
02 - 05	10	13.89
06 - 10	48	66.67
11 and above	09	12.50
Standing		**100.00**

As described in Table 4.2 there were 52.78% female respondents who were the majority. Male respondents were 47.22 %. The gender parity threshold of one-third conformity by the Kenya Constitution of 2010 was met. On age category, those ranging from 36-45 were the majority rated at 38.89 % they were followed by the age category 36 – 45 at 19.44 %, They were followed thirdly by 26-35 at 16.67%, the category above 46 were rated at 13.89 %. Lastly rated were below 25 who were rated at 11.11%. Majority of respondents at 88.89 % were above 26 years of age, thus adequate to understand concept under study

On education, the degree level was ranked at 41.67% and the majority, while the Diploma level was rated at 19.44%. The secondary level was thirdly rated at 16.67% followed closely by Higher National Diploma at 13.87 %. Post Graduate respondents were the last rated at 08.33 %. It was paramount to note that, majority of respondents at above 83 % had required knowledge for the effectiveness of SWM programs. On the aspect of professional occupation, the majority of respondent were Community Based Organizations (Locals) at 31.94 %, while were programming management experts at 23.61 %. Civil Servants and NEMA officials were rated at 20.83% and Solid waste management company Directors who were rated at 13.89%. Private Investors those who include donors were rated last and at 09.72 %. It was clear that the majority of respondents at 100% were all professionals and within the right occupation to transact SWM programs.

Experience on SWMS, the majority within the 06-7 years of experience of 66.67%. While 02-05 years was 13.89%. Third rated were within the category of above 11 years

rated at 12.50%. Lastly ranked were below one year of experience at 06.94%. It was important to note that majority of respondents ranked above 94% and with more than 5years of experience on SWM programs

4.4 Effectiveness of Solid Waste Management Programs in Kenya: Kilifi County

Descriptive statistics and analysis was used to establish the levels of effectiveness of SWM programs in Kenya. The emphasis was on Public-Private Partnership, Community Participation, Budget Allocation and Environmental Policies.

4.4.1 Descriptive statistics on how Public-Private Partnership to influence effective SWM Programs in Kenya.

The researcher found it essential to establish if a Public-private partnership had an influence. To confirm this, the study developed descriptive statistics out of the responses given through Likert scales statements (No Influence (NI) = 1) Low Influence (LI) = 2, Moderate Influence (MI) = 3, Great Influence (GI)= 4, and (Very Great Influence (VGI) = 5. The outcomes were presented in Table 4.3.

Table 4.3: Responses on the Public-Private Partnership Influence on effective SWM programs.

STATEMENT (n=72)	(NI) = 1)	(LI) = 2	(MI) = 3	(GI)= 4	(VGI) = 5
Private sector influence effective SWM programs in Kenya	0	0	2.6% (n=02)	07% (n=5)	90.2% (n = 65)
Private contracts influence effective SWM programs in Kenya	0	0	0	5.8% (n = 4)	94.2 (n = 68)
Conducive rules influence Effective SWM in Kenya	0	0	0	12.5% (n = 09)	87.5% (n = 63)

Effectiveness influence effective SWM programs in Kenya	05.56% (n = 4)	0	05.56% (n = 4)	88.88% (n = 64)

Findings from the Likert statement in Table 4.3 described that all the respondents agreed with the constructs. This was a clear indicator that, shows that all informants agree that Public-Private Partnership Influence on effective Solid Waste management programs in Kenya, A case of Kilifi County

Table 4.4: Descriptive statistics on Public-Private Partnership

STATEMENTS	MEAN	STD.DEVIATION
Private sector influences effective SWM programs in Kenya	4.78	0.3032
Private Contracts Influence Effective SWM Programs in Kenya	4.84	0.2837
Conducive Rules Influence Effective SWM in Kenya	4.68	0.3943
Effectiveness Influence Effective SWM in Kenya	4.80	0.3188
Composite Mean and Standard Deviation	**4.78**	**0.325**

Table 4.4 show majority of the respondents very strongly supported private contract influence on effective SWM programs in Kenya. The Composite mean of 4.78 = to Standard deviation-STDV of 0.32 < 1 were confirmations that majority of respondents very strongly agreed with all the statement for this variable.

