



**ASSESSING THE IMPACT OF SANITATION MARKETING USING AS AN
APPROACH TO PROMOTE IMPROVED SANITATION IN MALAWI.**

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ABSTRACT

Social marketing has been used for centuries to drive behavior change, initially in politics and later in various aspects of human life. One field where social marketing principles are applied is sanitation marketing, which aims to promote improved sanitation practices. This study assesses the effectiveness of Community-Led Total Sanitation (CLTS) in promoting behavior change in Malawi, a country facing significant public health challenges due to poor sanitation. Since its introduction in 2015, CLTS has been implemented by various organizations, including Water for People, Water Aid, and World Vision International, in collaboration with local and international NGOs and the government. This study uses qualitative research methods and data collected from various organizations like Our World in Data to evaluate the success and challenges of CLTS in Malawi. The findings suggest that the success of CLTS programs depends on various factors, including the approach taken by implementing organizations. The study concludes that a multi-faceted approach is needed for CLTS to effectively promote behavior change in sanitation marketing especially in countries like Malawi.

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CHAPTER 1 INTRODUCTION

Social marketing is the application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of their society (WHO,2022). “Social marketing seeks to develop and integrate marketing concepts with other approaches to influence behaviors that benefit individuals and communities for the greater social good. Social marketing practice is guided by ethical principles. It seeks to integrate research, best practice, theory, audience and partnership insight, to inform the delivery of competition sensitive and segmented social change programs that are effective, efficient, equitable and sustainable (Tapp, 2013).The basic characteristic of social marketing is that it focuses on changing behaviors that perpetuate or cause social problems; this includes individual, environmental, and structural changes, as well as policy changes (TH, 2021).

In the field of Public Health, social marketing is a tool that has been used with the targets to advance positive behaviors or traits that dissuade negativity. The main target is improving the health outcomes and well-being in society (Kullmann, 2011).This approach implores the use of marketing principles. These principles create, communicate and deliver interventions that in turn benefits the population that is targeted in the exercise. Social marketing involves improving societies health and with the pillars of disease prevention, health promotion and the adoption of healthy living and wellbeing. In the modern age well-being is inclusive of psychosocial and psychological wellbeing. This has caused a holistic approach of social marketing that entails the whole human being (Donovan, 2010).

Social marketing is a powerful tool for influencing behaviors that benefit individuals and communities. It applies marketing concepts to promote positive behaviors and address social issues. Sanitation marketing, a subset of social marketing, focuses on promoting improved sanitation facilities and practices through market-based strategies and behavior change communication (Hinton, 2023).

Sanitation marketing refers to the application of marketing principles and techniques to encourage the adoption and sustained use of improved sanitation facilities and practices (Donovan, 2010). It involves understanding consumer preferences, promoting the benefits of proper sanitation, and utilizing market-driven approaches to increase access to and usage of sanitation products and services (TH, 2021).

Social marketing is a widespread strategy. Marketing efforts have created high levels of awareness of health threats and solutions, including behavior change and socially marketed products. There is widespread use of the 4 Ps of marketing, with price interventions being the least common (Tapp, 2013). Evaluations show consistent improvements in behavioral mediators but mixed results in behavior change. Interventions have successfully used social marketing following widely recommended strategies. Future evaluations need to focus on mediators that explain successful behavior change in order to identify best practices and improve future programs (Lee, 2015). More rigorous evaluations including quasi-experimental designs and

randomized trials are needed. More consistent reporting of evaluation results that permits meta-analysis of effects is needed (Curtis, 2001).

1.1. Background of the study

Social marketing in the sanitation market typically involves an exploration of the context in which community led total sanitation is being explored as a tool to curb sanitation challenges and motivations behind using social marketing strategies worldwide (Kar K, 2008).

Sanitation challenges are mostly brought about due to lack of or poor sanitation. This is defined by various aspects of human nature, environment, culture and social circles (Simpson-Herbert, 2004). These have considerable impacts on public health, the environment and most importantly human life.

