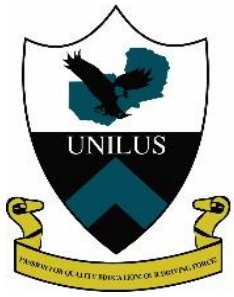

UNIVERSITY OF LUSAKA

SCHOOL OF POSTGRADUATE STUDIES

EVALUATION OF THE IMPLEMENTATION OF SANITATION AND HYGIENE PROGRAMMES IN MWENSE DISTRICT, ZAMBIA

A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, UNIVERSITY OF LUSAKA IN PARTIAL FULFILLMENT OF THE AWARD OF THE MASTER OF SCIENCE IN ENVIRONMENTAL MANAGEMENT

BY

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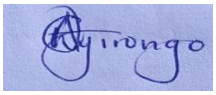
MSCEM22112298

JANUARY, 2025

DECLARATION

I Albert Nyirongo, do hereby declare that this work is my own and it has not previously been submitted for a degree, diploma or other qualification at this or another University. I also declare that the works of other people utilized in this dissertation have duly been acknowledged, cited and referenced.

Student Name: Albert Nyirongo Signature: 

Approved by: Dr. Alick Nguvulu (Ph.D) Signature: 

DEDICATION

I dedicate this dissertation to my mother, Marjorie Chaiwa, my lovely wife, Tasila Sarafina Banda and my Son Alinase Innocent Nyirongo not forgetting my brother and sister, Remmy C. Nyirongo and Ruth Nyirongo respectively whose unwavering support and encouragement have been my guiding light throughout this journey. Your strength and wisdom have shaped who I am today.

I also dedicate this work to my mentor Marjorie Chaiwa Nyirongo who helped me grow both academically and personally through guidance, inspiration and knowledge. Your dedication to fostering my intellectual curiosity has been invaluable.

Finally, I dedicate this dissertation to my friends, Daniel Koleka, Charles Musonda, Urgent Sialyainda and Anderson Mwale whose companionship and encouragement have made this challenging yet rewarding journey possible. Your faith, laughter and support have been a source of strength every step on my way.

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ACRONYMS/ ABBREVIATIONS

WHO	World Health Organization
MOH	Ministry of Health
WASH	Water Sanitation and Hygiene
CLTS	Community lead Total Sanitation
UNICEF	United Nations International Children Fund
NGO	Non-Governmental Organization
UN	United Nations
IYS	International Year of Sanitation
SDGs	Sustainable Development Goals
AFDB	African Development Bank
SACOSAN	South Asian Conference on Sanitation
ASEAN	Association of Southeast Asian Nations
APWF	Asia Pacific water forum
SAARC	South Asian Association for Regional Cooperation
IGAD	Intergovernmental Authority on Development
ECOWAS	Economic Community of West African States
NWASCO	National Water and Sanitation Council
MLGH	Ministry of Local Government and Housing
WSA	Water and Sanitation for all
WSP	Water and Sanitation Programme
EIB	European Investment Bank
SuSanA	Sustainable Sanitation Alliance
HIAs	Health Impact Assessments
EU	European Union

SBM	Swachh Bharat Mission
SSHE	School Sanitation and Hygiene Education
PPP	Public Private Partnership
HBM	Health Belief Model
MDGs	Millennium Development Goals
EUWI	European Water Initiative
SPSS	Statistical package Sciences
FGD	Focus Group Discussion
UNILUS	University of Lusaka
OD	Open Defecation
HP	Health Promoters
CHW	Community Health Workers
DWASH IP	District Water Sanitation and Hygiene

ABSTRACT

Before and few years after Zambia got its independence in 1964, the sanitation crisis became more evident, this reviewed most of the people having lowly paid jobs and in eventuality led to low standards of living because of high illiterate levels. This resulted into a lot of adverse health effects such as diarrhea, cholera, dysentery and typhoid fever, mostly affecting children under the age of five years consequently leading to high mortality (WHO,2022. This study evaluated the implementation of sanitation and hygiene programs in mwense district, Zambia, were a mixed approach method was used which included both qualitative and quantitative methods. The study population was 772 people with a sample size of 58 household from both kampamba and mwenso village. A purposive sampling technique was in the study because not all the local people in the study area that did not have toilets. The research objectives included the following; to find out the households with improved sanitation and hygiene practices in Mwense District, to assess the effectiveness of existing sanitation and hygiene programs in mwense district, to identify challenges faced during the implementation of the programs and recommend potential solutions for improvement in mwense District. The findings provided critical insights for refining sanitation and hygiene strategies in mwense district as the results showed that (42) 93.3% of the respondents had access to a sanitation facility while 2 (6.7%) did not have. The other findings showed that 15 (34.1%) said the programs were very effective in improving sanitation and hygiene in the communities while 16 (36.4%) respondent that the programs are ineffective, 11 (25%) responded that the programs are neutral and 2 (4.5%) said the programs are ineffective. Lastly, the major challenge was inadequate funding and it was recommended that funding must be increased for sanitation and hygiene programs.

Keywords: *Sanitation, Hygiene Programs, Implementation, Evaluation, Public Health, Waterborne Diseases, Community Participation, Sustainability.*

Chapter One

Introduction

1.0 Introduction

According to the Central statistics Office, (2020) Mwense district is located in the luapula province of Zambia. It is among the parts of the country that has been grappling with challenges related to sanitation and hygiene. Adequate sanitation is dependent on a green and heath environment, the severity of sanitation crisis is so common particularly in high densely populated areas in informal settlements across the globe. According to the world health organization-WHO, 2012, approximately 1.1 billion people in the world still practice open defecation hence posing an impact on the livelihood and health of the entire communities due to contamination of the water and the surrounding environment because of the faeces left on the ground. According to Corcoran, 2010, with inadequacy safe dispose of faeces, billions of people leaving in shanty towns tend to utilize ‘flying toilets’ dumping waste in public spaces and plastic bags are used then thrown away. The circumstance is not bounded only in urban settlements but also peri-urban settlements, large villages and other places across the developing world (Ministry of Health, 2022).

Effective WASH practices are essential for preventing healthcare associated infections because they are critical elements that contribute to safety and quality in healthcare setting. If these programs are not effective, we would see a high risk in hospitals, clinics and the communities from the infected people. Despite the acknowledgement of their importance proper WASH facilities are fundamental to infection control in healthcare environment (WHO, 2012). Inadequate WASH infrastructure has been a struggle especially in low- and middle-income countries.

Vulnerable populations such as children, the elderly and immunocompromised individuals, frequently seek treatment due to poor sanitation and hygiene practices. Studies have proven that this can also led to numerous health complications ranging from minor infections to severe illness that sometimes can be fatal (WHO, 2022).

Implementing of such programmes as sanitation and hygiene in mwense district is very important as it will promote health, enhance overall community well-being and prevent diseases. The numerous challenges that are faced relating to water, sanitation and hygiene are as a result of factors such as inadequate infrastructure, poverty, as well as limited access to safe and clean water.

1.1 Background

Before and few years after Zambia got its independence in 1964, the sanitation crisis became more evident, this reviewed most of the people having lowly paid jobs and in eventuality led to low standards of living because of high illiterate levels. This resulted into a lot of adverse health effects such as diarrhea, cholera, dysentery and typhoid fever, mostly affecting children under the age of five years consequently leading to high mortality (WHO,2022). Most of the people in urban and rural areas improved their personal hygiene as a result of improvement in the provision of health services and education hence improving sanitation. Personal hygiene included; the use of toilets and washing of hands after using the toilet (WHO/UNICEF, 2021). In addressing the challenges, various sanitation programs have been implemented in mwense district. The aligned programs are with the view to improve access to safe water and sanitation facilities, promoting good hygiene practices and increase public awareness on the importance of sanitation and hygiene. Further, a programme under the ministry of water development and sanitation called “enhancing access to WASH services” was implemented in luapula province of which mwense benefited (UNICE, 2021). The programme was meant to benefit about 6 districts in the province which amounted to about k168 Million kwacha, the programme was rolled through the help of KFW development bank in collaboration with UNICEF.

The gap remains in the rural areas even when Zambia has made considerable strides in improving sanitation and hygiene (Zambia environmental sanitation and hygiene strategic plan, 2022). Open defecation is the act of eliminating waste matter from the body, specifically faeces to undesignated facilities or places. It is one of the major problems that is faced globally at the moment because of its contamination of both surface and ground water by faeces. In the context of sanitation and hygiene practices of defecation are mostly critical in the prevention of the spread of diseases and ensuring public health (WHO/UNICEF, 2021). The involvement of safe way disposal of faeces involves the use of proper sanitation facilities such as toilets pit latrines and

any other safe disposal options, if such is over looked it results in the contamination of water sources, spreading of diseases and causing pollution to the environment. Hence sanitation and hygiene can be achieved by proper defecation practices. The sanitation crisis as it stands globally is clearly indicated by open defecation. The proper sanitation facilities as of 2005 represented 13% of rural of rural household to have access to such facilities. Millions of school aged children who are under 5 years are mostly infected with intestinal worms as a result of poor hygiene conditions due to lack of basic sanitation facilities. In order to reduce or prevent such effects people must have access to safe drinking water and adequate sanitation. Introduction of sound hygiene behavior and provision of sanitary disposal facilities for excreta is of great importance to minimize the burden caused by risk factors.

In order for the Zambian government and partnering non-governmental organization (NGO's) to improve on sanitation and hygiene practices in the rural areas, it adopted programs such as community lead total sanitation (CLTS), school led total sanitation (SLTS), community Awareness campaigns, rehabilitation of boreholes as well as upgrading of boreholes equipped with handpumps into small water schemes as specific activities that have been implemented in the district. Sanitation activities include; the use of proper toilets, washing of hands after using the toilet and handling waste, personal hygiene and environmental sanitation being advocated under CLTS and WASHE (Zambia National Water Supply and Sanitation Council, 2021). Well the attention has been given much on the provision of water than sanitation facilities despite the mentioned programs that have been initiated to minimize on the challenges of sanitation and hygiene, consequently resulting to poor implementation and monitoring of sanitation programs

Furthermore, to access the impact of these problems, an evaluation must be done to get feedback of the effectiveness of current programmes that have been mentioned above, investigate successes and challenges as well as guide on the optimization of future sanitation and hygiene interventions in mwense district.

1.2 Operational Definition

- Sanitation: is the safe disposal of human waste which could be human urine and faeces

- Hygiene: practices conducive to maintaining health and preventing diseases especially through cleanliness
- Defecation: the discharge of faeces from the body
- Toilet: a fixed receptacle into which a person may urinate or defecate.
- Faeces: waste matter remaining after food has been digested, discharged from the bowels
- Environment: the surrounding or conditions in which a person, animal or plant lives or operates

1.3 Statement of the Research Problem

According to WHO and the united nations international children's fund (UNICEF) (2023), 2.2 billion people do not have access to safely managed drinking water and approximately 3.5 billion people worldwide lack safely managed sanitation services and mwense district is not spared as it face a lot of hygiene and sanitation related challenges such as inadequate sanitation facilities, poor hygiene practices and limited access to clean water that have persist due to socio-cultural, economic and infrastructural barriers (Jenkins et al 2021), leading to faecal-oral transmission and some incidents of water borne diseases, despite adopting programs such as community lead total sanitation (CLTS), school led total sanitation (SLTS), community Awareness campaigns, rehabilitation of boreholes as well as upgrading of boreholes equipped with handpumps into small water schemes. Studies have shown that malnutrition, reduced economic productivity and school absenteeism is as a result of poor sanitation UNICEF, 2022. Further, particularly in schools, menstrual hygiene management remains a neglected issue, which leads to absenteeism and stigma among adolescent girls due to lack of clean and private sanitation facilities (sommer et al. 2020). With regard to the achievement of the sustainable development goals for sanitation target in Zambia, the poor sanitation coverage remains a big threat because a few of the rural communities have access to toilet facility resulting to people practicing open defecation and poor hygiene hence the outbreak of water borne related diseases such as dysentery, cholera, typhoid, nausea and diarrhea among others which leads to long term health effects as well as death pruss-ustun et al., 2019, these effects affects the development of the country because huge sums of amounts of money is spent on treatment of the above mentioned (World Bank, 2021). To address these challenges, sanitation and hygiene programmes have been

implemented in the study area but the effectiveness of programmes in improving hygiene and sanitation conditions are unclear. Hence, in this regard to conduct an evaluation of the implementation of sanitation and hygiene programmes in mwense district in order to understand their impact, gaps and provide recommendations for improvement

1.4 Research Objectives

1.4.1 Main Objective

- To evaluate the implementation of sanitation and hygiene programmes in mwense district, Zambia.

1.4.2 Specific Objectives

- To determine the households with improved sanitation and hygiene practices in Mwense District.
- To assess the effectiveness of existing sanitation and hygiene programs in mwense district.
- To investigate the impact during the implementation of the programs and provide solutions for improvement in mwense District

1.5 Research Questions

1. What are the households with improved sanitation and hygiene practices in Mwense district?
2. What is the effectiveness of existing sanitation and hygiene programs in mwense district?
3. What is the impact of the implementation of the programs and potential solutions for improvement in mwense district?

1.6 The Scope of Study

In the proposed study the researcher focused on evaluating the implementation of sanitation and hygiene practices of the study area and effects on ground water contamination will not be included in the study.

1.7 The Significance of Study

The major health problems that most rural areas face in Zambia are low access to sanitation and hygiene. In most of the households which do not have an improved sanitation facility the most affected are children under the age of five years with diarrhea diseases. The use of improved faecal disposal facilities and good hygiene that include: hand washing among families improve the health and nutrition status of

children and mothers as they reduce the incidences of diarrhea especially in children. According to Ramaraju, 2013, the health expenditure of sampled households is affected by the toilet facility that has been found to be a significant variable.

The communities of mwense district will be helped with the significance of this study to sensitize and enlighten them to use sanitation facilities in the disposal of human waste.

The results of this undertaking will enable various relevant institutions, decision makers and researchers about the sanitation situation in mwense district further add up to the existing body of knowledge on sanitation in rural areas.

1.8 The Organization of the Report

The dissertation comprises of six chapters. In chapter one, it presents the introduction and background of the study. Chapter two will comprise of the literature review, were previous studies with regard to the research topic have been reviewed. Chapter three will describe the study area, which is mwense district and methodological approach that was designed to address the set objectives of the study. chapter four, will comprise the presentation of results and chapter five presents the discussion of the results. Lastly, chapter six will give a summary, conclusion as well as recommendations from the findings of the study.

Chapter Two

Literature Review

2.0 Introduction

This chapter reviews the studies that have been undertaken by other authors that is relevant and similar to the topic under review. The chapter bring to the attention of the researcher and reader the studies that have been done on the evaluation of the implementation of sanitation and hygiene practices. Further, a presentation of the conceptual and theoretical framework has been provided in order to visualize the research topic in the diagrammatic perspective.

2.1 Historical Genesis of Sanitation and Hygiene

It is very prudent to look at the path through which sanitation and hygiene has passed in order to have a historical perspective on these vital issues of sanitation and hygiene. In 1852 the sanitary revolution began in London with the metropolitan water Act. This came about as a result that the water supply of the town to be filtered. As shown in table 1 is the milestone of water supply and sanitation as stipulated by the united nations.

Table 1: water supply and sanitation: milestone in the United Nations U.N

Year	Targeted issues
2002	Target adopted at the world summit for Sustainable Development to reduce by half the number of people who do not have access to safe sanitation facilities by 2015.
2000	UN announces Millennium Development Goals (MDGs).
1980s	WHO links the IDWSSD with primary health care.
1980	Launch of the International Drinking Water Supply and Sanitation Decade.
1977	UN Water Conference in Mar del Plata, Argentina
1961	Charter of Punta del Este sets targets for Water supply and Sanitation.

1959	World Health Assembly adopts a global, “spearhead” program for community water supply
1957	First international drinking water standards published by the WHO Regional office for Europe.
1950	The Executive Board gives priority to rural environmental Sanitation; WHO and UNICEF collaborate closely.
1948	WHO assumes a constitutional function to promote the improvement of environmental hygiene.

Table 1: water Supply and Sanitation, milestone in the united nations (Source: WHO, 2003).

Upon the breakout of the 1882 Hamburg cholera Epidemic an association was established between polluted water and disease. Thereafter, in 1885 was the establishment of the examination of London’s water supply for routine bacteria check which in 1908 led in turn to the chlorination of water. In order to raise awareness and accelerate progress towards the millennium development goals MGDs by 2015, the united nations general assembly set aside 2008 to be the international year of sanitation (IYS). ensuring health, dignity and sustainable social and economic development for the world’s poorest citizens came as a realization that access to sanitation is very important (WHO, 2003). Therefore, it is in this regard that the global hand washing day was celebrated on the 15th of October, 2008. On the other hand, upon the first global toilet campaign being lunched on the 19th November, 2008 followed was the first celebration in 2013 on the same day. In order to promote public awareness of the need for adequate toilets to improve people’s health and save lives, 19th November every year was set aside so as to celebrate worlds toilet day (WHO, 2003).

2.2 Knowledge, Attitude and Perception of Sanitation and Hygiene

2.2.1 At Global Level

There is a significant gap in knowledge according to several studies that have been conducted regarding proper sanitation and hygiene practices in many parts of the world (Jin et al., 2020). The contribution of spread of diseases such as diarrhea, cholera and typhoid are as a result of lack of awareness about the importance of handwashing, safe water storage and proper disposal of waste (WHO, 2020).

Cultural attitudes vary across different regions with regard to the perception of sanitation and hygiene practices while others do not consider cleanliness as a priority,

some communities do. The level of education, access to resources and socio-cultural factors are key in influencing such vices (UNICEF, 2019).

According to Patel, 2020, Behavior can also be impacted by sanitation and hygiene perception for example, individuals may choose not to comply to certain hygiene practices due to the perception that the practice is either time consuming or unnecessary to undertake. On the other hand, better health outcomes and improved practices can be achieved with positive perception of sanitation and hygiene.

Studies have shown that proper sanitation and hygiene practices can reduce the incidences of waterborne diseases, improve child health and contribute to overall well-being if knowledge, attitudes and perceptions of sanitation and hygiene practices is improved thereby having a direct impact on public health outcomes (O'Reilly et al., 2016).

According to Lo et al., 2021 There are still significant challenges and barriers to behavior change despite efforts to promote sanitation and hygiene practices globally these include; lack of access as well as resources to education and awareness, lack of sanitation facilities and clean and safe water as well as cultural beliefs and practices.

2.2.2 At Continental level

In order to address the high burden of waterborne diseases in the region studies have been conducted in Africa highlighting the importance of improving knowledge and attitudes towards sanitation and hygiene practices. In shaping perception of sanitation and hygiene, cultural beliefs and practices play a significant role. Further interventions need to be culturally sensitive to be effective, in promoting behavior change and improving access to sanitation facilities in rural areas, community-led total sanitation (CLTS) programs have shown promise in this regard (Ofeibea, 2021).

According to Ofeibea, 2021, Challenges in ensuring access to clean water and sanitation facilities is as a result of a case in Asia of rapid urbanization and population growth which have put more pressure on sanitation infrastructure. In order to improve knowledge and attitude towards hygiene practices particularly in densely populated urban areas studies have emphasized the need for targeted education and awareness campaigns. As of improving sanitation and hygiene practices in countries across Asia, public-private partnerships and innovative technologies have been leveraged.