4.4.2 Inferential statistics on Public-Private Partnership

The first objective of this study was to establish the effect of public-private partnership on waste management programs in Kilifi County where we tested null hypothesis; **H_1**, that there is a significant relationship between Public-Private Partnership and effective SWM Programs in Kenya. The relationship was tested using the Chi-Square test of the relationship as presented in Table 4.5.

Table 4.5: Relationship of Public-Private Partnership and Effective SWM programs

O	E	(O-E)	$(O-E)^2$	$(O-E)^2/E$
0	14.4	-14.4	207.36	14.4
0	14.4	-14.4	207.36	14.4
2	14.4	-12.4	153.76	10.67
5	14.4	-9.4	88.36	6.13
65	14.4	50.6	2,560.36	177.80
$\sum$ (O-E) ^{2}/E = 223.4				

Findings as illustrated in Table 4.5 the Calculated-C $\chi 2$ =223.4 The Probability (P)-Value is < .00001. The result is significant at P < 0 .05. When the P-Value is 0.000 or <, the alpha level of significance of 0.05. Therefore, the study statistically concludes a significant association between PPP and effective SWM programs in Kenya. Thus the researcher accepts H_1 that public-private partnership has a significant influence on effective SWM programs in Kenya.

4.5 Descriptive statistics on how community participation influences effective SWM Programs in Kenya:

The study sought to establish the effect of community participation influence on effective solid management. The researcher used descriptive statistics and chi-square test to establish the levels of community participation influence.

4.5.1 Descriptive Statistics on community participation influence on effective SWM Programs in Kenya.

The study sought to establish how community participation had influence through Likert scale statement (No Influence (NI) = 1) Low Influence (LI) = 2, Moderate Influence (MI) = 3, Great Influence (GI)= 4, and (Very Great Influence (VGI) = 5) Findings were presented in Table 4.5

Table 4.6: Responses to Community Participation Influence on effective SWM programs.

STATEMENT (n=72)	(NI) = 1)	(LI) = 2	(MI) = 3	(GI)= 4	(VGI) = 5
Community control effective influence SWM programs in Kenya	0	0	0	02.78% (n=02)	97.22% (n = 70)
Community project ownership influence effective SWM programs in Kenya	0	0	0	04.7% (n = 3)	95.83 (n = 69)
Diverse skills influence Effective SWM programs in Kenya	0	0	0	05.56% (n = 4)	94.44% (n = 68)
Community decision making influence effective SWM programs in Kenya	0	0	1.14% (n=1)	0	98.86% (n=71)

Information of analysis as described in Table 4.6 prescribed that over 90% + of respondents agreed with the variable. All participants agreed that community participation influence on effective SWM programs in Kenya.

Table 4.7: Descriptive statistics on Community Participation Influence

STATEMENTS	MEAN	STD.DEVIATION
Community control effective influence solid waste management programs in Kenya	4.88	0.2686
Community project ownership influence effective solid waste management programs in Kenya	4.85	0.2822
Diverse skills influence Effective solid waste management programs in Kenya	4.82	0.2913
Community decision making influence effective SWM programs in Kenya	4.90	0.2235
Composite Mean and Standard Deviation	**4.86**	**0.265**

Descriptions as specified from Table 4. 7 had a composite mean of 4.86 = STDV of 0.265 implying this variable was rated by the majority of the respondent very strong influence. Community decision-making statement was ranked the highest with (STDV of 4.90) as an effect of solid waste management programs in Kenya.

4.5.2 Inferential statistics on Community Participation.

The research sought to determine the relationship between Community participation influence and effective waste management programs.

This was done through the testing of alternative hypothesis H_1: That there is a significant relationship between is between Community Participation and effective SWM Programs in Kenya. The relationship was tested through Chi-square as indicated in Table 4.8

Table 4.8: Relation of Community Participation and Effective SWM Programs

O	E	(O-E)	$(O-E)^2$	$(O-E)^2/E$
0	14.4	-14.4	207.36	14.4
0	14.4	-14.4	207.36	14.4
0	14.4	-14.4	207.36	14.4
2	14.4	-12.4	153.76	10.67
70	14.4	55.6	3091.36	214.67
$\sum$ **(O-E) ^{2}/E = 268.5**				

Findings depicted in Table 4. 8 indicated the Cχ2 =268.5 with the degree of freedom 5 and 95% level of significance. The P-Value is < .00001. The result is significant at p < .05. It is significant when the P-Value is < 1 in the testing of hypothesis and the small it is the more evidence to reject the null Hypothesis. Given this, we rejected H_O and accepted H_1. There is a significant relationship between community participation and effective Solid Waste management programs in Kenya.