Impacts on Public Health include the continuous spread of diseases due to inadequate sanitation facilities. These infections are mostly water borne like Cholera, typhoid, dysentery. Contaminated water and improper disposal of human waste accelerate the spread of the fecal oral diseases particularly in developing countries like Malawi (Curtis, 2001). Environmental impacts caused by poor sanitation is listed in water pollution caused by improper disposal of fecal matter which leads to water contamination and spread of various diseases. This impacts the quality of water and cause imbalance in flora and fauna. The disruption in the balance of aquatic life and a booming threat in biodiversity scale (Simpson-Herbert, 2004).

Health and wellbeing are one of the pillars in public health. Poor sanitation leads to economic burdens caused by poor health, loss of economic activities due to illness, which later has an impact on education as most of the children are absent from school when ill. These aligned factors lead to a cycle of continuous poverty in the long run that can be avoided with better approach to sanitation (Roser, 2019).

In conclusion, poor sanitation has been proved to have multifaceted impacts affecting public health and the environment. There has been multiple approaches to curb these problems one of them being community led total sanitation where the community becomes the center of the solution to the sanitation problems that are defined by the community members themselves (Kar K, 2008).

This is an angle that has been taken by various organizations like Water for people, Water Aid and both governmental and non-governmental local organizations in Malawi, the approach is being assessed by this study to understand if this has had better impacts in curbing poor sanitation behaviors in Malawi (Shah, 2013).

1.1.1. Overview of Sanitation Marketing in Malawi

Sanitation marketing is differentiated from the traditional approaches of sanitation motivation based on seven characteristics that are discussed in this context. Market-Based Strategies

comprises of two main pillars, Consumer-centric approach and supply and demand dynamics (Crocker, 2017). Consumer-centric approach focuses on understanding the preferences and needs of the target audience. The target audience is treated as consumers that align their sanitation needs with the solution. When it comes to supply and demand involves both the consumers on their needs in sanitation and the local supplier who can meet the needs and these ensure the sustainability and competitive advantage of the market for the sanitation products (Shah, 2013).

Behavior Change Communication involves insights from behavioral science to understand the factors influencing sanitation-related behaviors. It employs communication strategies that go beyond mere information provision, aiming to influence attitudes and social norms associated with sanitation (Heynnor, 2021).

Community Engagement is the centre of community led total sanitation (CLTS). The community led approach often involves community engagement and participation, encouraging communities to take ownership of their sanitation solutions. The community is involved in problem identification and urged to find community-based solutions that are both equivalent to their capacity of taking action in implementing the solutions (Kar K, 2008). This participatory aspect helps build a sense of ownership and responsibility. It also promotes understanding and improves the chances of success at sustaining the solutions.

Private Sector Involvement that engages business and introduction of entrepreneurial perspective in sanitation marketing. These businesses provide sustainable sanitation related solutions. Since the concept is community led the businesses involved are local entrepreneurs and suppliers that have a demand for sanitation products that are designed by the community. Financial sustainability becomes the next pillar after business creation (Crocker, 2017). Sanitation marketing aims to create financially sustainable models where sanitation products and services can be offered at affordable prices, ensuring long-term viability.

Measurable Outcomes involves Results-Based Approach which often emphasizes measurable outcomes and impact assessments. It sets clear targets and indicators to track the success of interventions, allowing for adaptive management and continuous improvement. Rigorous monitoring and evaluation are integral to sanitation marketing, helping to assess the effectiveness of different strategies and adjust interventions based on real-time feedback (Trémolet, 2011). Monitoring can be done by the implementors of the project and the community itself to assess the success of the solutions and continuity of the program. This provides a platform to bring in evaluations of the sanitation solutions' and gives room for improvement.

Holistic and Context-Specific. Tailored Interventions in sanitation marketing recognizes that a one-size-fits-all approach may not be effective. Its tailors' interventions to the specific cultural, social, and economic contexts of the target communities. The approach often integrates sanitation promotion with other sectors such as health, education, and livelihoods, acknowledging the interconnectedness of various development goals. This helps to adopt the outlook that sanitation is not a separate section of life but it's an inclusion of everything that builds up a society.

Sanitation marketing represents a shift from a supply-driven, infrastructure-centric approach to a demand-driven, consumer-oriented strategy. It leverages market-based principles, behavior change communication, and private sector engagement to promote sustainable and culturally appropriate sanitation solutions.

