STAKEHOLDER MOBILIZATION STRATEGIES AND IMPLEMENTATION OF INDOOR RESIDUAL SPRAYING MALARIA CONTROL PROGRAMME IN NYATIKE SUB-COUNTY, MIGORI COUNTY, KENYA

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DECLARATION

I declare that this research project report is my original work and has not been presented for the award of a degree or any other award in this or any other University.

Signature: … **…….. Date: ……08/11/2022……**
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This Research Project Proposal has been submitted for examination with my approval as the University Supervisor

Signed: …… **Date: ……09/11/2022……**

Dr. Stephen Lucas Okelo
University Nairobi

DEDICATION

This research project report is dedicated to my loving and adoring husband Simon Peter and my kids Simon Jnr and Kate for their moral support and constant motivation throughout my postgraduate academic programme. For your contributions towards my academic success has been immeasurable.

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TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

CDC: Centre for Disease Control

CHVs: Community Health Volunteers

CHWs: Community Health Workers

COVID-19: Novel Corona Virus

IRS: Indoor residual Spraying

ITNs: Insecticide Treated Nets

MC: Malaria Control

MMM: Multitrait-multimethod matrix

MoH: Ministry of Health

NGOs: Non-Governmental Organization

PMI: President's Malaria Initiative

ABSTRACT

Implementation of indoor spraying malaria control programme is a programme designed to reduced and if possible eradicate the malaria transmitting vector, the female anopheles' mosquito to the human beings in the tropical countries and more specifically the lake region in Kenya. The programme which was designed to reduce and if possible eradicate vector transmitting malaria has achieved not much success as malaria continues to be one of the leading killer disease in the lake region and Nyatike Sub-County in particular, with WHO statistics indicating that over 10% of deaths of children Under the age of 5 are attributed to malaria. The purpose of the study is to determine influence stakeholder mobilization strategies and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya. The study strived to determine the influence of stakeholder sensitization and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya. To establish the influence of stakeholder advocacy and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya. To examine the influence of stakeholder Capacity Building and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya. And to assess influence of stakeholder communication and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya. The study is anchored on stakeholder theory and theory of implementation intentions. Descriptive survey research design was employed by the study. The study's target population is 418 and a sample size of 200 determined using Yamane formula of 1967. Sampling technique involved simple random and purposive sampling methods. The research instruments comprised of self-administered questionnaire and interview schedule. Content validity was ensured by subjecting the instruments to the expert opinion of the supervisor and multitrait- multimethod matrix respectively. Analysis of data involved determination of descriptive and inferential statistics. The results have been presented in tables. The study reported; stakeholder sensitization and implementation of indoor residual spraying malaria control programme have a strong positive significant correlation ($r=0.641$; $P<0.000$). Composite Mean and S.D 2.55; 1.472, stakeholder advocacy and implementation of indoor residual spraying malaria control programme have a fairly strong positive and significant correlation ($r=0.535$; $P<0.000$). Composite Mean and S.D 3.18; 1.403, capacity building and implementation of indoor residual spraying malaria control programme have a weak positive and significant correlation ($r=0.224$; $P<0.004$). Composite Mean and S.D 3.37; 1.373 and stakeholder communication and implementation of indoor residual spraying malaria control programme have a fairly strong positive and significant correlation ($r=0.224$; $P<0.000$). Composite Mean and S.D 3.02; 1.367. The study concluded that the stakeholder strategies have got significant positive relationships with implementation of indoor residual spraying malaria control programme. The study recommended enforcement of these strategies in the implementation phases of the IRS malaria control programme

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Implementation of indoor spraying malaria control programme is designed to reduced and if possible eradicate the malaria transmitting vector which is normally female anopheles' mosquito to the human population in the tropical countries and more specifically the African Countries where malaria prevalence rate is about 96% according to WHO (2020). Malaria remains a top killer disease in many tropical countries of the world with 241 million cases of the disease being reported worldwide in the year 2020. During the year WHO reported a worldwide malaria burden of 627,000 cases of malaria related deaths out of which 95% of the cases were reported to be domiciled in Africa and 80% of the deaths occurring in children aged below 5 years. IRS programme together with insecticide treated nets (ITNs) which account for most preferred two malaria control methods accounts for about 60% of the world malaria control programme, (WHO report. 2013).

In the Asian continent malaria is endemic to about 19 Countries and the continent ranks second to Africa in Malaria prevalence rate. India, Pakistan Indonesia and Myanmar according to WHO report (2020) accounts for over 85% of the malaria case load in the Asian continent. Successful implementation of IRS programme has led to reduction of malaria prevalence rate in India and Pakistan by about 31% and 68% respectively between the year 2010 and 2015, (WHO report 2016). In Sri-Lanka, very low malaria prevalence rate has been reported because of an early IRS intervention which can be traced back to the year 1945. And between 1999-2011 integrated malaria control that involved the IRS and Long Lasting insecticide nets managed to reduced malaria cases by 99.9%, (Rabindra *et al,* 2012)

The south American Continent is third after Africa and Asia when it comes to malaria prevalence rate with countries such as Brazil, Argentina, Paraguay, Chile among other bearing the greatest burden of the disease. Malaria vector control programme in these countries rely on IRS and effectiveness of the insecticides and distribution of insecticide-treated nets, PAHO (2010). IRS and ITN have been reported to be the most effective methods and thus have significantly reduced the malaria vector population and limiting the humans-vector contact. Larviciding remains a

supplemental strategy used to break the lifecycle of the vector, since it also impacts on the disease by reducing vector population and proliferation. WHO (2010) reports that of the 23 countries in South America, at least 14 of them are actively using IRS to supplement LLINs in the fight against malaria which has tremendously been effective.

In Europe and USA, malaria has never been a natural risk and threat to their population due to extreme cold weather conditions especially during winter that cannot warrant the survival and multiplication of the malaria transmitting vector. However, there have been extremely rare isolated cases of local malaria being reported with the last case being reported in Greece in 2013 while the rest of the cases (99%) are related to travels abroad, (EU CDC report, 2018) This implies that no IRS in necessary in the European Union Countries. Similarly, about 2000 cases of malaria reported in USA are due to returning travelers and immigrants who contacted the disease in where transmission of malaria occurs, mainly in South Asia and sub-Saharan Africa

In Africa, Nigeria- 31.9%, Congo DRC- 13.2%, the United Republic of Tanzania-4.1% and Republic of Mozambique at 3.8% which are only four, contributing over-half the malaria casualties globally in 2020, (WHO, 2021). Implementation of IRS in Africa is at about 63% of the African countries with IRS activities being reported in West Africa, Eastern Africa and Southern African Countries. However, implementation rate ranges from intense spraying in countries such as Rwanda and Zambia to piloting in Kenya, Uganda and Tanzania, Bhatt, *et al* (2015). Available data shows that low levels of education in Tanzania has been one of the factors affecting the penetration of IRS in the country and thus reducing its effectiveness, no wonder Tanzania is among the leading countries with high prevalence rates in Africa. Not than a third of IRS coverage has been reported at about 41% coverage in Mozambique and Ethiopia. High cost of IRS implementation activities is the major factor that has been highlighted to be contributing to the low uptake of the programme in Africa with most African countries depending on donors to fund the programme, (Dimas *et al* 2019)

In Kenya, IRS was first introduced in 2008 as a pilot project which ran till 2012 but later interrupted due to insecticide resistance issues and later in 2017 in two Counties bordering the shores of Lake Victoria of Migori and Homa Bay. According to the available data from the Malaria Control Health Programme, (MCHP, 2020), there has been a decline of up to 40% in the areas of

IRS intervention. In Nyatike, post-IRS data compared to pre-IRS data according to Abong'o *et al* (2020) shows a significant decrease in malaria cases reported at various health facilities across the Sub-County. This is an indication of IRS effectiveness in controlling the spread of the disease. The residents however are highly encouraged to continue using LLINs even though they have been covered by IRS. This is because IRS alone is not entirely effective in the control of malaria and thus has to be supplemented by other methods.

1.2 Statement of the Problem

Implementation of IRS as a malaria control programme in Nyatike Sub-County since initiated in 2008 has experienced setbacks relating to stakeholder mobilization. Some stakeholders who are expected to champion the implementation of this programme have however turned to be its biggest opponents. The programme which was designed to reduce and if possible eradicate vector transmitting malaria has achieved not much success as malaria continues to be one of the leading killer diseases in the Lake Victoria region and Nyatike Sub-County in particular, with WHO statistics indicating that over 67% of deaths of under 5years children are attributed to malaria in Kenya in 2018. Deaths relating malaria are increasingly being reported despite the programme being implemented in the region for the last about 10 years. Malaria which is endemic to Lake Victoria basin has a high prevalence rate in Nyatike Sub-County that borders Lake Victoria at 66% as compared to the country's average of about 32% as reported in 2020 according malaria indicator survey report, (2020).

There has been a lot of cases of rejection of the spraying by the supposedly beneficiaries based on the flimsy grounds that the pesticide has got perceived side effects on them; and some of the commonly stated side effects highlighted include; irritation to skin when comes into physical contact with the spray chemical, respiratory allergies, pungent smell due to its characteristic odours. Other reasons can generally be classified as misinformation due to lack of proper mobilization through; sensitization, advocacy, capacity building and limited resources to effectively implement the programme in Nyatike Sub-County. It is therefore against this elaborate background that the study sought to determine influence of stakeholder mobilization strategies and implementation IRS malaria control programme to enhance its implementation and subsequently effectiveness and performance in Nyatike Sub-County.

1.3 Purpose of the Study

The study's purpose is to establish influence of stakeholder mobilization strategies and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya

1.4 Research Objectives

The study sought to determine the four objectives as enlisted here-in;

i. To determine the influence of stakeholder sensitization and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Migori County, Kenya
ii. To establish the influence of stakeholder advocacy and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Migori County Kenya
iii. To examine the influence of stakeholder Capacity Building and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Migori County, Kenya
iv. To assess influence of stakeholder communication and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya

1.5 Research Questions

The study sought to answer the four research questions as formulated here-in;

i. How does stakeholder sensitization influence implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya?
ii. How does stakeholder advocacy influence implementation indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya?
iii. How does stakeholder capacity building influence implementation indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya?
iv. How does stakeholder communication influence implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya?

1.6 Research Hypotheses

The study tested the formulated hypotheses as indicated here-in;

i. $H_0$1: There is no significant relationship between stakeholder sensitization and implementation of indoor residual spraying malaria control programme
ii. $H_0$2: There is no significant relationship between stakeholder advocacy and implementation of indoor residual spraying malaria control programme

iii. $H_0$3: There is no significant relationship between stakeholder capacity building and implementation of indoor residual spraying malaria control programme

iv. $H_0$4: There is no significant relationship between stakeholder communication and implementation of indoor residual spraying malaria control programme

1.7 Basic Assumptions of the Study

The Assumptions underlying the study were as follows; The respondents were freely and without coercion willing to participate in the study. Further the study was based on the assumptions of respondents would give true and accurate information based on their experience in the implementation of IRS malaria control programme in Nyatike Sub-County. The study also assumed that the sample chosen were highly be representative to the study's universe population. Lastly investigator embedded the study on the assumption of highly homogeneous respondents' characteristics

1.8 Significance of the Study

It highly anticipated that this study would inform the policy formulation on implementation of Malaria control programme. The government would find it useful on how different stakeholders can be mobilized to donate resources, technical expertise, labour and good will among others which are all very important in the war against malaria in Kenya. The study would also form a basis for reference by other researchers on stakeholder mobilization strategies. Further, the results of the study are hoped would contribute to the body of knowledge and also validate the findings of other scholars in the field as well as corroborate and on contrary provide points of divergence

1.9 Limitations of the Study

The study is likely to be limited by the following factors; accessibility of some areas especially the islands were obviously a challenge to access. This was however overcome by collaborating with the locals and the fishermen and using navigation protective gears to access the areas. Accessing the lower regions around river Kuja and the flood plains was also a daunting task during the rainy seas. This was however overcome by planning the study in such a manner that data collection period fell within the dry months of June, July and August when accessibility was possible. Due

to the vastness of the Sub-County, and undulating terrain in some part especially neighboring Gwassi hills, movement and access was definitely difficult. This challenge was however overcome by using motorbikes which are faster with highland and hilly terrain penetration ability.

1.10 Delimitations of the Study

Scope was one of the factors delimiting the study where the study only focused on indoor residual malaria control programme in Nyatike Sub-County while failing to focus on any other Sub-County where the same programme is implemented. Further the study focused on indoor residual malaria control programme while there were other health related programmes being implemented in Nyatike Sub-County. The research design equally delimited the study as the current study employed descriptive survey design and not any other design which still could have been relevant like cross-sectional, correlational and even longitudinal designs.

