

**NATIONAL UNIVERSITY OF LESOTHO**



**THE IMPACT OF WORLD VISION WASH PROGRAM ON RURAL PUBLIC HEALTH  
IN THABANA MORENA MAFETENG, LESOTHO.**

**BY**

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**201501217**

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**TO**

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**SUPERVISOR: DR M.T. MACHEKA**

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## DECLARATION

I the undersigned, do hereby declare that the dissertation on Impact of WASH program on Rural Public Health in Thabana Morena Mafeteng is my personal original work and that I have not previously in its part or entirely submitted it to any University for a degree.

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## **DEDICATION**

This dissertation is dedicated to my parents, siblings and my wife and son 'Mabataung Moswatsi and Bokamoso Moswatsi who showed me love and support throughout my study. Above all I dedicate this work to God who gave me wisdom and strength from the start till completion of this academic journey.

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## ABSTRACT

*Rural public health is a worldwide problem affecting many countries, particularly developing countries. Most of the rural residents are faced with multiple health challenges due to limited access to health services living them vulnerable and exposed to being infected by different diseases. Against this background, this study seeks to evaluate the role played by World Visions' WASH program on improving rural public health through activities and projects it implements using a case study of Makoabating community at Thabana Morena Mafeteng in Lesotho. The study employed qualitative research design and both purposive and convenience sampling techniques were applied. The sample used are Makoabating community leaders and members, health workers and World Vision staff. Open ended questionnaire and face to face interview guides were used to collect data. The study revealed that WASH program had a positive impact on promoting rural public health in Makoabating community through capacity building programs such as workshops and trainings and awareness campaigns on practicing good hygiene for improved health. Findings further points that WASH program led to the presence of protected water sources, availability of clean water and improved sanitation in the community. The study further revealed that most of the people engaged in good hygiene practices such as regular hand washing with soap and running water and these resulted to promotion of good hygiene behaviour and healthy lifestyle. The study thus concludes that World Vision WASH program has promoted and improved Makoabating rural community public health. It is recommended that WASH program services and facilities should be sustained so as to promote and improve rural public health for sustained lives of the communities.*

## TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>i</b>
<b>DEDICATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>iii</b>
<b>ABSTRACT.....</b>	<b>iv</b>
<b>TABLE OF CONTENTS .....</b>	<b>v</b>
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
<b>1.1 Introduction.....</b>	<b>1</b>
<b>1.2 Background of the study.....</b>	<b>2</b>
<b>1.3 Statement of the problem .....</b>	<b>4</b>
<b>1.4 Justification of the problem .....</b>	<b>4</b>
<b>1.5 Objectives.....</b>	<b>5</b>
<b>1.6 Research Questions.....</b>	<b>5</b>
<b>1.7 Theoretical framework.....</b>	<b>5</b>
<b>1.8 Definition of key terms .....</b>	<b>6</b>
<b>1.9 Limitations.....</b>	<b>7</b>
<b>1.10 Research Structure .....</b>	<b>7</b>
<b>1.11 Chapter Summary .....</b>	<b>8</b>
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>9</b>
<b>2.1 Introduction.....</b>	<b>9</b>
<b>2.2 WASH and Public Health: An Overview.....</b>	<b>9</b>

2.3 Contribution of WASH on public health .....	11
2.3.1 WASH on promotion of good behaviour and hygienic practices for healthy lifestyle .....	11
2.4 Promoting Health Education in communities. ....	17
2.5 Chapter Summary .....	24
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>25</b>
3.1 Introduction.....	25
3.2 Area of Study.....	25
3.3 Research Approach.....	25
3.4 Research Design .....	25
3.5 Study Population .....	26
3.6 Sampling Procedure.....	26
3.7 Data Collection Methods .....	27
3.7.1 Primary Data .....	27
3.7.2 Secondary Data .....	28
3.8 Data Collection Procedure .....	29
3.9 Ethical Considerations.....	29
3.10 Data Analysis.....	31
3.11 Chapter Summary .....	32
<b>CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION .....</b>	<b>33</b>
4.1 Introduction.....	33
4.2 Promotion of health education through WASH program in Makoabating community .....	33

<b>4.3 WASH program impact on Disease Prevention in Makoabating .....</b>	<b>39</b>
<b>4.3.1 Improved access to clean water .....</b>	<b>39</b>
<b>4.3.2 Access to adequate Sanitation.....</b>	<b>43</b>
<b>4.3.3 Good Hygiene Practices.....</b>	<b>45</b>
<b>4.5 Chapter Summary .....</b>	<b>53</b>
<b>CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS .....</b>	<b>55</b>
<b>5.1 Introduction.....</b>	<b>55</b>
<b>5.2 Conclusion .....</b>	<b>56</b>
<b>5.3 Recommendations .....</b>	<b>57</b>
<b>REFERENCES.....</b>	<b>60</b>
<b>APPENDICES.....</b>	<b>72</b>



## ACRONYMS

<b>HCF</b>	Health Care Facility
<b>INGO</b>	International Non-Governmental Organization
<b>IPC</b>	Infection Prevention Control
<b>MDG</b>	Millennium Development Goal
<b>NGO</b>	Non-Governmental Organization
<b>SADC</b>	Southern African Development Community
<b>SEM</b>	Socio-Ecological Model
<b>SLTS</b>	School Led Total Sanitation
<b>SSA</b>	Sub-Saharan Africa
<b>TA</b>	Thematic Analysis
<b>WASH</b>	Water Sanitation and Hygiene
<b>WHO</b>	World Health Organization

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Introduction**

Rural public health is one of the global issues that countries ought to address so as to improve rural peoples' health status. Rural inhabitants are faced with different health challenges as a result of economic conditions, cultural/behavioural issues, and scarcity of health services and providers (Warren and Smalley, 2014). People living in most of the rural areas have poorer access to necessary basic public health services than those in urban areas since most of the health facilities and services are found mostly in urban areas (World Health Organization, 2017). Not being able to improve and promote health, control and prevent diseases as a result of lack of access to public health facilities and services, is a major problem for rural people. World Vision Water Sanitation and Hygiene program is aimed at improving health, improving socioeconomic development, and reducing poverty amongst others, however, this research therefore aims to evaluate the role played by World Vision WASH program on improving rural public health in Thabana Morena community.

The chapter will cover the background information on contribution of WASH and the role of NGOs on public health globally, in African continent, SADC region and Lesotho. Then follows the statement of the problem where the researcher clearly shows the problem that the study seeks to solve, the importance of the study and then state the objectives being what the study intends to achieve and the research questions how the study will achieve the set objectives. The chapter also includes the theoretical framework to be applied, its origin and how it is relevant to the current study and key terms will be defined. Lastly the chapter will cover the methodology used being the research approach, design, sample and sampling procedures, then also show the limitations being the practical challenges anticipated and solutions and lastly how the research will be structured.

## 1.2 Background of the study

Availability and provision of adequate clean water, improved sanitation facilities, and hygiene (WASH) is a crucial element of public health issues, and its role is recognized by the 2030 Agenda in its Sustainable Development Goals (United Nations, 2015). Several studies have proved that access to WASH improve the living conditions, health, and well-being of people (United Nations Children's Fund –World Health Organisation 2019; United Nation Water-World Health Organisation 2019). WASH is linked to any country's mandate relating to the health of the people and it is therefore the right of every citizen to obtain safe water, sanitation, and hygiene measures (Gomathi et al., 2017). The significance of WASH to global health is well acknowledged by different scholars.

WASH programs have been implemented by various Non-Governmental Organizations (NGOs) globally so as to develop societies and improve communities. NGOs contribute to global health through working with other stakeholders such as governments, to formulate policies concerning global health, to invest and fund, put into action, and evaluate programs (Anbazhagan, 2016). NGOs are dedicated with provision of health facilities in less densely occupied areas worldwide, due to their dynamic involvement in health service delivery directly by the main factors of supply (Olson, 2017). In most of the developing countries, NGOs are the main actors in providing financial assistance and improving health care services, and are greatly used to enhance public health goals (Whyle & Oliver, 2016). In particular regions, NGOs are considered important actors needed for the supply of necessary health services and are inclusive of the institutions that aim at attaining universal health coverage (Lepine *et al.*, 2016). The performance of International Non-Governmental Organisations (INGOs) global health activities proves to be vital in developing countries (Beyrer *et al.*, 2018).

In Sub-Saharan Africa and Southeast Asia countries, amongst other developing countries, INGOs are the main partakers in activities of public health, forming health care facilities, assisting local public health systems, training and teaching local residents, and providing housings and basic needs to people affected (Liebowits, 2015). Specifically, INGOs are highly recognised due to their commitment and contribution in prevention and control of deadly epidemic outbreaks, such as HIV/AIDS, malaria, and cholera, dominant in many developing countries (Liebowits, 2015).

Rural areas continue to have limited access to WASH services (WHO, 2017). Through World Vision, WASH program aims to increase and promote access to clean drinking water sources and adequate sanitation in rural areas of Lesotho. WASH is among the most critical for human to build healthy life and its interventions seeks to prevent and control transmission of bacteria, viruses and parasites (Gomathi *et al.*, 2017). World Vision as one of the NGOs in Lesotho focuses on the improvement and promotion of rural public health by improving water sources and sanitation facilities for schools, rural health care facilities and public places and provide training and education on sanitation and personal hygiene ([www.wvi.org](http://www.wvi.org)).

Access to proper sanitation and hygiene contribute to reducing illness and death, especially among children. Emergent evidence indicates a relationship between child linear growth and household (WASH) practices (Humphrey *et al.*, 2014). Having access to protected and sustainable water sources, adequate sanitation facilities and good hygiene practices are a necessity for one to have an improved healthy and pro-longed life. Studies have been conducted on WASH programs but few have been made on the role of NGOs WASH program on rural public health in Lesotho. Therefore, the study aims at adding knowledge to the limited literature on NGOs contribution or role to promote and improve rural public health in Lesotho. The purpose of the study is to evaluate the role played by World Visions' WASH program on improving rural public health through

**activities and projects it implements, the strategies used and the implementation of such programs.**

### **1.3 Statement of the problem**

This study assess the contribution of WASH program on improving rural public health in Lesotho. Despite what scholars wrote about WASH and public health and all the efforts taken to improve rural health through different programs/projects and policy formulation there is still scarcity of clean water, poor sanitation and hygiene leading to poor and unimproved rural public health. The study assesses the role played by World Vision WASH program towards improving rural public health. There is limited literature as few studies were conducted on the impact of World Vision WASH program on rural public health. There is also a literature gap on monitoring and sustaining WASH interventions hence the study will provide knowledge or information on maintaining monitoring and sustaining WASH interventions so as to improve rural public health in Thabana Morena Mafeteng.

### **1.4 Justification of the problem**

This study is important in that it will add new information and knowledge to the already existing literature on contribution of WASH program to the improvement of rural people's lives through engaging in community activities and projects that will enhance their health status. The study will also be helpful in providing possible sustainable solutions to the problem of access to health services and reduction of diseases. Stakeholders such as the ministry of health will gain information about how to best address the issue of public health in rural areas joining hands with NGOs and seeing to it that sustainable measures are taken to improving and saving rural lives. The study will also suggest recommendations of which policy makers can use to strengthen public health policies that already exists.