4.6.1 Descriptive statistics on how Budget Allocation influences effective SWM programs in Kenya:

The study sought to establish the effect skills budget allocation influences on SWM programs was done using descriptive statistics the Likert scales statements (No Influence (NI) = 1) Low Influence (LI) = 2, Moderate Influence(MI) = 3, Great Influence (GI)= 4, and (Very Great Influence(VGI) = 5). Also mean and standard deviations and chi-square to confirm the influence of this variable.

Table 4.9: Responses to Budget Allocation Influence on effective SWM

STATEMENT (n=72)	**(NI) = 1)**	**(LI) = 2**	**(MI) = 3**	**(GI)= 4**	**(VGI) = 5**
Timely resources influence effective SWM programs in Kenya	0	0	11.12% (n=08)	0	88.88% (n = 64)
Sources of funding influence effective SWM programs in Kenya	0	0	04.17% (n=03)	02.78% (n =02)	93.05 (n = 67)
Top management support Influence effective SWM in Kenya	0	0	0	02.7% (n = 2)	97.73% (n = 70)
Resources control influence effective SWM programs in Kenya	0	0	0	1.14% (n=1)	98.86% (n=71)

Data analyzed from Table 4.9 illustrates that majority of the informants agreed that budget allocation very greatly influences the effectiveness of waste management programs in Kenya. At an average of 94.63 %, budget allocation is quite fundamental to the effectiveness of SWM programs in Kenya.

Table 4.10: Descriptive statistics on Budget Allocation influence on SWM programs

STATEMENTS	MEAN	STD.DEVIATION
Timely resources influence effective SWM programs in Kenya	4.80	0.3207
Sources of funding influence effective SWM programs in Kenya	4.83	0.3076
Top management support Influence effective SWM in Kenya	4.89	0.2398
Resources control influence effective SWM programs in Kenya	4.94	0.1378
Composite Mean and Standard Deviation	**4.87**	**0.251**

Findings, as indicated in Table 4.10, describes that majority of informants very strongly supported that Budget Allocation influence SWM programs in Kenya. With a combined of 4.87 =STVD and standard de 0.251 < 1 meant that most responses were grouped around the mean, thus the variable very greatly influence SWM programs in Kenya.

4.6.2 Inferential statistics on Budget Allocation

The researcher sought to determine the descriptive statistics on budget allocation. Data for this variable was analyzed using mean and standard deviation to determine the consistency of the responses.

Hence the researcher did hypothesis testing to confirm a significant relationship between Budget Allocation and effective SWM Programs in Kenya. Findings presented in Table 4.11

Table 4.11: Relation of Budget Allocation and Effective SWM Programs

O	E	(O-E)	$(O-E)^2$	$(O-E)^2/E$
0	14.4	-14.4	207.36	14.4
0	14.4	-14.4	207.36	14.4
8	14.4	-6.4	40.96	2.84
0	14.4	-14.4	207.36	14.4
64	14.4	49.60	2460.16	170.84

$\sum$ **$(O-E)^2/E = 216.9$**

Data as described in Table 4.11 show that Cχ2 =216.9 where the degree of freedom is 5 and 95% level of significance. In chi-square data analysis the outcome is always considered significant when the P-value is ≤ than the selected alpha level of 0.05. The P-Value is < 00001.It is significant when the P-Value is < 1. This study therefore thus rejected H_O and accepted H_1 The is a significant relationship between budget allocation and effective SWM programs in Kenya.

4.7.1 Descriptive statistics on how Government policies, influence effective SWM programs in Kenya:

The researcher sought to determine whether Government Environmental policies had effects on SWM programs. This was done using descriptive statistics the Likert scales statements analysis and chi-square tests.

Table 4.12: Responses on Government Policies Influence on effective SWM Programs.