1.11 Definitions of Significant Terms Used in the Study

The study used the enlisted terms which translates to these meanings as per the study;

Stakeholder Sensitization: This has been used to mean; planning meetings, stakeholder mapping, assigning responsibilities, awareness creation and needs assessment

Stakeholder Advocacy: This has been used to mean; lobbying**,** mass media campaigns**,** **a**dvertisements**,** road shows and **p**ublic rallies

Stakeholder Capacity Building: This has been used to mean; training, financial facilitation, exchange programme, Seminars and benchmarking

Stakeholder Communication: This has been used to mean; consultative meetings, feedback, reporting, dissemination and publications

Implementation of implementation of indoor residual spraying malaria control programme: This has been used to mean; number of households sprayed, cases of malaria reported, beneficiary satisfaction, effectiveness of the programme and programme acceptability

Indoor Residual Spraying: Using insecticidal chemicals that is sprayed on the inside walls of residential houses to repel, kill and control biting mosquitoes by leaving residues on the wall that act against mosquitoes when they come into contact with it

1.12 Organization of the Study

The study is made up of five chapters which is outlined as follows; study as follows; Chapter one outlines the background of the study, statement of the research problem, purpose of the study, the four objectives the study to be determined, the research questions the study answered, the research hypotheses the study tested at 95% confidence level, the significance of undertaking the study, basic assumptions the study was based on , limitations of the study, delimitations of the study, definition of significant terms as applied in the study and the study's organization from chapter one to five. Chapter two focuses introduction, reviews of literature on implementation of IRS malaria control programme in Nyatike Sub-County, Kenya , reviews of literature on stakeholder sensitization and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya, review of literature on stakeholder advocacy and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya, reviews of literature on Capacity Building and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya, and reviews of literature on communication and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya. The chapter further theoretical and conceptual frameworks, knowledge gaps and summarized review of the literature

The 3rd Chapter expounds on design, study population, sampling procedure and sample size, research instruments, pilot testing of research instruments, validity and reliability of the instruments, Procedure for collecting data, procedure for collected data to be analyzed, ethical considerations for the issues in research and how the of research variables were operationalized. Chapter four outlines; percent of retuned questionnaire, distribution of the demographic, descriptive statistics presented, interpreted and discussed on implementation of IRS malaria control programme in Nyatike Sub-County, Kenya. Analyzed data both descriptively and inferentially, discussed on stakeholder sensitization and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya. Analyzed data both descriptively and inferentially, discussed on stakeholder advocacy and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya. Analyzed data both descriptively and inferentially discussed on capacity building and implementation of IRS malaria control programme in Nyatike Sub-County, Migori County, Kenya and Analyzed data both descriptively and inferentially discussed on communication and implementation of IRS malaria control programme in Nyatike Sub-County,

Kenya. Chapter five finally presents introduction, summary of findings, recommendations, conclusions, suggestions for further studies and contributions to the body of knowledge.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two focuses introduction, reviews of literature on implementation of IRS malaria control programme in Nyatike Sub-County, Kenya , reviews of literature on stakeholder sensitization and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya, review of literature on stakeholder advocacy and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya, reviews of literature on capacity building and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya, and reviews of literature on communication and implementation of IRS malaria control programme in Nyatike Sub-County, Kenya. The chapter further theoretical and conceptual frameworks, literature review summary and knowledge gaps.

2.2 Implementation of indoor residual spraying malaria control programme

Implementation of a programme involves the actual activation of the programme activities so as to ensure that the objectives are realized. Implementation of IRS programme thus involves the activities that ensure there is an actual spraying on the insecticides to the households, to eradicate mosquitoes that transmit the malaria causing plasmodium. Sarpong, Owusu-Dabo, *et al* (2015) conducted a study using cross-sectional design in Ghana to determine the prevalence of parasitaemia epidemiology and transmission among school children to collect baseline before and after IRS praying regime. The results of the study indicate a significant reduction in malaria prevalence rate in the regions where the study was undertaken by about 75%. This is a pointer towards IRS being an efficient and effective malaria control method. The study however focused on malaria prevalence rate among school children and not the general population.

The impact of IRS on malaria prevalence rate in Ethiopias Shoa Zone East, was determined by Hamusse, Balacha and Belachew, (2012) through a study conducted using experimental research design. 22 villages were picked and sprayed while 22 other adjacent villages were used as control group for the experiment. According to the findings, it was reported that malaria prevalence had reduced by 62% in the villages where IRS was applied but remained very high in the villages where IRS was not implemented. The study also indicated that the project was not highly effective

in malaria control because of implementation challenges majorly reported as resistance due to strong smell of the insecticide used and also due to lack of proper information on the implementation of the programme. The study did not nevertheless determine the state on implementation of IRS but evaluated the effectiveness of the programme.

Zinszer, Charland (2020) investigated effect of repeated sprays of IRS rounds on children by determining the level of hemoglobin in southeastern Uganda. The study employed survey and experimental designs to determine if IRS is effective in controlling malaria and according the findings, it was reported that the level of hemoglobin was higher in post IRS as compared to Pre-IRS activities. It therefore imperative to say that implementation of IRS is both effective in meeting the objective of malaria control and the implementation process is equally well undertaken the statistics in Northeastern Uganda. The study however was focused on the results of the implementation and not on the process of the implementation which leads to the results.

2.3 Stakeholder Mobilization Strategies

Stakeholder mobilization is process that entails lobbying for stakeholder support, participation and influence so as to enhance their legitimacy, effectiveness and engagement in the implementation of an intervention (Walker, 2009). To find out impacts of stakeholder mobilization in execution of development projects in the community, Okide (2020) conducted a study in Nigeria using descriptive survey design. According to the study's results, capacity building is employed as a strategy of stakeholder mobilization. This was reported to enhance project sustainability and administration among the members of community who are the project beneficiaries. The study nevertheless focused only on capacity building and failed to evaluate other forms of stakeholder mobilization strategies.

To examine influence of stakeholder mobilization strategies, Baraza and Nyaga (2020) studied stakeholder mobilization to participate in economic development by NGOs in Siaya County, Kenya. Descriptive survey was employed as the research design and according to the findings, resource mobilization is critical in realization of community development goals. The study further reported that stakeholder mobilization leads to enhanced participation and support of the economic development activities. The study however focused on economic development activities and not

malaria control programmes. The study also examined community mobilization and not specifically stakeholder mobilization strategies.

Factors influencing successful implementation of Health Projects were examined by Gitonga and Keiyoro (2017) in Meru County, Kenya by employing descriptive survey research design. The study stakeholders, resource use and funding as factor influencing health projects implementation in Meru County. According to the results, stakeholder capacity building, communication and involvement are key factors that enhance successful execution of health projects. The reviewed study however concentrated on general health projects and non-specific IRS projects. The study also again dwelled on factors of influencing implementation and not stakeholder mobilization strategies.

2.4 Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

Sensitization is the process of creating awareness through meetings and fora for the purposes of passing knowledge and information about an activity, event or an intervention. Wanzira, Naiga *et al* (2018) conducted a study in Katakwi District in Uganda to determine influence of stakeholder sensitization and Implementation of IRS programme. The study employed descriptive research design as data was collected using FDGs and interviews. The results of the study indicate stakeholder sensitization has got a significant relationship with implementation of the IRS programmes as during the sensitization process, important feedback such as strong odour of the Actellic insecticide was reported as a major obstacle to implementation as well inadequate time period for stakeholder engagement period before implementation is activated. The study only collected qualitative data and thus could not test hypothesis which requires quantitative data to be tested for acceptance or rejection.

To determine community perception on malaria control and outdoor prevalence in Kilombero Valley, Tanzania, Ngowo, Moshi, *et al* (2017), conducted a study using descriptive research design. The study evaluated if knowledge about malaria transmission and control is a factor contribution to malaria infection. According to the findings, the study reported that stakeholder and community sensitization about malaria is acritical factor influencing implementation of malaria control programme. The study further reported that ignorance and lack of information

about malaria transmission and control has led to increase in malaria infections from situations that are majorly preventable. The study however, only collected qualitative data and failed to collect quantitative data to back up the qualitative data collected.

To establish influence of community mobilization for Malaria elimination in Ruhuha, Rwanda, Ingabire, Alaii *et al* (2014) undertook a study to explore the role of community members in malaria elimination. Descriptive design was employed and data was collected through FGDs and interview guides. According to the findings, it was reported that stakeholder sensitization through public meetings is a much effective mobilization tool for malaria elimination in the community. Community public meetings were reported to be effective avenues for information exchange and awareness creation among the members of the community. The study however investigated the malaria elimination in general and did not specifically focus on IRS programme. The study further employed qualitative research approaches and did not in any way involve the quantitative research approaches.

2.5 Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

Advocacy involves sustained, consistent campaigns and lobbying for support of a particular initiative. This is normally achieved through mass media, animation, video, art, music, film among others. The aim is to draw the intended audience attention on what is being passed across so that grasp it without ignoring it. To determine the influence of stakeholders Advocacy campaign against malaria, Udosen, Henshaw, and Ogri, (2019) studied social change perspective in River State Nigeria using survey design. Based on the findings, it was reported that advocacy campaigns are highly effective in creating awareness against malaria and in rally support to malaria control activities. The study further reported that although the advocacy activities were very successful in creating awareness among the communities. The actual implementation and use of a particular malaria control method was however reported to be low because of factors such as inconveniences, offensive smell of chemicals used in the treatment of nets and spraying the vector and thereby rendering malaria control unsuccessful. The study however focused so much on the social behavior of the beneficiaries in malaria control and ignored the role of advocacy in creating awareness during implementation of indoor residual malaria control programme.

To determine the relationship between advocacy through health animation in Malawi, Kaunda, Van denBerg, and McCan (2019) conducted an investigation by employing descriptive survey research design malaria control animators: a qualitative survey approach in Chikwawa District, Malawi. The study sought to explore how the use of visual arts, painting, drama and music creates awareness and in turn influence the implementation of malaria control programme. According to the findings, the results indicate that health animation advocacy approach in significant in influencing implementation of control malaria programme. A greater percentage of the community members reported that the were aware of the malaria control programme and they majorly cited the health animators as their source of knowledge and awareness. The study nevertheless focused on general health programmes and not specifically IRS programme, while the current study specifically focused on implementation of IRS malaria control programme.

In an attempt to define the role of advocacy groups in implementation of stakeholder driven health programme, Olson, Sofka and Grimpe, (2016) conducted a study in Sweden using survey design and according to the results, their findings indicate that advocacy groups enhance the project awareness by enhancing its visibility and provide legitimacy of the project to its stakeholders. Advocacy was also credited with faster and deeper project penetration among the community members and therefore more effective in awareness creation, communication and soliciting support for the programme stakeholder participation. The study however failed to determine the influence of advocacy and implementation of IRS programme but rather focused on general health programmes.

2.6 Stakeholder Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

Capacity building according to Smith *et al,* (2006) entails knowledge and skills development, leadership structure, infrastructure and building partnerships so as to ensure individuals are empowered to take action and participate in decision making and to become more self-reliant. Mutero, Schlodder, Kabatereine and Kramer, (2012) conducted a study on malaria control through integrated vector control and management in Uganda by employing survey design. The study thus explored factors that affects the implementation of integrated vector control malaria programmes in malaria hotspots around Lake Victoria. According to the findings, the results indicate that the fight against malaria in Uganda is majorly unsuccessful due to lack of capacity building as the

stakeholder knowledge and skills are limited to basic and with lack of proper infrastructure and limited government support there is limited success as the stakeholders and not collectively focusing on their fight against malaria. The study's focus however was on integrated vector management malaria control while the current study focused on IRS. To evaluate factors influencing community uptake and acceptability of indoor IRS in Ghana, Surron, Mwani, Tsourtos, and Owusu-Addo, (2020), undertook a study in malaria endemic region of upper Western Ghana using exploratory research design. Citing the study outcome, they suggested that training and capacity building, and sensitization activities were reported as major factors hindering the uptake and success of IRS programmes in upper Western Ghana along with other reasons such as the bad smell of the insecticide, cultural factors were also cited. Lack of proper capacity building was reported to be a major issue leading to inefficient and ineffective spray operators with ethical and unprofessional conduct. This was highly reported to be a major concern leading to resistance of IRS activity by the stakeholder. Lack of information and proper communication led to low public knowledge and subsequently low acceptability. The research however failed to focus on influence of capacity building and implementation of IRS but generally focused on several other factors and this therefore means that influence of capacity building was not comprehensively explored.

In evaluating the private sector's role in supporting the control of malaria Jones, Tusting *et al* (2020), conducted an exploratory study by use cross-sectional design a cross different Countries of the world. The study examined data available for collaboration and partnerships between public entities and private sector organizations in countries such as Brazil, Zambia, Equatorial Guinea, Ghana, Philippines among others. According to the findings of the study, the results suggests that partnerships between private sector and public is effective in malaria control since the private sector provide resources to supplement public sector for stakeholder capacity building and infrastructural development which are effective component of malaria control. The study further reported that stakeholder capacity building is a major determinant of implementation of malaria control programme. The study's focus nevertheless was on private public sector collaborations and malaria control and did not directly focus on stakeholder capacity building and implementation of IRS programme.

2.7 Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

Stakeholder communication involve transfer and regular exchange of information between parties that are majorly the stakeholders of the project or programme. Communication serves the purpose of informing the stakeholders on decisions and actions being undertaken and also feedback on programme implementation activities. In order to determine factors influencing community participation in malaria control programmes in western Kenya, Ng'ang'a, Aduogo and Mutero (2021) conducted a study in Nyakach Sub-County's Nyabondo, using survey design. Outcome of the study revealed that structured communication has significant influence in implementation of malaria control programme as communication enhances the levels of stakeholder participation in the project. The study also indicated that through communication, the stakeholders get informed and become aware of various project activities and therefore it become much easier for them to participate in these activities or support the activities. The study however did not determine the most effective mode of communication that the stakeholder can easily get the information from but just indicated the general communication which is a bit too general.

To determine influence of communication on malaria control strategies, Klilia, Lawford, Ujuju, Abeku, Mwokolo, Oko and Baba (2016) undertook a study on impact of communication on behavior change and implementation malaria control programme by mosquito nets in Nigeria using survey as the research design. The findings indicated that improved use of mosquito nets and behavior change for consistent use was directly linked to knowledge received from communication channels. The study further revealed that effective communication leads to exchange of accurate information and this dispels myths, misconceptions and misinformation around malaria and malaria control. The study moreover focused on malaria control using mosquito nets but nevertheless, it captured how communication influence malaria prevention. The study however failed to focus on influence of communication and implementation of malaria control programme.