## **1.5 Objectives**

- To assess the effectiveness of World Vision's WASH program in promoting a healthy living among the Makoabating community.
- To examine the role of WASH program in disease prevention at Makoabating Health Centre.
- To assess the contribution of the WASH program to Makoabating community's health education.

## **1.6 Research Questions**

- How does World Vision WASH program promote a healthy living among the Makoabating community?
- What role does WASH program play in assisting Makoabating Health Centre patients prevent diseases?
- How does WASH program contribute to promote health education in Makoabating community?

## **1.7 Theoretical framework**

The study will adopt the social ecological model of public health to evaluate the role played by WASH to improve rural public health. The socio-ecological model (SEM) was primarily presented as a theoretical model for comprehending human growth or development by Urie Bronfenbrenner in the 1970s and later formalized as a theory in the 1980s. The model is a framework that makes it easy to appreciate the different stages that exists in a society (Individual, Interpersonal, Organisational, Community, and Public Policy) and how individuals interact with the environment. It suggests that constructing an atmosphere contributing to change is necessary and vital for easy implementation of healthy behaviours (Kilanowski, 2017).

This model is relevant to the study because it clearly illustrates how important and effective programs and interventions are to promoting public health and helping in understanding factors that affect people's health behaviour. It highlights how WASH as a program can contribute or have an impact on promoting health and preventing diseases as a way of improving rural residents' health.

### **1.8 Definition of key terms**

Public health refers to events carried out by societies, existing both within and beyond the health system and health sector, to promote health and prevent diseases (Battams, 2014). Public health is also considered as the act of disease prevention and promoting good health within the society from small communities to the entire world (American Public Health Association, 2014). Rural public health is therefore the practice of promoting good health, preventing diseases and thus prolonging life through construction of different interventions, programs and projects in rural areas.

Non-Governmental Organisation implies any organisation or a voluntary group of people that does not aim at making profit but aiding the needy and operate within borders (locally), nationally and internationally for different cultural, social, and charitable reasons (Sanadgol *et al.*, 2021). According to Coppola (2020), an NGO is a nonprofit making institute that is self-governing and seeks to address issues relating to the social, cultural, environmental, educational conditions of the people. Non-Governmental Organisations are nonprofit, private organizations or institutions that operate independently without government being involved/controlling their operation focusing on a wide range of issues.

WASH refers to the activities and behaviours including the physical equipment relating to provision of clean water, improved sanitation, and good hygiene. Based on the Millennium Development Goal (MDG) era definition, a well-protected and safe source of drinking water is

one that during its building and when properly used, effectively shelters the source from contamination mainly human disposal matter. Adequate and improved sanitation facility may be defined as one that hinders or protects human from being in contact with human excreta. Hygiene refers to practices of keeping oneself clean and the environment clean to prevent diseases (World Health Organisation/United Nations' Children Fund, 2015). WASH refers to behaviour and practices meant to provide rural residents with access to clean water, safe sanitation and good or improved hygiene practices in order to prevent diseases, save lives, and transform communities.

### **1.9 Limitations**

This study had some limitations. One of the limitation/challenges was that of limited access to literature on World Vision's WASH program. To address this challenge, the researcher requested for reports and other relevant documents from World Vision. The other limitation was that some of the interviewees wanted to pull out due to issues such as cultural behaviors and this resulted to limited information therefore the solution to this was that participants were assured that they will stay anonymous thus keeping their information confidential.

### **1.10 Research Structure**

Chapter one is an introduction which makes readers aware of the problem to be discussed and informs the readers on why the study is conducted that is: the purpose of the study and provides a short overview of the study. Chapter two focuses on literature review reviewing what other scholars have written regarding the problem to be studied, provides information on the global role of NGOs on communities. Chapter three is on methodology showing the approaches, designs, sampling and instruments that the study will employ. Then, chapter four is on research presentation, analysis and discussion where the researcher presents the results obtained from the



field (study) and chapter five is on conclusions and recommendations what the study advice should be put into practice by different stake holders concerned by the research.

### **1.11 Chapter Summary**

The chapter initially presented the study by providing an introduction of basic concepts being WASH and rural public health, presented background of the study, statement of the problem, justification of the problem, research objectives and research questions. The study also dealt with the theoretical framework, defined key terms, provided limitations to the study and gave the research structure.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter provides a review of literature on the impact of WASH on rural public health. The literature that will be reviewed will not only focus on Lesotho but will include the already existing literature world-wide. The chapter will provide a general view that is from the general to the specific (Global, Africa, Southern African Development Community then specifically to Lesotho).

### **2.2 WASH and Public Health: An Overview**

Having access to basic drinking water and sanitation facilities is taken to be a very important aspect of human life, however, many people in the world are still without these facilities. For example, in 2017, it was estimated that globally 785 million people did not have good quality drinking water services and 144 million of these people were drinking surface water (Immurana *et al.*, 2022). During the similar time, it was estimated that 2 billion people worldwide had no access to basic sanitation services, and about 673 million practiced open defecations (Immurana *et al.*, 2022). Recently, 2.1 billion people have limited provision of safe, protected drinking water services and 4.5 billion people do not have access to safe sanitation services (WHO, 2019a; WHO, 2019b).

The shortage of adequate drinking water and sanitation services have increased the problem of health globally especially during the emergence of Corona virus in 2019 which required regular washing of hands with running water and soap and also practicing other good hygienic activities as some of the measures taken to combat the pandemic (Mustapha *et al.*, 2022). Estimates indicates that, globally, roughly 829 thousand people are killed by diarrhea every year as a result of using contaminated water, engaging in poor hand hygiene and poor sanitation. In 2017, it was observed that over 220 million people worldwide were affected schistosomiasis which is transmitted by

being in contact with water containing parasitic worms' preventive cure. (Mustapha *et al.*, 2022 and WHO, 2019a, 2019b).

In Africa in the year 2015, about 48% (319 million people) of the global population who did not have access to clean and safe water lived in sub-Saharan Africa (SSA) (Mustapha *et al.*, 2022). In the same period, about 695 million of the population in SSA could not access better-quality sanitation services (UNICEF &WHO, 2015, 2019). Likewise, in 2017, only thirty percent and twelve percent of the people in SSA accessed safe reliable water for drinking and sanitation facilities, respectively (UNICEF &WHO, 2015, 2019). It can be observed that a number of African governments are not in a position to supply people with clean drinking water and sanitation facilities, and this has posed a major problem to the public health of the citizens.

Access to WASH is needed for improving public health and development of socio-economic status. However, in most SADC region countries, such as Lesotho, South Africa and others, access to WASH is still a challenge, especially in inaccessible rural areas and urban slums where knowledge, skills, and lack of funding contribute to limited access (Amber, 2021). These areas are faced with difficulties in providing quality services and dependent mainly on government for provision of funds as they have restricted access to sources of funds (Amber, 2021 & Moloto *et al.*, 2020).

Lesotho is a mountainous place with plenty of water, however, most of the people lack access to clean water particularly the rural population. The government of Lesotho has formulated policies and has plans intended for promotion of urban and rural water and sanitation, however, they are not fully executed or implemented. Lesotho Water and Sanitation policy of 2007 states that every Mosotho should have access to adequate provision of water and basic sanitation services. It can be observed that up to date not all Basotho have access to clean water and adequate sanitation

(Hossain, 2023). There is, however, progress towards improving supply and availability to unpolluted water, adequate sanitation and hygiene promotion thus meaning to a certain extent WASH plays a crucial role to promoting and improving public health (WHO, 2016).

The present study has discovered that there is limited literature regarding the impact of WASH program on rural public health in Lesotho, as a result, the study intends to add more information on the contribution of WASH program on improving rural public health through promoting health education, assisting in disease prevention, and promoting healthy lifestyle in Thabana Morena, Makoabating.

### **2.3 Contribution of WASH on public health**

Research has shown that WASH programs have had a positive impact to public health globally and the contributions were specifically on health education, disease prevention and healthy lifestyle (source).

#### **2.3.1 WASH on promotion of good behaviour and hygienic practices for healthy lifestyle**

The World Vision WASH programs are essential to humans for a healthy improved and disease free life (Shrestha *et al.*, 2023). Proper WASH practice is not only a necessity for a healthy life, but is also a source of enhanced livelihoods, school attendance and contributes to empowering communities to live in healthy clean surroundings. Drinking contaminated or polluted water deteriorates people's health and well-being through illnesses such as diarrhea, and unprotected human disposal contaminates ground waters and waters used for drinking purposes, watering the plants, washing and household purposes. This causes sickness and illness to communities leading to death. Water that is contaminated by chemicals continues to expose people's health to risk (WHO, 2019).

The global burden of disease update study shows that contaminated water, poor sanitation, and handwashing caused about five percent of Disability-Adjusted Life years of men and woman in underprivileged societies (De Buck, 2017). Globally, eleven percent (11%) of child deaths are seen to be caused by diarrheal disease caused by inadequate WASH services in the communities, health care facilities and schools. Lack of WASH services, hazardous drinking water, inadequate sanitation and poor hygiene practices lead to people engaging in irresponsible risky activities or behaviour that will negatively affect their health. For instance, drinking water that is contaminated results in harmful effects on physical, mental and other functions of the body WASH brings forth solutions as it encourages and promotes behaviour and practices to be applied to prevent potential infectious diseases. This includes, for example, boiling water used for drinking, using clean flowing water with soap to cleanse hands, and containing human waste in a safe manner. These behaviours have been recognised to significantly reduce the chances of getting sick and consequently leading to death (Adhikari & Sharma, 2022).

Communities in most of African countries are engaged in unsafe hygiene practices, increasing possibility of attaining negative effects on people's health. Having access to a better-quality drinking water source is beneficial and is recognised when there is also when there is availability of clean water, upgraded sanitation facilities and being consistent to practicing good hygiene. Access to WASH is of great impact, particularly for women and girls because they no longer walk long distances to get water and it becomes advantageous as people get healthier and lively (WHO, 2019). WASH is considered an important tool within the Sustainable Development Goal (SDG 6) on clean water and sanitation by 2030 and it is evident that it plays a fundamental role in public health and therefore contributes to sustainable development (WHO, 2019). Access to clean and safe water, adequate sanitation leading to good hygiene are human rights.

Winter and Barchi (2015), used the information from the Kenya Demographic and Health Survey 2008/9 and studied the correlation that exists concerning access to sanitation and practices of violence. The study found out that, 38% of women who could not access proper sanitation facilities had greater chances of be subjected to violence within a period of a year compared to those that use sanitation facility (Cumming & Mills, 2016). The challenges that females encounter in finding water and sanitation, including being vulnerable to violence, can drive them to being at risk of undesirable psychosocial experiences. The gender roles that are formulated by the society and behaviours that women are expected to carry out, lead to the challenges they experience (Sommer & Caruso, 2015).

Adequate Sanitation is an intervention that is proven to contribute to reduction of diarrheal disease. However, it can be observed that sanitation is not considered as a necessity by governments and other stakeholders due to them not willing to improve sanitation services as they are costly. Not having adequate sanitation facilities poses danger to children as they are the most vulnerable to diarrhea and other diseases brought by poor sanitation. It has been evidenced that the use of toilets or latrines and safe water sources prevent people from coming into contact with faeces and by doing so people's health is improved (Dreibelbis, 2013; 2016). It is thus important to also note that safe disposal and removal of young children's faeces should be observed because it reduces the risk of getting sick as their faeces contain lots of microorganisms that cause diseases.