STATEMENT (n=72)	(NI) = 1)	(LI) = 2	(MI) = 3	(GI)= 4	(VGI) = 5
Protocol concern influence effective SWM programs in Kenya	0	0	0	13.89% (n=10)	86.11% (n = 62)
Change of laws influence effective SWM programs in Kenya	0	0	0	11.11% (n =08)	88.89 (n = 64)
Dogmatic policies influence effective SWM programs in Kenya	0	0	13.88% (n = 10	02.78% (n=02)	83.33% (n = 60)
Corruption influence effective SWM programs in Kenya	0	0	0	2.78% (n=2)	97.22% (n=70)

Analysis, as depicted in Tables 4.12, show that corruption influence waste management programs. With all respondents very greatly implying at 88.88 % that this variable affected SWM programs in Kenya a case of Kilifi County.

Table 4.13: Descriptive Statistics for Government policies influence on SWM programs

STATEMENTS	MEAN	STD.DEVIATION
Protocol concern influence effective SWM programs in Kenya	4.65	0.4114
Change of laws influence effective SWM programs in Kenya	4.81	0.3624
Dogmatic policies influence effective SWM programs in Kenya	4.63	0.4317
Corruption influence effective SWM programs in Kenya	4.89	0.2383
Composite Mean and Standard Deviation	**4.74**	**0.361**

Results, as specified in Table 4.13, illustrated that respondents strongly approved the statements on Government policies influence; this was explained with all responses scoring means > 4.6. The composite mean of 4.74= STDV 0.361 was a display that all informant's respondents strongly supported government policies as a great influence of SWM programs in Kenya.

4.7.2 Inferential statistics on Government policies.

The study researcher desired to examine the influence of the fourth variable of the study. To establish the degree of influence, a test of Alternative Hypothesis H_1 that, there is a significant relationship between Government policies and effective SWM programs in Kenya. This was done and confirmed through chi-square testing of the hypothesis as prescribed in Table 4.14

Table 4.14: Relation of Government policy and Effective SWM Programs

O	E	(O-E)	$(O-E)^2$	$(O-E)^2/E$
0	14.4	-14.4	207.36	14.4
0	14.4	-14.4	207.36	14.4
0	14.4	-14.4	207.36	14.4
10	14.4	-4.4	19.36	1.34
62	14.4	45.60	2079.36	144.40
∑	**$(O-E)^2/E = 201.88$**			

Findings as indicated in table 4.14 state that $\chi 2C=201.88$. The P-Value is < .00001. The result is significant at when P< .05. The P-Value being < 1, we rejected H_O and accepted H_1 that, there is a significant relationship between government policies and effective SWM programs in Kenya.

4.8 Regression Analysis on Effectiveness of SWM Programs in Kenya: A case of Kilifi County.

Since the study revealed that there was existence of statistically significant relationships between each independent variable and the effective SWM programs in Kenya, a multiple regression was initiated in order to examine magnitude of the relationships. The outcomes on regression analysis are displayed on tables 4.15, 4.16 and 4.17 below.

Table 4.15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.532[a]	.283	.240	.43647

a. Predictors: (Constant), Government Policies, Community Participation, Budget Allocation, Public_Private_Pertnership

Table 4.16: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.040	4	1.260	6.614	.000[b]
	Residual	12.764	67	.191		
	Total	17.804	71			

a. Dependent Variable: DV

b. Predictors: (Constant), Government Policies, Community Participation, Budget Allocation, Public_Private_Pertnership

Table 4.17:Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.197	.570		5.606	.000
	Public Private Partnership	.188	.087	.274	2.163	.034
	community Participation	.213	.105	.257	2.034	.046
	Budget Allocation	.177	.077	.247	2.306	.024
	Government Policies	.080	.103	.083	.774	.042

a. Dependent Variable: DV

Illustrations from Table 4.15 indicated R=0.532 represents the simple correlation; therefore, a moderate positive linear relationship among independent variables and effective solid waste management programs in Kenya existed. R^2=0.283 which indicate the total difference the dependent variable can be clarified by the independent variables. In this case, the four independent variables explained 28.3% of the variability in effective solid waste management programs in Kenya and 72.7% variation in sustainable implementation being described by external issues not discussed in this research project.