In Europe, the protection of public health and environment comes with the strong focus on sustainable sanitation solutions and water management practices. In promoting

good hygiene practices especially in healthcare setting and schools' studies have highlighted the importance of education and public awareness campaigns. The influence of policy decisions and investments in sanitation infrastructure across European countries is as a result of the perception of sanitation and hygiene as a fundamental human right (Bassey, 2020).

In north America, despite the disparities existing in marginalized communities and indigenous population, access to clean water and sanitation facilities is generally high. Based on socio-economic factors and cultural backgrounds, studies have shown that knowledge and attitudes towards sanitation and hygiene practices can vary (Ranjan, 2019). In promoting handwashing and other hygiene practices to prevent the spread of infectious diseases, public health campaign and regulations have been effective.

In south America, the focus on addressing inequalities in access to clean water and sanitation have been so active. Efforts have been put in place to improve sanitation and hygiene. In promoting behavior change and sustainable sanitation solution, studies have highlighted the role of community engagement and participatory approach in this regard (Dogan, 2022).

2.2.3 At Regional Level

In sub-Saharan Africa, in addressing the high burden of water borne diseases in the region, studies have highlighted the critical importance of improving knowledge and attitudes towards sanitation and hygiene practices. The contribution to the spread of diseases such as diarrhea, cholera and typhoid is as a result of cultural beliefs, limited access to clean water and sanitation facilities. Strategies such as CLTS programs and behavior change have shown promise in promoting hygiene practices and improved sanitation in both rural and urban communities (WHO/UNICEF, 2021).

According to Ameh, 2020, Studies conducted in south Asia reviews that the significant challenges posed on public health is as a result of rapid population growth, urbanization and limited access to sanitation facilities. In order to improve knowledge and attitudes towards hygiene practices especially in densely populated areas, emphasis has been made to the need for targeted education and awareness campaigns. In promoting behavior change and improving access to sanitation facilities innovative, measures have been put in place such as social marketing, community mobilization and public private partnerships have been effective (Ameh, 2020).

In Latin America, the focus on addressing inequalities in access to clean water and sanitation facilities is of the reason of improving sanitation and hygiene practices particularly in marginalized communities and rural areas. Studies have highlighted the role in promoting social norms in order to achieve behavior change and sustainable sanitation solutions, community engagement and participatory approaches. Further, on the led to focus on sustainable water management practices, the impact of climate change on water resources and sanitation infrastructure has also been a growing concern in the region (Ameh, 2020).

In the middle east and north Africa, the variation of access to clean water and sanitation facilities across countries are with disparities in both rural and urban areas. Attitude towards sanitation can be influenced by cultural beliefs, socio-economic factors and political instability (Murekezi, 2016). The instrument such as public health campaigns, education programs and investment in sanitation infrastructure have been used in promoting improved hygiene practices and prevention of the spread of diseases.

In Europe and north America, in spite the changes exiting in addressing issues such as water quality, aging infrastructure and disparities among vulnerable population, access to clean water and sanitation facilities is generally high in promoting good hygiene practices and prevention of water borne diseases, emphasis have been made in the studies on the importance of education, public awareness campaign and regulatory frameworks (Huda, 2012). The key priorities in these regions such as sustainable sanitation solutions, water conversation efforts and investments in infrastructure have been laid in ensure public health and environmental sustainability

2.2.4 At National Level

Studies have been conducted among different populations at the national regarding knowledge of sanitation and hygiene practices. A study conducted in Ethiopia reviewed that the knowledge about specific sanitation technologies and their proper use of sanitation facilities was inadequate even when most participants were aware of the benefits of improved sanitation (Beyene et al., 2015). In another study conducted according to Ghosh et al, 2020, in India it revealed that even when the majority of the participants were aware about use of the toilet, importance of handwashing and specific hygiene practices such as proper way to wash hands, was limited.

Adoption and implementation of sanitation and hygiene can be influenced by the individuals and communities if there is change towards attitude. A study in Bangladesh found that despite, attitudes been influenced by social norms and cultural beliefs the respondents generally had a positive attitude towards handwashing and the use of latrines (Huda et al., 2012). In Nigeria, the attitudes of the people were shaped by social-economic factors and access to relevant infrastructure despite the study showing that majority of the participants recognized the importance of proper sanitation and hygiene practices (Akinyemi et al., 2019).

Across different culture and socioeconomic contexts, perception of sanitation and hygiene can vary widely. A study in Indonesia revealed that the key factors in shaping individual and community perceptions were the perceived benefits of improved sanitation such as social status and better health (setiawan et al., 2018). Another study in Tanzania was found that the perceptions of rural communities towards these practices perceived convenience and affordability of sanitation technologies as well as cultural norms and beliefs, influenced the perceptions of rural communities towards these practices (Kwiringira et al., 2014).

While communities recognize the need for sanitation facilities misconceptions about their use and maintenance persist, this is according to research that has been conducted in various rural areas in Zambia. A study was conducted and found that people lacked knowledge regarding their proper construction and maintenance of latrines but understood their importance (Mumba et al., 2019). Another study regarding knowledge of handwashing practices revealed actual practice rates remained low in children and caregivers but awareness was relatively high. In order to bridge the gap, the author emphasized the need for targeted educational campaigns (Ziba, et al., 2020).

In a study conducted found that, Individuals especially Women who may face stigma associated with using public or community latrine, found that cultural beliefs significantly affect attitudes towards the use of toilets (Chundama & Chikumbi, 2021). In order to change the attitude of the people the study highlighted necessary community engagements. According to Wang et al., 2021 a participatory study in engaging the community in decision making revealed communities that are involved

in decision making regarding sanitation exhibited positive attitude on the use and maintenance.

In a study conducted by Kambole et al., revealed that gaps remain in understanding how specific behavior contribute to disease transmission unlike the perceived notion that poor sanitation and hygiene practice leading to the cause of waterborne diseases. Positive hygiene behavior correlates with the awareness of risk related to poor sanitation but still require further enhancement. In a study conducted in mwense district on accessibility and privacy revealed that safety and privacy concerns influenced women significantly to use a toilet and gender sensitive approach was the underscoring need with regard to the study (Mwila and Malama, 2021).

2.3 Legal and Institutional Framework on Sanitation and Hygiene

2.3.1 At Global Level

According to the united nations 2010, Several key legal frameworks at global level have been developed to address sanitation and hygiene issues. Access to safe and clean drinking water and sanitation has been recognized by the united nations general assembly as a human right as outlined in the revolution 64/292. To develop and implement national policies and strategies to improve access to these essential services this revolution has been a driving force for countries.

According to the united nations, 2015 included the specific targets related to sanitation and hygiene from the sustainable development goals that were adopted by the united nations in 2015. Sustainable development goal number 6 aims to “ensure availability and sustainable management of water and sanitation for all.” With target such as “achieving universal and equitable access to safe and affordable drinking water and adequate and equitable sanitation and hygiene for all by 2030”

In order for states to ensure access to sanitation and hygiene services engagement of the human rights framework specifically, the international covenant on economic, social and cultural rights has been excised in order to reinforce the legal obligations (united nations, 1966). In the event to achieve monitoring and advocating for the realization of these rights the united nations special rapporteur on the human right to safe drinking water and sanitation has played a very crucial role (united nations, 2021).

In order to coordinate and support efforts related to sanitation and hygiene, various institutions have been established at the global level. According to the UN-Water, 2022, The united nations water (UN water) brings together 32 united nations and

external partners, it is regarded as an inter-agency coordination mechanism for all freshwater and sanitation related matters. UN-Water plays a crucial role in facilitating knowledge sharing and collaboration among its members as well as promoting the implementation of the water and sanitation-related SDGs.

In developing global guidance and standards related to sanitation and hygiene, the World health organization and the united nations children fund (UNICEF) have been useful instruments. WHO and UNICEF provides global data and estimates on the progress towards universal access to these services through joint monitoring programmes for water supply, sanitation and hygiene (JMP) (WHO & UNICEF, 2021). According to the world bank 2022, The establishment of the lending and investment programs to support countries by international financial institutions such as the world bank and regional development banks is the initiative to improve their sanitation and hygiene infrastructure and service.

2.3.2 At Continental level

In the case of Africa challenges regarding sanitation and hygiene have been addressed in several steps. An establishment was made in 2002 called African ministers council on water. It was established for the management of water resources in Africa as well as to provide policy direction, political leadership and advocacy (AMCOW, 2022). according to the African union 2008, A declaration was made to commit African countries to develop national sanitation and hygiene policies by the African union in 2008. It brought up this idea to strategies as well as to allocate 0.5% of their budget to the sanitation sector. In 2015 Ngor Declaration was adopted on sanitation and hygiene. Further, they called for the establishment of national sanitation hygiene authorities in order to reinforce these commitments (AMCOW, 2015).

Grants and technical assistance for water facilities was initiated by the African Development Bank in order to provide support in the water and sanitation project across the continent (AFDB, 2022).

The SACOSAN declaration have called for the development of national sanitation policies, the recognition of sanitation as well as human right and increased investment. It is a key regional platform for collaboration and knowledge sharing on sanitation and hygiene issues and has been in existence since 2003.

The ASEAN strategic plan of Action on water resources management (2016-2025) includes objectives related to improving access to safe and affordable drinking water

and sanitation, it has also recognized the importance of sanitation and hygiene which has also included the frameworks (ASEAN, 2016).

In shaping the legal and institutional frameworks for sanitation and hygiene, the European parliament and council, 2000, 1998, European union (EU) has played a significant role at continental level. The legal requirements EU water framework directive (2000/60/EC) and (98/83/EC) drinking water directive states, to ensure the quality and management of water resources including provisions for sanitation and hygiene.

According to EIB 2022, Funding and support for water and sanitation infrastructure projects in member states and neighboring countries has been initiated by the European investment bank and other EU financial institution. Further, the improvement to access to water and sanitation services globally has also been initiated to support the development of the European water initiative.

2.3.3 At Regional Level

The key regional platform for addressing water and sanitation issues since 2007 in the Asia-pacific region is called the Asia pacific water forum (APWF). According to APWF 2007, Strategies and Action plans such as the Asia pacific water summit declaration which calls for the strengthening of regional cooperation and development of national water and sanitation policies were developed by APWF.

In its regional framework the south Asian Association for regional cooperation (SAARC) has also recognized the importance of sanitation and hygiene. In 2002 it adopted the SAARC development goals including targets related to basic sanitation and improving access to safe drinking water.in order to guide regional cooperation on these issues the SAARC secretariat has facilitated the development of the SAARC sanitation strategy (SAARC, 2013).

In the context of Africa, the IGAD protocol on policies, standards and regulations for water and sanitation has been established by the intergovernmental authority on development (IGAD), which aims to harmonize regional approaches to water and sanitation management (IGAD, 2012).

In 2008 the economic community of west African states (ECOWAS) regional water resources policy was adopted and includes the provisions for improving access to water and sanitation services in the region. It has also developed regional frameworks to address sanitation and hygiene challenges (ECOWAS).

In Europe, through its legal and institutional framework, the European social charter, revised in 1996, recognized the right to water and sanitation as part of the right to an adequate standard of living, the council of Europe has played a role in addressing sanitation and hygiene issues (council of Europe, 1996)

2.3.4 At National Level

In 2008, the national urban sanitation policy was lunched in India. Due to the policy emphasizing the need for comprehensive sanitation planning, strengthening of institutional capacities and development of city sanitation plans, it also provides a framework for improving sanitation and hygiene in urban areas (ministry of urban development, 2008).

A flagship program was launched in 2014, in the Swachh Bharat mission which aimed at eliminating open defecation by 2019 and achieve universal access to sanitation. According to Ministry of drinking and sanitation, 2014 the mission involves the development of solid waste management systems and construction of individual household latrines, community and public toilets. In additional an enactment which prohibits the employment of manual scavengers and provides for their rehabilitation has been enacted in India and it's called the prohibition of employment as manual scavengers and their rehabilitation Act, 2013.

The one WASH program which was launched in Ethiopia, 2013 is the program that aims to achieve universal access to WASH services by 2030. It is said to be a comprehensive framework that coordinates the countries efforts in the water, sanitation and hygiene WASH sector (Ministry of water, irrigation and electricity, 2013). According to ministry of health, 2016, In 2005 the Ethiopian national sanitation and hygiene strategy was developed, later it was updated in 2016. While it focusing on improving access to basic sanitation, promoting hygiene education and strengthening institutional capacities, it also provides a policy framework for improving sanitation and hygiene practices at the national level.

In 2016 the launching of the south Africa's national sanitation policy was made. The policy emphasizes the human right to sanitation, the integration of sanitation with other development initiatives and the provision of basic sanitation services. It also provides a comprehensive framework for addressing sanitation challenges in the country (Department of water and sanitation, 2016).

The primary legal instruments governing water and sanitation services in south Africa are the national water act of 1998 and the water services Act of 1997. According to the department of water affairs, 1998,1997, these acts provides the establishment of sanitation service delivery which includes; the roles and responsibilities of different government entities and the institutional framework for water.

The constitution of Zambia provides a foundation for the right to clean environment, the aim is to improve public health and maintain environmental standards this is guided by the national policies and legislations from the Zambia approach to sanitation and hygiene. The legal framework includes;

- The constitutional of Zambia (2016): it obliges the state to create conditions conducive to the realization of the right to clean environment which lays the ground work for environmental protection (Republic of Zambia “Constitution of Zambia 2016”).
- The environmental management Act (2011): it establishes guidelines for waste management disposal, pollution control and the protection of natural resources. It also provides legal framework for sustainable management of the environment including provisions relevant to sanitation and waste management (The Republic of Zambia “Environmental Management Act, 2011”).
- Public Health Act (1995): it gives authorities the power to enforce sanitation regulations and implement health measures to prevent disease outbreak. It also addresses sanitation related issues, providing guidance on the management of public health Hazards (Government of Zambia “Public Health Act, 1995”).

The institutional framework includes

- Ministry of water Development and Sanitation: it develops strategies and policies aimed at improving sanitation services across the nation and it is also responsible for coordinating water supply, sanitation and hygiene programs (Ministry of Water Development and Sanitation “Ministry overview” (website)).
- Ministry of Health: aims at responding tom health emergencies related to poor sanitation and critically plays an important role in promoting sanitary practices and public health (Ministry of health “Health Sector Strategic Plan” (Website)).
- Local Government Authorities: management of waste disposal facilities and public health hygiene education initiatives and implementation of sanitation and hygiene services at the community level are mandated to be undertake by the

local councils (Government of the Republic of Zambia “Local Government Act, 1991”)

2.4 Social-economic Aspects of Sanitation and Hygiene

According to WSP, 2002 Threats of the expected health benefits of the major investments being made due to sanitation provision which is lagging behind water supply globally. Both coverage targets and investment in sanitation were considered lower than for water supply. household latrine construction would not be subsidized, as these shortfalls could be explained by the Zambian government instead, the government funds would be directed towards the less easily measured tasks of hygiene promotion and technical assistance however, this reduced the importance/ attention to sanitation in this sector (WSP, 2002). according to the United Nations data calculated on the basis of national surveys, in 2010 about 48 percent had access to adequate sanitation while 61 percent of the population of Zambia had access to an improved source of water supply. This also included the most recently, the Demographic and Health Survey of 2007. Statistics from the report NWASCO published showed an improvement of 60.7% from 48.9% in 2013 regarding the sanitation coverage in Zambia (MLGH, 2014). In comparison to water coverage sanitation in Zambia remains very low and this is due to lack of funds for investment.

These results still show the low rate of improvement in sanitation. The NWASCO report showed that sanitation coverage had improved in Zambia to 60.7 percent from 48.9 percent in 2013 (MLGH, 2014). However, sanitation remains very low compared to water coverage. A limiting factor commonly evoked is lack of funds for investment. Both water and sanitation have been losing out to other sectoral interests in the competition for scarce public funds (MLGH, 2007). This is also true in Zambia, sanitation and water sectors are under-funded compared to health, agriculture, education and sports. For instance, in the year 2007, the budget showed that there was about K498.93 billion spent on water supply and 123.93 billion on sanitation which amounted to 54 percent and 13 percent of the budget, respectively (MLGH, 2007). Apparently in Zambia, most of the local government officials are only empowered in terms of capacity building and technical advice. However, when it comes to the provision of the required social services to help the under-privileged usually funds are not available. This to some extent has led to poor quality of sanitation facilities in rural areas or no facility at all thereby encouraging the use of the open bush. Jenkins and

Sugden (2006) point out that, as regards sanitation services, there is evidence to challenge the views of those who instinctively favor public sector solutions to all 'water sector' problems. In developing countries, the contribution of public-sponsored construction of sanitation infrastructure has been very small to date, compared with action by private households and providers to households. Most sanitation programmes are run by Non-Governmental Organization such as Water and Sanitation Programme (WSP), care and World Vision. Even then most NGOs also have targets which are not able to benefit all communities. For example, World Vision has concentrated more on the provision of latrines in schools than in communities which means that a child would practice all the good ways of using a toilet and washing of hands after using the toilet but if there is no toilet and no hand-washing facilities at the child's home then the child could still contract diseases through poor sanitation acts. Most people in rural areas have difficulties in finding money due to the informal jobs that they possess thereby having problems to construct proper sanitation facilities and recommended hand washing tools. Therefore, access to credit is also noted as something which is commonly lacking in sub-Saharan African countries, particularly micro-credit for small service providers, whether community-based or private (WSP, 2003). Loans available are often only for income generating activities, rather than for improving community and household infrastructure. However, the access to sanitation is usually possible with households headed by males because most of them are involved in informal jobs as such they have the capability to look for resources required for the construction of toilets. Therefore, interest in constructing latrines was observed among male heads for their female members especially a newlywed daughter-in-law, in Odisha India thus, reflecting concerns for their privacy, security, and convenience (Routray et al., 2015).

2.5 Problems/Issues Associated with Poor Sanitation and Hygiene

Access to sanitation facilities would either be improved or not. According to Grojec, 2015 access to improved facility is defined as hygienically separating human faeces from human contact without considering it for functionality, access and sustainability. Households that are regarded with improved sanitation facilities are those with sanitation adequacy which includes; a pit-latrine with a slab which is fine concrete that produces a smooth slab easy to clean (Brandberg, 1997), vent pipe to reduce smells and flies, a lid to cover the hole, a door for privacy and a bucket or scup for washing

hands after using the toilet. (Johnson et al., 2013) it is an improvement that makes pit latrines much more pleasant to use. Further, poor sanitation is as a result of sanitation facilities which are unimproved. The resultant of poor sanitation result in indirect cost such as increased households and on the other hand direct medical costs such as treating sanitation related diseases as cholera, reduced income and loss of productivity due to loss of income, effort losses due to distant or inadequate sanitation facilities as well as time and the quality of life is compromised due to lost school days. Further, it also hinders on reduced income from tourism, clean-up costs as well as increased social costs of providing health services (Nimoh, 2014). Poor sanitation creates a disheartening visual landscape, bleak as well as a host of health hazards to the people. Under 5 years School going children are mostly infested with intestinal worms due to lack of basic sanitation facilities indirectly inhabiting the learning abilities of millions of children transmitted through poor hygiene conditions. According to Dahal el al., 2014, Only if and if only people have access to safe drinking water and adequate sanitation then efforts to prevent death from diarrhea or reduce burden of diseases such as the cholera pandemic will be a success. Introduction of sound hygiene behavior and provision of facilities for sanitary disposal of excreta are of capital importance to reduce the burden of diseases caused by these risk factors

2.6 Programmes and Interventions on Sanitation and Hygiene

2.6.1 At Global Level

According to the united nations, 2015, A comprehensive global framework for addressing water, sanitation and hygiene issues has been provided in the united nations sustainable development goals (SDGs). SDG number 6 specifically aims to ‘ensure availability and sustainable management of water and sanitation for all by 2030.” The reduction of untreated wastewater, adequate and equitable sanitation and hygiene and universal access to safe and affordable drinking water has been the targets in relation to the aim for better achievement

A global initiative that tracks progress and provides data on WASH services is referred to as the WHO/UNICEF joint monitoring programmes for water supply, sanitation and hygiene. According to WHO & UNICEF, 2021, it reports and data serve as crucial tools for monitoring the implementation of the WASH related SDG targets.