Home and everyday life situations provide several chances for the spread of infections and include locations where hygiene is not mandated, including workplaces, public transport, gyms, and places where people do shopping. Essack (2021) has shown that the role of hygiene in the home and community is recognised as critical to preventing the occurrence and spread of infectious diseases, and thus reducing the need for antimicrobials. This has been evidenced as COVID-19 highlighted

the vital role that hygiene practices, such as regular handwashing with soap and water or sanitizers play in protecting us from viruses and infectious diseases (Essack, 2021).

### **2.3.2 WASH and Disease prevention in schools, healthcare facilities and communities**

WASH services in most health care facilities are seen to be of a low standard in Africa. It is predicted that 896 million of population use health care facilities which lack access to drinking water supply and 1.5 billion had limited provision of sanitation services (<https://washdata.org/>). As studies have been conducted by WHO on WASH in health care facilities, it is highly expected that most people seek medical attention at health care facilities that do not have facilities that promote hand hygiene and that do not manage human waste appropriately. It has been observed that WASH services are most likely to be accessible in hospitals than in other places where health care is provided, and mostly in cities than in countryside areas.

Research has shown that forty-three percent of healthcare facilities lack hand hygiene at stations where patients are treated, and about fifty-five percent of healthcare facilities located in poor countries have access to basic water services (UN, 2020). Millions of people looking for medical care in health facilities that do not have main services, including amongst others water, sanitation, and hygiene, health care waste and cleaning (WASH) services are at risk of getting infections. Availability of WASH in health centers protects patients from being in danger of contracting diseases and reduces the rate of spread of infections and thus leading to an improvement to the health of patients and the staff members (WHO, 2019).

Evidence shows that having access to WASH services, mainly in maternity and primary-care places of which have been seen to be scarce, promotes the main aspects of universal health care which are quality and dignity for all people (WHO, 2019). Provision of basic WASH services in

places that provide health care is crucial to maintaining quality care and ensuring that most important health obligations are attained. WASH can also result in health improvement at the community level (WHO, 2019). It can be argued that health care facilities that has limited or adequate WASH facilities contributes to the transmission of diseases, exposing patients and staff to contracting severe infections and diseases difficult to treat thus different scholars have indicated that the presence of WASH in health care facilities have lessened the chances of infections being spread amongst patients and staff.

The availability of clean water supplies at clinics imply that the principal source of water ought to be that which is improved, situated on the premises and the water have to be accesses at all times. The presence of water is crucial in running everyday health care activities and improving the health of staff. Sufficient clean water is a necessity for drinking, washing, hand hygiene, for cleaning rooms, toilets, and to reduce the rate of spread of diseases (Watson *et al.*, 2019). The absence of clean water at health care facilities was a great challenge during the 2014-2016 Ebola epidemic outbreak in West Africa as it was difficult to contain the outbreak. Saxena *et al.*, (2015) and Adebeye *et al.*, (2018) have indicated that patients who seek health care in facilities with unsafe water, puts their health at risk and this endangers their lives.

Improved sanitation services include facilities that are well functioning and have privacy consisting of toilets for staff, sex separated toilets consisting of facilities for menstrual purposes and toilets used by people who are crippled or have walking disability (WHO, 2019). Sanitation facilities are considered a basic human right, and thus sanitation in health settings has proved to be a necessity for the promotion of improved health conditions and safety of patients and staff (Potgieter *et al.*, 2021). Not having proper and clean toilets leads to the spread of diseases and



therefore proper disposal of excreta is crucial to prevent diseases and infections from contaminating the surroundings of the health Centre (WHO, 2019).

Various studies have shown that are achieved by practicing good hygiene measures and provision of tap water for washing hands and sanitizers for patients and others contributes to prevention and control of diseases in health centers (WHO, 2019 and Johnson *et al.*, 2015). Labi *et al.*, (2019), indicates that adhering to hand washings practices amongst most patients and staff healthcare facilities improve as they are given appropriate and continuous training, regular hygiene assessments and access to essential materials like soap and disinfectants, posters illustrating proper ways washing, training, and teaching on hand hygiene (WHO, 2019).

In Lesotho, safe drinking water, sanitation, and hygiene (WASH) is seen as one the most vital preventative measures in reducing diseases such as diarrhea and it has been seen to have effectively reduced the spread of COVID-19, as a result, it is considered one of the main public health recommendations. COVID-19 has negatively affected WASH service provision and sustainability (UN, 2020). Effective WASH is also seen to play a major role in combatting and controlling the rate of transmission of COVID-19. Provision of WASH services in health facilities was seen to be limited during COVID 19 and hence showing the need for governments to have political will, NGOs, and donors to be committed and address WASH problems existing in health care centers (Khanyangara *et al.*, 2021).

The COVID-19 pandemic has brought up questions about the ability of countries including Lesotho to seeking for effective ways that can be implemented to prevent and control pandemics, diseases and infections considering the role WASH plays on reducing the rate of COVID-19 transmission within communities. Research by (WHO) concerning issues of WASH and managing human waste disposal practices in communities' advocates for regular washing of hands, cleaning

of community surroundings, appropriate ways of managing excreta and waste during the pandemic (WHO, 2020). It can be argued that practicing good hygiene has seen of great assistance to different communities as these have promoted health through preventing diseases and infections.

Literature has indicated that access to water that is safe for drinking, handwashing stations and availability of toilets have a great importance in schools as they promote learners' health conditions, promote growth and attain quality education. Inadequate WASH facilities in school experience high transmission rates of communicable diseases which include diarrhea, and also lung infections, including COVID-19. Improved WASH has proved not only to promote health but also reduces eruptions of infectious diseases. Having access to quality WASH services in schools can promote learners' health conditions and well-being and that of the community around the school.

#### **2.4 Promoting Health Education in communities.**

Education is a requirement for communities, as transmitting information through community members is crucial to dealing with WASH related issues such as public health (Adams& Boateng 2018; Appiah *et al.*, 2020). Nevertheless, facilities that allow communities to overcome these issues are of importance to introducing and sustaining good behavioral practices (Zambrano et al. 2020). In terms of managing available water, literature has revealed that limited WASH education and training is considered to be a major problem leading to the mismanagement and use of water. It can then be noted that through education the community can be sensitized about conserving water sources so as to avoid wasting water (Hovden *et al.*, 2020). Improvement and delivery of safe water supply must be complemented by education and training focused on sanitation and hygiene. Research has shown that WASH awareness-raising occurs in healthcare facilities, villages, and schools.

Considering sanitation and hygiene, education is necessary for improving public health and people's well-being. Most of the public members are made alert of the health risks and dangers of using dirty water, consequences of practicing open defecation and littering (Silvestri *et al.*, 2018). Numerous studies have highlighted the need for training on health issues and promotion in the promotion of water usage, sanitation improvement and hygiene practice. Literature has shown that there are systems, ways and means, which have been seen to promote awareness of water, sanitation, and hygiene issues, and they include media, workshops, training sessions and community awareness campaigns and visits by community health nurses, and combined learning processes with engaged stakeholders (Silvestri *et al.*, 2018). However, without putting knowledge gained into practice and training, people's behaviour and health status cannot be achieved and sustained.

It be concluded that having schoolteachers engaged in programs that are sanitation and hygiene based has contributed to health education promotion within communities (Crocker *et al.*, 2016) and thus leading to invention of education and training that is more or less school based (Person *et al.* 2016). Engaging leaders of the community and people who volunteers and promoting peer education program for communities have shown to enable those engaged to teach young people and other members of the community and also allows transference of continuous health information that will ensure accessibility to proper and appropriate information to people (Aduro & Ebenso 2019).

Effective learning in school is highly guaranteed when there is good water, sanitation, and hygiene conditions. Karon *et al.*, (2017) revealed that interventions that are meant to improve WASH services in school increase the chances of students to talk about hygiene, improve student's knowledge of WASH, increase handwashing after defecation, and reduce open defecation at

school. Therefore, through students, knowledge is transmitted to their families and other community members thus promoting health education for all.

Schools play a major role in empowering children to promote good hygiene practices and behavioural change (Ministry of Health Kenya, 2016a). Promoting good hygiene is a continuing practice meant to positively influence people to change their behaviours. It can be concluded that WASH clubs at schools should be formed to improve the learner standard of hygiene education and sanitation that is environmentally friendly (MoH, 2016a). Studies conducted on schools have shown that there is a major impact on promoting handwashing behaviour through participation in school WASH clubs, learner to learner teaching, classroom activities such as dramas or songs. These studies have revealed that while teachers can significantly contribute to transferring information to students, students who have adopted knowledge can also encourage their family members by imparting knowledge and skills obtained, which may then influence the community to change behaviour (Akunga *et al.*, 2021).

Research has shown that to improve hygiene practices amongst pupils, there are different methods that schools can adopt. Learners are taught through exercises and demonstrations about the relationship between personal hygiene and health. “This cascades to other pupils and even the surrounding communities as the children go home and discuss what they have learned. Teachers through health clubs become trainers themselves, spreading good sanitation habits and raising awareness about menstrual hygiene and ways to keep girls in school.” WASH clubs at schools give learners the chance to be the ones who transfer knowledge to their families and practice healthy habits they are taught at school, thus, empowering their family members, friends, and the community at large (Akunga *et al.*, 2021). School Led Total Sanitation (SLTS) approach considers children as the ones who are ready and available for acquiring new knowledge and transporters of

information regarding good hygiene practices and sanitation to their household members and different people in their communities. WASH in schools has shown deal with those aspects required to instill changes in students' hygiene behaviour and, from the students to the community as a whole (Akunga *et al.*, 2021).

WASH in Schools encourages hygiene promotion, enables easy access to quality education and it is a driving force for governments, organisations to implement interventions that promotes sustainable provision of clean water and basic sanitation facilities in schools. Inadequate and poor sanitation, limited access to safe water, and unhygienic practices put the lives of children at health risk and have been confirmed to be a major cause of child mortality. These disastrous conditions are dangerous to the health of children in schools. The surroundings and cleanliness of a school facility plays a major role in promoting children's health status and well-being. Diseases are found to be quickly transmitted where there are no stations for washing hands, and where toilets are in bad condition at schools, and this consequently results in children contracting diseases and infections (WHO, 2019). As a result, research has shown that regular hand washing with flowing water and soap reduces disease transmission and improves children's quality of life.

Programs aimed at assessing the quality and quantity of available water, hygiene promotion and improving the syllabuses to develop improved WASH practices at schools, households, and communities are observed to be guided by standards that are accepted internationally. The performance of students in schools has been found to be improved through meeting their basic needs, which include amongst others availability of clean drinking water and adequate sanitation and having handwashing stations that are in good condition and functioning properly. When these services are adequate, students are unlikely to conduct illness and their learning capacity is enhanced (WHO/UNICEF, 2018).

Studies have revealed that upgrading WASH infrastructure in schools improves the standard of education (Audukia, 2016). Studies have proven that schools that have proper WASH education and availability of clean water, adequate sanitation and improved hygiene services attain better education results as school attendance is improved, learners are healthy and not dehydrated and there is improved nutrition. Improved WASH at schools has an impact on future learning, and health status. Producing an atmosphere that is conducive particularly for a girl child in school results in women who are more knowledgeable on health issues likely family planning, have children who are well educated and healthy, and have improved livelihoods (World Bank, 2016).