In a bid to determine communication's influence on implementation of health programmes in Western Kenya, Omedo, Musuve , *et al* (2014) studied impact of communication on Schistosomiasis control, in Western Kenya. Descriptive survey was utilized. The results show that communication campaigns influence health behaviors approaches and enhance awareness among

the masses and therefore there is a positive direct proportion between communication and implementation of health programmes. The study further reported that communication through mass media improves awareness, provides information and creates the right environment and attitude for implementation. It is therefore, through communication that stakeholder get the prerequisite information about a programme without which there will not be awareness and this definitely would negatively influence implementation of a health programme. The study generally focused on implementation of health programmes and specifically not the implementation of malaria control programme.

2.8 Theoretical Framework

Two theories namely; Stakeholder theory and theory of implementation of intentions.

2.8.1 Stakeholder Theory

This is the major theory the study is anchored on and it anchors the independent variable. The theory was formulated and propounded by the scholar Edward Freeman in 1984. This theory states that; Great companies thrive because they are able to get the interests of their stakeholders aligned in the same direction. Robert Philips, Donaldson and Preston among others are some of the proponents of this theory. The theory explains that programme implementation success depends on putting all interests into consideration so that the stakeholders' interests are aligned in a common direction. For this to be achieved, there must be a stakeholder identification, appraisal and analysis to categorize the stakeholders based on their roles, their status and interests in the programme. The programme during implementation then undertake to serve the interests of these stakeholders and responds promptly to their needs and demands in the programmes. Although it might not be practical to satisfy every need of the various programme stakeholders, it is imperative that their interested and demands are responded to and satisfied as is practically possible to enhance the chances of the programme success because dissatisfied stakeholders become the greatest opponents of any programmes, (Brummer, 2001).

However, the theory is embedded on such assumption that; enterprises become successful if they deliver on their mandate to the majority of the stakeholders and nothing less. The theory is also based on the assumption that all the stakeholders are beneficial to the enterprise which is not true as competitors are also regarded as stakeholders and satisfying their interests either might not be

possible or might harm the programme, enterprise or the business organization. Nevertheless, even to the competitors, it is important to create a health competition in the business environment.

2.8.2 Theory of implementation intentions

The theory the study's minor theory and is anchoring the dependent variable. It was formulated and propounded in 1999 by Gollwitzer Peter. Other proponent of the theory includes; Sheeran (2006), Bandura,(1997) and Brandstätter,1997 among others. The theory states that when people encounter challenges in converting goals into actualized action, they strategically might call on an automotive process in attempt to realize the attainment of the goal. Intentions of activity implementation delegate the attainment of goal-directed actions to situational cues as anticipated, which then triggers automatically these responses. This means that using a plan to implement a programme, the underlying challenges, risks and outcomes might be anticipated but can only be manifested during implementation. Intentions of implementation may culminate into a higher order of probability in successfully achieving the goals, through a specifically predetermined process and specified goal-oriented action to a specific event or cue occurrence in future. It supposes that a well-designed and organized programme has a self-regulating mechanism where the activities designed for implementation does not follow a particular trajectory and when a challenge is encountered during their implementation, they default to an automatic process which as anticipated according to the programme plan and design. According to this theory, proper programme plan is important with M&E system put in place to improve efficiency and effectiveness in try achieve the programme goals.

However, the theory is embedded on such assumption that; for each activity to be implemented, there must be an alternative strategy so that an implementation obstacle does not translate to the end of that particularly activity. Therefore, implementation alternative strategy provides for an avenue for achieving the programme goals. The theory also assumes that the programme implementation plan has got linear relationship with programme alternative strategies and if one fails, it automatically defaults to the best alternative strategy to achieve the goal. Lastly, the theory also assumes that the programme goals will always be achieved despite the programme activities meeting obstacles during the implementation process.

2.9 Conceptual Framework

This is a figurative model that shows the interrelationships that exists between the independent, moderating and the dependent variables in a linear kind of relationship. The variables are interconnected with arrows pointing on the effects that actions on independent variable lead to on criterion variable. In this study, the predictor variable being studied are; stakeholder sensitization, stakeholder advocacy, stakeholder capacity building and stakeholder communication. The study's moderating variable which is myths and misconceptions has been joined to the independent and dependent variable by a doted arrow indication its influence was not be studied. Lastly the dependent variable is implementation of IRS malaria control programme.

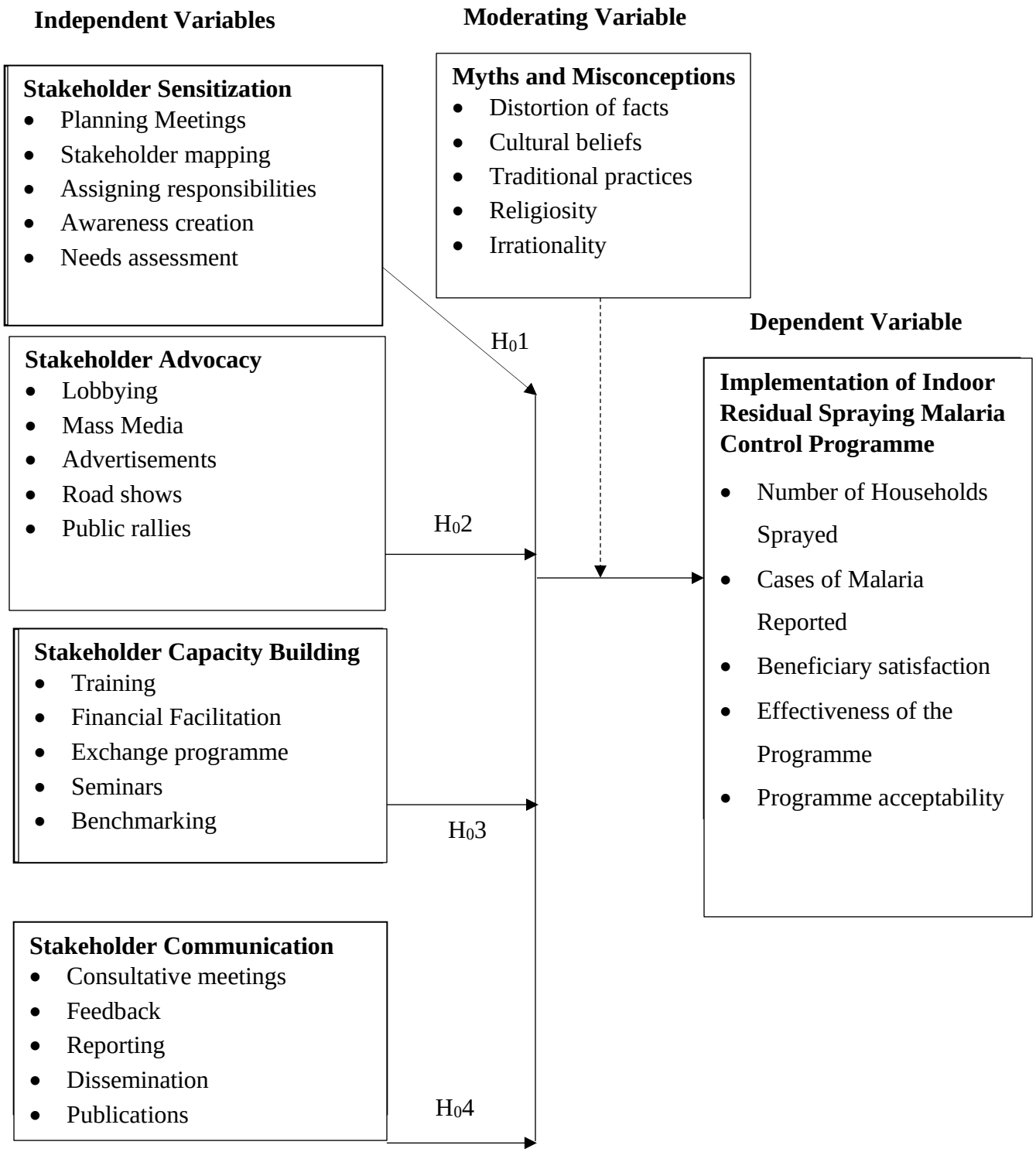

Figure 1: Conceptual framework illustrating the relationship between stakeholders mobilization strategies and implementation of indoor residual spraying programme in Nyatike Sub-County, Kenya

2.10 Knowledge Gap

Table 1: Knowledge Gap

Variable	Authors & Year	Title of the Study	Methodology	Findings	Knowledge Gap	Focus of the Current Study
Stakeholder Sensitization	Wanzira, Naiga *et al* (2018)	Influence of stakeholder sensitization and Implementation of IRS programme	Descriptive research design	The results of the study indicate stakeholder sensitization has got a significant relationship with implementation of the IRS programmes	The study only collected qualitative data and thus could not test hypothesis	Influence of stakeholder sensitization and implementation of IRS programme
	Ngowo, *et al* (2017),	Evaluation of if knowledge about malaria transmission and control is a factor contribution to malaria infection and control	Descriptive research design	The study reported that stakeholder and community sensitization about malaria is acritical factor influencing malaria control programme	The study however, only collected qualitative data and never utilized quantitative data	Influence of stakeholder sensitization and implementation of IRS programme
	Ingabire, Alaii *et al* (2014)	Influence of community mobilization for Malaria elimination in Ruhuha, Rwanda	Descriptive design	Stakeholder sensitization through public meetings is a much effective mobilization tool for malaria elimination in the community	The study however investigated the malaria elimination in general and did not specifically focus on IRS programme	Influence of stakeholder sensitization and implementation of IRS programme

Stakeholder Advocacy	Udosen, Henshaw, and Ogri, (2019	Influence of stakeholders Advocacy campaign against malaria	Survey research design	Advocacy campaigns are highly effective in creating awareness against malaria and in rally support to malaria control activities	The study focused so much on the social behavior of the beneficiaries in malaria control and ignored the role of advocacy in creating awareness during implementation of indoor residual malaria control programme.	Influence of stakeholder advocacy and implementation of IRS programme
	Kaunda, Van den Berg, McCan *et al* (2019)	The role of animators in implementation of health programmes in Malawi	Descriptive survey research design	The results indicated that health animation advocacy approach in significant in influencing implementation of malaria control programme	The study nevertheless focused on general health programmes and not specifically an IRS programme	Influence of stakeholder advocacy and implementation of IRS programme
	Olson, Sofka and Grimpe, (2016)	The role of advocacy groups in implementation of stakeholder driven health programme	Survey research design	Advocacy groups enhance the project awareness by enhancing its visibility and provide legitimacy of the project to its stakeholders	The study did relate advocacy to IRS programme performance	Influence of stakeholder advocacy and implementation of IRS programme

Stakeholder Capacity Building	Mutero, Schlodder, Kabatereine and Kramer, (2012)	Malaria control through integrated vector control and management	Survey design	The results indicate that the fight against malaria in Uganda is majorly unsuccessful due to lack of capacity building	The study's focus however was on integrated vector management malaria control this study in contrast focused on IRS	Influence of stakeholder capacity building and implementation of IRS programme
	Surron, Mwani, Tsourtos, and Owusu-Addo, (2020)	Factors affecting acceptability and uptake of IRS Ghana	Exploratory research design	Results indicate that capacity building and training and, sensitization programmes were reported as major factors hindering the uptake and success of IRS programmes	The study failed to link capacity building and implementation of IRS but generally focused on several other factors and this therefore means that influence of capacity building was not comprehensively explored	Influence of stakeholder capacity building and implementation of IRS programme

	Jones, Tusting *et al* (2020)	The input of organizations of private sector in funding malaria programmes	Cross-sectional design	The results suggests that partnerships between private sector and public is effective in malaria control since the private sector provide resources for stakeholder capacity building and infrastructural development which are effective component of malaria control	The study's focus nevertheless was on private public sector collaborations and malaria control and did not directly focus on stakeholder capacity building and implementation of IRS programme.	Influence of stakeholder capacity building and implementation of IRS programme
Stakeholder Communication	Ng'ang'a, Aduogo and Mutero (2021)	Factors influencing community participation in malaria control programmes in western Kenya	Survey design	Structured communication has significant influence in implementation of malaria control programme	The study however did not determine the most effective mode of communication that the stakeholder can easily get the information from but just indicated the general communication which is a bit too general	Influence of stakeholder Communication and implementation of IRS programme

	Klilia, Lawford, Ujuju, Abeku, Mwokolo, Oko and Baba (2016)	Impact of communication on behavior change and implementation of treated mosquito nets malaria control programme in Nigeria	Survey design	The results revealed that improved use of mosquito nets and behavior change for consistent use was directly linked to knowledge received from communication channels	The study moreover focused on malaria control using mosquito nets but nevertheless, it captured how communication influence malaria control	Influence of stakeholder Communication and implementation of IRS programme
	Omedo, Musuve , *et al* (2014)	Impact of communication on Schistosomiasis Control in Western Kenya	Descriptive design	The study reported that communication campaigns influence health behaviors and create awareness among the masses	The study generally focused on implementation of health programmes and specifically not the implementation of malaria control programme.	Influence of stakeholder Communication and implementation of IRS programme

2.11 Summary of Literature Review

Literature was reviewed on scholarly works on Wanzira, Naiga *et al* (2018), Ingabire, Alaii *et al* (2014) and Ngowo, *et al* (2017), focusing on stakeholder sensitization strategy and implementation of IRS programme undertaken in Kitakwi, Uganda, Kilomboro Valley, Tanzania and Ruhuha, Rwanda respectively. The findings of the studies points towards a significant relationship between stakeholder sensitization and implementation of IRS programme. The study also reviewed literature on empirical studies by Udosen, Henshaw, and Ogri, (2019**,** Kaunda, Van den Berg, McCan *et al* (2019) and Olson, Sofka and Grimpe, (2016) focusing on stakeholder advocacy strategy and implementation of IRS programme undertaken in River State, Nigeria, Chikwawa District, Malawi, and in Sweden respectively. The findings of the studies suggest that there is a significant positive relationship between stakeholder advocacy and implementation of IRS programme as advocacy creates awareness which in turn enhances the uptake of IRS programme.