A global multi-stakeholder platform that brings together governments, donors, civil society organization and other partners to coordinate and accelerate progress on WASH related goals is called the sanitation and water for all (SWA) (sanitation and

water for all, 2022). The development of national action plans and the high-level meetings, which facilitates policy dialogue are the initiatives in line with sanitation and water for all.

According to WSSCC, 2022, the global sanitation fund provides financial and technical assistance to support national government in implementation of sanitation and hygiene approach and community led total sanitation (CLTS) is managed by the water supply and sanitation collaborative council.

The interventions include;

- Handwashing promotion: as a cost-effective way to prevent the spread of infectious diseases the global partnership, coalition of organizations promotes handwashing with soap (Global Handwashing partnership, 2022).
- Fecal sludge management: research and innovation has been supported in fecal sludge management by the sustainable sanitation alliance (SuSanA) and the bill & Melinda Gates foundation to address the challenge of safely containing and treating human waste (SuSanA, 2022; Bill & Melinda Gates foundation, 2022).
- Menstrual health and hygiene: in order to improve access to menstrual health and hygiene products and services particularly for women and girls in low income countries, an initiative has been laid by the united nations population fund (UNFPA and other organizations) (UNFPA, 2022)

2.6.2 At Continental level

In the African context: A platform has been established since 2002 to discuss challenges, share experiences and develop strategies by the Africa sanitation and hygiene conference (AfricaSan) which has been organized by the African minister's council on water AMCOW and it aims at improving sanitation and hygiene across Africa (AMCOW, 2022).

In 2011, the pan-African conference on sanitation and hygiene was lunched, it been a biennial conference, the focus is on sustainable sanitation and hygiene services and accelerating progress towards hygiene and sanitation in Africa (UNICEF, 2022).

An initiative led by the African development bank called the WAS Africa initiative. Through investments, capacity building and knowledge sharing, it aims to increase access to sustainable water, sanitation and hygiene services in Africa (AFDB, 2022).

In the context of Asia: According to SACOSAN, 2022, the provision of a platform for governments civil society and other stakeholder to share experiences and develop strategies to improve sanitation and hygiene in south Asia is held every three years since 2003 and is called the south Asian conference on sanitation (SACOSAN).

The plan developed by the association of southeast Asian Nations (ASEAN) is called the ASEAN strategic plan of action on water resources management and its objectives include; to improve access to safe and affordable drinking water and sanitation in the region (ASEAN, 2016).

The initiative called the east Asia summit water security aims to enhance regional cooperation and facilitates the implementation of water, sanitation and hygiene projects in east Asia, this initiative was launched in 2007 (UNESCAP, 2022).

In the context of Europe: the EIB provides technical and financial assistance for water and sanitation infrastructure projects in European union member states and neighboring countries the programme is referred to as the European investment bank (EIB) water and wastewater (EIB, 2022).

In 2003 the European water initiative (EUWI) was lunched. Both in partners countries including those in Europe, the EUWI aims to support the implementation of water and sanitation related sustainable development goals (European commission, 2022).

The directive adopted in 1991 requires member state to collect and treat urban wastewater is called the European union's urban wastewater treatment directive. It further promotes the development of sanitation infrastructure and the protection of water bodies (European parliament and council, 1991).

2.6.3 At Regional Level

- Community led total sanitation (CLTS): in various regions particularly, south Asia and Africa community led total sanitation has been successfully implemented this approach encourages collective action and mobilizes communities to analyze their sanitation practices leading to the construction of latrines and improved hygiene practices. Open defection has been proven to be reduced from the studies that have been conducted resulting in improvement of health (Kar et al., 2008).
- Urban sanitation programs: urban programs have been developed in regions of Latin America and southeast Asia and example of such is "sustainable sanitation for urban poor" some initiatives have focused on integrating

sanitation planning community engagement and capacity building in southeast Asia (Wright et al., 2010).

- School based hygiene education: programs like the “school water, sanitation and hygiene the vital intervention that have been initiated in the sub sarahan Africa and these have not only improved the student’s knowledge but also influenced community behavior regarding sanitation and hygiene (Jaspars & O’Keefe, 2020).
- Micro finance and sanitation: in order to provide funding for household’s sanitation facilities microfinance has been utilized in regions like south Asia. Studies have shown an increase in the construction of sanitation facilities and improves hygiene behaviors due to access to microfinance (Kumar et al., 2014).
- Integrated sanitation policies: integrated sanitation policies that involves stakeholder’s engagement from government, communities and NGOs have been adopted in regions east Africa. According to murekezi et al., 2016 reports show that such policies lead to improved local governance, infrastructure development and sustainable sanitation practices.
- Health impact assessments (HIAs): in ensuring that health considerations are integrated into development project implementation of HIAs in sanitation projects has become a valuable tool. In order to evaluate the health impacts of sanitation interventions regions in southeast Asia have utilized HIAs leading to better tailored programs (Smith et al., 2019).
- Sanitation technologies: in regions like Africa and south Asia innovative technologies in sanitation such as biogas toilets and ecological sanitation systems have been piloted. These technologies have shown evidence of treatment human waste for agriculture and conservation of water. Health benefits and high acceptability associated with these systems have been proven (Ferguson et al., 2020).
- Mobile application: in order to promote hygiene awareness mobile technology has been used in various regions. Promise have been shown in improving hygiene behavior among users by the applications providing sanitation education and reporting issues (Gershenson et al., 2021).

2.6.4 At National Level

- Community led total sanitation (CLTS) approach: CLTS has been adopted in Bangladesh and other countries. It been an initiative approach, the focus is on community mobilization in order to achieve behavior change and awareness through the elimination of open defecation. A significant reduction in open defection practices have been observed from the studies conducted under CLTS. According to Kar & Pasteur, 2005 CLTS could reduce open defecation rates from 40% to zero in bangladesh in participating communities within a couple of years.
- The Swachh Bharat Mission (SBM) in India was launched in 2014, it aims to improve solid waste management and eliminate open defection. The programs emphasize hygiene promotion, community engagement and the construction of toilets. The impact of this results in the reduction of open defection from 38.1% in 2014 to 19.7% in 2019 from the significant evaluation which led SBM to the construction of over 100 million toilets, this has enabled communities have a sense of pride and ownership among communities regarding sanitation (ministry of Jal Shakti, 2020).
- The national sanitation policy: in 2012 the Ethiopian government adopted a national sanitation policy that emphasizes equitable access to hygiene and sanitation services. Strategies for community participation, capacity building and integration of sanitation into broader health and development have been included in the frame work. In a program that was conducted to support local government in implementing sanitation interventions at a grassroot, enabled a decrease in diarrhea prevalence from the study engaged in sanitation promotion (Haileslassie, 2016).
- The water and sanitation program (WSP) in Philippines focused on improving water quality, providing sanitation facilities in schools and communities and promoting hygiene education. from the findings practices such as handwashing was significantly improved from the program of hygiene education leading to 30% reduction in respiratory and diarrhea diseases (WSP, 2014).
- The school sanitation and hygiene education (SSHE) program aimed at educating the children on proper hygiene practices in (bagladesh and india) including handwashing and sanitation. The impact of the findings showed that improved family practices was indicating upon engaging children in hygiene

education. According to kumar et al., 2014, there was significant improvement in handwashing behaviors among students with spillover effects noted in their families from the study reported in Nepal with regard to school sanitation and hygiene education (SSHE).

In the context of Zambia poor sanitation has contributed to high incidences of diarrhea diseases especially in children under the age of five. Zambia especially in the rural set up lacks adequate toilet facilities and access to clean water. From the recent surveys conducted, the nation average coverage for improved sanitation is estimated around 50%. The key programmes and interventions have been highlighted below.

- Community-Led Total Sanitation (CLTS): this program leads to collective action to improve sanitation situation. It is regarded as a participatory approach that empowers communities to realize the consequence of poor sanitation and hygiene. By each household building their own toilet communities are encouraged to become open defecation free (Kar, 2008).
- Water, Sanitation and Hygiene WASH program: the programs focus on improving water supply, sanitation and hygiene education and these are implemented by NGOs and international organizations. The effectiveness of WASH interventions has been demonstrated with improved hygiene behavior and reduced incidences of waterborne diseases (WHO/UNICEF, 2020).
- Integrated Hygiene promotion program: this program promotes handwashing with soap, safe disposal of waste and dietary hygiene as it incorporates behavior change communication. Long term behavior change is instilled from working closely with communities and schools (Kazi, 2018).
- School Health and Nutrition Program: provides access to clean latrines and promoting handwashing facilities from the main focus of integrating sanitation and hygiene education into school curricula. As a result of these interventions studies have shown an improved attendance and health among schoolchildren (Azzam, 2017).
- Public-Private Partnership (PPP): construction of sanitation services like toilets and waste management are done by involving local businesses for the purpose of development and maintenance of the services. Further, by engaging the community economically, this enhance sustainability in sanitation solutions (World Bank, 2019).

2.7 Theoretical Framework

In developing districts such as mwense, Zambia's sanitation and hygiene are crucial components for ensuring public health. In order to determine their effectiveness, sustainability and impact, the evaluation of sanitation and hygiene programmes is essential in achievement of the community health outcomes. Further, this framework outlines the theoretical approaches necessary for evaluating the implementation of these programs.

2.7.1 Health Behavior Theory

The provision of insights into how individuals and community behaviors towards sanitation and hygiene can be influenced through theories such as the health belief model (HBM) and community behavior. Social cognitive theory emphasizes the role of imitation, observational learning and modelling and on the other hand, health beliefs model focus on perceived susceptibility, benefits, barriers to health behavior and severity. Devising effective communication strategies to change behaviors towards sanitation practices are achieved by understanding these theories (Rosenstock, 1996).

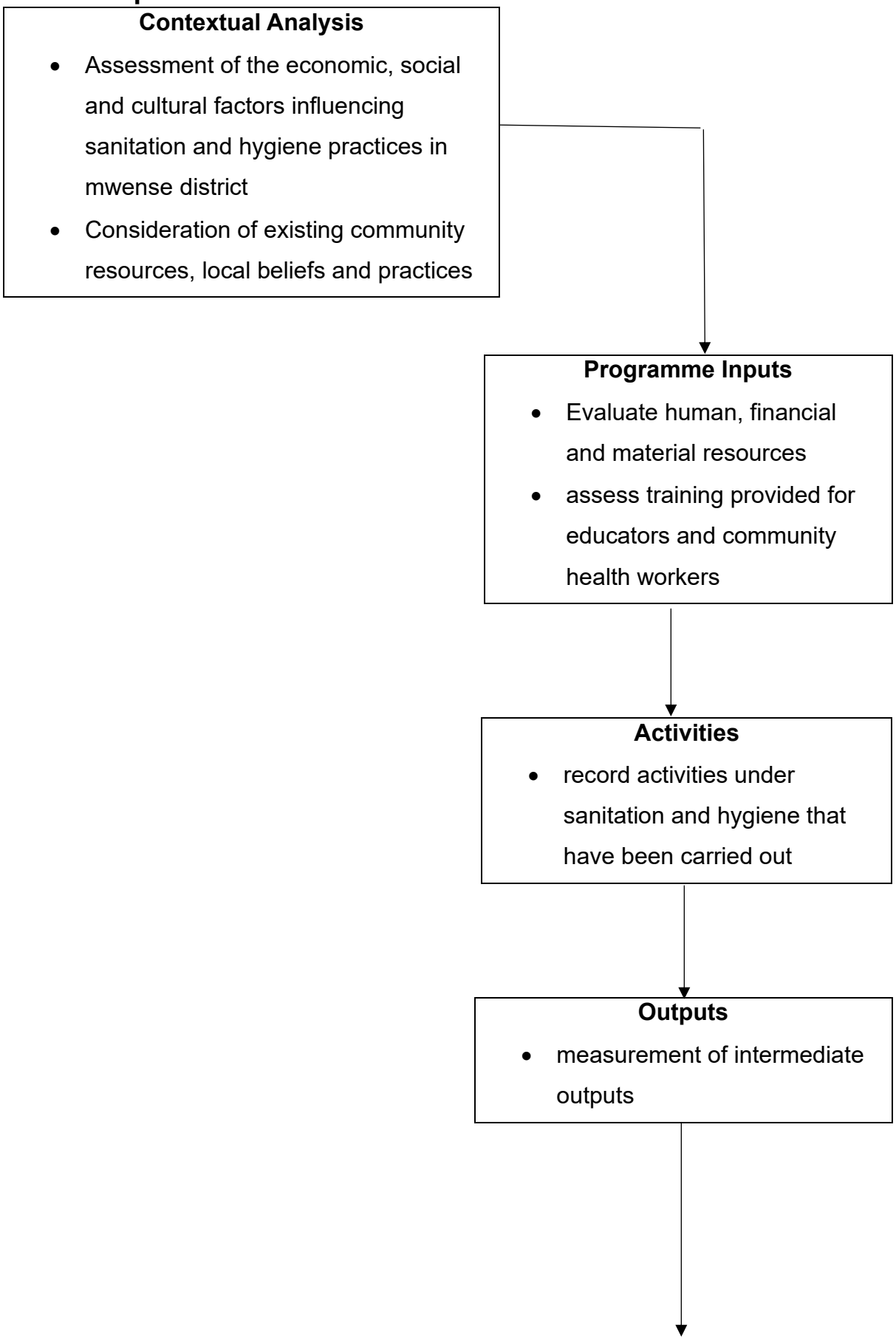
2.7.2 Ecological Models of Health

According to Mcleroy 1988, evaluating sanitation and hygiene programs necessitates understanding how these levels interact in mwense district particularly in rural and urban settings there by highlighting the multifaceted levels of influence on individual behaviors which includes community and public policy factors.

2.7.3 Program Theory and Logical Models

The theory aids in identifying essential components of program implementation and evaluation thereby ensuring that all relevant factors are considered. The use of logic models is crucial for understanding the inputs, activities outputs, outcomes and impacts of sanitation and hygiene programmes (W.K., 2004)

2.8 Conceptual Framework



Outcomes

- short term: changes in attitude and knowledge with regard to sanitation and hygiene.
- Long term: improvement in overall community health indicators and reduction in waterborne diseases.

Impact

- Evaluate changes in morbidity and mortality rates and broader impact on community health

Chapter Three

Research Methodology

3.0 Introduction

This chapter presents a short description of the study area which is Mwense District as well as describing the methods used in the study. It consists of the sources of data, the research design, sampling and data collection techniques used and methods of data analysis.

3.1 Description of the study area

Mwense District is located in Luapula province of Zambia. It shares a border with congo and in between the two borders is the Luapula river. Mwense District consist of five chiefdoms namely; Lubunda, Lukwesa, Kashiba, Katuta-Kampemba and Mulundu. It is located about 110 kilometers from Mansa town to the BOMA. Mwense District comprises of two constituencies namely: Mambilima and Mwense central, it is of this reason that the sample size was picked in both constituencies namely; kampamba village in Luche Ward and mwenso village in Nsomfi ward in order to have an even representation of the sample.

Its hydrological relief of rainfall is approximately about 1000 to 1200mm, it been located in the valley, temperature rise between 35 to 39 degrees Celsius below. Below is the map showing the study area of Mwense District.

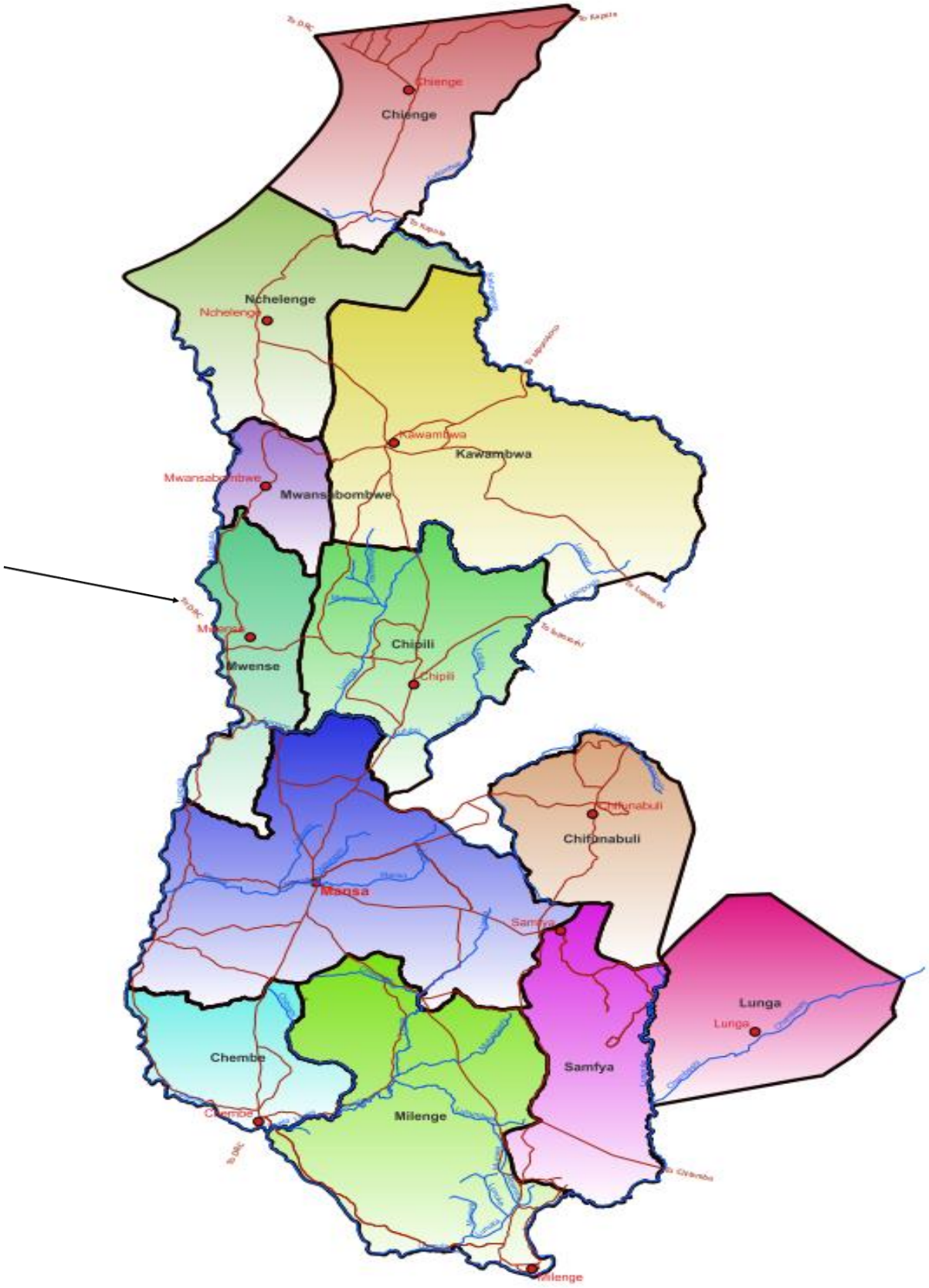


Plate 1: Map for mwense (source: metrological department)

3.2 Research Approach

Kampamba and Mwenso village were selected as the study location upon consultation with Mwense District Town Council and The District Health Office under the Ministry of Health. The two villages were selected because they presented low levels of sanitation and hygiene practices than other villages in the District. In order to provide a more comprehensive understanding of a research problem, quantitative research methodology was used in this regard which allowed a more nuanced analysis of complex issues (Creswell, 2017).