As described in the Analysis of variance (ANOVA) which determines whether there existed significant differences between the study variable means, the findings show that F (4, 67) =6.614; P value = 0.000, the F value was above 2 and P value < than 0.05

therefore entailing the variables are statistically significant. This is evident in the ANOVA Table 4.16.

Data as shown in Table 4.17 also shows the beta coefficients of constructs that constitute the four independent variables that predict the dependent variable (effective solid waste management programs). The values of the **sig.** column of table 4.17 show that the values are less that p-value =0.05 which indicates that all the four independent variables are statistically significant to the research study.

Regression model equation can be represented as shown in equation 4.1

Equation 3.1: $Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$

Equation 4.1: $Y=3.197+ 0.188 (X_1) + 0.213 (X_2) + 0.177 (X_3) + 0.080 (X_4)$

This model shows that all elements have a positive influence on the effective solid waste management programs. This regression equation has proven that when all other elements are held constant (no determinants or elements) effective SWM programs would be 3.197.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter five of the research study described in addition presented the summary on findings with emphasis on the study objectives. Conclusions were drawn, recommendations and suggestions on further future studies.

5.2 Summary of Findings

The drive for this exercise was to find out the aspects influencing the Effectiveness of SWM Programs in Kenya: Kilifi County. This work was geared objectively as: To establish how Public-Private Partnership influence effective SWM Programs in Kenya: Kilifi County. To assess how community participation influences effective Solid Waste Management Programs in Kenya: Kilifi County. To evaluate how budget allocation influences effective Solid Waste Management Programs in Kenya: Kilifi County and lastly to examine how Government policies, influence effective Waste Management Programs in Kenya: Kilifi County.

5.2.1 Public-Private Partnership (PPP) influence effective Solid Waste Management Programs in Kenya.

Objective one sought to determine the influence of the effect of public-private partnership on waste management programs in Kilifi County. Chi Square test assisted in establishing relationship whereby regression analysis aided in establishing the extent of the relationship. Hypothesis test results revealed that the Chi-Square statistic (223.4) and its small significance level ($p < .001$) helped in the establishment that indeed an association exists between PPP on waste management programs. Regression results revealed a positive relationship with which is significant. The findings indicated that the relationship public-private partnership on effective SWM programs had a positive correlation. Results also well showed the biggest number of the participants that were in strong agreement that public-private partnership indicators influenced effective

SWM programs which produced a composite mean score of 4.78 as well as a Standard deviation of 0.32.

5.2.2 Community participation influences effective Solid Waste Management Programs in Kenya

Objective two attempted to assess the influence of community participation on effective solid waste management programs. Chi Square test assisted in establishing relationship whereby regression analysis aided in ascertaining the extent of the relationship. Chi-square statistic value was 268.5 while the P-value in the asymptotic significance column was 0.00001; this therefore implies that there is a significant relationship between community participation and effective SWM programs in Kenya. This was also evident from the computed composite mean of 4.86 = STDV of 0.265 for community participation indicators which implied that this variable was rated by the majority of the respondent very strong influence. Community decision-making statement was ranked the highest with (STDV of 4.90) as an effect of SWM programs in Kenya.

5.2.3 Budget allocation influences effective Solid Waste Management Programs in Kenya

The third Objective endeavored to determine the influence of budget allocation on effective solid waste management. Chi Square test established the relationship whereby regression analysis was useful in determining the extent of the relationship. The research findings revealed a Chi-square statistic value of 216.9 while the P-value was .00001. In this case the P-value was smaller than the standard value therefore the null hypothesis was rejected. This therefore showed an indication of existence of an association among budget allocation and effective SWM programs. Regression scores revealed a positive and significant association. The outcomes of the regression analysis showed that the association between budget allocation and effective solid waste management programs indicated a positive correlation. The findings also denoted that a bigger number of the participants agreed with indicators of budget allocation since the indicators obtained mean scores greater than 4. It was also evident on the composite mean of 4.87 as well as the standard deviation of 0.251 that budget allocation influences effective SWM programs.