The study again reviewed the scholarly empirical studies by Mutero, Schlodder, Kabatereine and Kramer, (2012), Ingabire, Surron, Mwani, Tsourtos, and Owusu-Addo, (2020), and Jones, Tusting *et al* (2020), focusing on stakeholder capacity building and implementation of IRS programme Malarial hotspot areas around Lake Victoria, Uganda, upper Western Ghana and secondary data from Brazil, Zambia, Equatorial Guinea, Ghana, Philippines among others respectively. The findings of the studies suggest that capacity building is an important activity in implementation of IRS programme as it enhances skills, knowledge, and ability to successfully implement the programme. Empirical reviews were further undertaken on scholarly works of Ng'ang'a, Aduogo and Mutero (2021), Klilia, Lawford, Ujuju, Abeku, Mwokolo, Oko and Baba (2016) and Omedo, Musuve , *et al* (2014) in Nyabondo, Nyakach Sub-County, Kisumu County, Nigeria and Western Kenya respectively. The findings suggest that effective communication enhances knowledge and create awareness and that positively influence implementation of IRS programme.

Lastly on implementation of IRS programme, the study reviewed the works by scholars such as; Sarpong, Owusu-Dabo, *et al* (2015)**,** Hamusse, Balacha and Belachew, (2012 and Zinszer, Charland *et al* (2020). The findings of these studies suggest that implementation of IRS programmes is facing different challenges such as resistance by beneficiaries, lack of proper sensitization and awareness of IRS among others. However, Implementation of IRS programmes was reported to significantly reduce rate of malaria prevalence to a very high extent.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three describes the design of the study, sampling procedure, study population, sample size, research instruments, pilot testing of research instruments, validity and reliability of the instruments, Procedure for collecting data, procedure for the analysis of the data collected, ethical considerations for the issues in research and how the of research variables were operationalized

3.2 Research Design

Descriptive survey research design, was employed by the study. Research design is the basic organizational structure of how the research is conducted. It entails structure for data collection and tools for data collection as well as data analysis and data presentation in order to answer and meet the objectives for which the research is conducted, (Kothari,2004). This design is appropriately selected as it supports both qualitative and qualitative techniques of data collection and describes the state of phenomena as currently is in existence. Through descriptive survey design, it is possible to collect a lot of data within relatively a shorter period of time and over extensive geographical region.

3.3 Target Population

The study's target population is 418 respondents. Target population according Ogula (2005) is the relevant total population that the researcher would wish to study and draw inferences from. Target population thus is the entire population relevant to the interest of the researcher and relevant in both composition and characteristics.

Table 2: Target Population

Stakeholder Group	Who to Observe	Number
Programme Staff	Management staff	10
Sub-County Health Committees	Members	12
Public Health Facility Management	Heads	25
CHVs	CHVs	50
Provincial Administrations	Chiefs and Assistants	40
Sub- County ICT records officers	Health Records in charge	2
Beneficiaries	Household Heads	279
TOTAL		**418**

Source: Migori County Government, Department of Health

3.4 Sample Size and Sampling Procedure

Sample size is the representative sub-set of the target population drawn for the purposes of observation. Sampling procedure contrastingly is the process undertaken in choosing a sample for analysis (Cooper and Schindler, 2013). They are further discussed below;

3.4.1 Sample Size

The study's sample size is 200 respondents. Sample size is the representative sub-set of the population selected to be studied and for generalization, Kothari and Garg, (2004). Sampling when scientifically done lead to a smaller population that is representative of the target population and that can be extensively analyzed since then sample is easy to work with and generate data from. The study used Yamane Taro formula of 1967 in order determine the sample size as follows;

$$n = \frac{N}{1 + N(e)^2}$$

Where;

N= Target population, $n =$ Sample Size, $1 =$ Constant and $e =$ Alpha level at ± 5% and 95% Confidence Interval

$$n = \frac{418}{1 + 418(0.05)^2} = 200$$

Table 3 Sample Proportion Distribution

Stakeholder Group	Who to Observe	Number	Number to be Sampled
Programme Staff	Management staff	10	$\frac{10}{418} \times 200 = 5$
Sub-County Health Committees	Members	12	$\frac{12}{418} \times 200 = 6$
Public Health Facility Management	Heads	25	$\frac{25}{418} \times 200 = 12$
CHVs	CHVs	50	$\frac{50}{418} \times 200 = 24$
Provincial Administrations	Chiefs and Assistants	40	$\frac{40}{418} \times 200 = 19$
Sub- County ICT records officers	Health Records in charge	2	$\frac{2}{418} \times 200 = 1$
Beneficiaries	Household Heads	279	$\frac{279}{418} \times 200 = 133$
TOTAL		**418**	**200**

3.4.2 Sampling Procedure

The steps, methods and techniques employed by a researcher to arrive at a sample size constitutes a sampling procedure, (Charan, 2013). Probability sampling technique was the main sampling procedure to be applied as simple random sampling method were used to select respondents from various stakeholder groups. Purposive non-probability method was also used to select respondents with specific information required who were the study's key informants. They then formed the sample size for the administration of the interview guides for collection qualitative information.

3.5 Research Instruments

The research instruments entails tools employed by the investigator to facilitate data collection as defined by the research design adopted by the study. Since the research design that study employed is descriptive survey, the data research tools thus entailed both self-administered questionnaire and

interview schedules. The questionnaire had six sections with each section soliciting information about a particular variable with exception of section A that enumerated demographic information of respondents. Section B sought to collect data on stakeholder sensitization, Section C sought to collect data on stakeholder advocacy, Section D sought to collect data on stakeholder capacity building, Section E sought to collect data on stakeholder communication while Section F sought to collect data on implementation IRS malaria control programme in Nyatike Sub-County.

The questionnaires were structured and were self-administered to the respondents. A total of 20 interview guides were applied to collect qualitative research data from the key respondents who are primary stakeholders. The interview guides contain probing questions on all the four independent variables together with the dependent variable of the study to collect the key respondent's opinion on IRS programme in Nyatike Sub-County.

3.5.1 Pilot Testing of the Research Instruments

Pilot testing of research instruments involve pretesting of the instruments in order to ensure that the are both valid and reliable in collecting the research data, Kothari and Garg (2005). Pilot testing was undertaken in Suba South Sub-County where 10% of the $200 \approx 20$ respondents was deemed enough for the activity as advised by Mugenda and Mugenda, (2006). Suba South has been chosen because the IRS programme is being implementation in the Sub-County and it also has the lake front similar to the Nyatike Sub-County.

3.5.2 Validity of Research Instruments

Research instruments are valid if they measure appropriately the concepts and constructs they are designed and intended to measure, Naissuma (2005). Content validity of the research instruments be determined through the review of the study supervisor who has the skills and knowledge to do so. Construct validity on the other hand was ensured through multitrait-multimethod matrix, (MMM)

3.5.3 Reliability of the Research Instruments

Research Instrument is the ability of the instruments to give results with no variations over repeated trials. If the results are consistent irrespective of who is administering the instruments, then the instruments are adjudged to be reliable unlike when the instruments give significant variations in

results. (Fraenkel, 2003). Test-retest method was applied to determine reliability of the research instruments whereby during pilot testing, 10% of the questionnaire was administered on two different separate occasions, about three weeks apart to the same respondents who are not part of the study respondents. Karl Pearson rank coefficient, the rank correlation was computed as follows, to determine the correlation coefficient. $r = 0.883$ which was deemed fit and desirable coefficient result.

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Where;

r= reliability correlation co-efficient

n= 10% of sample size

x= total score of test-administration

y=total score of retest-administration

3.6 Data Collection Procedure

The study was defended under the supervision of a panel examiners who certify the study if it meets the threshold for data collection with recommendations for changes. The recommendations were then satisfied by working closely with the study supervisor. The investigator then sought clearance from NACOSTI for permitting. The study then sought further clearance from the Director of education for Migori as well as the County Commissioner, Migori County. With all the clearances obtained, the investigator then visited the data collection area and sought audience with the local provincial administration to inform them of intended data collection exercise. Data collection then started in earnest by self-administering the questionnaire to the respondents and conducting interviews with the key informants.

3.7 Data Analysis Technique

Data analysis according Lucey (2004), is the electronic transformation of data into interpretable information in order for inferences to be made from them. It thus entails careful scrutiny and meticulous observation of the data in order to remove and correct error committed and outlier in the data that can significant influence the outcome and interpretation of the findings. Data is then

entered in the preferred statistical software ready for analysis which in this case was SPSS version 27. Descriptive statistics was then analyzed to determine, mean, SD, Frequency counts and percentages. Inferential data analysis thus determined correlation and regression analyses. The results have been presented using tables

3.8 Ethical Considerations

Ethical propriety in research entails the researcher's consideration of fairness, integrity, openness in intent, respect to individuals, informed consent and willingness to participate in the study, guaranteeing individual respondents privacy among other basic tenets of moral behavior, (Leedley, 1997). In order to address these ethical issues, the researcher undertook to observe and uphold strict adherence to privacy of the respondents, participation by free will and without any form of coercion, confidentiality by making sure that the identity of the respondents remained anonymous and making sure that the data would not be used for any form of prejudice against the respondents.

3.9 Operationalization of Variables

The study variables were operationalized as indicated in Table 3

Table 4: Operationalization of Variables

Objectives	Variables	Indicators	Measurement Scale	Research Approach	Type of Analysis	Tools of Analysis
To determine the influence of stakeholder sensitization and implementation of IRS malaria control programme in Nyatike Sub-County, Migori County, Kenya	Stakeholder Sensitization	• Planning Meetings • Stakeholder mapping • Assigning responsibilities • Awareness creation • Needs assessment	• Ratio • Interval • Ordinal	Quantitative and Qualitative	Descriptive/ Inferential Statistics	Frequencies, SD mean, Percent, Correlation coefficients, Regression coefficients
To establish the influence of stakeholder advocacy and implementation of IRS malaria control programme in Nyatike Sub-County, Migori County, Kenya	Stakeholder Advocacy	• Lobbying • Mass Media Campaigns • Advertisements • Road shows • Public rallies	• Ratio • Interval • Ordinal	Quantitative and Qualitative	Descriptive/ Inferential Statistics	Frequencies, SD mean, Percent, Correlation coefficients, Regression coefficients
To examine the influence of stakeholder Capacity Building and implementation of IRS	Stakeholder Capacity Building	• Training • Financial Facilitation • Exchange programme • Seminars	• Ratio • Interval • Ordinal	Quantitative and Qualitative	Descriptive/ Inferential Statistics	Frequencies, SD mean, Percent, Correlation coefficients,

malaria control programme in Nyatike Sub-County, Migori County, Kenya		• Benchmarking				Regression coefficients
To assess influence of stakeholder communication and implementation of IRS malaria control programme in Nyatike Sub-County, Migori County, Kenya	Stakeholder communication	• Consultative meetings • Feedback • Reporting • Dissemination • Publications	• Ratio • Interval • Ordinal	Quantitative and Qualitative	Descriptive/ Inferential Statistics	Frequencies, SD mean, Percent, Correlation coefficients, Regression coefficients
To determine implementation of IRS malaria control programme in Nyatike Sub-County, Migori County, Kenya	Implementation of IRS malaria control programme	• Number of Households Sprayed • Cases of Malaria Reported • Beneficiary satisfaction • Effectiveness of the programme • programme acceptability	• Ratio • Interval • Ordinal	Qualitative and Quantitative	Descriptive	Frequencies, SD mean, and Percent,

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION, AND DISCUSSION OF FINDINGS

4.1 Introduction

The fourth chapter presents study findings as analysed, presented, and interpreted after descriptive and inferential analyses and discussions on themes such as rate of return of the questionnaire respondents' demographics. The chapter equally has the results and their interpretation as stakeholder mobilization strategies influencing implementation of IRS malaria control programme

4.2 Questionnaire Return Rate

As shown in the Table ~6, a sum aggregate questionnaire of 200(100%)-were self-administered to study respondents. Questionnaires totaling to 168(84.00%) were re-collected from the respondents for onward analysis with non-response accounting for 32(16.00%) of the questionnaire administered. Frohlich (2012) contends that since surveys have always recorded low response rate, a high return as recorded in this study enhances generalizability and validity of the findings.

Table 5: Questionnaire Return Rate

Questionnaires	**Frequency(f)**	**Percent (%)**
Returned'(Collected)	168	84.00%
Non-Response (Retained)	32	16.00%
Sum Total Questionnaire Administered	**200**	**100.00**

4.3 The Demographics of Study Respondents

The study enlisted biodata and respondents' demographics in categories of age, gender, highest level of academic achievement. The outcome is listed in Table 7;

Table 6 Demographic Distribution of Respondents

Characteristics	Frequency	Percent
Respondents' Gender		
Male	78	47.02
Female	90	52.98
Total	**168**	**100.00**
Marital Relationship	**Frequency**	**Percent**
Single	32	19.05
Married	100	59.52
Separated	6	3.57
Widowed	26	15.48
Divorced	4	2.38
Respondents' Age in Years	**Frequency**	**Percent**
18═27	25	14.88
28═37	43	25.60
38═ 47	52	30.95
48═57	29	17.26
58═67	11	6.55
Above 67	8	4.76
Total	**168**	**100.00**
Respondents' Highest Academic Qualification	**Frequency**	**Percent**
Ph.D	2	1.19
Masters	24	14.28
Bachelor's Degree	30	17.86
Diploma	32	19.05
Certificate	36	21.43
Secondary	26	15.48
Primary	18	10.71
Other	0	0.00
Total	**168**	**100.00**

According to the results of constructed Table 7 on the gender distribution male respondents were 78(47.02%) while female respondents were the majority at 90(52.98%). This confirms either gender was proportionately sampled to participate in the study. The respondents as distributed by age in years is represented by; 25(14.88%) for age 18-27, 43(25.60%) for ages 28-37, 52(30.95%), for ages 38-47, 29(17.26%), for ages 48-57, 11(6.55%) for ages 58-67 and 8(4.76%) for ages above 67 years old. The tabulated results indicate a normal age distribution of a normal demographic pyramid as all mature persons' age groups were sufficiently represented. On marital relationships the respondents were distributed as indicated; 32(19.05%) singles, 100(59.52%) married, 6(3.57%) separated, 26(15.48%) widowed whereas 4(2.38%) were divorced. The sampled set was a representative of the unit as expected civil statuses of the population were represented.