3.2.1 Quantitative Research Approach

Involved data collection and analysis of numerical data which included survey with questionnaires, data statistical analysis as well as numerical comparisons. This aimed at quantifying variables and determine their relationship (Flowler, 2014).

3.3 Research Design

A descriptive research design was used to describe the situation of the sanitation and hygiene status in mwense district. A survey was conducted using a semi-structured questionnaire, which provided feedback on the conditions, knowledge, attitudes, perception and behavior in relation to sanitation and hygiene (Schindler, 2019).

According to Robson, 2011, A case study on the other hand was used to get an in-depth analysis of the sanitation and hygiene practices in the community as well as cases of diarrhea diseases in mwense district.

3.4 Study Population

Mwense District comprise of the rural, urban, small towns and villages with diverse socio-economic conditions. The total area for Mwense District is about 2,441km^2 bearing a total population of 122, 796, its annual population change as of 2010-2022 rose to about 2.9% making a population density of 50.31Km^2. The total number of males are 59,873 while 62,923 are female. In terms of Urbanization as of 2022 census, the urban area has a total population of 6,908 while 115,873 is rural (Central Statistics Office, 2022).

3.5 Sample Size

A sample size of 58 households was used in both Mwenso and Kampamba village which has a total population of 772 people with about 192 households according to the village register. Further, 38 and 20 households were interviewed from both

Mwenso and Kampamba village respectively. Both households with and without toilets were part of the respondents of this study.

3.6 Sampling techniques

According to kombo 2014 purposive sampling was used in this study because not all the local people in the study area that did not have toilets, it was also used to categorize the sanitation facilities according to those who have and do not have toilets.

3.7 Data collection/instruments

3.7.1 Data Collection Procedure

The researcher asked for permission from the District Administration and councilors before commencing to carry out the research in Kampamba and Mwenso villages. Further, the researcher was introduced through an introductory letter that was obtained from University of Lusaka (UNILUS) School of Post graduate studies to the key targeted villages. Nevertheless, the researcher asked for permission from the village headmen in charge in order to allow collect data from the village people and households to conduct the study.

3.7.2 Data Collection

The data was collected using two types of approach namely; primary and secondary. Primary data was collected by various means that included; Observation of sanitation and hygiene status, interviews and guides as well as in-depth interviews from key informants. While on the other hand, the collection of secondary data was done by collecting both published and unpublished material from the internet.

3.7.2.1 Primary Data

3.7.2.1.1 Semi-Structured Questionnaire

Information was obtained regarding sanitation and hygiene through the semi-structured questionnaire of the local people in the villages under study. The interview guide that was used was a semi-structured questionnaire which had both open ended and closed questions of the schedule. The open-ended questions allowed respondents to freely express themselves there was need while close end questions helped to capture guided and specific response. In order to get unbiased and valid feedback due to communication barrier, the questionnaire that was written in English was translated into bemba with the help of the translator at the Mwense Magistrate Court. Confidentiality was guaranteed to the respondents because no names were written on the questionnaires from their response

3.7.2.1.2 Focus Group Discussion

Conducted three focus group discussions (FGD) which comprised of Both males and Females, Males only and Females Only. The focus group discussions meetings were decided based on participants convenience and availability. The discussions were facilitated by the researcher and comprised of 8 to 10 people per group.

3.7.2.1.3 Observation

In order to verify some responses that were given, physical inspection and field observation were also made on the selected respondents premises. The key elements observed were; handwashing facilities, toilet and general hygiene on the surrounding of the households

3.7.2.1.4 In-depth Interviews

Conducted in-depth interviews with school administrators and the in-charge of health facilities in the village in order to capture information that was not the questionnaire

3.7.2.1.5 Key Informants

The Key informants were sampled purposively where specific individuals were targeted within Mwense District, among the targeted informants were the District heads of government departments under the ministry of local government and housing, Ministry of Health and Ministry of Education because they are directly involved in the community's sanitation and hygiene programs, others included; the community health works (CHW)/ Health promoters (HP) and the headmen

3.7.2.2 Secondary Data

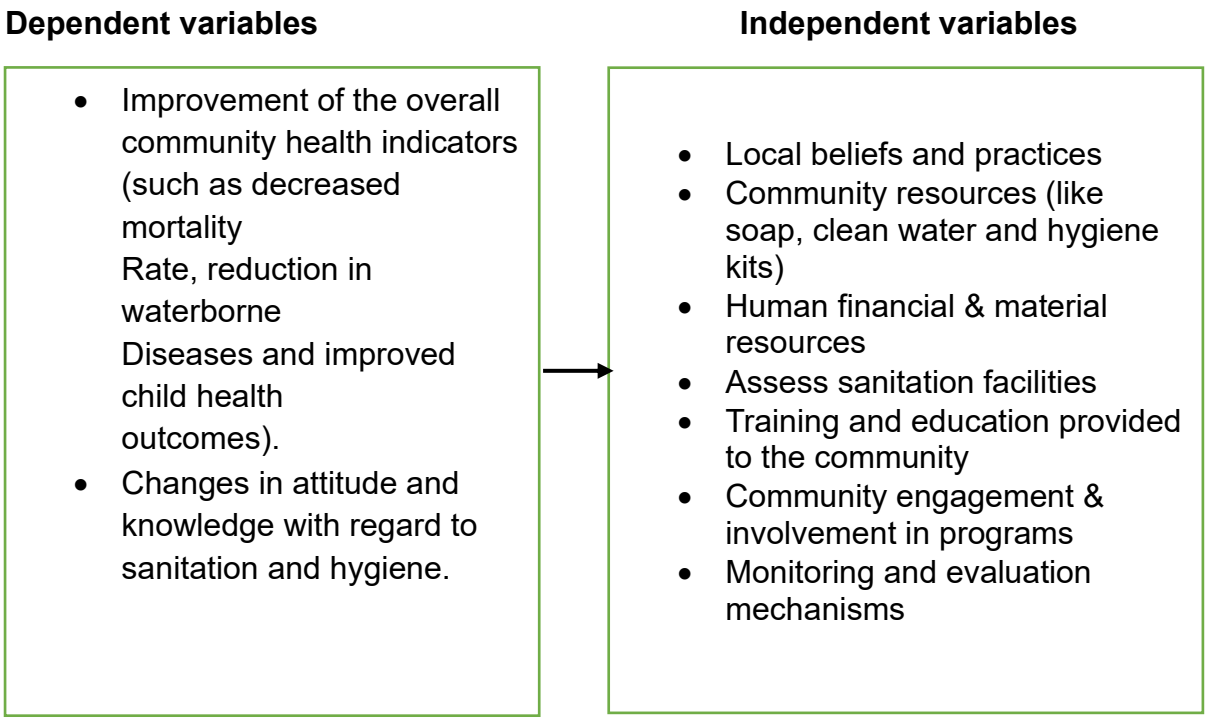
Secondary data was obtained from University of Lusaka library, ministry of water development and sanitation website, ministry of local government, Ministry of Health and ministry of education. Other sources included published and unpublished data from the internet on sanitation and hygiene practices

3.8 Data Analysis

Data was analyzed using quantitative methods. The data was collected from the semi interview schedule and was recorded in statistical package for social sciences (SPSS) version 24 and excel sheet for quantitative analysis. Excel analyzed 58 respondents of the semi structured interview schedule to bring out statistical representation of the data in the graphs. Descriptive method was used to analyze results that were obtained from semi structured interviews. The results that were obtained from the key informants and focus group discussions were analyzed using thematic analysis.

3.9 Study Variables

Following the generated conceptual framework, both dependent and independent variables have been identified in the diagram.



3.10 Ethical Consideration

According to the University of Lusaka research guidelines, ethical clearance was obtained and approved in order to up hold maximum confidentiality of the respondents on the data obtained and sources of the information. The participants were oriented on the research objectives and scope during the entire process of the research. Ethical consideration regarding the participants included:

a. The information obtained would not jeopardize their jobs thereby assuring their protection and also their jobs would be safe as the information would not be used against them.
b. The sourced information would not in any way bring about any disrepute hence protection of their personal and professional integrity and credibility.
c. Assurance that the information will not harm the interest of the past, present and future sanitation and hygiene practices or not in any way disparage the organization that they work for.

Chapter Four

Presentation and Analysis of Results

4.0 Introduction

This chapter of the dissertation represents the summarized data in form of tables, photos and graphs from the respondents. Further, this chapter also presents information from the key informants, health facilities as well as focus group.

4.1 Respondents information

The study revealed that only 44 respondents participated in the Survey, where most of the respondents were between the age of 18-35 years old which were about 33 (75%) respondents then followed by 9 (20.5%) respondents who were between 36-55 years old and lastly those between the age of 0-17/ 55 and above were represented by one person from each age group which represented about 4.6%.

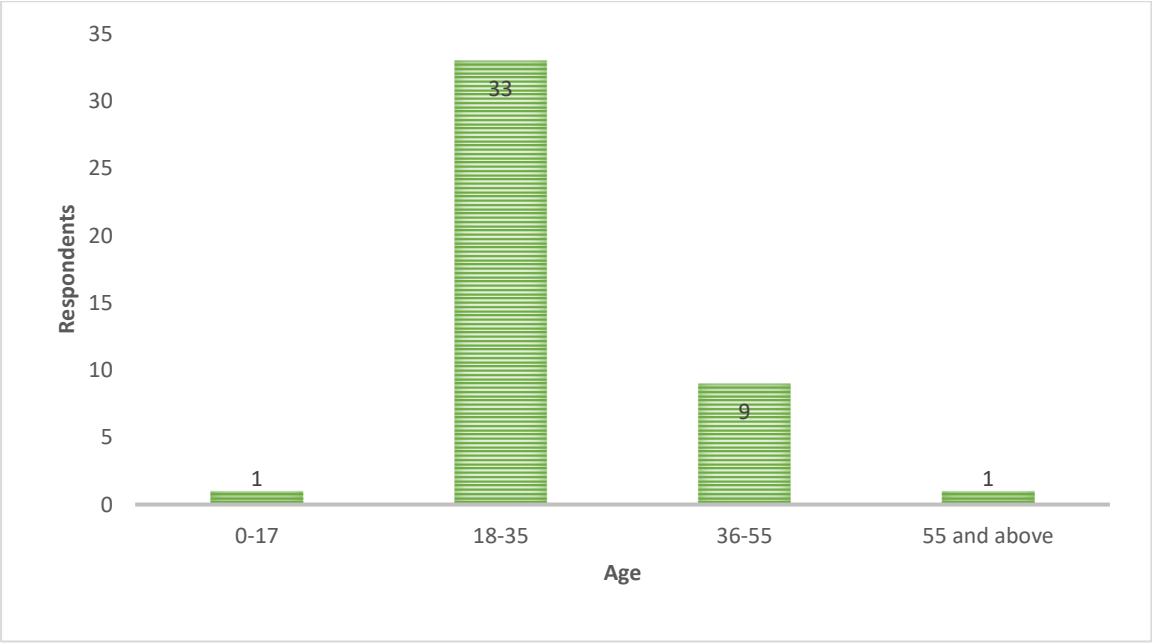


Figure 1: Respondents' Information: (source field data, 2024)

4.1.1 Gender

The study showed that most of the respondents were males who were about 33 (75%) while females were about 11 (25%) as shown in the figure below

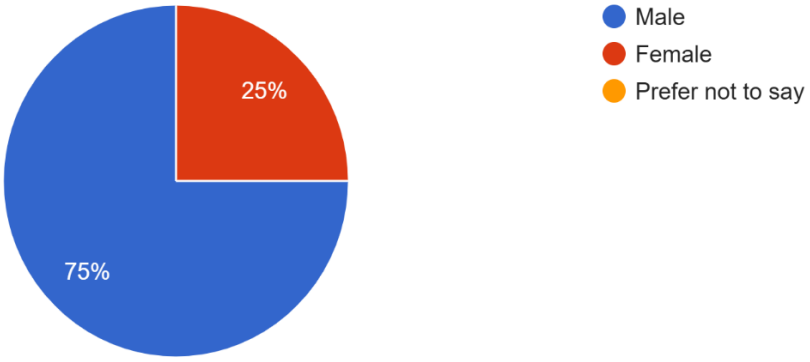


Figure 2: Gender: (source field data, 2024)

4.1.2 Occupation

From the data collected it showed that most of the respondents were farmers, a few government workers and one business man.

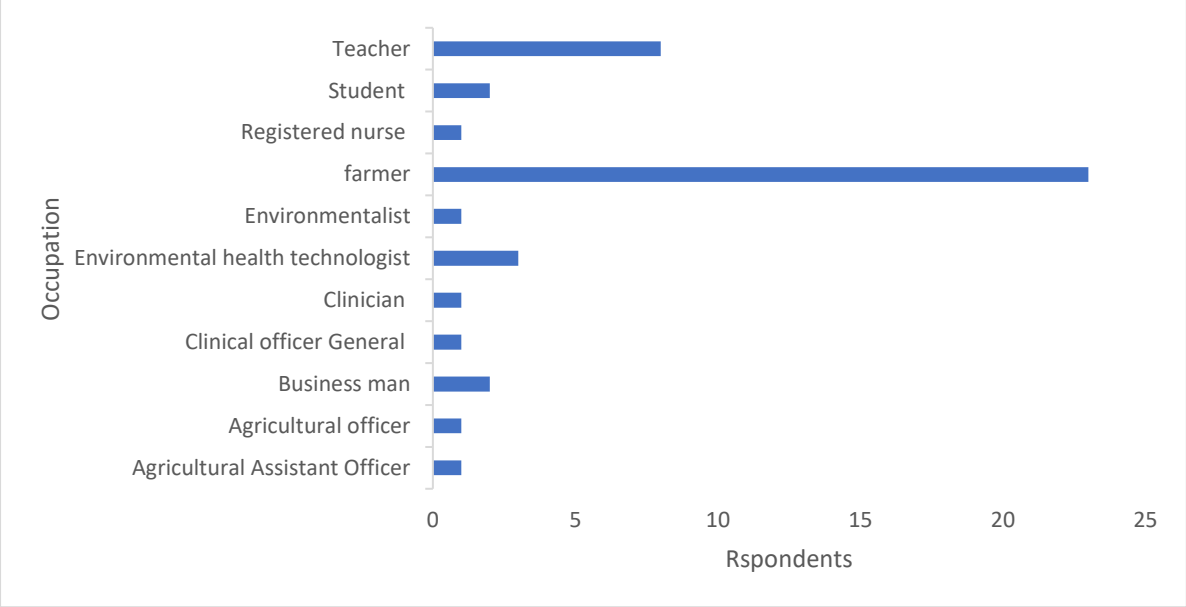


Figure 3: Occupation: (source field data, 2024)

4.1.3 Marital Status

The survey revealed that 23 of the respondents were single while 20 were married and 1 was widowed as shown below

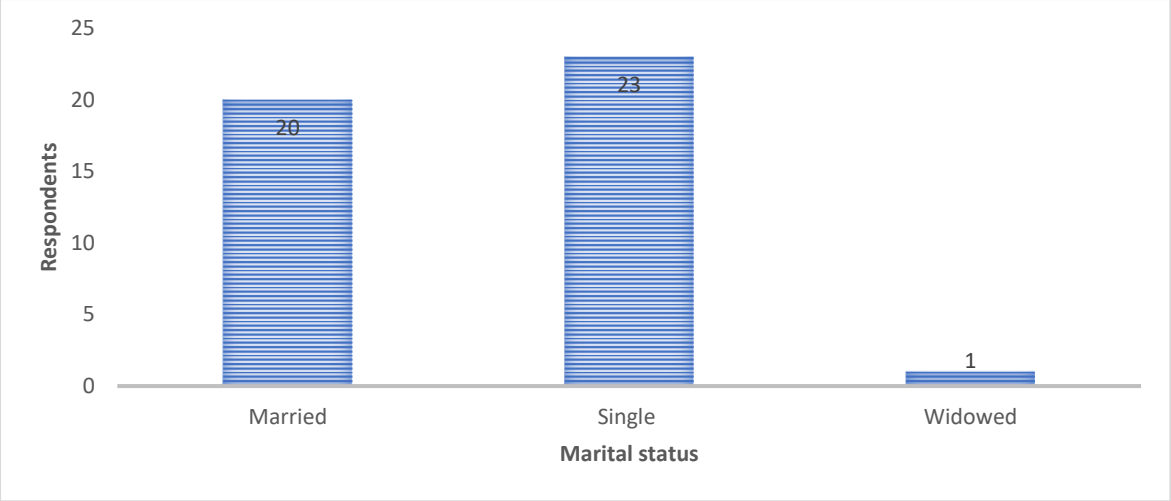


Figure 4: Marital Status: (source field data, 2024)

4.1.4 Number of people in the household

the highest number of people in one household was 9 both males and females and the lowest was 1 person per household

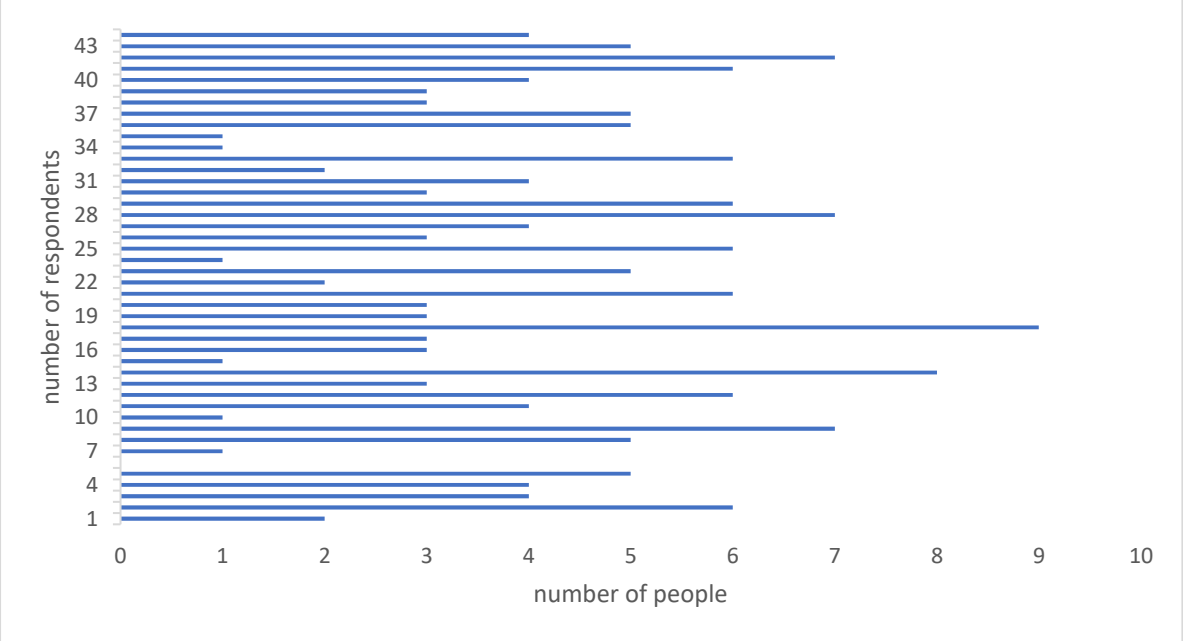


Figure 5: Total Number of people in the household: (source field data, 2024)