Access to clean water, sanitation, and hygiene (WASH) infrastructure and menstrual hygiene products are a necessity for girls at puberty stage as such facilities and products can affect their attendance and lead to poor results. Poor WASH contributes to most girls leaving school without completing. For adolescent girls, having access to protected water sources and neat toilet facilities that function properly, can be of positive impact to acquiring education rather than making way for girls to drop out. Furthermore, promotion of WASH education at school can contribute to a better, health life for all children even to their families and communities (WHO, 2018).

Various studies found that education on hand hygiene effectively increases health care staff and patients' adherence to handwashing practices. A hand-washing promotion and campaign awareness is found to be also efficient in increasing peoples' knowledge and performance of hand hygiene practices and as a result leading to an improvement in their health conditions. Improved provision and effective supply of clean water, improved sanitation, and hygiene (WASH) facilities in healthcare facilities (HCF) is observed to be necessary to prevent the spread of diseases between patients, health workers and communities. The need for proper provision of WASH services was experienced to be more important in the course of the COVID-19 pandemic (Pan American Health

Organisation, 2020). In order to have access improved health care, places meant for provision healthcare services need to have a protected water source that is nearby easily accessed, safe and reliable sanitation facilities, hand hygiene facilities at places where patients are treated and at toilets. Healthcare facilities that promote WASH and practice the right waste management practices assist in stopping the spread of diseases within the facility and nearby community.

The absence of proper WASH structures and services exposes the people who use the facility such as health workers, patients, and communities to the risk of being infected. For example, patients can get sick from drinking unsafe contaminated water with a waterborne disease, these could lead to serious illness sometimes resulting to death. Availability and access to WASH services is also important to enable healthcare personnel to carry out correct infection prevention and control (IPC) practices (Meshi *et al.*, 2022). For instance, both workers and patients at the health center require access to hand hygiene supplies to prevent the spread of contagions through the use of dirty hands (Bartram, 2018).

Inadequate WASH results to most of the illness and death, and this is experienced mostly in rural areas and urban slums (The Water Project, 2016). This has therefore called for several measures to be taken avail safe drinking water and improved sanitation for the population. Although the measures taken seem to bear good results, however, there are still some social, economic and cultural imbalances in provision of clean water supplies and basic sanitation and some vulnerable groups have experienced an increase of such inequalities (Agusomu, 2018).

WASH facilities are a requirement for acquiring improved quality health services. For instance, the facilities allow practicing clean birth which involves those assisting in birth process to wash hands during the operation, keeping the surfaces used for birth clean, engaging in hygienic cutting

and tying of the cord, and, thus preventing neonatal sepsis deaths (Khanyangara *et al.*, 2021). Health facilities that have limited access to WASH services increases the chances of patients being infected in the process of seeking for medical help and lead to patients being dissatisfied with delays in care-seeking services, and thus preventing proper running and functioning of essential health services (Cumming, 2018).

Promoting WASH program is one of the key strategies to improving public health and developmental issues (Roche *et al.*, 2017). For instance, improved WASH practices contribute to the reduction of diseases such as diarrhea, COVID-19 and others which are seen to be prevalent in many sub-Saharan countries. Nonetheless, most people are found to lack knowledge on WASH resulting to poor sanitation and hygiene practices. People's knowledge and behaviours regarding WASH facilities such toilets show their understanding or knowledge of healthy WASH practices (Roche *et al.*, 2017).

Studies have indicated that lack of adequate knowledge on the significance of improved sanitation and hygiene, leads to some people being unwilling to changing their behaviour toward the use of toilets (Chunga *et al.*, 2016). This was evidenced in areas where community members practiced open defecation as they reluctant to accept and use toilet.

Hand hygiene or washing hands with soap is shown to be one of the most effective WASH interventions that prevent diarrhea and other hygiene related diseases. Handwashing is a behaviour that can be practiced at school, home, health care settings and in communities, reducing the rate of diarrheal disease. COVID-19 pandemic has showed the significance of WASH program in disease prevention and control. It has a necessity to act on WASH practices such as hand washing/hygiene on public settings to respond and control diseases and pandemics such as COVID-19.



There is a knowledge gap on maintaining the WASH program interventions and there is also a literature gap on monitoring and sustaining the WASH program and its interventions in Mafeteng Lesotho. Having acknowledged that studies have been conducted regarding the impact of WASH on public health globally, there is still limited literature on the impact of WASH on rural public health in Lesotho. Previous studies have focused on the challenges posed by lack of WASH to public health, however, the present study will focus on the positive impact of WASH on rural public health in Thabana Morena, Makoabating through the best health practices (healthy lifestyle), disease prevention, health education and sustainable use of WASH facilities specifically in rural areas and as a result this study will contribute knowledge to the impact that WASH program has on rural public health.

## **2.5 Chapter Summary**

The reviewed literature indicates that WASH is a necessity for promotion of public health and thus improving human life and that it is a human right. It can be noted that various studies have highlighted the importance of accessing WASH in schools, health care facilities and community settings as it has been seen to be a major contributor for promotion of good hygiene practices, and as a result, improving health and well-being of the people. Moreover, the chapter discussed the contribution and solutions brought by WASH to promoting health education and healthy lifestyle and preventing diseases or infections in different environments as a way of improving the lives of the people.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter presents the methodology, approaches and techniques used in this study. It further discusses research design and approach, study population, sample size, sampling procedures, area of the study, variables and measurement procedures, research instruments, data collection, processing and analysis procedures that were employed in the study.

### **3.2 Area of Study**

The study was conducted in Makoabating, Thabana Morena in Mafeteng district Lesotho. Thabana Morena is a place in Lesotho and has an elevation of 1710 meters and located in the constituency of Likhoele and it is a rural area buildup of a number of villages such as Ha-Bofihla, Ha-Ngoae, Ha-Lekoatsa and Makoabating amongst others. Makoabating has about 162 households and a total population of 283 and is about 30km from Mafeteng (Bureau Statistics, Lesotho, 2016).

### **3.3 Research Approach**

The study used a qualitative research approach. Qualitative research approach normally discovers meanings and perceptions in a given situation. It seeks to find knowledge and provide understanding regarding a phenomenon, explores people's experiences, and interpret the situations to uncover the meanings people make out of such situations (Walia, 2015). Qualitative research approach does not require the use of numerical data and this approach was chosen because it aims at exploring and understanding the study problem as a result the researcher employed this approach to find out how WASH program has an impact on human life in Thabana Morena Makoabating.

### **3.4 Research Design**

This study employed a case study research design. Case study research design refers to exploration of a particular single case or phenomenon. It is through a case study whereby a researcher studies

program, an activity or a process in all dimensions. A case study is used when analysing and describing an individual situation (Mohajan, 2018). The case study design used was Makoabating, as the researcher was exploring the impact of WASH program on rural public health. This design was used because the researcher chose a specific program among different programs that World Vision engages in, and the focus is on how the program has an impact on the health of rural people in Lesotho.

### **3.5 Study Population**

The population of the study are World Vision staff members, community leaders, health workers, patients at the health centre and the community at large as these are groups that benefit from the program. Population refers to the total number of people in a certain country or region thus study population means the number of people engaged in the study. Population is a group of units on which the results of problem researched are to be used on (Shukla, 2020).

### **3.6 Sampling Procedure**

The study employed the non-probability sampling technique in selecting the study sample. Nonprobability sampling is a type of probability technique that deals with qualitative research and case study research design. Non-probability sampling is a method in which none of the population to be sampled have a known probability of being nominated (Bhardwaj, 2019). Non-probability sampling was employed so as to allow the researcher to make an informed decision on who to include and omit in the sample. The non-probability sampling used are namely purposive sampling and convenience sampling.

Purposive sampling is a strategy in which a researcher deliberately chooses a person or event with the intention of giving data that cannot be attained from other selections. Purposive or judgmental sampling is the considered selection of a respondent because of the qualities they have (Etikan *et*

*al.*, 2016). The researcher used purposive sampling as it allowed him to select only the components that he regarded to potentially provide the required data. The researcher purposely sampled World Vision staff members because of their involvement in WASH programs in rural areas.

Convenience sampling was also used to select community members. It is about selection of participants as a result of being readily and easily accessible (Taherdoost, 2016). It refers to the selection of members of the sample due to their convenient accessibility (Bhardwaj, 2019). Convenience sampling was used by the researcher as he selected participants from community leadership and members of the community as they are the ones affected or impacted by the WASH program and this will be done through community gathering ‘pitso’ with the permission from the chief.

### **3.7 Data Collection Methods**

Data collection methods are divided into two categories being the primary and secondary data methods.

#### **3.7.1 Primary Data**

The data was collected through the use of questionnaires and interviews. Additional information was also gathered through personal observation and experience. Interview is a data gathering approach that involves a verbal conversation where information is collected through personal interaction by the researcher from the participant (Pandey & Pandey, 2015; Taherdoost, 2021).

The researcher interviewed people using face to face method and used semi structured interviews because they enabled him to interview people who are illiterate as they would not be able to comprehend the questionnaires and they also helped the researcher to ask questions and seek for clarifications where necessary. The researcher interviewed a total of 35 people, 2 World Vision staff members as they are engaged and have knowledge on WASH programs, 5 health workers, 3

community leaders, 5 health patients and 20 community members. Interviews were done at communities' households, health care facility, and key informants' workplace during working hours. The interviews took a maximum of 20-30 minutes and responses were recorded using phone recorder and written notes. Most of the researchers could not understand English and the researcher interpreted the research questions to Sesotho so that the participants could understand the questions and be able to respond. Lastly, some of the interviewees had limited knowledge about the WASH program and struggled to provide information on other questions but the researcher explained what the program is.

The researcher also distributed 15 questionnaires to chosen community households who are literate. A questionnaire is a tool that involves a set of questions meant to collect data by getting answers to such questions from the respondents (Pandey & Pandey, 2015). The researcher used questionnaires because they help in obtaining information from participants who might be reluctant to do face to face interviews as the research includes patients who would want to be kept anonymous. Questionnaires helped the researcher to find results that are not biased as participants answered questions freely without any fear. The questionnaires were distributed by the researcher to selected households aimed at gathering information regarding the impact of WASH program on rural public health, however, some of the selected members denied participating and the researcher had to look for other participants who were willing to participate.

### **3.7.2 Secondary Data**

Secondary information was obtained through reading and analysing various sources of information including journal articles, book chapters and other published and unpublished literature pertinent to the current study. Program reports were also accessed from World Vision.

### **3.8 Data Collection Procedure**

Data collection is a crucial procedure in planning for and implementing the study. It enables the researcher to discover answers to research questions and find insights about the research topic (Taherdoost, 2021). The researcher first acquired a letter from the university that allowed him to conduct research. Then he sought permission from the chief to conduct a community gathering “pitso” to address the community on issues regarding the research and in this manner seeking for their cooperation as the researcher will be distributing the questionnaires and conducting house to house interviews. Questionnaires are questions that clearly show and specify the issues concerning rural health in Makoabating. Through the letter from the university the researcher approached the World Vision department to be allowed to interview staff members regarding the research he is carrying out and lastly the health workers’ manager was asked for permission to interview staff at times suitable for them.