Behavioral Insights culture, social and psychological inputs influence sanitation practices and traits. These traits are mainly the core factors that define the success of sanitation marketing interventions. The sustainability of the intervention will be also based on the said factors. Each factor is elaborated as before:

Cultural norms and beliefs have an effect in shaping practices in sanitation (Hinton, 2023). In some cultures, using water for cleaning after defecation is preferred over using other stuff as wipes like toilet paper and tree leaves or grass. In some areas this is linked with religious beliefs. In Hinduism water is used to clean after defecation as its considered sacred. Traditional practices related to waste disposal and hygiene may differ based on cultural heritage. For instance, some cultures have rituals or ceremonies associated with cleanliness and sanitation. Taboos surrounding certain bodily functions or waste disposal methods can impact sanitation behaviors. These taboos may discourage open discussion and hinder the adoption of improved sanitation practices. In addition, social factors also considered as peer influence have an impact in sanitation traits. People being social beings copy from their social groups. Social hierarchies and power dynamics play a role in the sculpting of sanitation norms and what's acceptable in the society (Dreibelbis, 2013). The kind of sanitation facilities found in one social setting will not be the same in another dimension of the same. The effect of this on community led approach is that it completely changes the approach and the factors of impact at play.

Social networks also impact communication channels that are used for information gathering and sharing. This also has an impact on Sanitation practices as the same information can mean one thing in one society and entirely another in the next society. Peer-to-peer communication and community-based initiatives can be effective in promoting behavior change (Dreibelbis, 2013).

Household dynamics play another role in sanitation marketing approaches, including gender roles and responsibilities. Women often bear the primary responsibility for sanitation-related tasks, such as cleaning latrines and disposing of waste. While Men are involved in devising the types of methods to be used for sanitation for example building of pit latrines, the choice of the type of latrines, where the waste is disposed and how far that is from the household (Dreibelbis, 2013).

Psychological being and perception of risk and vulnerability influences sanitation behaviors. Individuals react more diligently when in fear of the potential health risks that are associated with poor sanitation and the end result on their immediate family and societies wellbeing (Dreibelbis, 2013). Attitudes and beliefs about cleanliness and hygiene impact sanitation behaviors. Positive attitudes towards cleanliness are associated with higher levels of sanitation practice adherence while the opposite is true (Fotio & Nguea, 2022). This is also connected to how one perceives cleanliness psychologically some people are neater than others.

Knowledge and awareness of proper sanitation practices are essential for behavior change. Education campaigns that provide information about the health benefits of improved sanitation can motivate individuals to adopt new behaviors. Economic factors, such as affordability and access to sanitation facilities, can influence behavior. The better the sanitation facilities the more expensive they are to build and sustain. (Kullmann, 2011). People are naturally attracted to better things thus easier to follow proper sanitation practices if the facilities are in a better state. As that is the case Individuals with limited financial resources may prioritize other needs over sanitation, leading to suboptimal practices(Kasulo et al., 2020).

In summary, sanitation practices are influenced by a complex interplay of cultural, social, and psychological factors. Effective interventions aimed at promoting behavior change should take into account these factors and tailor strategies to the specific context and needs of the target population.

1.1.2. Why Individuals May Resist Or Adopt Improved Sanitation Behaviors

The need to either resist or adopt improved sanitation approach is mostly influenced by human factors and traits like cultural, social, economic and psychological. In most scenarios resistance is based on the lack of knowledge or understanding of what the sanitation approach stands for. Resistance to change on what one does not understand is an automatic reaction in human nature. The lack of awareness to the risks of poor sanitation practices and the benefits of an improved sanitation traits. The lack of education or information is the main source of resistance in external initiated approaches (Bongartz, 2016).

When it comes to culture in Malawi it is related with taboos and practices that promote or deter certain approaches and sanitation practices (Munghondia, 2023). These beliefs and norms play a very important part in shaping behavior which is the main approach of sanitation marketing and has had an effect on the Malawian market.

Improved sanitation approaches usually come with a cost blanket that most members of the communities are not ready to bear, this cost can deter them from embracing the change thus forfeiting the benefits of the said approach regardless of the risks associated with such decisions (Crocker, 2017). A changed perception will be in weight of the risks associated with not participating can be outweighed with the benefits and if the risks carry lower expense individuals can resist change.