4.1.5 Number of males

The highest number of males per household was 5 and the lowest was a household without males

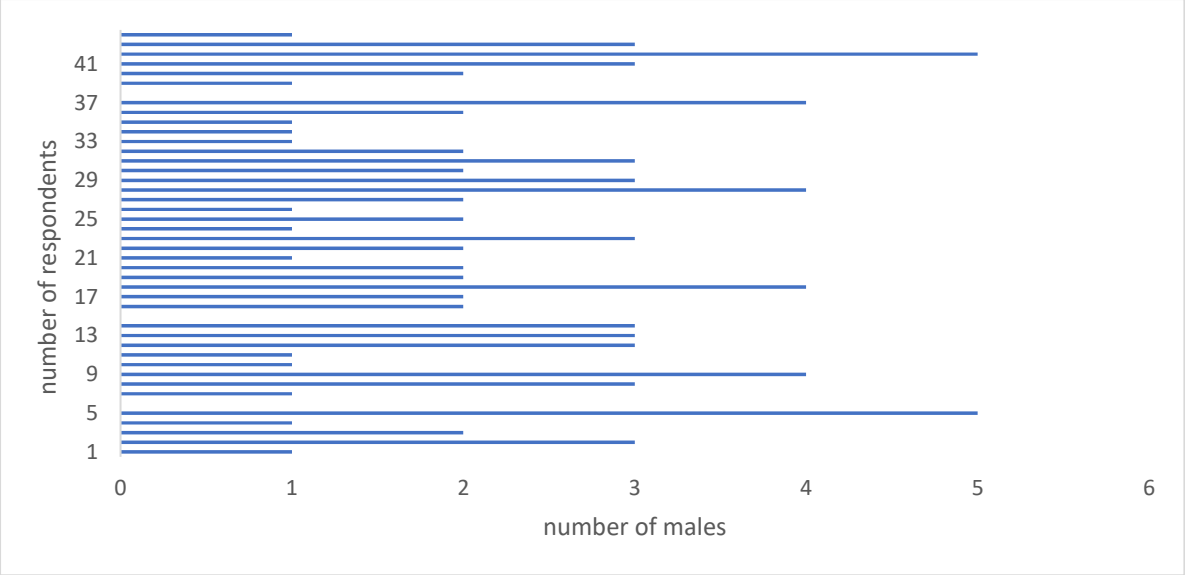


Figure 6: Number of males: (source field data, 2024)

4.1.6 Number of Females

The highest number of females per household was 5 and the least was a household without females

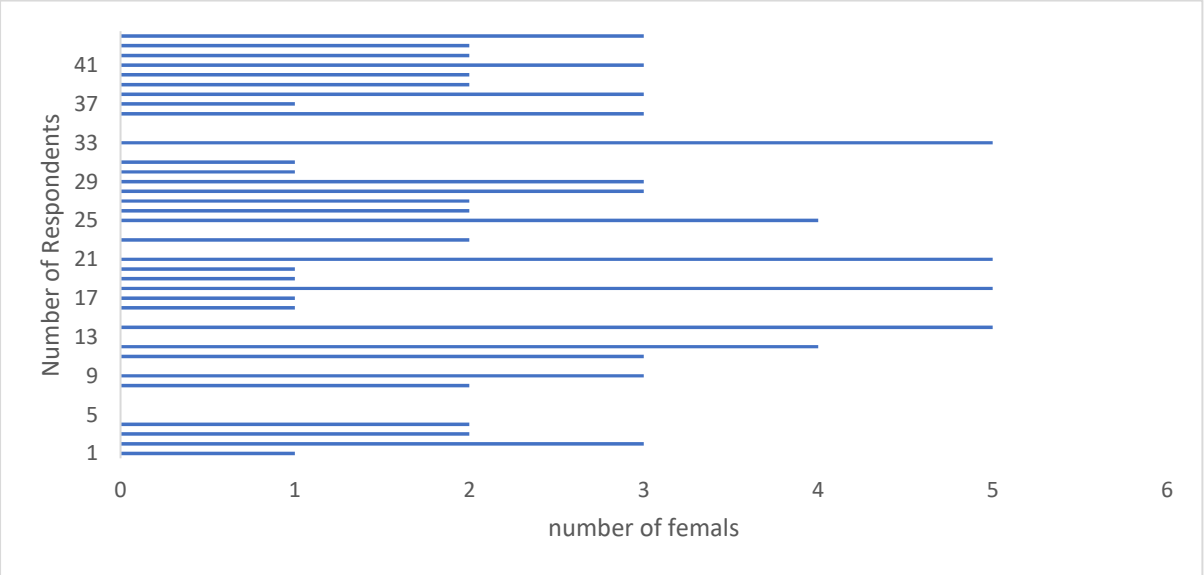


Figure 7: Number of Females: (source field data, 2024)

4.1.7 Name of Village or Area

The name of the village that returned the high number of respondents of about 30 was Mwenso Village that is found in mambilima constituency while 14 respondents were from kampamba village in Mwense Central Constituency.

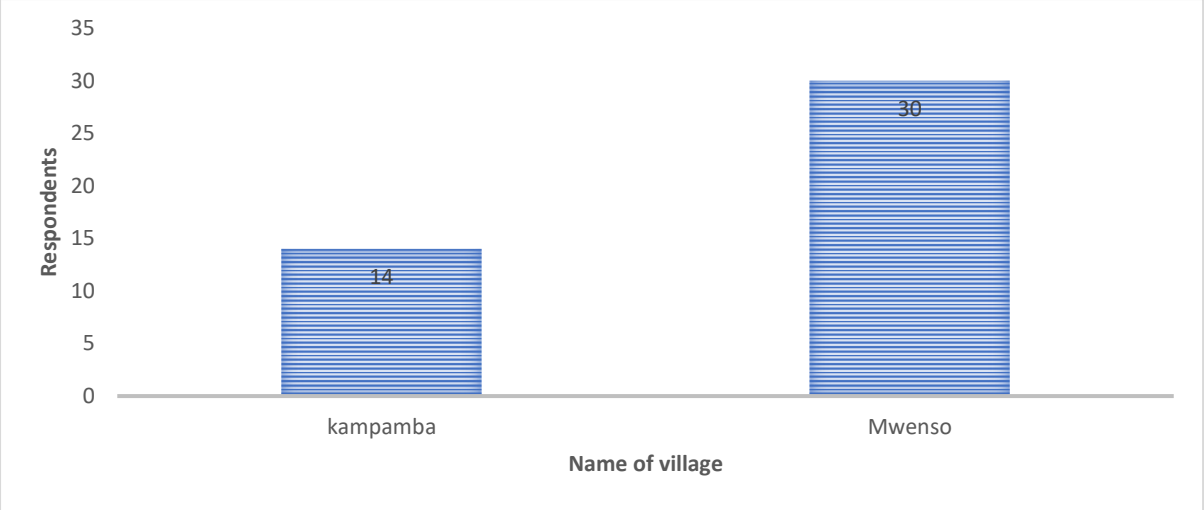


Figure 8: Name of village or Area: (source field data, 2024)

4.1.8 Affiliation

Regarding the affiliation majority of the respondents were the community members a few of health workers and civil servants and also teachers and students

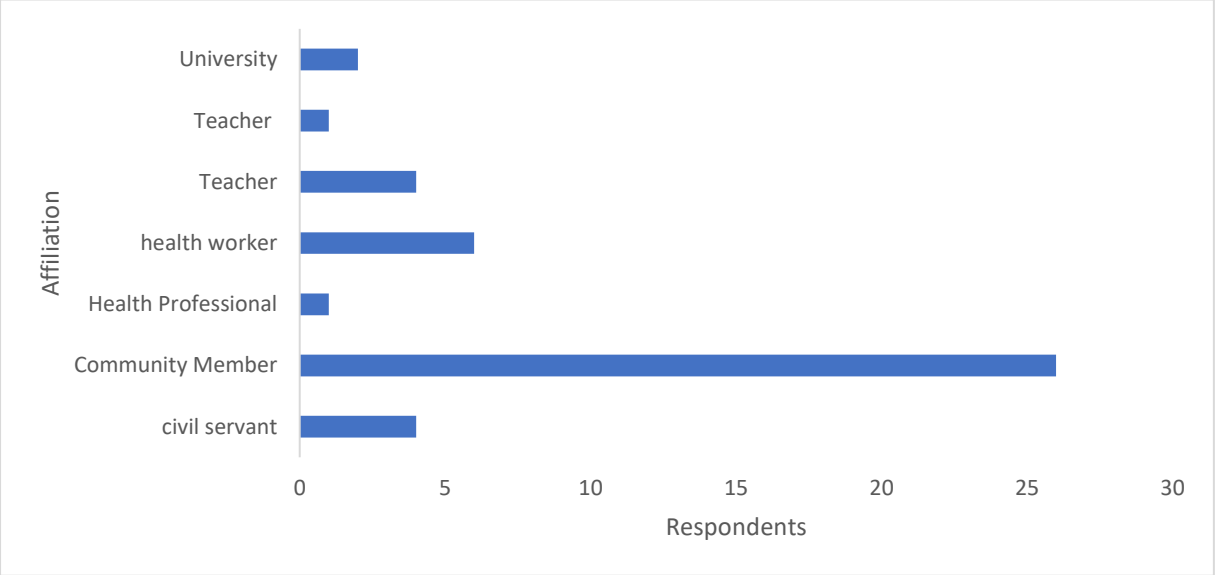


Figure 9: Affiliation of respondents: (source field data, 2024)

4.2 Program Awareness

29 (65.9%) respondents were aware about the knowledge and hygiene practices and also the sanitation and hygiene programs that have been implemented in mwense district while 25 (34.1%) of the respondents were ignorant about the programs.

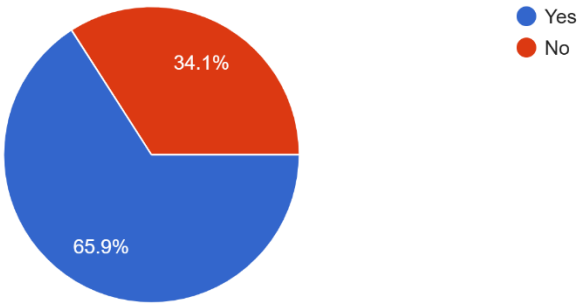


Figure 10: program Awareness: (source field data, 2024)

4.2.1 Programs that Exists

A total number of 22 respondents were aware about the existing programs in mwense district while the other 22 were not.

Programs	Respondents
• District Water Sanitation and Hygiene Investment Plan (DWASH IP). • Water sanitation • Construction of latrines • Mwense rural water reticulation program • Water Supply, Sanitation and Hygiene Program. • Keep Zambia clean, green and healthy • CLTS (Community Led Total Sanitation • Hand washing facilities and street bins	22 (50%)
• Those who don't know	22 (50%)

Table 2: Existing programs in mwense district: (source field data, 2024)

4.2.2 Hand Washing Facility

A total number of 37 (84.4%) respondents admitted of having a handwashing facility at their households and 7 (15.6%) of the respondents did not have.

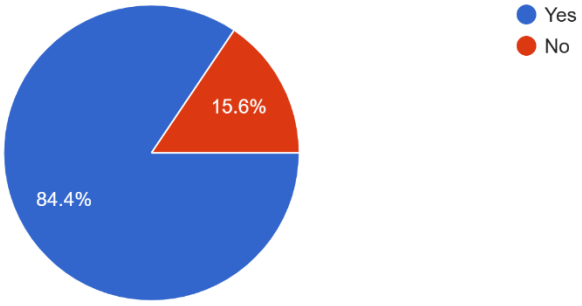


Figure 11: Hand Washing facility: (source field data, 2024)

4.2.3 Clean and Safe Water at the Hand Washing Facility

Among the 44 respondents 21 (50%) respondent to have always had clean and safe water at the hand washing Facility while the 16 (36.4%) respondents had it sometimes and the remaining 7 (13.6%) have never had at all.

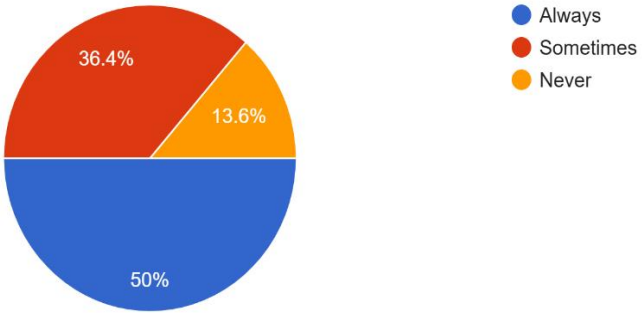


Figure 12: Availability of Clean and Safe Water at the Hand Washing Facility: (source field data, 2024)

4.2.4 Hand Drying Material at the Hand Washing

21 (45.5%) respondents had never had hand drying material at the handwashing facility available while 14 (31.8%) respondents that they usually have sometimes and 9 (22.7%) responded that it was always available.

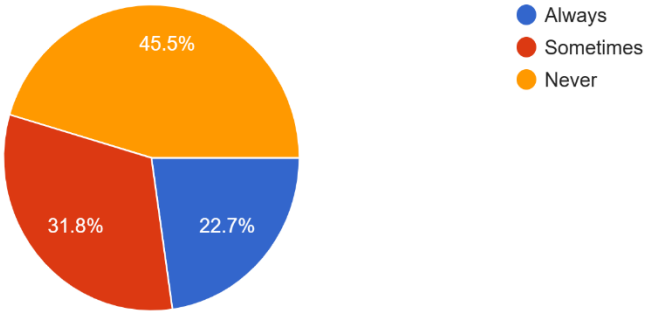


Figure 13: Hand Drying Material at the Hand Washing: (source field data, 2024)

4.2.5 Rubbish Pit

42 (95.6 %) of respondents agreed to have had a rubbish pit for waste disposal at each household while (2) 4.4% said no.

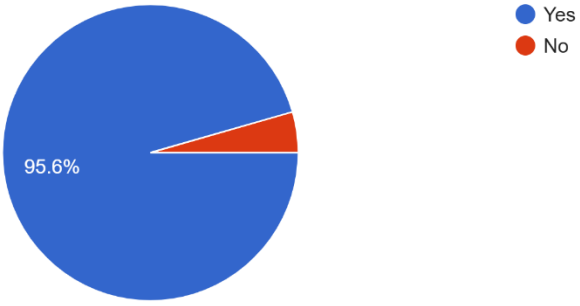


Figure 14: Rubbish Pit for Waste Disposal at Your Household: (source field data, 2024)

4.2.6 Washing of Hands at critical times

32 participants (71.1%) washed their hands before eating, 30 (66.7%) washed their hands after defecating, 24 (53.3%) before preparing the food, 19 (42.2%) washed their hands after cleaning/changing the baby and 8 (17.8%) before breastfeeding the child

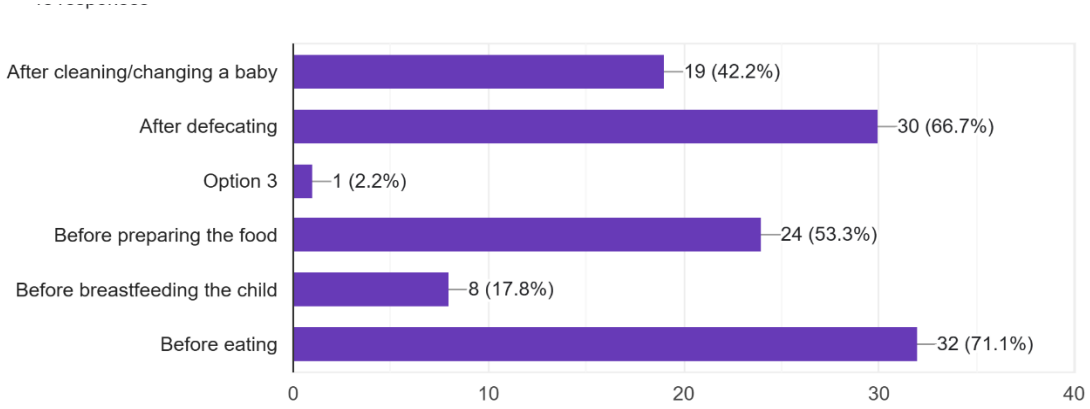


Figure 15: Washing of Hands at critical times: (source field data, 2024)

4.2.7 How the Hands are Washed

Majority of the respondents who were 32 (72.7%) used soap or ash, followed by 25 (56.8%) who used water, then 11 (25%) made contact between both hands and 10 (22.7) used of rubbing motion, lastly 4 (9.1%) used hygienic hand drying.

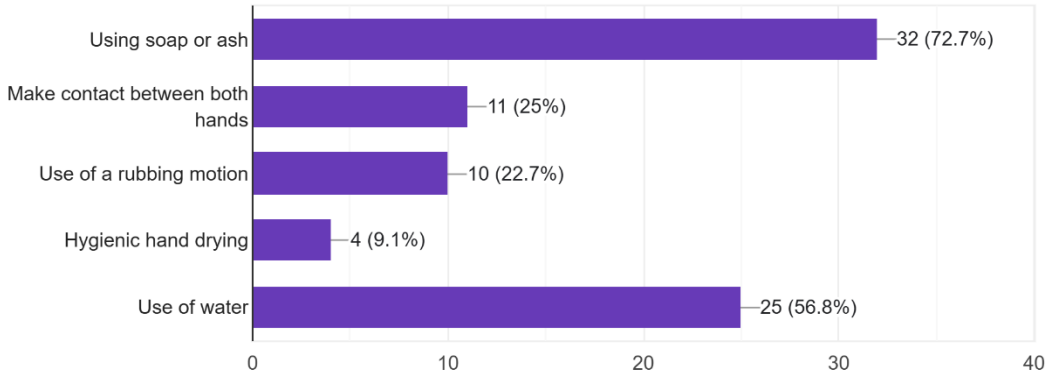


Figure 16: How the hands are washed: (source field data, 2024)

4.1 Access to Sanitation

(42) 93.3% of the respondents had access to a sanitation facility while 2 (6.7%) did not have

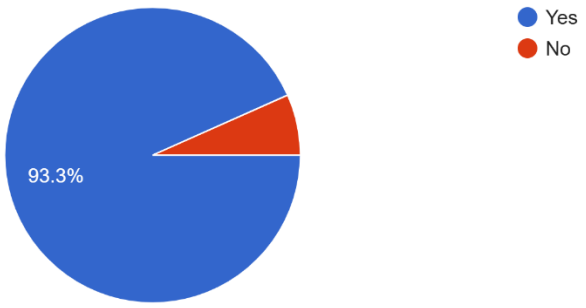


Figure 17: Access to Sanitation: (source field data, 2024)

4.2.8 Sanitation Facilities that Households Have

Majority of the respondents of about 36 had access to a sanitation facility that had a pit latrine with a slab, 2 had a ventilated improved pit latrine, 2 with flushed toilets to septic tank, 1 with a composite toilet, 1 with a flushed toilet to pit latrine and 1 utilized open defecation.