### **3.9 Ethical Considerations**

The scholar adopted the following ethical issues being informed consent, voluntary participation, anonymity and confidentiality. Ethical considerations are a collection of guidelines, or principles that provide a guide on how research should be conducted or values that should be adhered to while dealing with human affairs. They help in making sure that researchers act in a manner that is not harmful to society or individuals (Bhasin, 2020). Informed consent means obtaining permission from a research participant after providing them with the necessary information of the research study including the risks, benefits, and expected outcomes (Fleming & Zegwaard, 2018). Informed consent implies the knowledge of participants or individuals to partake willingly, free from any element of deceit or manipulation as thus being conversant of what is required of them, how data provided is going to be utilised and consequences if any. The researcher sought consent

by telling the community and World Vision staff members that the purpose of the study is to gather information on how World Vision program impact the health of rural communities its impact on their lives. The researcher also documented the consent process with date, time and who provided consent and then signed by the participants. Voluntary participation means the right of an individual to decide whether to be or not be part in a research study without having doubts of any sought.

The researcher also assured participants of confidentiality. Confidentiality means an attempt to remove any elements that may reveal the participants' identity from the records of research. In research ethics, confidentiality can be defined as an understanding between a researcher and a participant that ensures that private information is carefully treated, or it is about the participants' right to not disclose information which they consider private and to have control over their privacy (Bos, 2020). It means knowing who the participants are, but the information is not disclosed to anyone (Bhandari, 2021). The researcher made community members aware that the information they will provide about their experiences on how the WASH program affects them and issues related will not be made accessible to any person other than the researcher and that their identity will not be revealed and in that way keeping the participants anonymous. The researcher knows the participants' identity, but data was de-identified and the subjects name or specification was kept private (Fleming & Zegwaard, 2018). Anonymity means that the participants are not known they remain nameless. To ensure confidentiality, the researcher substituted personal identifying information with a code that he can only link to the participants. I also obtained informed consent from World Vision staff, health workers and community leadership that explains how their data will be used, who will access it and how it will be stored.

Lastly, I ensured that participants participated voluntarily. Bhandari (2021) explains voluntary participation as the freedom of participants to decide to participate without any pressure or being forced. As a result, the participants can leave the study any time they want without feeling obliged to continue and they need not explain why they are leaving the study. Voluntary participation means that people who participate in answering research questions participate out of their own will. The researcher made the community members and leadership, health workers, World Vision staff aware of the activities in the research process and what is required of them, that is, they were told of the purpose of the study being how World Vision WASH program affect or impact their public health and what is expected from the search so that they are aware of what they are dealing with and leaving room for participants to decide whether they want to be part of research or not that is participating voluntarily.

### **3.10 Data Analysis**

Thematic analysis (TA) was used for data analysis and interpretation using both the inductive and deductive methods. TA is a process for identifying, analyzing, and interpreting patterns of meaning that occur within qualitative data (Clarke & Braun, 2015). The researcher, therefore, initially transcribed the recordings of interviews conducted and the transcripts were translated into English before analysis could be done. The data was read thoroughly with attention and after identifying the relevant information, the first codes were then provided to the available data and through using the codes, common themes were derived. The codes were assigned by grouping the elements of data which the researcher found similar and seem to have a pattern and as a result the themes were then identified. The researcher generated a framework matrix that enabled him to have a clear overview of the order and relationship of the data. Through the identification of themes to be used



the researcher kept in mind the study objectives and that the themes are related to the research questions.

The next step the researcher undertook was to review the themes that he generated and assessed the validity of the matrix to observe the relevance and link between the elements of the matrix constructed and ensured that it contains information necessary to answer the research questions and the aims of the study. Therefore, TA has assisted the researcher to interpret and analyse the data collected, and the matrix was then finalised to show the impact of WASH to rural public health.

### **3.11 Chapter Summary**

The chapter presented the research methodology, the sampling techniques, and data collection methods to collect and analyse data. The researcher also explained the chosen research approach, research design, data collection methods, sampling techniques and procedures, what they are and the reasons why such were adopted.

## **CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION**

### **4.1 Introduction**

The chapter presents the impact of WASH program on rural public health at Thabana Morena, Makoabating village. To attain the objectives, this study used questionnaires and interviews. The questionnaires and interviews conducted with World Vision staff members, health workers, the community and its leaders showed that regardless of the WASH program interventions meant to promote the health of the rural communities, some of the people still experience health related issues that are caused by limited access to clean water, not having good sanitation facilities and poor hygiene practices. The program to some extent, only benefited a few individuals as most of the people could not have access to the facilities provided. The next sub-sections explain how WASH program promotes health education, how the program assists in disease prevention and promotes a healthy lifestyle of the rural people in Makoabating.

### **4.2 Promotion of health education through WASH program in Makoabating community**

World Vision through WASH program is one of the key aspects that promote rural public health. The program seeks to equip communities with the information and skills on how best to improve their health and well-being. World Vision staff member A stated that:

*In Thabana Morena Makoabating (Malumeng ADP) the program train health workers, community members and teachers so that they are able to educate their communities, patients at the health care facility and students on steps or practices to apply so as to maintain good hygiene (Interview, staff member from World Vision Mafeteng, 02<sup>nd</sup> May 2023).*

In addition, one participant, a community member reiterated that:

*Through the WASH program, World Vision held several workshops with health workers and teachers, they educate and train them on good hygiene practices in order for them pass the information to other community members including students (Interview, community member A, 26<sup>th</sup> April 2023).*

It was highlighted that, as a result of such workshops, health workers held brief meetings with the patients and demonstrated proper ways of washing hands through charts and illustrations. Teachers also taught students to keep their classrooms clean at all times, disinfecting the toilets and practicing handwashing after using the toilet and before touching food (eating) (McMichael, 2019). The study established that teachers and health workers are important in promoting public health in Makoabating as most of the people had limited information on good hygiene practices. Makoabating health workers and community members obtained knowledge and skills regarding proper ways of washing hands, as a result, they practice regular handwashing before eating and after using the toilet.

The study found out that World Vision WASH staff members and health workers held community awareness campaigns together with Makoabating community leaders to educate people about the importance of clean water, sanitation facilities and hygiene practices. Through the study, it has been revealed that the information and teachings provided during community meetings had a great impact on the way people conduct themselves, their behavior and how they act towards using water for drinking purposes or cooking. This has contributed so much to improving people's health status and changing their mindset making them to use clean water and sanitation facilities for personal hygiene. The community is learned on issues of hygiene thus enabling them to make informed decisions on actions they take such as boiling water before drinking, not practicing open defecation so as to avoid contacting diseases unnecessarily of which shortens one's lifespan.

It was further established that the community has not been regularly practicing handwashing prior to the introduction of WASH program. The intervention by World Vision led to behavior change where the community considered regular handwashing as important. Respondents explained that they wash their hands using clean water and soap after using toilets so that their hands are bacteria or germs free, they also wash their hands before preparing food or eating anything and this has helped to reduce mouth infections and diseases caused by poor handling of food. Handwashing is of utmost importance in reducing diseases and promoting good hygiene. By washing hands frequently with clean running water, people place themselves in a position of being disease free and thus making one to be healthy and live quality life. Thus, the program through its means of educating the community about handwashing creates a platform which will eventually promote public health throughout the world.

In addition, the availability and use of clean water contributes to changing lives and improving the health status and well-being of the people. As indicated by one of the community members:

*We have been taught how to preserve water. We were taught that we can recycle water by using the same water for handwashing and for watering our gardens and building dams for irrigation purposes (Interview, community member B, 26<sup>th</sup> April 2023).*

The researcher has found out that easy access to water enables people to water their crops and this has led to food security and improved nutrition as people eat in a healthy manner. It is through the information and knowledge of recycling water and preserving it that people are aware that they can improve their nutrition by producing food such as vegetables and other types of crops for themselves with the available recycled water. This therefore, implies that having brought to the attention of the people the significance of availing water and making water accessible and use

water for production of healthy food, they can wash the tools they use for hygiene purposes and also wash the vegetables they have produced so that they can avoid eating them unclean.

Education on improving sanitation and hygiene is one of the elements that the program provides to the community to improve public health in Makoabating. Information gathered through questionnaires confirmed that the community have been taught on proper use of toilets so as to avoid dirtying the environment and spreading diseases caused by human disposed waste that is scattered all over the environment as a result of open defecation. It has been revealed that most people no longer go to dongas but rather use toilets, clean the toilets on daily basis that is using clean water and sometimes disinfecting them. As highlighted by one teacher:

*In schools, there are time frames provided as to how and when to clean the toilets using the disinfectants provided by WASH program and also making sure that learners use toilet paper to clean themselves after using the toilet (Interview, teacher A from Makoabating community, 26<sup>th</sup> April 2023).*

Moreover, interviewees at school established that schools in Makoabating have recently been seen engaging in educational activities so as to help students and the community to better understand the connection between WASH and health. These activities include handwashing places, bins used to collect rubbish. The teachers and students also have educational material such as charts that assist them to better understand the importance of practicing good hygiene. One of the teachers said schools have created WASH clubs where students are taught about cleanliness and good hygiene behavior and students who have joint the club are able to educate other students and community members to observe and realize the importance of using clean water, using toilets, practicing personal hygiene and living in a clean environment at all times.

The Makoabating community leader exclaimed that:

*WASH program has played an important part in our community as it enabled us to see that we as the people are responsible to improving our health status as it has taught us on how to practice good hygiene that is keeping ourselves, our children and environment clean. It has helped us by providing us with facilities such as toilets, clean water sources and handwashing stations amongst others (Interview, community leader 1, 27<sup>th</sup> April 2023).*

The study has shown that through WASH programs, there are water and sanitation facilities built and maintained in Thabana Morena particularly Makoabating communities, health care center and schools. These facilities include amongst others handwashing stations, dustbin, and toilets of which to some extent plays a vital role in Makoabating community by helping the members to put into practice the issue of keeping the environment clean by using toilets so as to avoid contracting diseases spread through not using toilets and also by always cleaning their hands with clean water.

It has been noted that WASH promote hygiene practices as stated by World Vision staff member that:

*WASH program promotes good hygiene practices such as handwashing, use of toilets and safe disposal of waste. It is by the program that there are pictures used for demonstrations of practices such as proper way of washing hands, training given to people and awareness campaigns that educates people about keeping their homes, workplaces clean, keeping their environment clean and also maintain their personal hygiene (Interview, staff member from World Vision Mafeteng, 02<sup>nd</sup> May 2023).*

As argued by other scholars on the importance of health education to improving rural public health, education on WASH is considered the most effective intervention to promoting rural public health

through prevention and control of diseases (Dagne *et al.*, 2019). One of the studies showed that in rural Dembiya, health education (WASH education) was implemented so as to lessen the rate of spread of intestinal parasitic infection which will lead to an improvement in health and well-being of Dembiya community members. Education content provided included drinking water quality measures, effective hand washing practice, and mode of transmission of intestinal parasitic infection. It can be noted that WASH health education is associated with improvement of people's health status and behavioral change as it increases attentiveness on good practices based on WASH and stimulates change in behavior (Dagne *et al.*, 2019). It can further be argued that health education promotes awareness of possible health effects that can be brought by poor environmental sanitation such as practicing open defecation and through education the communities are motivated to take good care of their health (Hahn & Truman, 2015). Studies revealed that health education through the use of combined methods such as use of leaflets, demonstrations, role play and illustrations have been found to be more effective as it improves knowledge, attitudes and behavior of the rural communities regarding diseases prevention and health promotion (Handayani *et al.*, 2020).