As social being humans are influenced by peer pressure, community influence, leadership influence can also impact community behaviors and response to sanitation approaches. So, if the suggested measures are not socially accepted or influenced it is less likely for the community to adopt them. In a social setting people are more likely to adopt traits that are convenient and fit into their daily routines (Strand, 2010). If sanitation improvement causes inconveniences to one's lifestyle there ought to be individuals may resist. The way some individuals perceive the use of sanitation facilities with fear and negative attitudes, this can also lead to resistance to approaches.

The availability and quality of sanitation infrastructure and services can impact behavior (Kasulo et al., 2020). Inadequate infrastructure or services may make it difficult for people to adopt improved behaviors. The perception of health risks associated with poor sanitation can motivate people to adopt improved behaviors (Dreibelbis, 2013). However, if these risks are not well understood or perceived as low, people may be less motivated to change. Providing education and information about the benefits of improved sanitation and how to adopt these behaviors can help overcome resistance. When people understand the importance of sanitation and how it can benefit their health and well-being, they are more likely to adopt improved behaviors.

1.1.3. Market Dynamics

In Malawi, the dynamics of the sanitation market are influenced by different factors very unique to the country's social and cultural, economic, and environmental context. The sanitation market in Malawi is mostly influenced by a combination of supply and demand factors that have been brought in due to various interventions, as well as government policies and NGO influences (Braun, 2006). Addressing the challenges in the market, such as access to affordable products and services, requires a holistic approach that considers the unique dynamics of the country's sanitation sector, this should also feature the targeted communities as the biggest stakeholder and controlling factor of focus (Heynnor, 2021).

1.1.3. Dynamics Of The Sanitation Market, Including Supply And Demand Factors

In supply the local manufacturing industry is controlled by the affordability and availability of the sanitation products. The local production of these sanitation facilities (Toilets, latrine slabs) and hygiene products can offset and impact supply. The impact will be dependent on the availability of substitute products. Imported products on the other hand have been the biggest supply for sanitation products in Malawi's urban areas. These products are subject to price fluctuations as imports are based on currency fluctuations and import regulations that keep changing. These affects availability and pricing which later impacts use (Crocker, 2017).

Distribution of sanitation facilities is also part of the market dynamics. The distribution networks are well defined for the nation but becomes invalid as we trickle down to the rural areas. The lack of distribution networks therefore influences the availability of the sanitation products in both urban and rural areas (Crocker, 2017). The efficiency of distribution networks is dependent on the transportation infrastructure this later affects the supply and prices of the same.

In regards to innovation and technology, the availability of low-cost toilets that are durable and proper waste management treatment systems can have an influence on supply.

Demand for sanitation facilities is affected by population growth, the more the population grows the more the demand for services if they are deemed to be conducive for the community. Urbanization had brought about in change of behaviors and traits in regards to sanitation. Most urban settlements prefer improved and imported sanitation facilities (Lee, 2015). The mode of delivery of awareness campaigns in regards to health and hygiene and effects of lack thereof

have brought about a certain wave of demand of sanitation facilities and services. In Malawi level of cash flows and disposal of cash affects the ability of individuals improved sanitization solutions. The cultural beliefs and practices can affect the demand of facilities in sanitation (Munkhondia, 2023).

In Malawi the government have made a stand to improve the sanitation as one of the vision 2063 strategies. The programs aimed at improving sanitation are being implemented. These initiatives include subsidies, regulations and infrastructure investments to promote improved sanitation access and practices (Hinton, 2023).

1.1.4. Research Gap and Rationale

Malawi has had various interventions in regards to sanitation Marketing and to be specific Community Led Total Sanitation (CLTS). In 2010 there was a project called Accelerated Sanitation and Hygiene Promotion Programme (ASHPP). The ASHPP, was a five-year initiative (2010-2015) supported by the Water Supply and Sanitation Collaborative Council (WSSCC) through the Global Sanitation Fund (GSF) which was extended to 2017 for a period of 18 months. The extension phase was based on the Three Pillar (3P) model Open Defecation free zone (ODF), Sanitation Business Model and Institutional Sustainability which facilitated development of a demonstration model that would help address the gap between basic and improved sanitation in an open defecation free (ODF) traditional authority (TA) area in each of the six targeted districts in Malawi: Rumphi, Ntchisi, Nkhotakota, Balaka, Phalombe and Chikwawa. (Munkhondia, 2023)

Comparatively, the activities for attaining ODF which were at the peak in 2016 have now subsided owing to the project ending and sub grantees no longer active. This scenario raises questions on what can be done to sustain momentum on sanitation beyond projects. Should it be concluded that sanitation approaches such as CLTS only work as part of projects and programs and are therefore temporary? (Munkhondia, 2023).