5.2.4 Government policies, influence effective Waste Management Programs in Kenya

Objective four of the study on the other hand sought to determine the influence of government policies on effective SWM programs. Chi Square test was done to establish the association while regression analysis was employed to assess the extent of association. Descriptive statistics revealed that the participants agreed with the indicators of government policies since all indicators obtained mean score greater than 4 and a composite mean score of 4.74 and a standard deviation of 0.361. Regarding inferential statistics, hypothesis test results revealed a Chi-square statistic value of 201.88 and P-value was 0.0001 hence indicated significance. Regression results revealed a weak positive relationship with which is significant. The findings therefore indicated that the relationship between government policies and effective SWM programs.

5.3 Discussion of Findings

From the outcomes of the study presented on determinants of effective SWM programs, the study focused on influence of public-private partnership, community participation, budget allocation and government policies on effective solid waste management programs in Kilifi county.

5.3.1 Public-Private Partnership

The research findings indicated that public-private partnership in the provision of effective SWM is very vital in that it ensures that there is no misappropriation and mismanagement of funds, also ensures proper planning of activities and provision of quality services in terms of service delivery. This is in tandem with other researches and studies that have been carried out previously as captured in citation in chapter 2

5.3.2 Community Participation Effect

There is a significant relationship between community participation and effective SWM programs, as established by this study. This conforms to the findings according to Anschuz(1996) that community participation is a crucial aspect of SWM as it’s a process that requires sustenance and continuous maintenance and this can be done best by the respective community

5.3.3 Budget Allocation Effect

The study above reveals that there is direct relationship between funding through budget allocation and sustainability of effective SWM programs within Kilifi County. This is in agreement with the findings of (Morara, 2008) who mentioned that in some cases there had to have a reduction of programs, switching, replacing or even facing a total closure due to lack of funds to finance the programs either by county government, local authorities. The study findings focused on influence of adequate budget allocation on sustainable implementation of effective solid waste management programs in Kilifi County, the study discovered that budget allocation influenced the implementation the programs and therefore adequate financial resources should be availed and properly managed to ensure sustainability of these SWM programs.

5.3.4 Government Policies Effect

There is a positive correlation between government policies and effective SWM programs as established by this study. The County and local government should ensure frequent reviews of environmental laws and regulated policies so as to ensure clean and protected environment is preserved and well maintained.

5.4 Conclusion

In reference to the research study objectives, it is apparent that majority of the respondents agreed that presence of public-private partnership in SWM programs would ensure that all the components work towards realization of the stated goals and objectives. This could enhance effectiveness and efficiency of resources and lead to sustainability of effective SWM programs. According to the study findings, availability and proper management of financial resources, resource control and diverse sources of funding in terms of budget allocation is a major determinant of the sustainability of effective solid waste management programs. The study also revealed that community participation also plays a great role in the implementation of the management programs. The respondents strongly agreed that public participation in terms of community diverse skills, community owned projects and community control should be encouraged in order to expand the efficiency of the programs. The study also revealed

that government policies are also determining elements for achievement of sustainable implementation effective SWM programs.

5.5 Recommendation

Based on the results drawn from the field and the empirical review of this study, these recommendations have been presumed by the researcher; According to the study findings public-private partnership and availability and proper management of budget allocation are the major determinant of the effectiveness of the SWM programs and should be made available and properly managed. The study also revealed that community participation also greatly influences the implementation of the management programs and should be enhanced so as to expand the efficiency and effectiveness of the management programs. Lastly, proper government policies must be imposed to ensure legal policy and regulatory frameworks are in place to ensure proper governance of SWM programs and their sustainability.

5.6 Suggestion for Further Studies

The study outcomes of this work serve as a source for further researches on effectiveness of determinants of solid waste management and implementation of these programs in Kenya. Future research is needed with other Counties across the Country. This will also yield relevant information that could be useful for policy design to promote the effectiveness of the SWM in Kenya.

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APPENDICES

APPENDIX I: UNIVERSITY OF NAIROBI TRANSMITTAL LETTER

UNIVERSITY OF NAIROBI
OPEN DISTANCE AND E-LEARNING CAMPUS
SCHOOL OF OPEN AND DISTANCE LEARNING
DEPARTMENT OF OPEN LEARNING

Your Ref: UON/ODEL/SODL/MLC/1/2

Your Ref:

Telephone: Mombasa 0204916814

Off-Moi Avenue
Uni Plaza Building
Mombasa Campus
P.O. Box 83732-80100
MOMBASA, KENYA

29th June, 2020.