It is therefore, evident that health education is a requirement and necessity for improved health and well-being of Makoabating community. For instance, people being taught and acquiring knowledge about the importance of using toilets for disposing human waste and washing hands after the use of the toilet has led to a significant improvement to people's well-being and the quality of life (health) as they are now aware of the importance of observing good hygiene practices and the dangers, they pose to their lives by not putting into action such practices. Most of the respondents have confirmed that they have made handwashing stations near their toilets, and they

wash hands after using the toilets and thus one can argue that health education and hygiene promotion are the most valuable instruments or contributors of health promotion in communities.

Furthermore, the researcher established that there has been an improvement in health education as people are knowledgeable and skilled on constructing and implementing the interventions such as handwashing stations and that there are demonstrations done that show the proper ways of handling and using the facilities in a manner that is hygienic and more importantly that health education is transferred from one person to another thus promoting or leading to an improvement to Makoabating public health and that of neighboring communities.

### **4.3 WASH program impact on Disease Prevention in Makoabating**

It has been indicated by the community under study that health issues such as the spread of diseases and infections are seen to be the main challenges in the community of Makoabating. People suffered mentally and physically due to not being able to live a healthy life by not adhering to good hygienic means of living. Availability of clean water, proper sanitation and promotion of good hygiene practices discussed below have proved to be of great significance to preventing diseases in Makoabating.

#### **4.3.1 Improved access to clean water**

The Makoabating community members confirmed that people rely on surface water sources such as wells and rivers that are found to be contaminated by microorganisms which cause diseases. Findings showed that a lot of waterborne diseases are caused by the usage of dirty, contaminated water for drinking in Makoabating. It can be noted that drinking water that is from unsafe water sources such as wells, rivers and others is a major risk or hazard to the health and well-being of many people including children under the age of 5. As one community members explained:



*“In the past years, we used to drink and fetch water from wells that were not protected and animals were also drinking from the same well. During floods even human disposal wastes would fall into our water sources and this caused a lot of people to be sick suffering from diarrhea, stomachache and other diseases caused by contaminated water and our children were the ones who were mostly affected as they were almost sick now and then”*(Interview, community member C, 27<sup>th</sup> April 2023).

It is through WASH program that the community of Makoabating have access to clean water as the program repaired the well at the mountains which is the major source of drinking water in the community. The study established that the presence of improved access to clean water is playing and continues to play a vital function in reducing the transmission of waterborne diseases among the elderly, adults, youth and children of Makoabating. The availability of water that is safe, not contaminated, brings hope and life to the communities as it is through the use of clean water that parents and children as vulnerable as they are to diseases tend not to get sick thus reducing the rate of morbidity and mortality and improving the standard of living. In this sense, one can argue that safe water creates to a great extend healthy living conditions for the people as it is through accessing clean water that they can drink, clean their environment and prevent transmission of water borne diseases.

One community leader said:

*WASH program has helped us by assisting repairing our water source at the mountain and educating the people on the use of clean water. This has assisted a lot in reducing the spread of diseases such as diarrhea and cholera, which were most common in the village. To a large extent, the program has played a vital role in reducing the diseases which the*

*people contacted as they drank contaminated water as they did not even consider boiling*  
(Interview, community leader 2, 27<sup>th</sup> April 2023).

As explained by one of the health workers, availability of clean water has helped in the reduction and prevention of diseases. People are more informed about how water affects their daily lives, mostly their health as they only drink water that is from a safe protected water source and boil the water before drinking at home. The study depicted that access to clean water has made it possible even for children not to get ill more often as parents ensure that the water is safe for drinking. A large proportion of people no longer suffer from skin diseases as they are able to take care of themselves by bathing every day thus keeping their bodies clean at all times. It can be argued that clean water promotes personal hygiene as most of the people bathe regularly and thus stay clean and avoiding contracting diseases that affects and damage the skin. Access to clean water has promoted hygiene practices in community households making it easy for family members to improve their health conditions especially that of children under the age of 5.

Furthermore, the community members confirmed that through easy access to clean water, the community observe proper healthy habits and practices of preparing food, which is washing the utensils used to prepare food so that they are in a state of not transporting germs and bacteria to the food to be consumed. Also, by using clean water the places where food is prepared are being washed and cleaned thus observing food hygiene as even the places where food is stored is cleaned so that they cannot be contaminated by dirt of which was seen as a challenge to most people.

In the health care facility availability of clean water has had a great impact on disease prevention to the patients and the community in general. One of the Health workers said that:

*Patients drink clean water which is not contaminated in any way and as a result this helps them not to be infected with other diseases and on the other side acting as a cure to disease. Health workers use clean water for drinking purposes and even for cooking food for the pregnant women and this has assisted to preventing the spread of diseases between patients and health workers as compared to times whereby babies were not even delivered due to shortage of clean water (Interview, health worker A, 28<sup>th</sup> April 2023).*

As mentioned by the health worker, it can be concluded that availability of clean water is effective in preventing diseases in communities, schools, homes, and health care facilities. In health care centres for instance, the use of clean water to clean the facilities surfaces, washing toilets and handwashing of health workers and patients contributes to preventing diseases that can be transmitted through human-to-human contact or people coming in contact with unclean surfaces at the health center.

Different scholars have highlighted that access to clean water is fundamental to preventing diseases amongst children and the community as a whole. Availability of clean water and water supplies that are nearer to the people allow people to observe personal hygiene, environmental hygiene, food hygiene as the efforts to hygiene are not compromised and thus promoting disease prevention and control in communities (Corburn *et al.*, 2020). Water-borne diseases are seen to be constituting a significant burden on health hence provision of adequate safe water for drinking, handwashing, cleaning of toilet facilities and maintaining hygiene in rural communities including Makoabating is required (Chand *et al.*, 2020). It can further be noted that access and availability of safe water is a requirement and a need for rural communities as this helps in maintaining household activities, preventing and reducing the rate of transmission of diseases. It is therefore an advantage that the community of Makoabating has access to adequate safe water as it promotes the implementation

of other practices that improves hygiene such as handwashing as it would be pointless to advocate for regular hand washing without the community having access to clean water.

#### **4.3.2 Access to adequate Sanitation**

The study revealed that access to adequate sanitation is perceived to be significant in preventing diseases in the community. It was discovered that in Makoabating community, the issue of inadequate sanitation facilities was one of the causes of the spread of diseases like diarrhea and cholera. As one community member stated:

*In the past we did not have many toilets as of late and we would dispose human waste in the dongas or any place that a person could find privacy, and this polluted our environment even our water sources as they were not protected thus leading to the spread of waterborne diseases and others caused by human waste (Interview, community member D, 26<sup>th</sup> April 2023).*

The presence and availability of adequate sanitation has helped a lot of people to adhere to hygiene practices such as keeping the environment clean and not polluting it by human waste through open defecation. Through the study it has been realized that most of the community use toilets to dispose their waste as a way of protecting themselves from contacting diseases caused by human waste pollution and also not contaminating their water sources of which has led to reduction and prevention from waterborne diseases in the community.

Diseases such as diarrhea which is one of the most popular diseases caused by poor sanitation and hygiene practices has been reduced significantly as toilets have been introduced in large numbers and thus leading to prevention of transmission of fecal-oral diseases in Makoabating community.

This was explained by one community leader in the following vignette:

*Ever since we started to use toilets the rate at which people and mostly children suffered from diarrhea has reduced a lot and now the availability of toilets has made it easy for people to prevent this disease from affecting their health status (Interview, Makoabating community leader 3, 27<sup>th</sup> April 2023).*

Moreover, even the spread of parasitic infections has been controlled which caused chronic health problems. WASH program has been seen to continue being the main contributor to ensuring that the health of the community is improved. During interviews, one of the health workers stated that:

*The program assists the facility with hand sanitizers, handwashing soaps and face masks as a way of keeping both the workers and the patients safe from transmitting diseases to each other (Interview, health worker B, 28<sup>th</sup> April 2023).*

The study showed that there are strict precautions and measures taken to ensure that diseases are prevented and stopped from being spread from one person to the other. People are hand sanitized so as to prevent any diseases transferred by contact and also provided with face masks to prevent diseases transmitted through coughing such as flu and they have been seen to be effective during COVID-19 pandemic. Furthermore, at the point of entry at health centers there are handwashing stations where everyone washes their hands before going into the facility to be helped. Disinfection of patients' toilets also plays a vital role as this kills germs and microorganism that can cause diseases for patients and the health center staff and in this manner reducing and preventing the spread of diseases. Patients and health workers agreed and confirmed that they use the available handwashing stations to protect themselves from contracting and spreading diseases to one another and availability of clean toilets make them feel free and safe to use and, in this manner, helping to reduce spread of diseases and improving their health status rather than worsening their health conditions.

It was emphasized by various scholars that adequate sanitation contributes to a large extent in preventing and controlling diseases in communities and also in enhancing people's health status. For example, a household environment that is healthy functions as a protective tool regarding the transmission of diseases and viruses (Gupta *et al.*, 2019). Moreover, health care environment can put both the patients and health staff at risk of exposure to environmental pathogens and result in transmission of illnesses acquired at health care facilities (Sharad *et al.*, 2020). As a result, supply of adequate sanitation measures and hygiene promotion in health care facilities and other places such as schools and the entire community help to prevent infections and reduce the rate at which diseases are spread (WHO/UNICEF, 2015). Studies show that the use of sterilizers for cleaning of community houses and toilets, school and healthcare constitutes or act as a helping hand in prevention of viral infections as by doing so all the surfaces that one comes in contact with will be in good hygiene condition. It can thus be concluded as respondents indicated that most of them disinfect their homes and toilets, sanitation facilities and proper hygiene measures play a vital role in preventing diseases that affect the health and quality of life of the community.

#### **4.3.3 Good Hygiene Practices**

Good hygiene practices are a fundamental part of the WASH program as they contribute to the prevention of diseases and by promoting good health. One of the community members confirmed that proper hand washing is considered one of the most effective ways in which the community uses so as to prevent diseases. Most people usually practice handwashing at their workplaces, at their homes and this has helped a lot of people to stay healthy and disease free. The study has discovered that through this act of washing hands diseases such as diarrhea, cholera and other infectious diseases have been prevented (Karim, 2022). It can be evidenced as highlighted by other scholars that during COVID-19 pandemic handwashing was a vital intervention that was applied

by many people all around the world (Hillier, 2020). The community of Makoabating is not an exception as most of the people engaged in frequent handwashing as a way of preventing and controlling the spread of other diseases including COVID-19 specifically.

As mentioned by one of the community members, the other practice that the community has taken into consideration is that of safe handling of food as improper handling and storage of food is seen to have led to contamination and the spread of diseases. Findings have showed that most people in the community have adopted to practicing safe handling of food as they wash fruits and vegetables before eating and the food is cooked in a way that harmful germs and bacteria present in the food are killed. The other issue is that of personal hygiene as people are able to wash their teeth after eating and this prevents the spread of oral infections. Moreover, people bath regularly so as to stay clean to avoid or prevent the spread of skin disease.