Distribution of respondents by level of academic achievement resulted in 2(1.19%) with PhD, 24(14.28%) with masters, 30(17.86%) with Bachelors, 32(19.05%) with diplomas, 36(21.43%) with certificates, 26(15.48%) with secondary education qualification and 18(10.71%) with primary education qualification. The sample distribution was passed to be well educated and thus literate enough to independently answer the questionnaire. Further, they were deemed fit to articulately report on the IRS malaria control programme issues.

4.4 Descriptive Statistics of Implementation of indoor residual spraying malaria control programme

This study had sought to reveal the extent and level of implementation of IRS malaria control programme. The findings of descriptive statistics on Implementation of IRS malaria control programme are as enlisted in Table: ~8

Table 7: Descriptive Statistics of Implementation of Indoor Residual Spraying Malaria Control Programme

Item	Staemets on implementation of indoor residual spraying malaria control programme	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean	S.D
F1	Nearly all the households in the programme are have been sprayed	53(31.55%)	54(32.14%)	25(14.88%)	16(9.52%)	20(11.90%)	3.62	1.335
F2	There is a sharp decline on cases of malaria reported in the programme area	32(19.05%)	19(11.31%)	22(13.10%)	35(20.83%)	60(35.71%)	2.57	1.530
F3	Beneficiary satisfaction with the programme intervention is high	38(22.62%)	53(31.55%)	19(11.31%)	20(11.90%)	38(22.62%)	3.20	1.490
F4	The indoor residual malaria control programme is highly effective as compared to other methods	39(23.21%)	33(19.64%)	21(12.50%)	35(20.83%)	40(23.81%)	2.98	1.516
F5	The programme has been highly accepted by majority of the residents of Nyatike Sub-County	33(19.64%)	29(17.26%)	10(5.95%)	38(22.62%)	58(34.52%)	2.65	1.567
Composite (average) Mean and S.D							**3.00**	**1.488**

The statistical results in Table 8 shows implementation of indoor residual spraying malaria control programme polled a composites mean =3.00 and composite S.D=1.400. A composite mean score of exactly 3.00 is a pointer towards divided opinions about IRS implementation as those who disagreed with those who agreed perfectly matched.

Item F1 sought to establish if nearly all the households in the programme are have been sprayed . The 168 respondents whose responses were captured polled as follows; 53(31.55%) strongly-agreed, 54(32.14%) agreed, 25(14.88%) neutral, 16(9.52%) disagreed and while 20(11.90%) disagreed strongly with F1 as a statement. An aggregate mean score for the item statement of 3.62 and 1.335 S.D were recorded. This is an indication that has The IRS malaria control programme has fairly covered various households in the programme area.

Item F2 sought to establish if there is a sharp decrease in malaria cases reported in the programme area. The 168 respondents whose responses were captured polled as follows; strongly agreed, 32(19.05%) agreed, 19(11.31%) neutral, 22(13.10%) disagreed, 35(20.83%) and 60(35.71%) disagreed strongly. The mean score for the statement was 2.57 and 1.530 S.D. This suggest that despite the IRS malaria control programme being implemented, there are still cases of malaria and thus integrated methods can be applied to support IRS malaria control programme.

Item F3 sought to establish if the beneficiaries are highly satisfied with the programme intervention. The 168 respondents whose responses were captured polled as follows; strongly-agreed 38(22.62%) agreed, 53(31.55%) neutral, 19(11.31%) disagreed 20(11.90%) and strongly-disagreed were 38(22.62%) The statement polled a mean of 3.20 and 1.490 S.D. The scores imply that to a considerable degree of agreement, the beneficiaries are satisfied with the programme achievement and outcomes.

Item F4 sought to establish if the IRS malaria control programme is highly effective as compared to other methods. The 168 respondents whose responses were captured polled as follows; 39(23.21%) strongly-agreed, agreed were 33(19.64%), 21(12.50%) neutral, 35(20.83%) disagreed and 40(23.81%) strongly-disagreed thereby scoring a mean of 2.98 and 1.516 S.D. The polled frequencies did not confirm that IRS as the most effective malaria control method however a considerable high number of respondents points towards how effective IRS could be effective to a set of the respondents.

Item F5 sought to establish if the programme has been highly accepted by bigger number of the residents of Nyatike Sub-County. Of the 168 respondents who responded to the questionnaire, 33(19.64%) strongly-agreed, 29(17.26%) agreed, 10(5.95%) neutral, 38(22.62%) disagreed and 58(34.52%) strongly-disagreed thus achieving a mean score of 2.65 and 1.567 S.D. The response weight distribution points toward IRS being not highly accepted by majority of respondents and this could be due to misinformation and lack of proper mobilization stakeholders.

The study acquired qualitative data on implementation of IRS malaria control programme through interview schedules that were administered to the key informants and verbatim as presented shows one of the responses;

"*There are issues that are negatively influencing implementation of IRS malaria control programmes such as miss-representation of facts for instance; there are supposed beneficiaries who claim that the insecticide used is catalyst to proliferation of bedbugs while the fact about that is the insecticide makes the environment very unconducive for the bedbugs such that they get out of their hiding places killing them in the process and that is why they can be seen in the open. This misinformation without proper mobilization make targeted households to reject IRS on this flimsy ground".* KII1

4.5 Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

The study's theme of first objective examined influence of stakeholder sensitization and implementation of IRS malaria control programme. The resulting figure are enlisted in Table: -~9

Table 8: Descriptive Statistics of Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

Item	Statements on Stakeholder sensitization	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean	S.D
B1	Stakeholders are invited and participate in planning meetings	28(16.67%)	18(10.71%)	22(13.10%)	38(22.62%)	62(36.90%)	2.48	1.488
B2	Stakeholders mapping is conducted to identify programme stakeholders	19(11.31%)	34(20.24%)	17(10.12%)	29(17.26%)	69(41.07%)	2.43	1.471
B3	Stakeholders are assigned specific responsibilities to undertake	39(23.21%)	47(27.98%)	15(8.93%)	32(19.05%)	35(20.83%)	3.14	1.492
B4	Stakeholders are involved in programme awareness creation	29(17.26%)	18(10.71%)	15(8.93%)	35(20.83%)	72(42.86%)	2.39	1.536
B5	Stakeholders participate in the needs assessment exercise at the programme initiation stage	17(10.12%)	26(15.48%)	12(7.14%)	50(29.76%)	63(37.50%)	2.31	1.375
Composite Mean and Composite S.D							**2.55**	**1.472**

The statistical results in constructed Table 9 shows stakeholder sensitization polled a composites mean =2.55 and composite S.D=1.472. A composite mean score that is less than the neutral point is an indication that majority of the responses were more negative than positive. The SD that is relatively large is also a pointer to high variability among the weights of the responses as obtained for the variable.

Item B1 sought to establish if stakeholders are invited and participate in planning meetings. The 168 respondents whose responses were captured polled as follows; strongly-agreed were 28(16.67%), agreed, 18(10.71%) neutral were, 22(13.10%) disagreed were 38(22.62%) and 62(36.90%) strongly-disagreed thereby scoring a mean of 2.48 and 1.488 S.D. The results points towards stakeholders not being invited and limitedly participate in planning meetings as this process could be a preserve of just a chosen few who are involved.

Item B2 sought to establish if stakeholder mapping is conducted to identify programme stakeholders. The 168 respondents polled as follows; 19(11.31%) of the respondents strongly-agreed, 34(20.24%) agreed, 17(10.12%) neutral, 29(17.26%) disagreed and 69(41.07%) disagreed

strongly. The mean score for the item was 2.43 and 1.471 S.D. The responses frequency in evidence enough to suggest that mapping is not comprehensively conducted to identify programme stakeholders and with such very important stakeholders are not involved in IRS programme implementation.

Item B3 sought to establish if stakeholders are assigned specific responsibilities to undertake. The 168 respondents whose responses were captured polled as follows; 39(23.21%) strongly-agreed, 47(27.98%) agreed, 15(8.93%) neutral, 32(19.05%) disagreed and 35(20.83%) disagreed strongly. Therefore, the mean score for the statement was 3.14 and 1.492 SD. The respondents' majority confirmed that indeed stakeholders are assigned specific responsibilities to undertake during the implementation of IRS programme.

Item B4 sought to establish if stakeholders are involved in programme awareness creation. The 168 respondents whose responses were captured polled as follows; 29(17.26%) strongly-agreed, 18(10.71%) agreed, 15(8.93%) neutral, 35(20.83%) disagreed and 72(42.86%) disagreed strongly. Therefore, the mean score for the statement was 2.39 and 1.536 SD. The weight distribution where only minority contended that stakeholders are involved in programme awareness creation is a tantamount that awareness creation does not involve stakeholders to a high extent.

Item B5 sought to establish if stakeholders participate in the needs assessment exercise at the programme initiation stage**.** The 168 respondents whose responses were captured polled as follows; 17(10.12%) strongly-agreed 26(15.48%) agreed, 12(7.14%) neutral, 50(29.76%) disagreed and strongly-disagreed were 63(37.50%). Therefore, the mean score for the item was 2.31 and 1.375 S.D. The statement was never confirmed by the majority and that means stakeholder's participation in the needs assessment exercise at the programme initiation stage is very limited.

The study acquired qualitative data on stakeholder sensitization and implementation of indoor residual spraying malaria control programme through interview schedules that were administered to the key informants and verbatim as presented shows one of the responses;

"Stakeholder sensitization though undertaken is not intense enough to have the desired impacts as the activity is only undertaken during the implementation of the IRS malaria control programme and not before the programme to prepare the stakeholders and especially the beneficiaries to embrace the programme". KII2

4.5.1 Analysis of Correlation Between Stakeholder Sensitization Implementation of Indoor Residual Spraying Malaria Control Programme

To determine the levels of linear associations between stakeholder sensitization and implementation of IRS malaria control programme. Correlation analysis was computed and the "r" values which is the coefficient to indicate the linear association is either positive or negative as well as the strength and the "p" value to indicate level of significance of the existing associations is as described in the constructed Table 10;

Table 9: Analysis of Correlation Between Stakeholder Sensitization Implementation of Indoor Residual Spraying Malaria Control Programme

Variable		Stakeholder sensitization	Implementation of IRS Programme
Stakeholder Sensitization	Pearson' Correlation	1	0.641**
	Sig. (two-tailed test)		0.000
	n	168.	168
Implementation of IRS Programme	Pearson' Correlation	0.641**	1
	Sig. (two-tailed test)	0.000.	
	n	168	168
****Correlation at 0.05 level of significance (for a two-tailed test)**			

The constructed Table 10 results demonstrate that stakeholder sensitization has a strong positive and significant influence on implementation of IRS malaria control programme; ($r=0.641$; $P<0.000$). The implication here confirms that stakeholder sensitization is a critical process in the implementation process of IRS malaria control programme. Proper and rigorous stakeholder sensitization can thus be inferred to lead to success in implementation of IRS malaria control programme. The findings corroborate *et al* (2017), Ingabire, Alaii *et al* (2014), Moshi, and Wanzira, Naiga *et al* (2018) stakeholder sensitization through public meetings is a much effective

mobilization tool for malaria elimination in the community as the meetings make the stakeholders aware and profile them for their roles in the implementation process.

4.5.2 Analysis of Model Summary Between Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

The predictor and the criterion variables' degree of association was determined through model regression summary that was computed on SPSS and the outcome has been presented in the constructed Table 11;

Table 10: Analysis of Model Summary Between Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

Model	R	R-Square	Adjusted R- Square	Standard Error of the Estimate
1	0.641[a]	0.410	0.407	1.103

a. Predictors: Stakeholder sensitization (Constant)

The constructed Table 11 results demonstrate that stakeholder sensitization and implementation of indoor residual spraying malaria control programme have a distinctive linear relationship as a unit increase in implementation of IRS malaria control programme can be predicted by 41.10%-point increase in stakeholder sensitization, while the other 58.90% can be attributed to other factors other than stakeholder sensitization. Since stakeholder sensitization is massively influencing the implementation of IRS malaria control programme, it should rigorously be undertaken by means and methods that are bound to reach the highest population of stakeholders

4.5.3 Analysis of Regression ANOVA Between Stakeholder sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder sensitization and implementation of IRS malaria control programme was determined through analysis of regression ANOVA that was computed on SPSS and the outcome has been presented in the constructed Table 12;

Table 11: Analysis of Regression ANOVA Between Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

Model		Sum of Squares	Df	Mean Squares	F	Sig.
1	Regression	140.607	1	140.607	115.568	0.000[b]
	Residual	201.965	166	1.217		
	Total	342.571	167			

a. Predictors: (Constant), Stakeholder sensitization
b. Criterion Variable: Implementation of indoor residual spraying malaria control programme

The Table 12 tabulated ANOVA results demonstrate that stakeholder sensitization and implementation of IRS malaria control programme have a significant relationship as, $p<0.000$ is less than the priori alpha value set at $\alpha=0.05$ and $F= 115.568$ is positive. Therefore, stakeholder sensitization is significant and has a positive influence on IRS malaria control programme implementation. The results demonstrate that stakeholder sensitization is a very significant activity of IRS implementation.