TO WHOM IT MAY CONCERN

RE: PERMISSION TO PROCEED TO THE FIELD AND COLLECT DATA

This is to introduce **CHARO KENNETH KAZUNGU,** who is a bonifide student of the University of Nairobi. His Registration Number **L50/12270/2018** and he is in his second year of study pursuing a **MASTER OF ARTS DEGREE IN PROJECT PLANNING AND MANAGEMENT.**

All Post-graduate students are required to prepare and present a research project as part of their course. Kenneth has successfully defend his proposal based on **EFFECTIVENESS OF SOLID WASTE MANAGEMENT PROGRAMS IN KENYA; A CASE STUDY OF KILIFI COUNTY,** and has been allowed to proceed to the field and collect data. He therefore requires to collect data in order to complete his research project. The information he requires is meant purely for academic purposes and will be not be used for any other purpose.

Hence, on behalf of the university, I am kindly requesting you to extend to him any assistance that may enable to collect the information he requires.

Yours faithfully,

UNIVERSITY OF NAIROBI
RESIDENT LECTURE
29 JUN 2020
Tel: 020 2649890
MOMBASA CAMPUS

DR.JOHNBOSCO M. KISIMBII
CO-ORDINATOR – SODL, MOMBASA CAMPUS
EXAMINATION OFFICER - ODEL

APPENDIX 1I: KILIFI COUNTY COMMISSIONER PERMISSION LETTER

THE PRESIDENCY

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT

Telephone: (041)7522103
Fax: (041) 7522474
Email cckilificoordination@gmail.com
When replying please quote
Quote: EDUC.12/7/VOL.IV/

County Commissioner's Office
Kilifi County
P. O. Box 29 - 80108
KILIFI

And Date: 1st July, 2020

All Deputy County Commissioners
KILIFI COUNTY

RE: RESEARCH AUTHORIZATION
MR. CHARO KENNETH KAZUNGU

The above named who is a bonafide student of the University of Nairobi has been authorized to carry out research on ***"Effectiveness of solid waste management programs in Kenya, a case study of Kilifi County"*** for the period ending ***31st December, 2020.***

Kindly accord him all the necessary assistance he may require in order to make his research successful.

Thank you.

COUNTY COMMISSIONER
KILIFI COUNTY
P. O. Box 29-80108,
KILIFI

JOSPHAT S. MUTISYA
FOR: COUNTY COMMISSIONER
KILIFI COUNTY

APPENDIX III: RESEARCHER/ RESPONDENTS CONSENT LETTER

KENNETH KAZUNGU CHARO **June 29, 2020.**

+254 721625687

Email: kazunguken@gmail.com

P.O BOX519 - 80108,

KILIFI COUNTY

Dear Respondent/Opinion Leader

Iam carrying out a study on Effectiveness of Solid Waste Management Programs in Kenya: Kilifi County in Mtwapa. This is part of the requirements for the award of the Master's degree of Arts in Project Planning and Management at the University of Nairobi. The information sort will be treated as confidential and you will not be quoted anywhere in the this research document.

In view of this, kindly I seek your cooperation in providing the required information. Consequently, information will be solemnly use inose of this study. Kindly fill in the questions below and return the questionnaire within five days or when appropriate.

Thank you for your understanding.

Yours sincerely

CHARO KENNETH KAZINGU

APPENDIX IV: SIGNIFICANT INFORMANTS / HOUSE HOLDS

INTRODUCTION

This questionnaire has two categories. One is your general information and two are guided questions based on the study objective. Kindly you are requested to fill the questionnaire by ticking in the appropriate box.

1). Genders Category

- Female ☐
- Male ☐

2). Age Category

- Below 25 Years ☐
- 26 to 35 Years ☐
- 36 to 45 Years ☐
- 46 and Above ☐

3). Level of Education

- Vocational Training ☐
- Diploma/College ☐
- Degree Level ☐
- Masters and Above ☐
- Others ☐

4). Profession or Occupation

- Civil Servants ☐
- Program Managers ☐
- NEMA Official ☐
- Solid Waste Management Officials ☐
- Private Investors ☐

5). Experience in SWM Below 1 Year ☐

- 02 - 05 ☐
- 06 - 10 ☐
- 11 and above Years ☐

OBJECTIVE 1. To establish how Public-Private Partnership, Influence effective SWM **in Programs Kenya: Kilifi County.**

1). Have you heard of the Public-Private Partnership?