It is the aim of this study to establish if Sanitation marketing and specifically CLTS is sustainable beyond project implementation duration or does sanitation marketing require an integrated approach? (Hinton, 2023) .

1.2 Social Marketing Strategies

Social marketing strategies refer to the use of marketing principles and techniques to promote socially beneficial behavior or ideas. Here are some strategies commonly used in social marketing that have been adopted in community led sanitation marketing. Segmentation is when promoters divide the target audience into segments based on characteristics such as demographics, behavior, or attitudes (Tapp, 2013). This helps tailor messages to specific groups

in message development that helps to create compelling messages that resonate with the target audience's values, beliefs, and motivations. Messages should be clear, concise, and actionable. The other strategy is to choose the right communication channels to reach the target audience effectively. This could include social media, traditional media, community events, or other platforms. Partnerships and collaboration with organizations, influencers, or community leaders to amplify the reach of sanitation messages and increase credibility. The use of behavioral science principles to understand what drives behavior change and design strategies that address barriers to change (Heynnor, 2021).

Evaluation and feedback to continuously monitor and evaluate the impact of your campaigns to make informed decisions and improve future efforts. The last but most important strategy is to develop strategies that are sustainable over time, ensuring that behavior change is maintained in the long term (Kullmann, 2011).

1.2.1. Problem Statement

Social marketing and sanitation marketing are both strategies used to promote behavior change, but they differ in their focus and approach (Tapp, 2013). Social marketing is the use of marketing principles and techniques to promote socially beneficial behavior or ideas. It often involves campaigns that aim to change behaviors related to health, environment, or social issues, for example a campaign to promote handwashing with soap to prevent the spread of disease (Hinton, 2023). On the other hand, sanitation marketing specifically focuses on promoting improved sanitation practices and products, such as toilets, handwashing stations, and hygiene products. It aims to increase the demand for sanitation products and services, particularly in low-income or underserved communities. A good example would be a campaign to promote the use of affordable and accessible toilets in rural areas (Kullmann, 2011). While both social marketing and sanitation marketing aim to change behavior, sanitation marketing has a more specific focus on improving sanitation infrastructure and practices. Both approaches can be effective in promoting positive behavior change, but sanitation marketing is tailored to address the unique challenges and barriers related to sanitation access and adoption.

1.2.2. Research Aims and Objectives

1.2.2.1. Research Aim

Assessing the aspects of organizational performance and stakeholder insights into the effectiveness and impact of sanitation marketing efforts using a community-led total sanitation approach. This can help identify areas for improvement and inform future decision-making to enhance the sustainability and scalability of sanitation marketing initiatives in Malawi.

1.2.2.2. Research Objectives

- I. Organizational performance in sanitation marketing using a community-led total sanitation approach.
- II. Measure the level of community participation and involvement in the sanitation marketing process.

- III. Evaluate the extent to which the community has adopted improved sanitation practices and products as a result of the marketing efforts In Malawi since 2015.
- IV. Measure the impact of improved sanitation practices on community health and well-being.
- V. Assess the sustainability of the sanitation marketing approach, including its ability to continue achieving impact over time.

1.2.2.3. Research Questions

- I. How many organizations in sanitation marketing are using community led total sanitation approach and are successful?
- II. Is the community involved in decision-making, planning, implementation, and monitoring?
- III. Is there a change in indicators such as toilet usage rates, handwashing practices, and hygiene behaviors?
- IV. Is there a change in indicators such as reduced incidence of waterborne diseases, improved nutrition, and overall quality of life in Malawi due to sanitation marketing?
- V. Is there a change in indicators such as continued community engagement, market viability, and long-term behavior change?

1.2.2.4. Scope of Study

This study is focused on Malawi as a case study using data that has been developed by various stakeholders and have been handed over to world wide data users' platform.