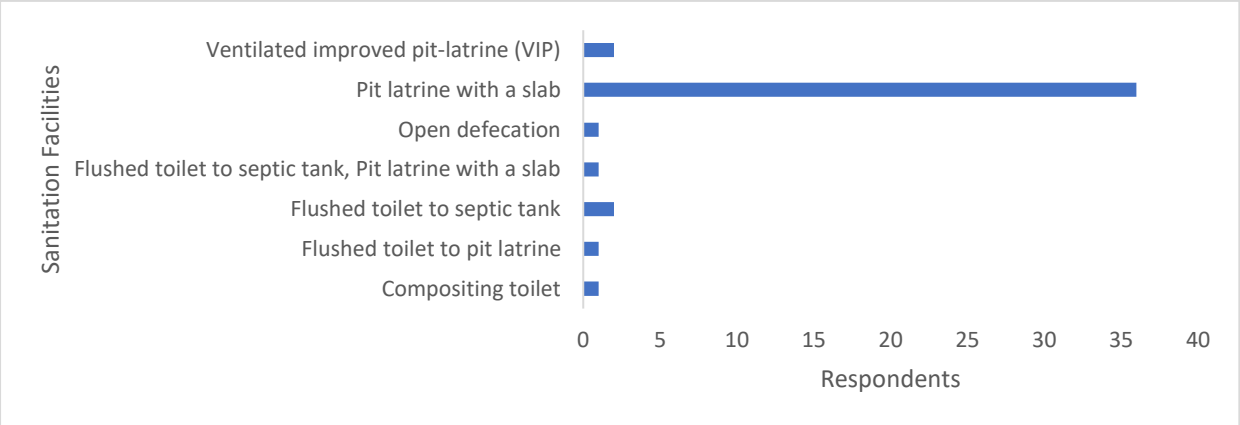


Figure 18: Sanitation Facilities that households have: (source field data, 2024)

4.2.9 Shared Sanitation Facility

11 (24.4%) respondents admitted that they shared the toilets while 33 (75.6%) of the respondents denied of sharing.

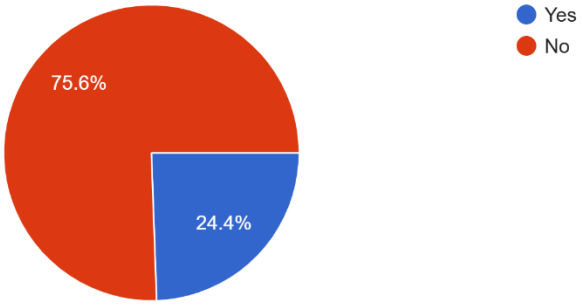


Figure 19: shared sanitation facility: (source field data, 2024)

4.2.10 Anal Cleansing Material

37 (84.4%) respondents agreed to have had their anal cleansing material available while 7 (15.6%) said no to had it available

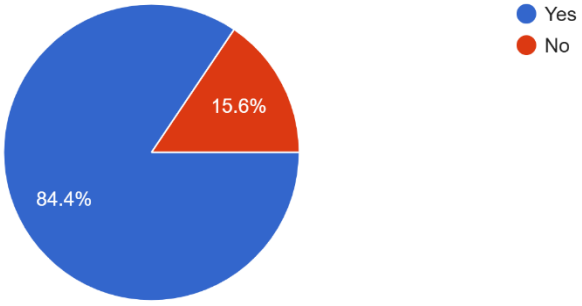


Figure 20: Availability of anal cleansing material: (source field data, 2024)

4.2.11 Cleaning of the Sanitation Facility

11 (24.4) respondents said no to have been cleaning of the sanitation facility whereas 33 (75.6%) of the respondents agreed to have been cleaning their sanitation facility

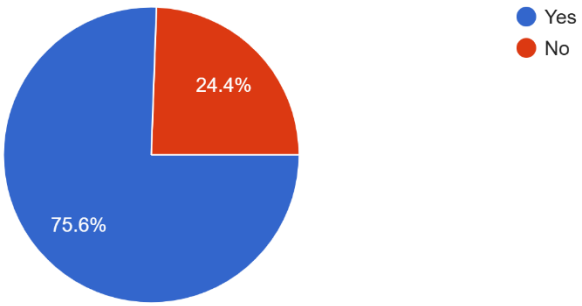


Figure 21: Cleaning of the Sanitation Facility: (source field data, 2024)

4.2.12 Number of Times the Sanitation Facility is Cleaned

Majority of the respondents reviled that the clean their sanitation facilities on a daily basis and a few after use or when need arise.

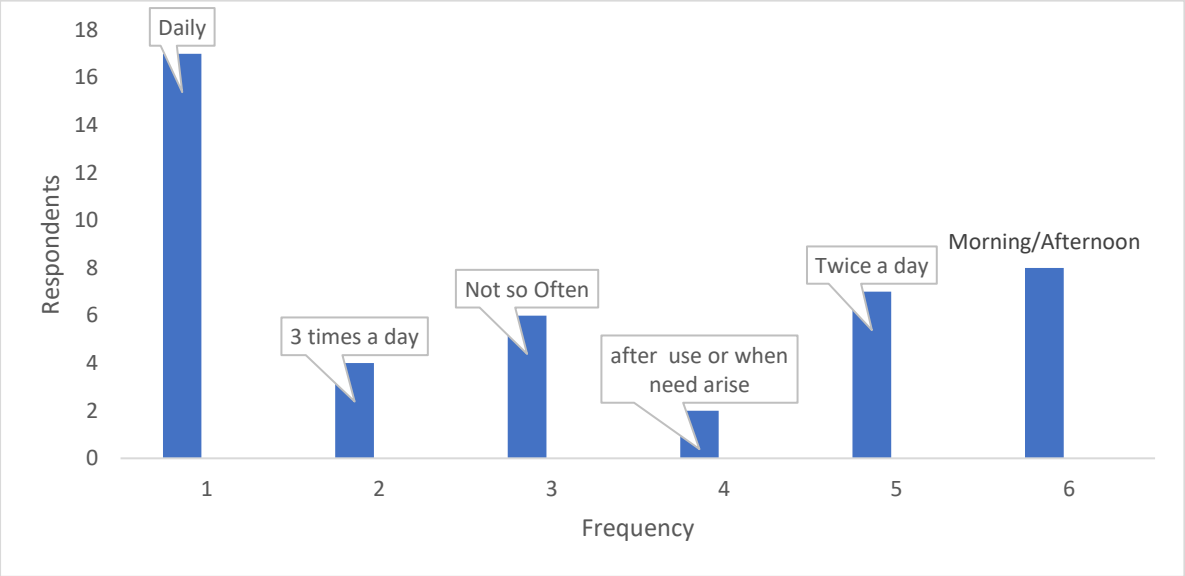


Figure 22: Number of Times the Sanitation Facility is Cleaned: (source field data, 2024)

4.2.13 Open Defecation

Some respondents of about 11 (24.4%) agreed of practicing open defecation while 33 (75.6%) disagreed

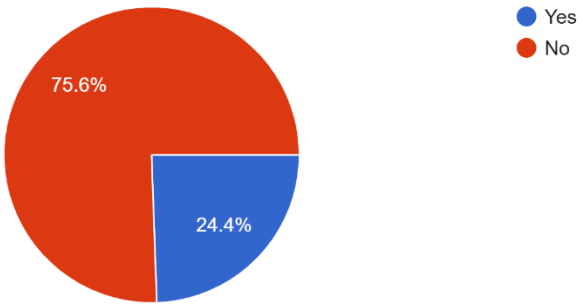


Figure 23: Open Defecation: (source field data, 2024)

4.2.14 World Toilet Day/Participation

Majority of the respondents of about 38 (86.7%) agreed to have been aware and participated in the world toilet day and 6 (13.3%) were not.

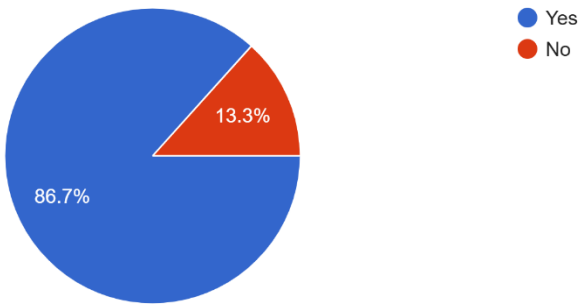


Figure 24: World Toilet Day/Participation: (source field data, 2024)

4.2.15 Source of Information

• Local media
• Community meetings
• NGO Outreach
• Internet
• During environmental health training course
• Facebook

Table 3: Source of information: (source field data, 2024)

4.3 Program Implementation (Activities)

About 34 (75.6%) respondents were aware about handwashing campaigns being a specific activitie that have been conducted as part of the sanitation and hygiene program in the district and 32 (71.1%) were aware about clean water supply project, 29 (64.4%) were aware about school sanitation programs, 28 (62.2%) were aware about construction of latrines 19 (42.2%) were aware of waste management workshops and other were aware about community lead total sanitation and clean

Zambia-clean

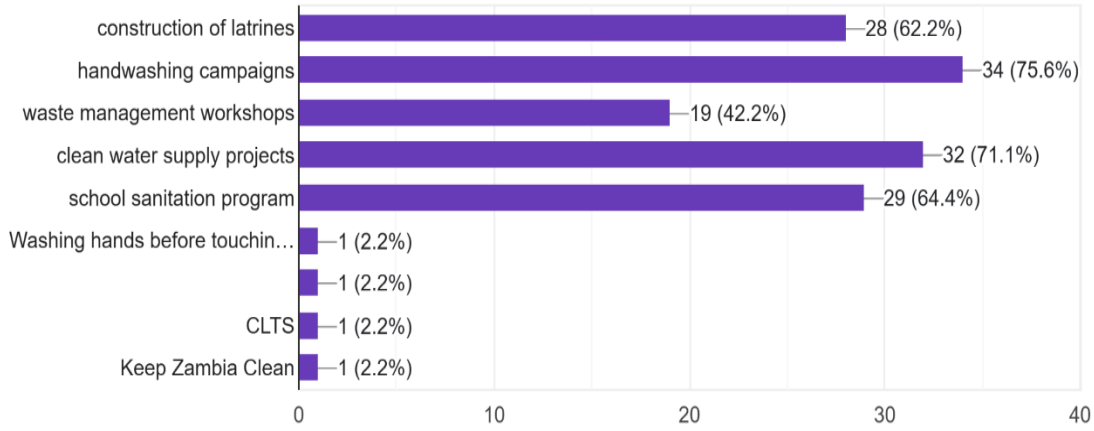


Figure 25: Program implementation (Activities): (source field data, 2024)

4.3.1 Timeliness and Frequency of Activities

A huge number of 19 (42.2%) of respondents said the activities occur annually, 13 (28.9%) monthly, 7 (15.6%) daily, 3 (6.7%) responded weekly and 1 said where there's need for expanding water distribution

Figure 26: Timeliness and Frequency of Activities: (source field data, 2024)

4.3.2 Program Outreach

36 (80%) of the respondents said that their areas have benefited from the programs while 8 (20%) said they did not benefit

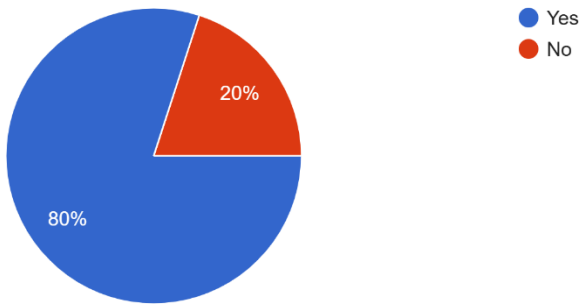


Figure 27: Program Outreach: (source field data, 2024)

4.3.3 Areas/Communities that have benefited from programs

The table below gives a summary of the communities or areas that have benefited from the programs.

• Shichama
• Lukwesa
• Nkanga ward
• Town areas
• Kaombe
• Market and bus stations
• Schools
• Kanyemba
• Kashiba rural health center
• Shingwe
• Musangu

Table 4: Areas/Communities that have benefited from programs: (source field data, 2024)

4.4 Program Effectiveness

15 (34.1%) said the programs are very effective in improving sanitation and hygiene in the communities while 16 (36.4%) respondent that the programs are effective, 11 (25%) responded that the programs are neutral and 2 (4.5%) said the programs are ineffective.

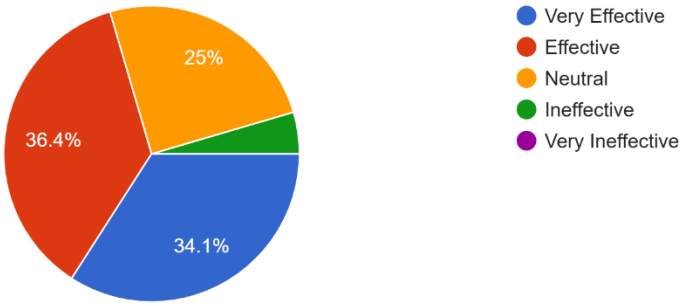


Figure 28: Program Effectiveness: (source field data, 2024)

4.4.1 Health Outcomes

16 (36.4) respondents noticed changes in health outcomes in the community due to sanitation and hygiene programs while 26 (59.1%) saw moderate improvement and 2 (4.5%) saw no change

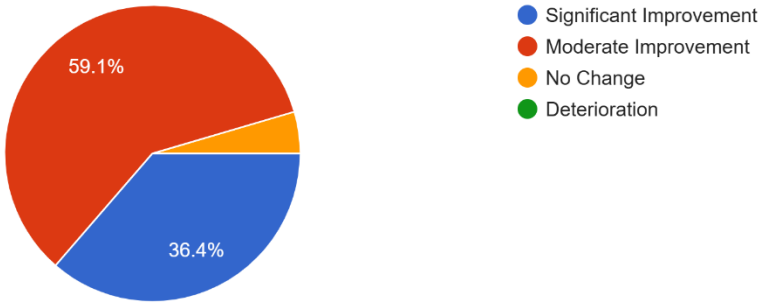


Figure 29: Health Outcomes: (source field data, 2024)

4.4.2 Challenges Encountered

31 (70.5) respondents said lack of funding was the major challenge encountered in the implementation of sanitation and hygiene program, 27 (61.4%) revealed that it was due to insufficient community engagement, 26 (59.1%) said it was due to inadequate infrastructure, 19 (43.2%) said it was because of cultural resistance and one respondent said it was due to poor sanitation and hygiene among community members

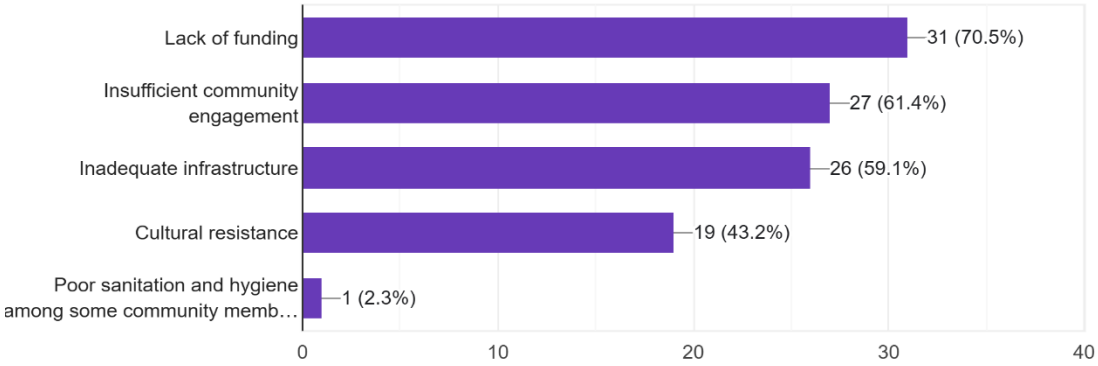


Figure 30: Challenges Encountered: (source field data, 2024)

4.5 Community Participation and Feedback

23 (54.4%) of the respondents thought somehow were involved in the community in planning and implementation of sanitation and hygiene programs while 17 (38.6%) were very involved and 4 (6.8%) were not

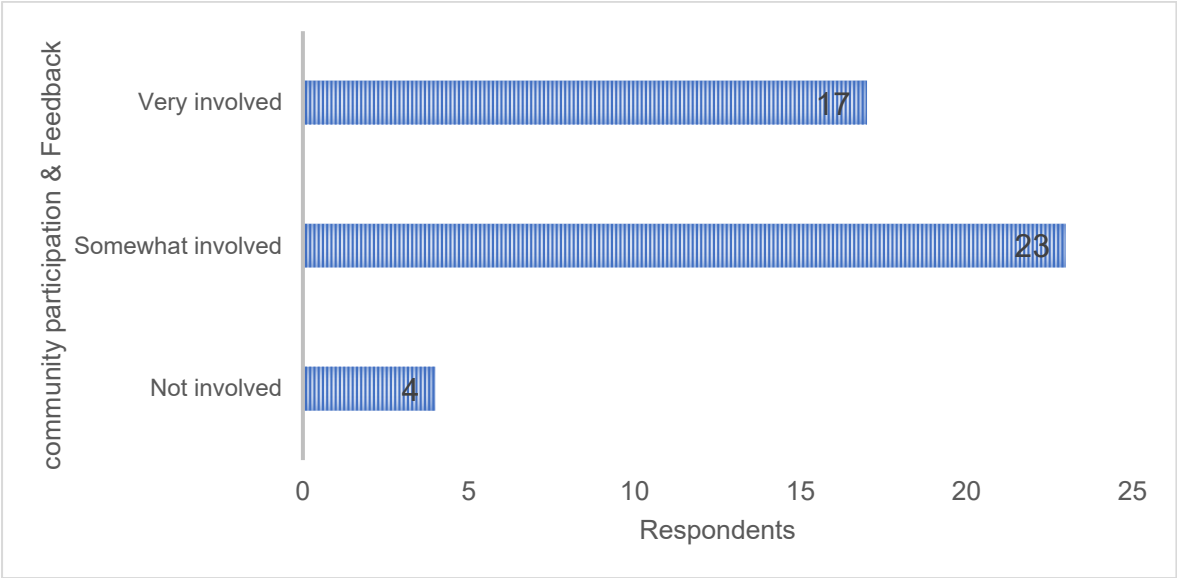


Figure 31: Community Participation and Feedback: (source field data, 2024)

4.5.1 Feedback Mechanisms

17 (39.5%) of the respondents admitted to have mechanisms in place for the community to provide feedback on the programs while 25 (60.5%) disagreed

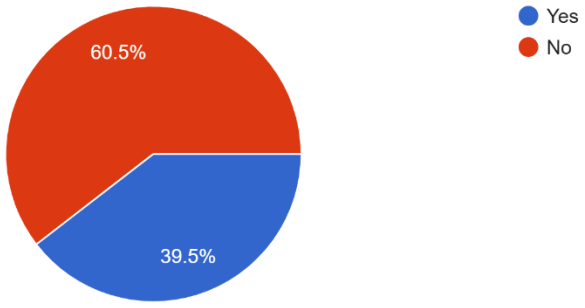


Figure 32: Feedback Mechanisms: (source field data, 2024)

Mechanisms have been summarized in the table below

• Conservation, survey and digital tools
• Community awareness programs at different level
• Direct engagement with them one by one
• Establish centres for the communities to get feedback
• Household inspection
• Local meetings
• Through SAG groups and V-WASHE committees