4.5.4 Analysis of Regression Coefficients Between Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder sensitization and implementation of IRS malaria control programme was determined through analysis of regression coefficients that was computed on SPSS and the outcome has been presented in the constructed Table 13;

Table 12: Regression Coefficient Between Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

Model 1	Unstandardized coefficients		standardized coefficients	T	Sig.
	B	Std. Err	Beta		
1(Constant)	0.642	0.223		2.879	0.005
Stakeholder sensitization	0.700	0.065	0.641	10.750	0.000

Criterion: Implementation of IRS malaria control programme

The Table 13 tabulated regression coefficient results demonstrate that stakeholder sensitization is statistically significant in predicting implementation of IRS malaria control programme, since the value $p<0.000$ when compared to the alpha level set at $\alpha=0.05$ is less. Stakeholder sensitization thus indicates as supported by the evidence a significant activity which influences implementation of IRS malaria control programme. A considerable consistent predictable pattern, trend, level and degree of associations have also been established between the predictor variable (stakeholder sensitization) and criterion variable (implementation of IRS malaria control programme). Therefore, stakeholder sensitization activities should be adequately planned for and undertaken to reach out to the maximum stakeholders possible.

4.5.5 Hypothesis 1 Testing

$H_0$1: There is no significant relationship between stakeholder sensitization and implementation of indoor residual spraying malaria control programme

The priori significant level was set at $\alpha=0.05$ common alpha, such that $p>0.05$ we fail to reject the null hypothesis as there is no significant relationship that exists between the variables. And $p< 0.05$, we would otherwise reject the null hypothesis as there is no sufficient evidence to fail to reject that a significant relationship exists between stakeholder sensitization and implementation of IRS malaria control programme.

Hypothesis test was done using t-test scores to determine the degree of associations between stakeholder sensitization and implementation of IRS malaria control programme where analysis of regression was computed guided by the formulated null hypothesis tested being $H_0 1: \beta_1 = 0$ and

the corresponding tested alternative hypothesis being $H_0 1: \beta_1 \neq 0$. Therefore, with $p<0.000 <0.05$, we reject the null hypothesis and retain alternative hypothesis

4.6 Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

The study's second objective aimed to assess the influence of stakeholder advocacy and implementation of IRS malaria control programme. Table~14 enlists the resulting figures of descriptive statistics

Table 13: Descriptive Statistics of Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

Item	Statements on Stakeholder advocacy	Strongly Agree (5)	Agree (4)	Neutral (3)	Dis agree (2)	Strongly Disagree (1)	Mean	SD
C1	Stakeholder s' support for the programme is achieved through lobbying	46(27.38%)	33(19.64%)	16(9.52%)	38(22.62%)	35(20.83%)	3.10	1.535
C2	Extensive mass media campaigns are conducted to solicit support for the malarial control programme	48(28.57%)	65(38.69%)	21(12.50%)	25(14.88%)	9(5.36%)	3.70	1.187
C3	Advertisements are carried out to create programme publicity	36(21.43%)	65(38.69%)	21(12.50%)	18(10.71%)	28(16.67%)	3.38	1.374
C4	Road shows are conducted to create awareness about the programme	32(19.05%)	42(25.00%)	21(12.50%)	35(20.83%)	38(22.62%)	2.97	1.462
C5	Public rallies are organized to inform the public about the programme	32(19.05%)	27(16.07%)	16(9.52%)	54(32.14%)	39(23.21%)	2.76	1.458
	Composite Mean and S.D						**3.18**	**1.403**

The constructed Table 14 with statistical results shows stakeholder advocacy polled a composites mean =3.18 and composite S.D=1.403 is interpreted to means the respondents' majority had positive responses for the statements recorded in this variable. However, the weight distribution which was diverse can be depicted by a composite SD score of 1.403.

Item C1 sought to determine if stakeholder s' support for the programme is achieved through lobbying. The 168 respondents whose responses were captured polled as follows; 46(27.38%) strongly-agreed, 33(19.64%) agreed, 16(9.52%) neutral, 38(22.62%) disagreed, and 35(20.83%) strongly-disagreed, thus achieving a mean of 3.10 and 1.535 S.D. The frequency weight distribution stakeholder s' support for the programme is achieved through lobbying to some level of certainty and thus lobbying is an effective tool of stakeholder advocacy.

Item C2 sought to determine if extensive mass media campaigns are conducted to solicit support for the malarial control programme. The 168 respondents whose responses were captured polled as follows; 48(28.57%) strongly-agreed, 65(38.69%) agreed, 21(12.50%) neutral, 25(14.88%) disagreed and 9(5.36%) disagreed strongly. This statement recorded a mean of; 3.70 and 1.187 S.D. Mass media campaigns were confirmed by majority of respondents to be conducted to solicit support for the malarial control programme.

Item C3 sought to determine if advertisements are carried out to create programme publicity. The 168 respondents whose responses were captured polled as follows; 36(21.43%) strongly-agreed, 65(38.69%) agreed, 21(12.50%) neutral, 18(10.71%) disagreed, whereas 28(16.67%) disagreed strongly. This item statement therefore recorded a mean of 3.38 and 1.374 S.D. Given the poll response frequencies, stakeholders were aware of advertisements carried out to create programme publicity for IRS malaria control programme implementation

Item C4 sought to determine if road shows are conducted to create awareness about the programme. The 168 respondents whose responses were captured polled as follows; 32(19.05%) agreed strongly 42(25.00%) agreed, 21(12.50%) neutral, 35(20.83%) disagreed, whereas 38(22.62%) disagreed strongly. This item statement therefore recorded a mean of 2.97 and 1.462, S.D. The response distribution by weight did not confirm that road shows are conducted to create awareness about the programme an indication they did not reach majority of the stakeholders.

Item C5 sought to determine if public rallies are organized to inform the public about the programme. The 168 respondents whose responses were captured polled as follows; 32(19.05%) strongly-agreed, 27(16.07%) agreed, 16(9.52%) were neutral, 54(32.14%) disagreed, and 39(23.21%) disagreed strongly. This item statement therefore recorded a mean score of 2.76 and 1.458 S.D. The responses suggest that if public rallies are organized to inform the public about the programme, they were not much as majority indicated otherwise.

The study acquired qualitative data on stakeholder advocacy and implementation of IRS malaria control programme through interview schedules that were administered to the key informants and verbatim as presented shows one of the responses;

"The three most extensively used channel to mobilize stakeholders through advocacy are mass media i.e. radio and TV, posters and megaphones during the spray period, other methods are rarely applied and if so, they are not effectively used or applied and thus calls for change of strategy to have the desired impacts". KII3

4.6.1 Analysis of Correlation Between Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

To determine the levels of linear associations between stakeholder advocacy and implementation of IRS malaria control programme. Correlation analysis was computed and the "r" values which is the coefficient to indicate the linear association is either positive or negative as well as the strength and the "p" value to indicate level of significance of the existing associations is as described in the constructed Table 15;

Table 14: Analysis of Correlation between Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

Variable		Stakeholder advocacy	Implementation of IRS Programme
Stakeholder advocacy	Pearson' Correlation	1	0.535**
	Sig. (two-tailed test)		0.000
	n	168	168
Implementation of IRS Programme	Pearson' Correlation	0.535**	1
	Sig. (two-tailed test	0.000	
	n	168	168
**** Correlation at 0.05 level of significance (two-tailed test)**			

The constructed Table 15 results demonstrate that stakeholder advocacy and implementation of IRS malaria control programme have a fairly strong positive and significant correlation ($r=0.535$; $P<0.000$). This can be inferred that stakeholder advocacy is an effective tool in implementation of IRS malaria control programme as it raises awareness, enhances dissemination of information and solicits the stakeholder support to the project. The finding validates the findings by Olson, Sofka and Grimpe, (2016), Kaunda, Van den Berg, McCan *et al* (2019) and Udosen, Henshaw, and Ogri, (2019) who reported that that advocacy campaigns are highly effective in creating awareness against malaria and in rally support to malaria control activities.

4.6.2 Analysis of Model Summary between Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

The predictor and the criterion variables' degree of association was determined through model regression summary that was computed on SPSS and the outcome has been presented in the Constructed Table 16;

Table 15: Analysis of Model Summary Between Stakeholder advocacy and Implementation Of Indoor Residual Spraying Malaria Control Programme

Model	R	R-Square	Adjusted R- Square	Standard Error of the Estimate
1	0.535[a]	0.286	0.282	1.214

Predictor: Stakeholder advocacy (Constant)

The constructed Table 16 results demonstrate that stakeholder advocacy and implementation of indoor residual spraying malaria control programme have a distinctive linear relationship as a unit increase in implementation of IRS malaria control programme can be predicted by 28.6%-point increase in stakeholder advocacy, while the other 71.4% is attributed strategies other than stakeholder advocacy. Since stakeholder advocacy is a strategy that influences implementation of IRS malaria control programme, sufficient focus and resources should be put on it to yield the desired projects outcomes.

4.6.3 Analysis of Regression ANOVA Between Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder advocacy and implementation of IRS malaria control programme was determined through analysis of regression ANOVA that was computed on SPSS and the outcome has been presented in the constructed Table 17;

Table 16: Analysis of Regression ANOVA Between Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

Model		Sum of Squares	Df	Mean Squares	F	Sig.
1	Regression	97.953	1	97.953	66.472	0.000[b]
	Residual	244.618	166	1.474		
	Total	342.571	167			

Criterion Variable: in Implementation of IRS malaria control programme
Predictor: (Constant) Stakeholder advocacy

The constructed Table 17 ANOVA results demonstrate that stakeholder advocacy and implementation of IRS malaria control programme have a significant relationship as, $p<0.001$ not greater than the priori alpha value set at $\alpha=0.05$ and F= 66.472 is positive. Therefore, stakeholder advocacy is significant and has a positive influence on the implementation of IRS malaria control programme. The results demonstrate that intensive stakeholder advocacy leads to better implementation outcomes of IRS malaria control programme.

4.6.4 Regression Coefficient Between Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder advocacy and implementation of IRS malaria control programme was determined through analysis of regression coefficients that was computed on SPSS and the outcome has been presented in the constructed Table 18;

Table 17: Analysis of Regression Coefficients Between Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

Model 1	Unstandardized coefficients		standardized coefficients	T	Sig.
	B	Std. Err	Beta		
1(Constant)	1.189	0.225		5.285	0.000
Stakeholder advocacy	0.552	0.068	0.535	8.153	0.000

Criterion Variable: in Implementation of IRS malaria control programme

The constructed Table 18 tabulated regression coefficient results demonstrate that stakeholder advocacy is statistically significant in predicting implementation of IRS malaria control programme, since the value $p<0.000$ when compared to the alpha level set at $\alpha=0.05$ is less. Stakeholder advocacy thus suggest going by the evidence a significant strategy that influences implementation of IRS malaria control programme. A considerable consistent pattern, trend level and degree of linear associations have also been established between the predictor variable (stakeholder advocacy) and criterion variable (implementation of IRS malaria control programme). Therefore, IRS programmes should invest and undertake stakeholder advocacy comprehensively to boost the programme implementation outcomes.

4.6.5 Hypothesis 2 Testing

$H_0$2: There is no significant relationship between stakeholder advocacy and implementation of indoor residual spraying malaria control programme

The priori significant level was set at $\alpha=0.05$ common alpha, such that $p>0.05$ we fail to reject the null hypothesis as there is no significant relationship that exists between the variables. And $p< 0.05$, we would otherwise reject the null hypothesis as there is no sufficient evidence to fail to reject that a significant relationship exists between stakeholder advocacy and implementation of IRS malaria control programme.

Hypothesis test was done using t-test scores to determine the degree of associations between stakeholder advocacy and implementation of IRS malaria control programme where analysis of regression was computed guided by the formulated null hypothesis tested being $H_0$2: $\beta_2 = 0$ and the corresponding tested alternative hypothesis being $H_0$2: $\beta_2 \neq 0$. Therefore, with $p<0.000 <0.05$, we reject the null hypothesis and retain alternative hypothesis

4.7 Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

This study's theme of objective three assessed influence of capacity building and implementation of indoor residual spraying malaria control programme. The resulting figures are enlisted in Table 19;

Table 18: Descriptive Statistics Analysis on Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

Item	Statements capacity building	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean	SD
D1	Stakeholders are trained to undertake various programme activities	41(24.40%)	66(39.29%)	29(17.26%)	15(8.93%)	17(10.12%)	3.59	1.235
D2	Stakeholders are facilitated financially to effectively undertake programme activities	80(47.62%)	44(26.19%)	22(13.10%)	18(10.71%)	4(2.38%)	4.06	1.120
D3	Exchange programmes are organized to enhance information sharing	28(16.67%)	32(19.05%)	32(19.05%)	35(20.83%)	41(24.40%)	2.83	1.423
D4	Seminars are conducted to equip stakeholder with prerequisite information on programme	72(42.86%)	24(14.29%)	24(14.29%)	18(10.71%)	30(17.86%)	3.54	1.551
D5	Benchmarking activities are organized to facilitate knowledge transfer	39(23.21%)	20(11.90%)	28(16.67%)	33(19.64%)	48(28.57%)	2.82	1.538
	Composite Mean and S.D						**3.37**	**1.373**

The constructed Table 19 with statistical results shows stakeholder capacity building polled a composites mean =3.37 and composite S.D=1.373 which can be interpreted to means there were a considerably high number of positive responses than negative responses to the statement. A composite SD of above 1 was also a tantamount that the response weights were widely distributed among the five possible scale categories.

Item D1 sought to establish if stakeholders are trained to undertake various programme activities. Of the168 respondents who answered to this question 41(24.40%) strongly-agreed, 66(39.29%) agreed, 29(17.26%) neutral, disagreed were 15(8.93%) and strongly-disagreed were 17(10.12%). The statement polled 3.59 mean and 1.235 SD. The statement by attractive a considerably high number of approvals is a confirmation that stakeholders are trained to undertake various programme activities and this builds their capacities.