Makoabating community is found to be knowledgeable of the fact that they have to store their water in safe water storage. Community leaders confirmed that:

*The community is aware of the fact that they have to store water in safe containers, and which are cleaned by everyone at a given time (Interview, community leader 3, 27<sup>th</sup> April 2023).*

Therefore, the study has found out that water storage practices such as storing water in closed containers such as in tanks and frequently cleaning them has led to prevention of harmful bacteria and parasites that contaminate the water. It can thus be concluded that there has been an improvement in promoting good hygiene practices in the community of Makoabating as people are perceived to be more engaged in handwashing practice, proper handling of food and storing

and keeping the water clean and as a result there is a massive change towards disease prevention and control and peoples' health and quality of life are improved.

Different studies have shown that good hygiene practices are the most effective means by which people can reduce the spread of diseases and lead to an improvement in health (Kumwenda, 2019). Availability and easy access to clean water and adequate sanitation facilities make it easy for people to practice good hygiene because people do not struggle by collecting contaminated water from distant places and but through WASH program water is brought nearer to the community and thus making life uncomplicated as people can clean their toilets regularly wash hands more often, bath and drink clean water. In addition, availability of sanitation facilities discourages open defecation but encourages the community to use toilets, contain wastewater in a safe place thus keeping the environment clean. Good hygiene practices are found to be essential especially to children and the vulnerable people as they are the ones who suffers most from water, sanitation and diseases related to poor hygiene leading to death of children (UNICEF, 2015).

Studies have proven that, for instance, washing hands at critical times such as after changing baby nappies or helping them defecate, before cooking and after using a toilet plays a vital role in preventing infectious diseases. As Brauer *et al.* (2020) and Mushi and Shao (2020) indicate, handwashing is one of the common and significant hygiene practice that protects people from infectious pathogens as transmission of germs, bacteria and other infectious diseases are strengthened by physical contact between humans and other unclean surfaces (Islam, 2021). As evidenced, practicing hygiene at workplaces, schools, health care facilities, at home and daily life experiences is important to combatting the rate of communicable diseases such as COVID-19, fever, and others (Lai & Kaur, 2020). It can thus be argued that disease prevention and control and



health improvement have been increased in Makoabating as the community is engaged in practices that promote good hygiene which then leads to an improvement in health and standard of living.

#### **4.4 Role of WASH in promoting a positive healthy lifestyle in Makoabating community**

WASH program contributes to making people view hygiene issues differently through practices such as handwashing, disposal of human excreta and others. During the interview with one of the community members, it was explained that the kind of life they lived was unhealthy as women particularly would walk long distances to fetch water at wells with dirty water and also practiced open defecation which was not safe for them as they were exposed to risks such as being abused. In addition, the respondent said that other unhealthy practices include making cows, sheep and donkeys to drink at the very same water source at which they draw their drinking water which is not healthy at all, and handwashing was not taken to be that important as they would go to the dongas for defecation and one would go and eat without washing hands. The issue of personal hygiene and environmental hygiene was not observed.

The study has discovered that change of mindset is a major contributor to the way communities behave and the way people do particular things. Some of the people do not want to change the way they do things due to traditional and cultural background and as a result they find it difficult to adapt to good hygiene practices. World Vision staff member exclaimed that some of the people do not practice good hygiene not because they are poor nor they cannot afford means to, for example, build own toilets, but as a result of being used to open defecation they do not see the need to build toilets or latrines. In addition, the respondent mentioned that there is a certain amount of money that the community should contribute for the implementation and sustainability of WASH facilities, but they do not engage as their mindset tells them they have been living for a long time with say using unsafe water for a long time and they survived.

However, the researcher has found that WASH program promotes a healthy lifestyle in Makoabating community in various ways such as community engagement and empowerment, health and hygiene education, behavior change and environmental impact, access to clean water promotion. Firstly, through access to clean water most of the community members have made handwashing equipment near their toilets so as to wash their hands after using the toilets as opposed to past years where washing hands after open defecation was not seen as a necessity. The availability of water has made it easy for the communities to stay clean by being physically and environmentally clean. It has also availed water for cooking and personal hygiene, and this improves the overall health and make it easy for community members to lead a healthy lifestyle.

In this view, one can conclude that, the presence and availability of clean drinking water promotes a change in the way most of the communities live in that not having to walk long distances to fetch water but having water nearby allows people to practice good hygiene measures such as washing hands, observing food hygiene by washing food before preparation and this also allows them to produce fresh healthy foods for themselves without having to buy everything from the markets.

Secondly, as one of World Vision Staff interviewees mentioned:

*World Vision engages the community and other stakeholders involved such the Ministry of Education, Ministry responsible for environment and rural water supply in the planning and implementation of the WASH program interventions so as to hold hands together in making the objectives of the program to come to pass and be beneficial to all those who are meant to benefit from that is the rural communities (interview, staff member from World Vision Mafeteng, 02<sup>nd</sup> May 2023).*

In addition to what World Vision member said community member E said that:

*Before the WASH program can be implemented World Vision holds community gathering together with the health workers and community leaders so as to brief the community about the objectives of the program that is what it is intended to do in a certain given timeframe and enquire the views and comments of the people on the program and on the plan and implementation and thus working hand in hand with the mentioned partners by engaging the community to meeting people's needs by the program (Interview, community member E, 27<sup>th</sup> April 2023).*

Through making the community to engage or participate in the planning, designing, construction, implementation and maintenance of WASH facilities the study has found that the community has a sense of ownership that is having full responsibility over the use, maintenance and safety of the facilities and this does lead to the community practicing good hygiene in a sustainable manner and also experiencing or benefitting from the program for a long period of time and thus people living for a long time due to a reduction in death rate due to illness caused by diseases and infections as they will be living a healthy life (being able to control and prevent diseases). One of the community members commented that they have small committee even though it focuses more on cleaning of water sources and storage, but it ensures that there is a schedule for cleaning the tanks so that water remains clean at all times. It has also been perceived that the interventions are made in a way that is culturally appropriate and that they meet people's specific needs. One can argue that the act of engaging the community empowers the community to be accountable for their well-being and health and by also encouraging a positive and sustainable healthy lifestyle.

Thirdly, as said by one of the health workers, the program is essential to the community of Makoabating as people have been and are taught on good hygiene practices. At the health center patients are taught now and then on how to keep themselves, their families, and the environment

clean so as to avoid sickness caused by dirtiness and unhygienic practices and in order that they can prevent contracting diseases and infecting others. Patients learn to adopt and practice using toilets as they keep human excreta in a close and safe place that will not expose themselves and others to burden of diseases and also washing hands frequently to stay clean and this has changed their lifestyle even at their households as they are seen to live and maintain good hygiene conditions.

As said by one teacher at one of the schools:

*Learners are the most important tools used to promote a healthy lifestyle in the community of Makoabating as they easily adopt and get used to practicing improved hygiene practices and transfer the skills and knowledge they have been taught at schools to the community and their households. For example, some of the learners said they do not eat without washing their hands and that they make sure that even their family members also practice handwashing with soap before eating (Interview, teacher B, 27<sup>th</sup> April 2023).*

It can be concluded that health and hygiene education is taking a major part in enhancing or promoting the rural residents' healthy lifestyle. As highlighted by World Vision staff the program holds health and hygiene gatherings for Thabana Morena community and this is where people are taught or given information on health issues such as family planning, nutrition, and others. As a result, the communities are seen to be empowered through the knowledge and skills they obtain from the meetings this enable the rural populace to make informed decisions regarding their health and it makes it easier for them to adopt healthier lifestyles. For example, by nutrition people are taught on food security and most of the people have "lentloane" where they produce vegetables and other plants of which this help in improving their nutrition.

Lastly, through the study, the researcher argues that WASH program has helped most people as it puts more emphasis on hygiene education and behavior change to promote positive health practices in Makoabating community. As said by one community member:

*The issue of observing good hygiene practices to us has never been that important to me as I have grown in a society that practiced open defecation, drinking from unsafe wells and so on however after being made aware by the WASH program I now practice good hygiene at work, home and everywhere I am (Interview, community member E, 26<sup>th</sup> April 2023).*

This research has discovered that the program has raised awareness about the importance of personal hygiene, proper handling of food and washing hands with running water and soap and as a result by promoting this behavior WASH program has helped the community to adopt healthy habits.

It can be argued as the study has shown that change of behavior and lifestyle by practicing good hygiene improves people's quality of life as these lead to prevention of diseases. This supports Reed and Bevan's (2017) argument that engaging in improved hygiene practices is essential in breaking the routes through which different diseases are transmitted. This is seen when people develop their hygiene behaviors, such as handwashing after coming into contact with human waste or feces and using water from safe protected source thus reducing the rate at which diseases are transmitted.

A study conducted by Potgieter *et al.* (2021) indicated that during the COVID-19 pandemic billions of people changed their lifestyle and behavior so as to reduce the rate of spreading the virus as they had to comply with personal hygiene practices particularly regular handwashing. It can be argued that availability of safe water, adequate sanitation facilities make it easy for people

to comply with hygiene rules and promote hygiene practices. These have an impact on the way people behave as it has been evidenced that provision of WASH interventions brings positive lifestyle changes and behavior to the community members which result to health promotion and an improvement to people's living standards.

The presence of WASH interventions in Makoabating has significantly improved people's behavior and lifestyle from that of being unhealthy by not observing and practicing good hygiene measures through using toilets for defecation and also not washing hands after being in contact with fecal matter. People have improved and modified their actions as they no longer practice unhygienic behaviors and have adopted to hygienic practices and behaviors by using the required appropriate facilities such as toilets and safe water sources as some of the respondents indicated.

#### **4.5 Chapter Summary**

This study showed that World Vision through the WASH program have an impact on promoting rural public health to Thabana Morena mostly Makoabating community. Lack of access to clean water has been a major challenge in Makoabating as people had to fetch water which is already contaminated far from their homes from limited water sources which were unsafe. Limited water supply meant that people could not perform good hygiene practices such as regular handwashing and this resulted to health risks. However, the program through its interventions such as provision of containers to store water, protecting the water sources availed and making it easy for the community to access water hence improving hygiene leading to better improved health status. Moreover, the community faced a problem of poor sanitation as people lacked facilities such as toilets or pit latrines, which lead them to practice open defecation and that resulted to them being exposed to harmful diseases such diarrhea which affected their health. Lack of availability of clean water and inadequate sanitation leading to poor hygiene practices are shown by the study to have

been causes of unimproved rural health in Makoabating community however the introduction of WASH program in the area has brought an important change to the rural lives by improving their health status.

The study presents the positive change or impact brought by the WASH program through the introduction of WASH interventions aimed at improving the community's lifestyle, promoting health education, and improving measures needed to prevent diseases. The data indicated that health education has been found to be an important tool used to put the community to light on the risks of not adhering to or complying with good hygiene measures and promote awareness of the importance of practicing good hygiene. The community acquired knowledge and information on how to improve their health, life and living standards. The program has made it possible for the community to access clean water by protecting the water source and also providing handwashing stations and thus leading to disease prevention.

The study has shown that availability of clean water helped people to maintain hygiene practices such as handwashing and cleaning of public and private toilets so as to reduce the spread of diseases. In addition, provision of sanitation facilities has also been improved and this has led to disease prevention caused by open defecation and poor environmental hygiene. Moreover, the study found that promotion of good hygiene practices is effective in combating disease transmission and lastly WASH program plays a vital role to promoting good hygiene behaviors and promoting healthy lifestyle. In conclusion, regular community trainings and meetings, constructions, implementation, and frequent monitoring of interventions leading to good hygiene practices are necessary which if not taken into consideration will result to a continuation of unimproved public health in Makoabating.