Table 5: Mechanisms have been summarized in the table below: (source field data, 2024)

4.5.2 Suggestions for Improvement

The table below gives the summary for improving the effectiveness of sanitation and hygiene programs in mwense district

• Creating demand for sanitation services
• More community engagement/ Sensitization
• Conduct more awareness campaigns
• Funding need to be enhanced
• Continue with interventions
• By involving the community in planning and decision making
• Enhancing households slashing activities
• Normalize workshops to educate people
• Provide adequate supply of water

Table 6: Suggestions for Improvement: (source field data, 2024)

4.6 Program Sustainability

31 (71.1%) of the respondents believed that the current sanitation and hygiene programs are sustainable in the long term while 13 (28.9%) did not

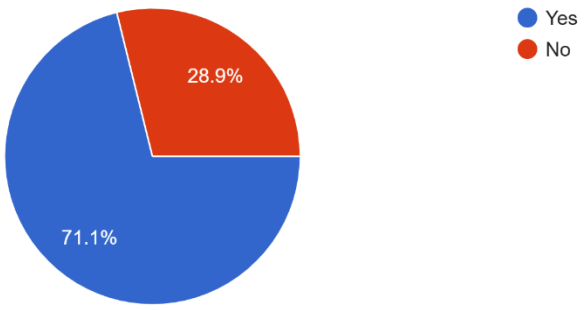


Figure 33: Program Sustainability: (source field data, 2024)

4.6.1 Factors Threatening Sustainability

The following table shows the summary of factors that threaten the sustainability of sanitation and hygiene programs

• Failure to monitor
• Population rise
• Culture practice threaten the sustainability of sanitation and hygiene practices
• Vandalism of hand washing points
• Climate change

Table 7: Factors Threatening Sustainability: (source field data, 2024)

4.6.2 Local Ownership

Moderate ownership was observed from 27 (62.2%) respondents while 8 (17.8%) were represented with low ownership and 9 (20%) with High Ownership

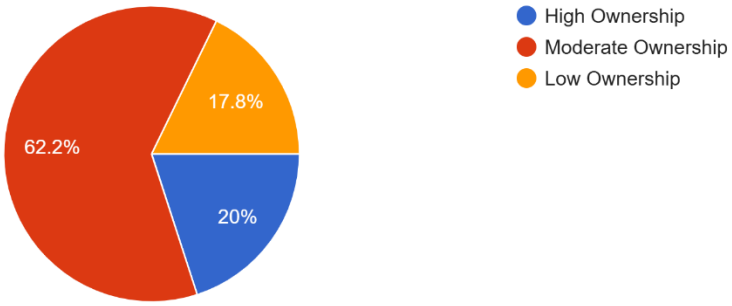


Figure 34: Local Ownership: (source field data, 2024)

4.6.3 Further Observation

The table below gives a summary of the observations from the respondents

Comment
• The programs promote good practice
• Implementation of regular monitoring and effective mechanism should be put in place
• Councils to reinstall stolen solar panels
• The need to build VIP toilets and more sensitization in communities
• Community members tend to follow the programs while they are carried out, and When they are done they usually go back to the old practice
• The government need to make sure that all households have running water
• The program means well for the community however funding should be consistent for sustainability
• Health facilities to engage in community sensitization over hygiene programs
• Local people are resistant to change
• SLTS to continue and increase funding

Table 8: Further Observation: (source field data, 2024)

4.7 Suggestions Focus group discussion

The focus groups included the following; a discussion which comprised both male and female, then in the second discussion only males were targeted and the third and last meeting was only for females.

4.7.1 Mixed both males and Females

Both females and males responded that management of safe drinking water and feaces helps in reduction of water borne diseases when they were asked what they

know about sanitation and hygiene. The responsibility of sanitation and hygiene programs in the community was for the headman, women and village committee according to the response of this group. Both males and females of this focus group knew the importance of safe disposal of waste, as it helps in reducing the spread of diarrheal disease. Six of the respondents out of the 8 had a toilet, a bathing shelter, dish rack, drying line and a rubbish pit.

4.7.2 Female Group only

The roles of the female regarding sanitation and hygiene at household level was to make sure that the house and surrounding environment is clean. Females agreed to have been attending meetings concerning sanitation and hygiene regularly and what they learnt from the meeting was how to keep the surrounding clean and making sure we eat clean food. When asked about who was responsible of providing the sanitation and hygiene facilities they responded that the men and women (parents). They visited the clinic occasionally and others most frequent regarding diarrhoeal diseases. How they handled their personal hygiene was by making sure they keep their bodies clean all the times and maintain a clean environment where they stay. And they cleaned their houses and entire surrounding when they were asked how they maintain a clean environment in their households. The challenge that was identified in the implementation of sanitation and hygiene programs was lack of knowledge and throwing garbage anyhow.

4.7.3 Male Group only

The roles of the males in the house was to was to make sure the house and surrounding is clean. They provided lighting system and protective wear for the family at night and they went behind the house with a hoe to easy themselves in fear to be bitten by dangerous snakes. Males attended the meetings not so often compared to females and what they learnt from the meetings is how to manage proper hygiene in the community. This group shared the information they received concerning sanitation and hygiene with their family before going to bed and for others when they are having a family chat. The challenge that males faced with in implementing sanitation and hygiene programs in the community was lack of information from people in the community.

4.8 Role of key Informant in the District

Among the targeted 5 key informants, only 3 responded.

Ensure that schools have good sanitation facilities
Coordinator
To disseminate information to the public on sanitation and hygiene programs in order to keep them informed and raise awareness

Table 9: Role of key Informant in the District: (source field data, 2024)

4.8.1 Institution/NGO funding

1	UNICEF
2	MOE
3	VAREN
4	CARE International
5	GIZ
6	Local Authority

Table 10: Institution/NGO Funding: (source field data, 2024)

4.8.2 Effectiveness of Funding

Figure 35: Effectiveness of funding: (source field data, 2024)

4.8.3 Effectiveness of programs

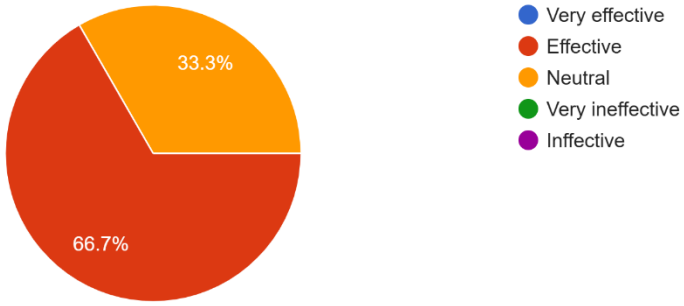


Figure 36: Effectiveness of programs: (source field data, 2024)

4.8.4 Challenges faced in implementation of programs

1	Most of the actors still want VIP toilets, its high time we moved to having ablution blocks
2	Insufficient funds
3	Lack of vehicles for mobility
4	Limited resource envelope

Table 11: Challenges faced in implementation of programs: (source field data, 2024)

4.8.5 Solutions for proper sanitation and hygiene facilities

1	Actors must be sensitized that as a district, we have moved from pit latrine to ablution blocks with running water
2	Increase funding
3	Encourage all stakeholders in the planning and implementation process
4	Increased awareness on sanitation

Table 12: Solutions for proper sanitation and hygiene facilities: (source field data, 2024)

4.9 Health Facilities

Two of the health facilities gave feedback regarding the survey on sanitation and hygiene namely: Mambilima Mission Hospital in mambilima constituency and Lukwesa Rural Health Facility in Mwense central constituency *(source field data, 2024)*

4.9.1 Assistance the Facility Offer to the Community

• Health Education
• Mentorship to SAGs and WASH Committees
• Chlorination of wells
• Distribution of chlorine at household level
• Health promotion and sanitary inspection

Table 13: Assistance the Facility Offer to the Community: (source field data, 2024)

4.9.2 Availability of Water at the Facility

Since clean and safe water was scarce its availability was 50/50

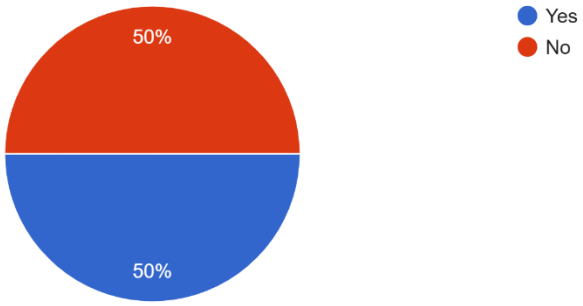


Figure 37: Availability of Water at the Facility: (source field data, 2024)

4.9.3 Source of Water

• Community water scheme
• Luapula river
• Borehole

Table 14: Source of Water: (source field data, 2024)

4.9.4 Knowledge about V-WASH and D-WASH

The responsible officers at the two facilities were 100% knowledgeable of the V-WASH and D-WASH

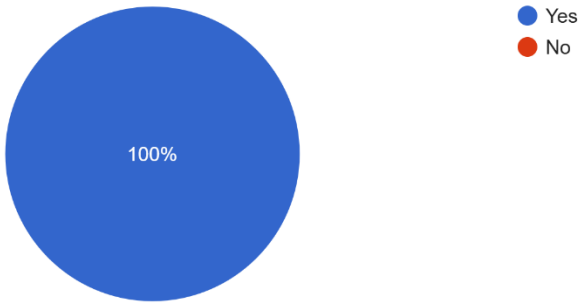


Figure 38: Knowledge about V-WASH and D-WASH: (source field data, 2024)

4.9.5 Responsibilities of V-WASH and D-WASH

• Implementing WASHE activities at community and district level
• Ensure that sanitation water management and hygiene initiatives are effectively implemented, sustained and scaled up in the district
• Promotes water management, sanitation and hygiene in the community

Table 15: Responsibilities of V-WASH and D-WASH: (source field data, 2024)

4.9.6 Is V-WASH and D-WASH involved in the Implementation of Activities

the respondents at both facilities were 100% sure of the involvement of both the V-WASH and D-WASH committees

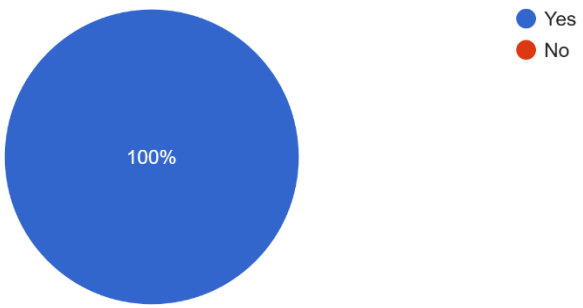


Figure 39: Involvement of V-WASH and D-WASH in the Implementation of Activities: (source field data, 2024)

4.9.7 How are they Involved

• D-WASHE Help in providing technical support and mentorship
• V-WASHE oversee the WASHE activities at community level
• D-WASHE helps in Advocacy for improved water sources
• V-WASHE helps in health promotion and education as well as resource mobilisation e.g chlorine

Table 16: How are the involved: (source field data, 2024)

4.9.8 Existing Sanitation Facility

• Water borne toilets
• Pit-latrines
• VIP toilets

Table 17: Existing Sanitation Facility: (source field data, 2024)

4.9.9 Sharing of sanitation facility with patients

Both facilities agreed to have been sharing the toilets with staffs and patients

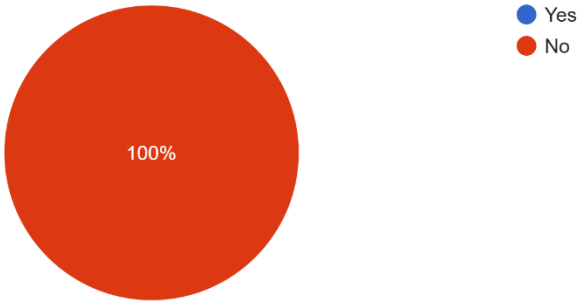


Figure 40: Sharing of sanitation facility with patient: (source field data, 2024)

4.9.10 Construction of the sanitation facilities

The government have contributed 50% in terms of construction of sanitary facilities as well as faith-based organisation (CMML) in the district

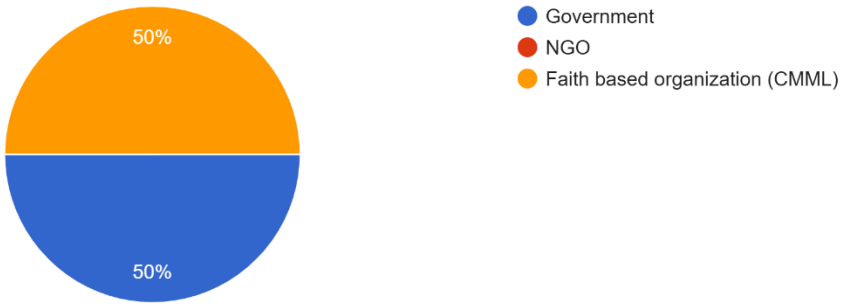


Figure 41: Construction of the sanitation facilities: (source field data, 2024)

4.9.11 Repairing of health facility

• The health facility administration
• Facility

Table 18: Repairing of health facility: (source field data, 2024)

4.9.12 Conducting of sensitization campaign

• By holding meetings
• Door to door sensitization by V-WASHE committee and SAG groups
• Public gathering

Table 19: Conducting of sensitization campaign: (source field data, 2024)

4.9.13 NGO helping in sanitation issues

• Care International
• No NGO

Table 20: NGO helping in sanitation issues: (source field data, 2024)

4.9.14 Frequency of receiving diarrhoea diseases at the facility

• Daily

Table 21: Frequency of receiving diarrhea diseases at the facility: (source field data, 2024)

4.9.15 Occurrence of diarrhoea diseases at the facility

• 4 cases per day
• Endemic and occurs whole year round

Table 22: Occurrence of diarrhea diseases at the facility: (source field data, 2024)

4.9.16 Causes of Diarrhoea disease

• Poor sanitation
• Poor hygiene practices
• Drinking water direct from luapula river

Table 23: Causes of Diarrhea disease: (source field data, 2024)

Chapter Five

Discussion of Findings

5.0 Introduction

This chapter presents the interpretation of results by discussing them in details and relating them to literature. The chapter covers a discussion of program awareness, program implementation and effectiveness, community participation and feedback as well as its sustainability.

5.1 Respondents Information

The study revealed that only 44 respondents participated in the Survey, where most of the respondents were youths between the age of 18-35 years old which were about 33 (75%) respondents then followed by 9 (20.5%) respondents who were between 36-55 years old and lastly those between the age of 0-17/ 55 and above were represented by one person from each age group which represented about 4.6%.

In terms of gender, a high number of respondents were males who headed the households and they were about 33 (75%) while females were about 11 (25%) in both Kampamba and Mwenso villages.

Both villages represented a huge turnout of farmers as respondents who were about 23 and a few civil servants who included; teachers, health workers, and agricultural officers. Further, business men and students were also part of the respondents.

A number of respondents of about 23 were single in terms of marital status, 20 of them were married and one was widowed.

In terms of total number of people per household, the highest number was nine people in one household and when segregated in terms of sex (male and female), both revealed 5 females and 5 males as a highest number per household.

5.2 Programme Awareness

Awareness is critical to the success of public health interventions and with regard to the findings, 29 (65.9%) respondents were aware about the knowledge and hygiene practices and also the sanitation and hygiene programs that have been implemented

in mwense district. With regard to literature one of the most effective way to promote sanitation and hygiene behaviours is through community-based education. The various forms which are essential for improving knowledge about water sanitation, personal hygiene and disease prevention are educational programs such as meetings, workshops, or radio broadcast (WHO,2020). while 25 (34.1%) of the respondents were ignorant about the programs. This shows a gap in outreach of accessing information. A study conducted in rural Zambia on sanitation awareness found that geographical isolation and low literacy rates hindered full participation in sanitation programs (mbakaya et al. 2018).

About 50% of respondents were aware on sanitation and hygiene programs that were and have been implemented in the district which included; District Water Sanitation and Hygiene Investment Plan (DWASH IP), Water sanitation, Construction of latrines, Mwense rural water reticulation program, Water Supply, Sanitation and Hygiene Program, Keep Zambia clean, green and healthy, CLTS (Community Led Total Sanitation, Hand washing facilities and street bins. Where access to clean water and sanitation can be limited, the above-mentioned programs can broader efforts to combat sanitation related diseases and improve public health outcomes.
37 (84.4%) respondents agreed to have had a handwashing facility at their households which they used for the purpose of washing their hands after using the toilet. A study revealed that diseases like diarrhoea can significantly be reduced in terms of spreading if handwashing is properly done before eating and after using the toilet (WHO, 2020) While 7 (15.6%) of the respondents did not have.

Among the 44 respondents 21 (50%) respondent to have always had clean and safe water at the hand washing Facility drawn from boreholes and river while the 16 (36.4%) respondents had it sometimes and the remaining 7 (13.6%) have never had at all. This is much evidence that due to borehole breakdown community members resort to fetch water from the river which could be a potential risk of diarrhoea diseases because the water is not treated. 32 participants (71.1%) washed their hands before eating, 30 (66.7%) washed their hands after defecating, 24 (53.3%) before preparing the food, 19 (42.2%) washed their hands after cleaning/changing the baby and 8 (17.8%) before breastfeeding the child. A study in this regard reveals that reduction in the prevalence of waterborne diseases and increase in the quality of life for community members is as a result of improved water and sanitation infrastructure (taffa et al. 2007)

42 (95.6 %) of respondents agreed to have managed their waste by having a rubbish pit for waste disposal at each household while (2) 4.4% of the respondents managed their waste indiscriminately. A study was found that when effectively implemented community lead total sanitation programs can result in communities taking initiative to practice proper waste disposal and build latrines

Majority of the respondents who were 32 (72.7%) used soap or ash, followed by 25 (56.8%) who used water, then 11 (25%) made contact between both hands and 10 (22.7) used of rubbing motion, lastly 4 (9.1%) used hygienic hand drying. 21 (45.5%) respondents had never had hand drying material at the handwashing facility available while 14 (31.8%) respondents usually have sometimes and 9 (22.7%) responded that it was always available. A study revealed that wet or damp hands can transfer bacteria's more easily than dry hands hence drying step is particularly important, further washing hands with soap and water and drying hands with clean disposable towel or air is regarded as proper hand hygiene (WHO, 2020)

(42) 93.3% of the respondents had access to a sanitation facility while 2 (6.7%) did not have. A study showed that poor sanitation is one of the leading causes of infectious diseases globally hence, improving access to sanitation facilities is a key public health goal (WHO, 2020). Majority of the respondents of about 36 had access to a sanitation facility that had a pit latrine with a slab, 2 had a ventilated improved pit latrine, 2 with flushed toilets to septic tank, 1 with a composite toilet, 1 with a flushed toilet to pit latrine and 1 utilized open defecation. 11 (24.4%) respondents admitted that they shared the toilets while 33 (75.6%) of the respondents denied of sharing. According to Luby et al., 2011, people's willingness to use sanitation facilities are influenced by privacy concerns which results in improper use including open defecation and reduced sanitation usage. 37 (84.4%) respondents agreed to have had their anal cleansing material available while 7 (15.6%) said no to had it available. Proper anal cleaning material such as water or toilet paper is a critical part of hygiene process it was revealed that communities who used it had lower rates of hygienic related diseases (Luby et al., 2011). 11 (24.4) respondents said no to have been cleaning of the sanitation facility whereas 33 (75.6%) of the respondents agreed to have been cleaning their sanitation facility. Majority of the respondents reviled that they clean their sanitation facilities on a daily basis and a few after use or when need arise.