- **YES () NO ()**

2). Is Public Private Partnership used in Kilifi County for Effective SWM projects?

- **YES () NO ()**

3). Through a scale of 1-5 where: Very Great Influence = 5, Great Influence = 4, Moderate Influence = 3, Low Influence = 2 and No Influence = 1. Politely, state out the extent to which the following statements in connection to Public-Private Partnership Influence Effective SWM Programs in Kenya, by ticking at the appropriate box

STATEMENTS/SCORE	**1**	**2**	**3**	**4**	**5**
Private Sector Influence Effective SWM Programs in Kenya					
Private Contracts Influence Effective SWM Programs in Kenya					
Conducive Rules Influence Effective SWM in Kenya					
Effectiveness Influence Effective SWM Programs in Kenya					

4). Is your organization involved in Public Private Partnership? YES () or NO ()
Explain your answer_____

OBJECTIVE 2: To assess how Community Participation Influence Effective SWM **Programs in Kenya: Kilifi County.**

1). Have you overheard the concept of Community Participation?

- **YES () NO ()**

2). Does your organization support communities in Kilifi County on SWM?

- **YES () NO ()**

3). Do you personally participate in SWM in Kilifi County?

- **YES () NO ()**

4). Through a scale of 1-5 where: Very Great Influence = 5, Great Influence = 4, Moderate Influence = 3, Low Influence = 2 and No Influence = 1. Politely, state out the extent to which the following statements in connection to Community Participation Influence Effective SWM Programs in Kenya, by ticking at the appropriate box

STATEMENT/SCORE	**1**	**2**	**3**	**4**	**5**
Community Control Effective Influence SWM Programs in Kenya					
Community Project Ownership Influence Effective SWM Programs in Kenya					
Diverse Skills Influence Effective SWM Programs in Kenya					
Community Decision Making Influence Effective SWM Programs in Kenya					

OBJECTIVE 3: To evaluate how Budget Allocation Influence Effective Solid Waste Management Programs in Kenya: Kilifi County.

1). Are there allocated resources to manage effective SWM Programs in Kilifi County through Public-Private Partnership?

- **YES () NO ()**

2). Insufficient resources are a factors that affects effective SWM in Kilifi County?

- **YES () NO ()**

3). Through a scale of 1-5 where: Very Great Influence = 5, Great Influence = 4, Moderate Influence = 3, Low Influence = 2 and No Influence = 1. Politely, state out the extent to which the following statements in connection to Budget Allocation Influence SWM in Kenya by ticking at the appropriate box

STATEMENT/SCORE	**1**	**2**	**3**	**4**	**5**
Timely Resources Influence Effective SWM Programs in Kenya					
Sources of Funding Influence effective SWM Programs in Kenya					
Top Management Support Influence Effective SWM in Kenya					
Resources Control Influence Effective SWM Programs in Kenya					

OBJECTIVE 4: To examine how Government Policies Influence Effective Solid Waste Management Programs in Kenya: Kilifi County.

1). Do government agencies laws affect Solid Waste Management in Kilifi County?

- **YES () NO ()**

2). Delayed by-laws through Kilifi County Assembly are factors that affect Solid Waste Management in Kilifi County

- **YES () NO ()**

3). Through a scale of 1-5 where: Very Great Influence = 5, Great Influence = 4, Moderate Influence = 3, Low Influence = 2 and No Influence = 1. Politely, state out the extent to which the following statements in connection to Government Policies

Influence Solid Waste Management Programs in Kenya by ticking at the appropriate box

STATEMENT/SCORE	**1**	**2**	**3**	**4**	**5**
Protocol Concern Influence Effective SWM Programs in Kenya					
Change of Laws Influence effective SWMPrograms in Kenya					
Dogmatic Policies Influence Effective SWM in Kenya					
Corruption Influence effective SWM Programs in Kenya					