Item D2 sought to investigate if stakeholders are facilitated financially to effectively undertake programme activities. Of the 168 respondents who answered this question, 80(47.62%) strongly-agreed, 44(26.19%) agreed, 22(13.10%) neutral, 18(10.71%) disagreed and while 4(2.38%) disagreed strongly. The mean score for the statement therefore was 4.06 and 1.120 S.D. The frequencies of the weights that are highly concentrated towards the upper scale weights confirms that indeed stakeholders are facilitated financially to effectively undertake programme activities

Item D3 sought to investigate if exchange programmes are organized to enhance information sharing. The 168 respondents whose responses were captured polled as follows; 28(16.67%) strongly-agreed, 32(19.05%) agreed, 32(19.05%) neutral, 35(20.83%) disagreed, whereas 41(24.40%) disagreed strongly. The mean score for the statement therefore was 2.83 and 1.423 S.D and their respective composites of 2.90 mean and 1.324 S.D . Therefore, exchange programmes are organized to enhance information sharing are deemed to be minimal as this was less popular with majority of the stakeholders.

Item D4 sought to investigate if seminars are conducted to equip stakeholder with prerequisite information on programme. The 168 respondents whose responses were captured polled as follows; 72(42.86%) strongly-agreed, 24(14.29%) agreed, 24(14.29%) neutral, 18(10.71%) disagreed whereas 30(17.86%) disagreed strongly. The mean score for the statement therefore was 3.54 and 1.551 S.D. The respondents were confident in their responses that seminars are conducted to equip stakeholder with prerequisite information on programme as this was confirmed by a considerable majority.

Item D5 sought to investigate if benchmarking activities are organized to facilitate knowledge transfer. The 168 respondents whose responses were captured polled as follows; 39(23.21%) strongly-agreed, 20(11.90%) agreed, 28(16.67%) neutral, 33(19.64%) disagreed whereas 48(28.57%) disagreed strongly. The mean score for the statement therefore was 2.82 and 1.538 S.D. The was a negative conformation by frequency, and this suggest that benchmarking activities organized to facilitate knowledge transfer might be very minimal within the programme.

The study acquired qualitative data on stakeholder capacity building and implementation of IRS malaria control programme through interview schedules that were administered to the key informants and verbatim as presented shows one of the responses;

"*The most common form of capacity build in IRS malaria control programme is training of the spray operators and their immediate supervisors. Almost nothing at all focuses on the beneficiaries and this has been an impediment on smooth implementation of IRS malaria control programme thereby limiting its success and outputs.".* KII4

4.7.1Analysis of Correlation Between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

To determine the levels of linear associations between stakeholder capacity building and implementation of IRS malaria control programme. Correlation analysis was computed and the "r" values which is the coefficient to indicate the linear association is either positive or negative as well as the strength and the "p" value to indicate level of significance of the existing associations is as described in the constructed Table 20;

Table 19: Analysis of Correlation Between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

Variable		Capacity Building	Implementation of IRS Programme
Capacity Building	Pearson' Correlation	1	0.224**
	Sig. (2-tailed)		0.004
	n	168	168
Implementation of IRS P**rogramme**	Pearson' Correlation	0.224**	1
	Sig. (2-tailed)	0.004	
	n	168	168

**** Correlation, at 0.05 level of significance for a two-tailed test**

The constructed Table 20 results demonstrate that capacity building and implementation IRS malaria control programme have a weak positive and significant correlation ($r=0.224$; $P<0.004$). It can thus be inferred that capacity building is important activities to the stakeholders as it equips them with requisite skills and knowledge about the project activities which they can then undertake with limited difficulty. The findings corroborate the findings by; Mutero, Schlodder, Kabatereine and Kramer (2012), Surron, Mwani, Tsourtos, and Owusu-Addo, (2020) and Tusting *et al* (2020) whose reports suggest that stakeholder capacity building is a major determinant of implementation of malaria control programme.

4.7.2 Analysis of Model Summary between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

The predictor and the criterion variables' degree of association was determined through model regression summary that was computed on SPSS and the outcome has been presented in the constructed Table 21;

Table 20: Analysis of Model Summary Between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

Model	R	R-Square	Adjusted R- Square	Standard Error of the Estimate
1	0.224[a]	0.050	0.044	1.400

Predictor: capacity building (Constant)

The constructed Table 21 results demonstrate that capacity building and implementation of IRS malaria control programme have a distinctive linear relationship as a unit increase in implementation of IRS malaria control programme can be predicted by 5%-point increase in capacity building, while the other 95% can be attributed to other factors other than capacity building. Since capacity building is a factor that influences implementation of IRS malaria control programme, it should thus involve all project stakeholders if that is possible.

4.7.3 Analysis of Regression ANOVA Between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder capacity building and implementation of IRS malaria control programme was determined through analysis of regression ANOVA that was computed on SPSS and the outcome has been presented in the constructed Table 22;

Table 21: Regression ANOVA Between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

Model		Sum of Squares	Df	Mean Squares	F	Sig.
1	Regression	17.172	1	17.172	8.760	0.004[b]
	Residual	325.400	166	1.960		
	Total	342.571	167			

a. Predictors: (Constant), capacity building
b. Criterion Variable: in Implementation of indoor residual spraying malaria control programme

The constructed Table 22 ANOVA results demonstrate that capacity building and implementation of IRS malaria control programme have a significant relationship as, $p<0.005$ is less than the priori alpha value set at $\alpha=0.05$ and $F= 8.760$ is positive. Therefore, capacity building is significant and has a positive influence on the implementation of IRS malaria control programme. The results demonstrate that capacity building should be given utmost priority in IRS programmes to enhance the stakeholder skills.

4.7.4 Analysis of Regression Coefficients Between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder capacity building and implementation of IRS malaria control programme was determined through analysis of regression coefficients that was computed on SPSS and the outcome has been presented in the constructed Table 23;

Table 22: Regression Coefficients Between Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

Model	Unstandardized coefficients		standardized coefficients	T	Sig.
1	B	Std. Err	Beta		
1(Constant)	2.160	0.259		8.331	0.000
Capacity Building	0.216	0.073	0.224	2.960	0.004

Predictors: (Constant), capacity building

The Table 23 tabulated regression coefficient results demonstrate that capacity building is statistically significant in predicting implementation of IRS malaria control programme, since the value $p<0.004$ when compared to the alpha level set at $\alpha=0.05$ is less. capacity building thus indicates going by the evidence a significant factor that influences implementation of IRS malaria control programme. A considerable consistent pattern, trend, level and degree of associations have also been established between the predictor variable (capacity building) and criterion variable (implementation of indoor residual spraying malaria control programme). Therefore, programme capacity building should be activity that should be a top priority among implementation activities during the planning phases of the programme

4.7.5 Hypothesis 3 Testing

$H_0$3: There is no significant relationship between stakeholder capacity building and implementation of indoor residual spraying malaria control programme

The priori significant level was set at $\alpha=0.05$ common alpha, such that $p>0.05$ we fail to reject the null hypothesis as there is no significant relationship that exists between the variables. And $p< 0.05$, we would otherwise reject the null hypothesis as there is no sufficient evidence to fail to reject that a significant relationship exists between stakeholder capacity building and implementation of IRS malaria control programme.

Hypothesis test was done using t-test scores to determine the degree of associations between stakeholder capacity building and implementation of IRS malaria control programme where analysis of regression was computed guided by the formulated null hypothesis tested being $H_0$3: $\beta_3 = 0$ and the corresponding tested alternative hypothesis being $H_0$3: $\beta_3 \neq 0$. Therefore, with $p<0.004 <0.05$, we reject the null hypothesis and retain alternative hypothesis

4.8 Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

The study's objective four sought to reveal the influence of stakeholder communication and implementation of IRS malaria control programme. The results of descriptive statistics on stakeholder communication and implementation of indoor residual spraying malaria control programme are presented in Table 24

Table 23: Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

Item	statements on stakeholder communication	Strongly Agree (5)	Agree. (4)	N.e.u.t.r.al (3)	Disagree (2)	Strongly Disagree (1)	Mean	SD
E1	There are regular consultative meeting to discuss the status of the programme	43(25.60%)	54(32.14%)	25(14.88%)	30(17.86%)	16(9.52%)	3.46	1.304
E2	There is clear communication channel to facilitate feedback	22(13.10%)	43(25.60%)	15(8.93%)	65(38.69%)	23(13.69%)	2.86	1.305
E3	Programme activities are extensively reported	31(41.90%)	44(45.71%)	22(8.57%)	47(1.90%)	24(1.90%)	3.07	1.363
E4	Programme activities information are well packaged and disseminated to the stakeholders	28(16.67%)	32(19.05%)	29(17.26%)	49(29.17%)	30(17.86%)	2.88	1.363
E5	There are publications on programme activity findings in scientific journals and periodicals	28(16.67%)	44(26.19%)	15(8.93%)	33(19.64%)	48(28.57%)	2.83	1.500
Composite Mean and Composite S.D							**3.02**	**1.367**

The constructed Table 24 with statistical results shows stakeholder communication polled a composites mean =3.02 and composite S.D=1.367 which can be interpreted to means only a marginal majority approved the statement

Item E1 sought to examine if there are regular consultative meeting to discuss the status of the programme. The 168 respondents recorded their responses as indicated; 43(25.60%) were in strong agreement, 54(32.14%) agreed, 25(14.88%) neutral, 30(17.86%) Disagreed and 16(9.52%) disagreed strongly. The statement's mean score was 3.46 and 1.304 S.D. The statement response weight distribution indicates that regular consultative meeting to discuss the status of the programme as this was popular with majority of the respondents.

Item E2 sought to examine if there is clear communication channel to facilitate feedback. The 168 respondents whose responses were captured polled as follows; Strongly-agreed 22(13.10%),

agreed, 43(25.60%) neutral, 15(8.93%) disagreed 65(38.69%) and strongly-disagreed were 23(13.69%). The statement polled 2.86 means score and 1.305 S.D. The responses suggest that IRS programme implementation is not comprehensively applying clear communication channel to facilitate feedback

Item E3 sought to examine if programme activities are extensively reported. The 168 respondents whose responses were captured polled as follows; strongly-agreed 31(41.90%) agreed, 44(45.71%) neutral, 22(8.57%) disagreed 47(1.90%) and strongly-disagreed were 24(1.90%). 3.07 and 1.363 S.D were respectively polled as mean and SD. This was confirmed by majority of the respondents but the difference was marginal thus suggesting that programme activities are reported but not very extensively

Item E4 sought to examine if programme activities information are well packaged and disseminated to the stakeholders. The 168 respondents whose responses were captured polled as follows; 28(16.67%) were in strong agreement 32(19.05%) agreed, 29(17.26%) neutral, 49(29.17%) disagreed whereas strongly-disagreed were 30(17.86%). 2.88 mean and 1.363 S.D. were polled by the statement. The statement was not confirmed by the majority thus we can say that programme activities information are not well packaged and disseminated to the stakeholders

Item E5 sought to examine there are publications on programme activity findings in scientific journals and periodicals. The 168 respondents whose responses were captured polled as follows; 28(16.67%) strongly-agreed, 44(26.19%) agreed, 15(8.93%) neutral, 33(19.64%) disagreed and whereas strongly-disagreed were 48(28.57%). 2.83 mean and 1.500 S.D were polled by the statement. The weight response distribution indicates that there is limited publications on programme activity findings in scientific journals and periodicals.

The study acquired qualitative data on stakeholder communication and implementation of IRS malaria control programme through interview schedules that were administered to the key informants and verbatim as presented shows one of the responses;

> "*Most posters are done in English and not all the beneficiaries understand the language. They should be more creative in using local dialect to promote IRS among illiterate and semi-illiterate stakeholder for effective communication and feedback between the programme proponents and beneficiaries.".* KII5

4.8.1 Analysis of Correlation between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

To determine the levels of linear associations between stakeholder communication and implementation of IRS malaria control programme. Correlation analysis was computed and the "r" values which is the coefficient to indicate the linear association is either positive or negative as well as the strength and the "p" value to indicate level of significance of the existing associations is as described in the constructed Table 25;

Table 24: Analysis of Correlation between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

Variable		Stakeholder Communication	Implementation of Indoor IRS Programme
Stakeholder Communication	Pearson' Correlation	1	0.444**
	Sig. (2-tailed)		0.000
	n	168	168
Implementation of IRS Programme	Pearson' Correlation	0.444**	1
	Sig. (2-tailed)	0.000	
	n	168	168
**** Correlation at 0.05 level of significance for a two-tailed test**			

The constructed Table 25 results demonstrate that that stakeholder communication and implementation of IRS malaria control programme have a fairly strong positive and significant correlation ($r=0.444$; $P<0.000$). This can be inferred to ascertain that stakeholder communication is critical in the implementation process of IRS as important dates, processes and information can be passed back and form to and by the stakeholders. The findings validates the findings by Omedo, Musuve , *et al* (2014), Klilia, Lawford, Ujuju, Abeku, Mwokolo, Oko and Baba (2016) and Ng'ang'a, Aduogo and Mutero (2021) who also indicated that there is a positive relationship between communication and implementation of health programmes.

4.8.2 Analysis Model Summary between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

The predictor and the criterion variables' degree of association was determined through model regression summary that was computed on SPSS and the outcome has been presented in the constructed Table 26;

Table 25: Analysis of Model Summary Between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

Model	R	R-Square	Adjusted R- Square	Standard Error of the Estimate
1	0.444[a]	0.197	0.193	1.287

Predictor: Stakeholder communication (Constant)

The constructed Table 26 results demonstrate that stakeholder communication and implementation of IRS malaria control programme have a distinctive linear relationship as a unit increase in implementation of IRS malaria control programme can be predicted by 19.7%-point increase in stakeholder communication, while the other 80.3% can be attributed to other strategies other than stakeholder communication. Since stakeholder communication is a factor that influences implementation of IRS malaria control programme, the communication channel should be well defined, clear and the media should be effective and easy to access and decode the communication as packaged.