Some respondents of about 11 (24.4%) agreed of practicing open defecation while 33 (75.6%) disagreed. The practice of open defecation is directly linked to the spread of waterborne diseases which result in adverse health effects as well as death.in a study conducted by Luby 2011, in areas with inadequate sanitation infrastructure, open defecation remains a potential threat of diseases such as diarrhoea, dysentery, and other related waterborne diseases. Majority of the respondents of about 38 (86.7%) agreed to have been aware and participated in the world toilet day and 6 (13.3%) were not. A study by Toukara et al (2019) shows that visibility of sanitation issues can be enhance and by participating in global campaigns such as world toilet day and both the communities and government can encourage the adoption of sanitation solutions in order to invest in improved facilities.

5.3 Program implementation

About 34 (75.6%) respondents were aware about handwashing campaigns being a specific activity that have been conducted as part of the sanitation and hygiene program in the district and 32 (71.1%) were aware about clean water supply project, 29 (64.4%) were aware about school sanitation programs, 28 (62.2%) were aware about construction of latrines, 19 (42.2%) were aware of waste management workshops and other were aware about community lead total sanitation and keep Zambia-clean campaign. A huge number of 19 (42.2%) of respondents said the activities occur annually, 13 (28.9%) monthly, 7 (15.6%) daily, 3 (6.7%) responded weekly and 1 said where there's need for expanding water distribution. 36 (80%) of the respondents said that their areas have benefited from the programs while 8 (20%) said they did not benefit. When contact with feces handwashing with soap is considered one of the most cost-effective ways of the prevention of infectious diseases, diarrhoea diseases transmission has been emphasized to have been reduced due to emphasis of handwashing campaigns (Luby, et al., 2011). The areas that have benefited include; shichama, Lukwesa, Nkanga ward, town areas kaombe,market and bus stations, schools, kanyemba, kashiba rural health center, shingwe, musangu. This really provides the overll success of the project because 80% reveals the positive impact of the programs implemented (boerma et al., 2018). With regard to literature the overall benefits of sanitation programs include; enhanced overall community health, and reduction in diarrheal diseases

5.4 Program effectiveness

15 (34.1%) said the programs were very effective in improving sanitation and hygiene in the communities while 16 (36.4%) respondent that the programs are ineffective, 11 (25%) responded that the programs are neutral and 2 (4.5%) said the programs are ineffective. The successful of hygiene programs are as a result of involving communities in their design and implementation and also tailored to local (Curtis et al., 2000). 16 (36.4%) respondents noticed changes in health outcomes in the community due to sanitation and hygiene programs while 26 (59.1%) saw moderate improvement and 2 (4.5%) saw no change. This is an indication that while others may not perceive substantial changes or improvements in health some recognize benefits from the improved sanitation and hygiene practices. 31 (70.5%) respondents said lack of funding was the major challenge encountered in the implementation of sanitation and hygiene program, 27 (61.4%) revealed that it was due to insufficient community engagement, 26 (59.1%) said it was due to inadequate infrastructure, 19 (43.2%) said it was because of cultural resistance and one respondent said it was due to poor sanitation and hygiene among community members. this indicates that their will be limited benefits for the community due to inadequate resources, programs may be poorly implemented or incomplete. In scaling up successful sanitation programs financial constraints are one of the most significant barriers (Mbakaya et al., 2018).

5.5 Community participation and feedback

23 (54.4%) of the respondents thought somehow were involved in the community in planning and implementation of sanitation and hygiene programs while 17 (38.6%) were very involved and 4 (6.8%) were not. 17 (39.5%) of the respondents admitted to have mechanisms in place for the community to provide feedback on the programs while 25 (60.5%) disagreed. For successful of sanitation and hygiene programs community involvement in planning and implementation is very crucial, relevance and sustainability are more likely to be adhered of these initiatives when the local population are actively engaged in the design and execution of sanitation programs. A study by Boerma, 2018, community members understand their needs and are more committed to maintaining and utilizing the provided infrastructure if participatory is emphasized which even lead to more effective results. Mechanisms for feedback included; conservation, survey and digital tools, community awareness

programs at different level, direct engagement with them one by one, establish centres for the communities to get feedback, household inspection, Local meetings, Through SAG groups and V-WASHE committees. Some suggestions for improvement included; Creating demand for sanitation services, more community engagement/ Sensitization, conduct more awareness campaigns, Funding need to be enhanced, continue with interventions, by involving the community in planning and decision making, enhancing households slashing activities, normalize workshops to educate people and Provide adequate supply of water. In order to improve sanitation and hygiene programs feedback mechanisms are essential, without effective feedback systems programs may fail to adapt to local needs hence resulting in poor adoption. A study by boerm et al., 2018, involving the community in providing feedback empowers community members and overall effectiveness of the program

5.6 Sustainability

31 (71.1%) of the respondents believed that the current sanitation and hygiene programs are sustainable in the long term while 13 (28.9%) did not. In the context of sanitation and hygiene sustainability in this case is the ability to improved sanitation facilities, hygiene behaviors overtime and a positive health outcome, luby, 2011 showed that the sustainability of the sanitation programs is based on the roles and responsibilities a community take up such as promoting hygiene behavior over the long term, managing the infrastructure and organizing maintenance works. For those who did not believe that the current sanitation and hygiene programs are sustainable in the long term they said that it was due to; Failure to monitor, Population rise, Culture practice threaten the sustainability of sanitation and hygiene practices, Vandalism of hand washing points and Climate change. Moderate ownership was observed from 27 (62.2%) respondents regarding sanitation and hygiene programs while 8 (17.8%) were represented with low ownership and 9 (20%) with High Ownership. The degree to take up responsibilities for planning, implementation, management and maintenance is regarded to as ownership. Greater success and sustainability is highly corelated with ownership because the community is likely to adapt the programs to changing needs, maintain the infrastructure and overally value the program. Nevertheless, high onwership is is likely to include individuals who actively participate in decision making, maintenance works and also driven by hygiene behaviours in terms of monitoring

Chapter Six

Conclusion and Recommendations

6.0 Introduction

This chapter presents the conclusion as well as recommendations from the study that was undertaken.

6.1 Conclusion

It is quite important for each and every household to have their own toilet in order to avoid sharing or defecating opening because sanitation and hygiene are important aspects for clean, safe and healthy environment.

Awareness is critical to the success of public health interventions and with regard to the findings, people were aware about the knowledge and hygiene practices and also the sanitation and hygiene programs that have been implemented in mwense district further, they were also aware about handwashing campaigns being a specific activity that have been conducted as part of the sanitation and hygiene program in the district.

A few individuals concluded that programs were very effective in improving sanitation and hygiene in the communities and they believed that the current sanitation and hygiene programs are sustainable in the long term.

The challenges encountered during the implementation were found to be; lack of funding, insufficient community engagement, inadequate infrastructure, cultural resistance and poor sanitation and hygiene among community members.

6.2 Recommendations

The recommendations are as follows;

- Increase funding for sanitation and hygiene programs
- Involve the community in the planning and implementation of programs
- Invest in sustainable infrastructure development
- Conduct community-based awareness campaigns

- Conduct health education and training

6.3 Recommendation for Further Research

Investigate the integration of sanitation and hygiene programs with any other health initiative (e.g nutrition) for the purpose of enhancing public health.

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APPENDICES

Appendix I: Semi-Structured Schedule for the Community

University of Lusaka (UNILUS)

School of postgraduate studies

This study aims at evaluating the implementation of sanitation and hygiene programmes in Mwense District, Zambia. I am a student at the university of Lusaka (UNILUS) doing my final year in the school of postgraduate studies of Masters of science in Environmental management. I am conducting this study as a requirement for the attainment of the postgraduate masters of science in Environmental Management. Your participation in this study will be highly appreciated.

INSTRUCTIONS

a) Do not write your name on this interview schedule.
b) For questions with alternatives, ***Tick*** the chosen response.
c) For the open-ended questions, write your response in the space provided.
d) Answer all the questions.
e) Write all responses honestly and clear.

Section A: General Information

1. Respondent Information
    a) Age: …….....
    b) Gender: [ ] Male [ ] Female
    c) Occupation: ……
    d) What is your marital status: ……
    e) How many people stay in your household?
    f) Gender:
        (i) Number of males:…….
        (ii) Number of females:……..
    g) Age:
        (i) Number of people between 0 and 17 years […….]
        (ii) Number of people between 18 and 35 years [……]
        (iii) Number of people between 36 and 55 years [……]

(iv) Number of people above 55 years [……]

h) Name of Village or Area: …….

2. Affiliation

a) Are you a Local government official, community member, health worker or NGO Worker?

- ✓ Local government official [ ]
- ✓ Community Member [ ]
- ✓ Health Professional [ ]
- ✓ NGO worker [ ]
- ✓ Other (specify):

……...

Section B: Programme Awareness

3. Knowledge and hygiene practices

a) Are you aware of any sanitation and hygiene programs implemented in mwense district? [ ] yes No [ ]

If yes, please specify which programs:

……

b) Do you have a handwashing facility? [ ] Yes No [ ]

c) Is there always enough clean and safe water at the handwashing facility? [ ] always sometimes [ ] never [ ]

d) Is there hygienic hand drying material at the handwashing facility? [ ] always sometimes [ ] never [ ]

e) Is there a rubbish pit for waste disposal at your household? [ ] Yes No [ ]

f) Select When likely you wash your hands?

(i) After cleaning/changing a baby [ ]

(ii) After defecating [ ]

(iii) Before preparing the food [ ]

(iv) Before breastfeeding the child [ ]

(v) Before eating [ ]

g) Select How you wash your hands?

(i) Using soap or ash [ ]

(ii) Make contact between both hands [ ]

(iii) Use of a rubbing motion [ ]

(iv) Hygienic hand drying [ ]

(v) Use of water [ ]

4. Access to sanitation

a) Do you have a sanitation facility? [ ] Yes No [ ]

b) What sanitation facilities does your household have access too?

(i) Flush toilet to piped sewer system [ ]

(ii) Flushed toilet to septic tank [ ]

(iii) Flushed toilet to pit latrine [ ]

(iv) Flushed toilet to elsewhere (E.g. river, surface) [ ]

(v) Ventilated improved pit-latrine (VIP) [ ]

(vi) Pit latrine with a slab [ ]

(vii) Compositing toilet [ ]

(viii) Hanging toilet [ ]

(ix) Community latrine [ ]

(x) Open defecation [ ]

(xi) Other (specify):

……

c) Do you share your sanitation facility with neighbors [ ] yes No [ ]

d) Is there readily available anal cleansing material present? [ ] Yes No [ ]

e) Is there someone who cleans your sanitation facility? [ ] Yes No [ ]

f) How often is the sanitation facility cleaned?.....

g) Have you by any chance seen a person defecating openly in the past two weeks? [ ] Yes No [ ]

h) Are you aware about world toilet day? [ ] Yes No [ ]

i) Do you participate during worlds toilet day [ ] Yes No [ ]

If yes describe what happens on the very particular day?

……

……
……

5. Sources of information
    a) How did you learn about the above-mentioned programs?
        (i) Community meetings [ ]
        (ii) Local Media [ ]
        (iii) NGO outreach [ ]
        (iv) Health Centers [ ]
        (v) Other (specify):
            ……...

Section C: Program implementation

6. Program Activities
    a) Select all specific activities that have been conducted as part of the sanitation and hygiene programs?
        (i) [ ] construction of latrines
        (ii) [ ] handwashing campaigns
        (iii) [ ] waste management workshops
        (iv) [ ] clean water supply projects
        (v) [ ] school sanitation program
        (vi) [ ] other (specify):
            ……
            ……
            ……
            ……..
7. Timeliness and frequency
    a) How frequently are these activities conducted?
        (i) Daily [ ]
        (ii) Weekly [ ]
        (iii) Monthly [ ]
        (iv) Annually [ ]
        (v) Other (specify):
            ……...

8. Program outreach
    a) Has your area benefited from the programmes mentioned above? [ ] Yes No [ ]
    b) Which areas or communities have benefited from the programs mentioned above?

        .....

        .....

        .....

Section D: Program effectiveness

9. Community impact
    a) In your opinion, how effective have these programs been in improving sanitation and hygiene in your community?
        (i) Very effective [ ]
        (ii) Effective [ ]
        (iii) Neutral [ ]
        (iv) Ineffective [ ]
        (v) Very ineffective [ ]
10. Health Outcomes
    b) Have you noticed any changes in health outcomes in your community due to these programs?
        (i) Significant improvement [ ]
        (ii) Moderate improvement [ ]
        (iii) No change [ ]
        (iv) Deterioration [ ]
11. Challenges encountered
    a) What challenges have been faced in the implementation of these programs? (Select all that apply)
        a) Lack of funding [ ]
        b) Insufficient community engagement [ ]
        c) Inadequate infrastructure [ ]
        d) Cultural resistance [ ]

e) Other:

……

……

……

Section E: Community participation and feedback

12. Community involvement

a) How involved is the community in the planning and implementation of these programs?

(i) Very involved [ ]

(ii) Somewhat involved [ ]

(iii) Not involved [ ]

13. Feedback mechanisms

b) Are there mechanisms in place for the community to provide feedback on the programs? [ ] Yes No [ ]

If yes what are these mechanisms?

……

……

……

14. Suggestions for improvement

a) What suggestions do you have for improving the effectiveness of sanitation and hygiene programs in mwense district?

……

……

……

Section F: Sustainability

15. Program sustainability

a) Do you believe the current sanitation and hygiene programs are sustainable in the long term? [ ] Yes No [ ]

If No, what factors threaten the sustainability:

……

……

……

16. Local Ownership

b) How well do you think the local community has taken ownership of these programs?

(i) High Ownership [ ]

(ii) Moderate Ownership [ ]

(iii) Low Ownership [ ]

Section G: Additional Comments

17. Further Observation

a) Do you have any additional comments or observations about the sanitation and hygiene programs in Mwense District?

……

……

……

Thank you for your participation!

Your response is valuable in improving sanitation and hygiene programs in Mwense District

Appendix II: Focus Group Discussion Interview Guide

Introduction

This study aims at evaluating the implementation of sanitation and hygiene programmes in Mwense District, Zambia. I am a student at the university of Lusaka (UNILUS) doing my final year in the school of postgraduate studies of Masters of science in Environmental management. I am conducting this study as a requirement for the attainment of the postgraduate masters of science in environmental management. Your participation in this study will be highly appreciated.

1) **Focus group discussion with both males and females**
   i. State what you know about sanitation and hygiene programs?
      ……
      ……
      ……
   ii. State who is in charge/responsible for the sanitation and hygiene programs in the community?
      ……
   iii. Do you know the importance of safe disposal of feaces? [ ] yes No [ ]
      If yes, state the importance
      ……
      ……
      ……
   iv. How many of you have the following?
      a) A toilet [ ]
      b) A bathing shelter [ ]
      c) Dish rack [ ]
      d) Drying line [ ]
      e) Rubbish pit [ ]
2) **Focus group discussion with females only**
   v. With regard to sanitation and hygiene programs, what are your roles in the household?

……

……

……

vi. How often do you attend meetings concerning the issues of sanitation and hygiene in your community if they are any?.....

vii. Explain what you learn from the meetings conducted in your community?

……

……

……

viii. State who is responsible for providing sanitation facilities in your house?

……

ix. With regard to diarrheal disease cases in your household how often do you visit the clinic?.....

x. How is your personal hygiene handled?

.....

.....

.....

xi. In order to maintain a clean environment in your household what do you do?

.....

.....

.....

xii. Describe the challenges that you have been facing in the implementation of sanitation and hygiene programs in your community?

3) Focus group with males only

xiii. With regard to sanitation and hygiene programs, what are your roles in the household?

……

……

……

xiv. Due to lack of an indoor toilet, how do you protect your household from dangerous snakes when they visit the bush to answer the call of nature in the night?

……

……

……

xv. How often do you attend meetings concerning the issues of sanitation and hygiene in your community if they are any?.....

xvi. Explain what you learn from the meetings conducted in your community?

……

……

……

Explain how you share the information you receive concerning sanitation and hygiene with your family?

……

……

……

xvii. Describe the challenges that you have been facing in the implementation of sanitation and hygiene programs in your community?

……

……

Thank you for your participation. Your response will strictly be confidential

Appendix III: Interview guide for Key informants

Introduction

This study aims at evaluating the implementation of sanitation and hygiene programmes in Mwense District, Zambia. I am a student at the university of Lusaka (UNILUS) doing my final year in the school of postgraduate studies of Masters of science in Environmental management. I am conducting this study as a requirement for the attainment of the postgraduate masters of science in environmental management. Your participation in this study will be highly appreciated.

1) State your role in the district with regarding to the implementation of sanitation and hygiene programs?
   ……
2) State the institution(s)/NGOs funding the sanitation and hygiene programs in the district?
   …….
3) State how effective the funding is in the implementation of sanitation and hygiene programs?
   a) Very effective [ ]
   b) Effective [ ]
   c) Neutral [ ]
   d) Ineffective [ ]
   e) Very ineffective [ ]
4) State how effective has the implementation of sanitation and hygiene programs been in the district?
   a) Very effective [ ]
   b) Effective [ ]
   c) Neutral [ ]
   d) Ineffective [ ]
   e) Very ineffective [ ]

5) With regard to the actors in the implementation of sanitation and hygiene programs in the district, what are some of the challenges that have been faced?

……

……

……

6) In order to have the proper sanitation and hygiene facilities in the district, state your recommendations?

……

……

……

7) What are some of the measure would you recommend to achieve proper sanitation and hygiene in the district?

……

……

……

THANK YOU

Appendix IV: Interview Guide for Health Facilities

Name of the Facility: ……

Introduction

This study aims at evaluating the implementation of sanitation and hygiene programmes in Mwense District, Zambia. I am a student at the university of Lusaka (UNILUS) doing my final year in the school of postgraduate studies of Masters of science in Environmental management. I am conducting this study as a requirement for the attainment of the postgraduate masters of science in environmental management. Your participation in this study will be highly appreciated.

1) State the assistance your facility offers to the community with regard to sanitation and hygiene.

   ……

   ……
2) Does your facility receive enough water? [ ] Yes No [ ]
3) State the source of water at your facility:

   ……..
4) Are you aware about D-WASHE and V-WASHE committees in your area? Yes [ ] No [ ]

   If yes explain what they do?

   ……

   ……
5) In terms of water supply and sanitation, does the D-WASHE and V-WASHE committees help you in any way? Yes [ ] No [ ]

   If yes, How?

   ……

   ……
6) State the sanitation facilities that exist at your facility?

   ……

   ……
7) Do you share the same facility mentioned in (5) with patients? Yes [ ] No [ ]
8) Who constructed the sanitation facilities at your facility?
   a) Government [ ]

b) NGO [ ]

c) Other (Specify):

……..

9) In case of a breakdown, who repairs the sanitation facilities?

……

……..

10) With regard to sanitation and hygiene, how do you conduct your sensitization campaigns in the communities?

……

……

11) Specify if there is a non-governmental organization that is helping you in sanitation and hygiene issues?

……

……

12) How often do you receive the cases of diarrhea diseases at your facility?

……

……

13) State how you explain the occurrence of diarrhea disease at your facility?

……

……

14) Based on your assessment what do you think would be the main cause of diarrhea diseases in your catchment area?

……

……

Thank you!

Your response will be highly confidential