1.3. Literature Review

Africa as a continent has significant challenges in regards to sanitation, Millions of people lack the access to considerable sanitation facilities. The impacts of this cannot be over emphasized, it affects health, education and most considerably the economic growth of various nations. A large proportion of the population in Africa lacks access to basic sanitation facilities, such as toilets or latrines. According to UNICEF and WHO, in 2019, about 673 million people in Africa did not have access to basic sanitation services. Therefore, Africa is off track to meet the sanitation Millenium Development Goal (MDG). At the current rate of progress, the sanitation MDG target will be missed by 300 million people (Sophie Hickling, Water and Sanitation Program 2012). There are currently 8 African countries on track to meet the sanitation MDG target, four of which are in Northern Africa. In sub-Saharan Africa 70% of the population remain without access to basic sanitation Since 1990, 189 million people in Africa have gained access to sanitation. However, population growth has outpaced access, 200 million more people lack access now than in 1990. In 19 countries in Sub-Saharan Africa, less than a quarter of the population uses an improved sanitation facility.

Sanitation and Hygiene in Africa

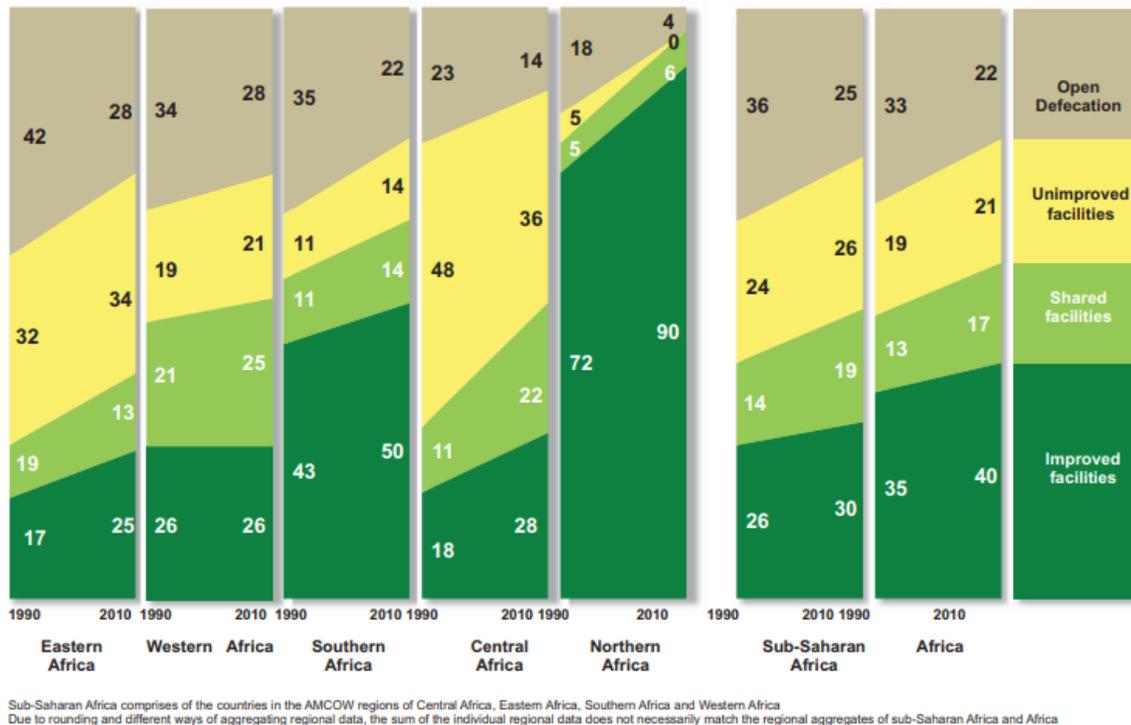


Figure 1 Sanitation coverage trends 1990–2010, AMCOW regions, Sub-Saharan Africa and all Africa. Source Sanitation and Hygiene in Africa (2014)

Since 1990, 189 million people in Africa have gained access to sanitation. However, population growth has outpaced access, 200 million more people lack access now than in 1990. In 19 countries in Sub-Saharan Africa, less than a quarter of the population uses an improved sanitation facility. Connection to water-borne sewage remains extremely low across Sub-Saharan Africa. According to Morella et al. (2008).