4.8.3 Analysis of Regression ANOVA Between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder communication and implementation of IRS malaria control programme was determined through analysis of regression ANOVA that was computed on SPSS and the outcome has been presented in the constructed Table 27;

Table 26: Analysis of Regression ANOVA between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

Model		Sum of Squares	Df	Mean Squares	F	Sig.
1	Regression	67.602	1	67.602	40.812	0.000[b]
	Residual	274.969	166	1.656		
	Total	342.571	167			

a. Dependent Variable: Implementation of IRS malaria control programme
b. Predictors: (Constant), Stakeholder communication

The constructed Table 27 ANOVA results demonstrate that stakeholder communication and implementation of IRS malaria control programme have a significant relationship as, $p<0.000$ is less than the priori alpha value set at $\alpha=0.05$ and $F= 40.812$ is positive. Therefore, stakeholder communication is significant and has a positive influence on the implementation of IRS malaria control programme. The results demonstrate that with effective stakeholder communication, implementation of IRS malaria control programme will subsequently be enhanced

4.8.4 Analysis of Regression Coefficients Between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

The degree of association between the stakeholder communication and implementation of IRS malaria control programme was determined through analysis of regression coefficients that was computed on SPSS and the outcome has been presented in the constructed Table 28;

Table 27: Regression Coefficient Between Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

Model 1	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. Err	Beta		
1(Constant)	1.341	0.257		5.216	0.000
Stakeholder Communication	0.440	0.069	0.444	6.388	0.000

a. Dependent Variable: Implementation of IRS malaria control programme

The constructed Table 28 regression coefficient results demonstrate that stakeholder communication is statistically significant in predicting implementation of IRS malaria control programme, since the value $p<0.000$ when compared to the alpha level set at $\alpha=0.05$ is less. stakeholder communication thus suggests going by the evidence a significant strategy that influences implementation of IRS malaria control programme. A considerable consistent pattern, trend, level and degree of associations have also been established between the predictor variable (stakeholder communication) and criterion variable (implementation of IRS malaria control programme). Therefore, stakeholder communication plans should be elaborate and effective

4.8.5 Hypothesis 4 Testing

$H_0$4: There is no significant relationship between stakeholder communication and implementation of IRS malaria control programme

The priori significant level was set at $\alpha=0.05$ common alpha, such that $p>0.05$ we fail to reject the null hypothesis as there is no significant relationship that exists between the variables. And $p< 0.05$, we would otherwise reject the null hypothesis as there is no sufficient evidence to fail to reject that a significant relationship exists between stakeholder advocacy and implementation of IRS malaria control programme.

Hypothesis test was done using t-test scores to determine the degree of associations between stakeholder communication and implementation of IRS malaria control programme where analysis of regression was computed guided by the formulated null hypothesis tested being $H_0$4: $\beta_4 = 0$ and the corresponding tested alternative hypothesis being $H_0$4: $\beta_4 \neq 0$. Therefore, with $p<0.000 <0.05$, we reject the null hypothesis and retain alternative hypothesis

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The fifth chapter outlines the in-summary key findings on: Stakeholder sensitization influence on implementation of IRS malaria control programme, how stakeholder advocacy influence implementation of IRS malaria control programme, how stakeholder capacity building influences implementation of IRS malaria control programme. And how stakeholder communication influence implementation of IRS malaria control programme The chapter as well gives recommendations, conclusions, study's contribution to the body of knowledge and suggestions for further research

5.2 Summary of the Study's Key Findings

The study intended to achieve the purpose which was to analyze how stakeholder mobilization influence implementation of IRS malaria control programme. The study also sought to accomplish the outlined objectives: To establish how stakeholder sensitization influences implementation of IRS malaria control programme. To determine how stakeholder advocacy influences implementation of IRS malaria control programme*;* To assess how capacity building influences implementation of IRS malaria control programme and to determine how stakeholder communication influences implementation of IRS malaria control programme.

5.2.1 Stakeholder Sensitization and Implementation of Indoor Residual Spraying Malaria Control Programme

To accomplish this theme of objective one, the study sought to establish how stakeholder sensitization influence implementation of IRS malaria control programme. The study reported that stakeholder sensitization and implementation of IRS malaria control programme have a strong positive significant correlation ($r=0.641$; $P<0.000$). Composite Mean and S.D 2.55; 1.472

5.2.2 Stakeholder Advocacy and Implementation of Indoor Residual Spraying Malaria Control Programme

To accomplish this theme of objective two, the study sought to determine how stakeholder advocacy influences implementation of IRS malaria control programme The study reported that stakeholder advocacy and implementation of IRS malaria control programme have a fairly strong positive and significant correlation (r=0.535; P<0.000). Composite Mean and S.D 3.18; 1.403

5.2.3 Stakeholder Capacity Building and Implementation of Indoor Residual Spraying Malaria Control Programme

To accomplish this theme of objective three, the study sought to establish how stakeholder capacity building influences implementation of IRS malaria control programme. The study reported that capacity building and implementation of IRS malaria control programme have a weak positive and significant correlation (r=0.224; P<0.004). Composite Mean and S.D 3.37; 1.373

5.2.4 Stakeholder Communication and Implementation of Indoor Residual Spraying Malaria Control Programme

To accomplish this theme of objective four, the study sought to establish how stakeholder communication influences implementation of IRS malaria control programme The study reported a stakeholder communication and implementation of IRS malaria control programme have a fairly strong positive and significant correlation (r=0.224; P<0.000). Composite Mean and S.D 3.02; 1.367

5.2.5 Implementation of Indoor Residual Spraying Malaria Control Programme

The study had sought to determine success in the level of implementation of IRS malaria control programme. The study established a fairly good level of implementation of IRS malaria control programme as suggested by composite mean and S.D of 3.00 and 1.488

5.3 Conclusions

The study results led to the enlisted conclusions being derived from the study;

Stakeholder sensitization positively, significantly influences implementation of IRS malaria control programme. Stakeholder advocacy significantly and positively influences Implementation of IRS malaria control programme. Stakeholder capacity building positively and significantly influences Implementation of IRS malaria control programme. The study also concluded that stakeholder communication positively and significantly influences implementation IRS malaria control programme. Lastly, the study concluded that there is a fairly good progress in the implementation of IRS malaria control programme.

5.4 Recommendations

For the formulation of policy and for implementation practices the outlined recommendations have been made by the study;

i. Stakeholder sensitization should properly be undertaken to enhance the implementation of IRS malaria control programme as they were found to significantly and positively influence project implementation by creating awareness, mobilizing resources and creating just the right environment for IRS programme implementation

ii. There should be intensive advocacy programmes to enhance the implementation of IRS malaria control programme

iii. Capacity building should be undertaken to make the stakeholders better equipped in implementing IRS programmes by training them on basic project management and implementation skills in IRS

iv. Stakeholder communication should be well undertaken in media that are accessible, effective and efficient in reaching the target audience and disseminating the required information.

5.5 Suggestions for Further Research

The study hereby suggests for action that similar studies be undertaken in other government sub-counties implementing IRS malaria programme in Homa Bay and Migori Counties.

5.6 Contribution to the Body of Knowledge

The study has contributed to the Body of Knowledge in the manner outlined;

Research Objective	Contributions to the Body of Knowledge
To establish the influence of stakeholder sensitization on Implementation of IRS malaria control programme	Stakeholder sensitization strongly, significantly and positively influences implementation of IRS malaria control programme and thus validated previous studies
To determine the influence of stakeholder advocacy on implementation of IRS malaria control programme	Stakeholder advocacy significantly and positively influences implementation of IRS malaria control programme and thus validated previous studies
To assess the influence of capacity building and implementation of IRS malaria control programme	Capacity building significantly and positively influences implementation of IRS malaria control programme and thus validated previous studies
To determine the influence of stakeholder communication on implementation of IRS malaria control programme	Stakeholder communication significantly and positively influences implementation of IRS malaria control programme and this also validated previous studies

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APPENDICES

Appendix I: Questionnaire for Stakeholder

Dear Respondent,

My name is **Cecilia Makabwa** collecting data to facilitate my academic research work as a Master's student on "**Stakeholders mobilization strategies and implementation of indoor residual spraying malaria control programme in Nyatike Sub-County, Kenya".** This questionnaire is the tool designed to facilitate data collection.

Instructions

i. The Questionnaire runs from sections A-F
ii. You are required to attempt all the sections by ticking appropriate in the boxes provided
iii. Kindly NEVER write your name or phone number for confidentiality
iv. Do not leave any statement non-responded to
v. Kindly mark clearly and visibly with ink pen or pencil

SECTION A: DEMOGRAPHIC INFPORMATION

What Gender do you belong to?

Male ☐ Female ☐

What age bracket do you fall in?

18-27 ☐ 28-37 ☐ 38-47 ☐ 48-57 ☐ 58-67 ☐ Above 67 ☐

What marital status do belong to?

Single ☐ Married ☐ Divorced ☐ Separated ☐ Widowed ☐

What is your highest education level and training?

Primary ☐ Secondary ☐ Certificate ☐ Diploma ☐ Degree ☐ Masters ☐

PhD ☐ Other (Specify) ☐

SECTION B: STAKEHOLDER SENZITIZATION

This is a Likert scale rated statements section weighted in a descending order from 5 to 1. Kindly choose and tick appropriately at the intersection point of the statement and the response level.

Item-no	Statements on stakeholder sensitization	'Str0ngly .Agr.e.e'-*5*	'A.g.r.ee'-*4*	'Neutral'-*3*	'Disag.r.ee'-*2*	'Str0ngly. Disagr.e.e'-*1*
B1-	Stakeholders are invited and participate in planning meetings					
B2	Stakeholders mapping is conducted to identify programme stakeholders					
B3	Stakeholders are assigned specific responsibilities to undertake					
B4	Stakeholders are involved in programme awareness creation					
B5	Stakeholders participate in the needs assessment exercise at the programme initiation stage					

SECTION C: STAKEHOLDER ADVOCACY

This is a Likert scale rated statements section weighted in a descending order from 5 to 1. Kindly choose and tick appropriately at the intersection point of the statement and the response level.

Item	**Statements on stakeholder advocacy**	**‘Str0ngly .Agr.e.e’-*5***	**‘A.g.r.ee’-*4***	**‘Neutral’-*3***	**‘Disag.r.ee’-*2***	**‘Str0ngly. Disagr.e.e’-*1***
C1	Stakeholder s’ support for the programme is achieved through lobbying					
C2	Extensive mass media campaigns are conducted to solicit support for the malarial control programme					
C3	Advertisements are carried out to create programme publicity					
C4	Road shows are conducted to create awareness about the programme					
C5	Public rallies are organized to inform the public about the programme					

SECTION D: STAKEHOLDER CAPACITY BUILDING

This is a Likert scale rated statements section weighted in a descending order from 5 to 1. Kindly choose and tick appropriately at the intersection point of the statement and the response level.

Item	Statements on stakeholder capacity building	'Str0ngly .Agr.ee'-*5*	'A.g.r.ee'-*4*	'Neutral'-*3*	'Disag.r.ee'-*2*	'Str0ngly. Disagr.e.e'-*1*
D1	Stakeholders are trained to undertake various programme activities					
D2	Stakeholders are facilitated financially to effectively undertake programme activities					
D3	Exchange programmes are organized to enhance information sharing					
D4	Seminars are conducted to equip stakeholder with prerequisite information on programme					
D5	Benchmarking activities are organized to facilitate knowledge transfer					

SECTION E: STAKEHOLDER COMMUNICATION

This is a Likert scale rated statements section weighted in a descending order from 5 to 1. Kindly choose and tick appropriately at the intersection point of the statement and the response level.

Item	Statements on stakeholder communication	'Str0ngly .Agr.ee'-*5*	'A.g.r.ee'-*4*	'Neutral'-*3*	'Disag.r.ee'-*2*	'Str0ngly. Disagr.e.e'-*1*
E1	There are regular consultative meeting to discuss the status of the programme					
E2	There is clear communication channel to facilitate feedback					
E3	Programme activities are extensively reported					
E4	Programme activities information are well packaged and disseminated to the stakeholders					
E5	There are publications on programme activity findings in scientific journals and periodicals					

SECTION F: IMPLEMNTATION OF INDOOR RESIDUAL SPRAYING MALARIA CONTROL PROGRAMME

This is a Likert scale rated statements section weighted in a descending order from 5 to 1. Kindly choose and tick appropriately at the intersection point of the statement and the response level.

Item	Statements on Implementation of IRS projects	'Str0ngly .Agr.e.e'*5*	'A.g.r.ee'-*4*	'Neutral'-*3*	'Disag.r.ee'-*2*	'Str0ngly. Disagr.e.e'-*1*
F1	Nearly all the households in the programme are have been sprayed					
F2	There is a sharp decline on cases of malaria reported in the programme area					
F3	The beneficiaries are have high level of satisfaction with the programme intervention					
F4	The indoor residual malaria control programme compared other methods is most effective					
F5	The programme has been highly accepted by Nyatike Sub-County majority residents					

THE END

Appendix II: Interview Schedule

Interview Guide on Stakeholders Mobilization Strategies and Implementation of IRS malaria control programme in Nyatike Sub-County, Kenya

To what extent can you say stakeholder sensitization influences implementation of IRS malaria control programme in Nyatike Sub-County, Kenya?

.....

.....

To what extent can you say stakeholder advocacy influences implementation of IRS malaria control programme in Nyatike Sub-County, Kenya?

.....

.....

To what extent can you say stakeholder capacity building influences implementation of IRS malaria control programme in Nyatike Sub-County, Kenya?

.....

.....

To what extent can you say stakeholder communication influences implementation of IRS malaria control programme in Nyatike Sub-County, Kenya?

.....

.....

How to you rate the achievement of implementation of IRS malaria control programme in Nyatike Sub-County, Kenya?

.....

.....