## **CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter focuses on conclusion and recommendations. It seeks to make conclusions on how rural public health in Makoabating has been promoted and improved by World Vision WASH program and lastly suggest recommendations on how to upgrade WASH program and its interventions to be more effective, how to maintain the interventions and how to make the program to be sustainable in order to lead to a sustainable improvement of rural public health locally, nationally, and internationally. It will also discuss the relevance of the socio ecological model theory used and how the model fits into the findings of this study.

The study presented the impact of World Vision WASH program on rural public health in Makoabating using the socio ecological model. The study maintains that the socio ecological model is important as it shows the effectiveness of WASH interventions on promoting rural public health and disease prevention and helps uncover the factors that contribute to people's behavioural change. The study revealed that rural health is promoted and improved at different stages that exists within the society that is through community engagement, organizational and individual participation and how the interventions separately and combined enhances the community health conditions and well-being. Promotion of health education by the program has proven to be a vital factor to enhancing the health conditions of the community and that of individuals through the knowledge and skills acquired by the people. The model advocates for construction of an atmosphere that leads to change and the study has shown that provision of clean water, adequate sanitation and good hygiene practices have brought development to people's health, and this has contributed to a change in behavior which has led to prevention of diseases and promotion of healthy behaviour.



## **5.2 Conclusion**

One of the objectives of the study aimed at assessing the role of health education on improving rural public health in Makoabating. The study concludes that World Vision education and training on WASH program to the community of Makoabating equipped the community with information, knowledge, and skills on how to live a healthy sustained life. This was evidenced by successful workshops and community meetings aimed at educating people about proper hygiene practices and behaviours and resultantly, the community have adopted good hygiene practices in order to improve their health and standard of living. Community awareness campaigns proved to be essential in making people aware of the importance of clean water, sanitation facilities and good hygiene practices. Thus, one can conclude that through the workshops, trainings and community awareness campaigns the program has promoted health education and contributed to an improvement of public health.

The study also intended to establish the contribution of WASH program in disease prevention. The study concludes that by providing the community with clean water, access to adequate sanitation and promoting good hygiene practices, World Vision managed to address the issue of disease prevention. The study concludes that WASH program has contributed significantly to reducing the spread of diseases that seemed to be major causes of health problems within the community and particularly on children as recently the rate at which people get sick has reduced. One can conclude that provision of clean water has reduced water-borne diseases as people have access to safe drinking water from safe water sources. The study further discovered that adequate sanitation facilities and complying with good hygiene rules resulted to combatting the spread of diseases caused by open defecation and drinking contaminated water. Through the study one can conclude that WASH program through provision of safe water, adequate sanitation facilities and promotion

of good hygiene practices has enabled people to live in a manner that is healthy taking care of one's health thereby promoting disease prevention and control.

On the research question on how the program managed to change healthy lifestyles, the study finally concludes that WASH program helps in promoting a healthy lifestyle in the community of Makoabating. This was evidenced by people's adoption to healthy behaviors as they were exposed to health and hygiene education. This is revealed by people's engagement in activities and practices that promote good hygiene such as regular handwashing, which most people practice effectively. The study concludes that making the community part of the planning and implementation of the program has made the community feel responsible and encouraged to practice good hygiene and thus promoting positive healthy lifestyle.

### **5.3 Recommendations**

The study offers recommendations towards improving and sustaining available WASH interventions so as to improve the level or standard of rural public health in Lesotho.

- There is a need for restructuring of health and health education as a means to upgrade the level of knowledge and understanding on public health in Makoabating. Health and hygiene education should be introduced as part of both primary and high schools' curricula and there should also be programs aimed at educating the community. Introduction of such will help to educate, increase understanding and knowledge making people aware about different infections and diseases, how those diseases can be controlled and prevented and show the significance of complying and adopting good hygiene behaviours and practices.
- The program must engage the community, by providing training and education to the health workers, local leaders, teachers, community members and volunteers on ways of managing water, promoting good hygiene and sanitation practices and how to operate and maintain

the WASH facilities. Building and empowering the community will enable them to ensure that the facilities are well managed and sustained, thus so that they are effective.

- Again, there must be continuous learning and adaptation as the program should create a culture of learning and adaptation within the community through the WASH program. People should be regularly informed about health issues and how to behave so that they can improve their health status.
- There must be timely assessment of the program. The results produced by the program should be regularly assessed to see whether there is progress or not. The community must provide feedback on the activities of the program and the results obtained should be used in order to amend or improve the strategies used to enhance improvement.
- Moreover, WASH infrastructure development is a necessity, that is investing in expansion of sustainable water and sanitation equipment, and this includes constructing and maintaining sources of water that are safe and clean such as boreholes, and containers to store rainwater and by also promoting the use of improved sanitation facilities such as school and health center toilets, household latrines and community toilets.
- In addition, there is a need for community involvement as these will encourage the community to have ownership of the facilities and participate through formulating committees responsible for water maintenance and even hygiene clubs. The community must be involved in the planning, implementation, and monitoring of the WASH infrastructure. Climate change adaptation measures must be considered when designing and implementing the WASH program and this may involve infrastructure and hygiene practices that can withstand climate change.

- There must be behavior change communication through conducting behavior change campaigns that will enable and promote good hygiene practices such as proper waste management, regular handwashing, and others. There should be appropriate means of communication and information transportation channels which are culturally acceptable that will enable easy transmission of information, raise awareness, and encourage a positive change of behavior within the community.
- There should be policies that make WASH services in rural areas a priority and the government should make a commitment to invest in sustainable WASH infrastructure. Local policymakers should be brought on board and make the people aware of the importance of WASH for public health.

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## APPENDICES

### APPENDIX 1

#### NATIONAL UNIVERSITY OF LESOTHO (NUL)

#### QUESTIONNAIRE

##### 1. Introduction

Good morning/afternoon, my name is Moswatsi Tlotliso (201501217) and I am conducting a research on the Impact of WASH program on Rural Public Health in Thabana Morena (Makoabating) Mafeteng. You are one of the people selected to participate in an interview which includes questions on your experiences with WASH program and the impact it has on public health of your community. Your answers will be kept confidential and I will not share information that identifies you with anyone. These questions in all will take approximately 15-20 minutes to complete and you are to participate willingly. You are free not to participate in the study and no action will be taken against you.

#### CONSENT

<b>Ethical Consideration</b>	(Tick in an appropriate box √)	
1. Your participation in this questionnaire survey is wholly voluntary	Y	N
2. The researcher will not share identification information with anyone.	Y	N

3. You can pause or skip any questions at any time during the interview or ask to clarify any question you do not understand.	Y	N
4. Your answers will only be used for research purposes and will be kept confidential	Y	N

**2. SECTION A: DEMOGRAPHIC BACKGROUND**

A1	AGE	
A2	GENDER	
A3	LEVEL OF EDUCATION	
A4	OCCUPATION	

**3. SECTION B: GENERAL QUESTIONS**

B1 What do you know about WASH program?

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B2 What does WASH program do in your community?

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B3 Have you personally been trained or educated in WASH practices, such as handwashing or safe drinking water practices? If so, how has that affected your behavior and health outcome?

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B4 Have you seen any changes in community's health in your area since the beginning of the program?

YES/NO

If yes, state the changes.

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.....

B5 Are there any particular WASH interventions that have been implemented in your community such as construction of wells, toilets or handwashing places? If so, kindly explain their impact on your community's health?

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B6 How has WASH program contributed to disease reduction in your community?

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B7 How does the WASH program help in promoting sustainable agriculture and other livelihood activities?

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B8 Lastly do you have any comments regarding the impact of WASH program on rural health?

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**THANK YOU FOR YOUR TIME**

## **APPENDIX 2**

### **NATIONAL UNIVERSITY OF LESOTHO (NUL)**

#### **KEY INFORMANT INTERVIEWS**

My name is Moswatsi Tlotliso (201501217) studying in National University of Lesotho (NUL). I am carrying out research entitled: **The Impact of WASH program on Rural Public Health in Thabana Morena Mafeteng**. Data that will be collected during this period will mainly be used for research and academic purposes and thus confidentiality is going to be observed.

Please take note of the following:

- ✓ Your privacy is assured as your responses will not be attached to you in person but reported only as a public opinion.
- ✓ Any information or data that you provide cannot be used against you, and the data gathered will be used for purposes of this research only.
- ✓ Data will be kept in a safe place and destroyed after use.
- ✓ You have a choice to partake, not partake or stop participating in the research. You will not be punished for taking such an action.
- ✓ Your engagement is for academic purposes only, and there are no monetary reimbursements involved.
- ✓ The interview may take 30-40 minutes.

#### **SECTION A: QUESTIONS FOR WORLD VISION STAFF**

1. Can you please explain the WASH program implemented by World Vision in rural areas?

2. What are the main objectives of WASH program?
3. What inspired World Vision to start its WASH program in Thabana Morena communities?
4. What are some of the interventions implemented as part of the WASH program?
5. How are these interventions structured or designed so as to impact public health in the targeted communities?
6. How does the WASH program help address health issues in rural communities, such as waterborne or any other kind of illness?
7. In what ways does the WASH program help improve access to clean water and sanitation in Thabana Morena communities?
8. How does the WASH program help in promoting sustainable agriculture and other livelihood activities?
9. How has the program empowered community in promoting positive lifestyle changes related to water, sanitation and hygiene?
10. What role do communities play in the implementation and sustainability of the WASH program?
11. What challenges does World Vision face in implementing the WASH program in rural communities and how are these challenges solved?

## **SECTION B: QUESTIONS FOR HEALTH WORKERS**

### **1. Background information**

#### 1.1 Which department do you work in?

- 1.2 What is your position or role in your department?
2. What do you know about WASH program?
3. How does WASH program contribute to improving health status of patients in health center?
4. How has the WASH program partnered with health workers to prevent diseases in health care centers?
5. Can you describe the role of World Vision WASH program in disease prevention in your community?
6. Which interventions have been the most effective in preventing diseases in your community?
7. How has WASH program helped in improving health education in your community?
8. How has the WASH program provided resources and education to help maintain positive lifestyle changes?
9. In your opinion what are the major health challenges facing your community and how do you think WASH program can address these challenges?
10. Finally, how has WASH program impacted the communities' way of living towards improving their health?

**SECTION C: QUESTIONS FOR COMMUNITY LEADERS AND COMMUNITY MEMBERS**

1. What do you know about World Vision WASH program?
2. What is the program doing in your community?



3. How long have WASH programs been implemented?
4. How has the World Vision WASH program affected your daily life?
5. How has WASH program helped you to improve your health status?
6. In what ways has the availability of clean water and sanitation facilities changed the way you live and work in the community?
7. How has the program empowered your community in promoting positive lifestyle changes related to water, sanitation, and hygiene?
8. Have you observed any reduction in water-borne diseases or other illnesses since the WASH program was implemented?
9. How has the WASH program contributed to improvement in hygiene practices within your community? If any, which are they?
10. How has WASH program changed your community's way of living?
11. How has the WASH program worked with community leaders and health workers to promote health in your community?
12. What role has the community played in the implementation and success of the WASH program in promoting health?
13. What steps do you think are necessary to ensure the sustainability of WASH program in your community?

**THE END.**