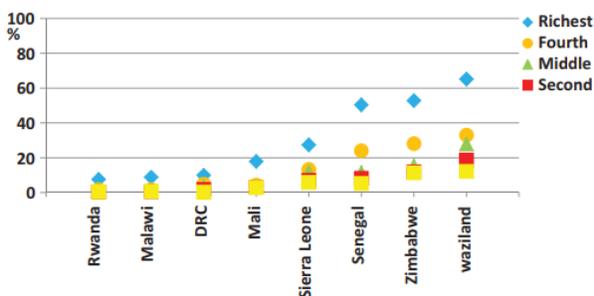


Figure 2 3 Proportion of households observed hand washing was observed with soap. Source Sanitation and Hygiene in Africa (2014).

To meet the Millennium Development Goal sanitation target, 1.6 billion more people need to gain access to improved sanitation over the coming decade. This means that according to our projections that if we continue in the same trend - if the trend persists - the sanitation target will not be met. Probably we will miss it by 600 million. With regard to drinking water, we want to achieve a total number of people served globally equals to 6.4 billion by 2015, this means a reduction in the number of unserved from 1.1 billion in 2004 to 800 million in 2015. The projections indicate a total number of unserved over 900 million in 2015. This represents a shift from past assessments, and is indicating there has been possibly a reduction in the efforts towards the target. If this trend is confirmed, we will not meet the drinking water target either (WHO, 2012)

1.3.1. Sanitation Marketing in Malawi

Sanitation marketing in Malawi has been a key focus area for improving access to sanitation facilities and promoting hygiene practices. The government of Malawi, with support from various development partners and NGOs, has implemented several sanitation marketing initiatives to address the country's sanitation challenges.

Malawi adopted the Community-Led Total Sanitation (CLTS) and sanitation marketing approach, to stop open defecation practices and help households move up the sanitation ladder. In addition, to ensure sustainability, Water and Sanitation Program works with governments to strengthen the enabling environment through policy and institutional reforms, and build the capacity of local outside the community, CLTS focuses on igniting a community's desire to change sanitation behaviors rather than constructing toilets (Munkhondia, 2023). Because CLTS is community focused, it concentrates on changing community norms to influence individual behaviors. It evokes the collective benefits from stopping open defecation to encourage a more cooperative approach whereby community members decide together to contribute to creating a clean and hygienic environment. It should be noted that CLTS and sanitation marketing draw on approaches developed in other sectors, particularly health, to encourage and sustain behavior change. These techniques include behavior change communication (BCC) and social marketing (Kullmann, 2011).

Community Led Total Sanitation grew out of work conducted initially in Bangladesh, and later in India and Indonesia. It has now been applied in some form in many countries throughout Asia and Africa. CLTS aims to move a community from defecating in the open to fixed-point defecation. This is done through a process of social awakening that is stimulated by facilitators from within or outside the community. Sanitation marketing focuses on changing people's understanding of sanitation rather than focusing on building sanitation facilities (Crocker, 2017).

In Malawi Community-Led Total Sanitation (CLTS), which focuses on triggering community action to achieve open defecation-free (ODF) status. CLTS emphasizes community empowerment and behavior change rather than the construction of infrastructure. This has been seen in various campaigns being done by the government in tandem with traditional leaders that are now declaring their zones of influence as free open defecation areas (Mahoney, 2024). These

declarations come after various NGOs have been involved in sanitation marketing in those areas. Sanitation marketing in Malawi often involves partnerships between the government, private sector, NGOs, and communities. These partnerships help promote the supply of affordable sanitation products and services, as well as create demand through marketing and behavior change campaigns. In addition to sanitation facilities, hygiene promotion is an integral part of sanitation marketing in Malawi (Bongartz, 2016). This includes promoting handwashing with soap, safe water handling, and other hygiene practices to prevent disease transmission.

Some of the sanitation marketing initiatives in Malawi have adopted innovative approaches, such as using mobile technology for behavior change communication and monitoring, and providing financing options for households to purchase sanitation products (Mahoney, 2024). These approaches have seen organizations like World Vision Malawi creating Village savings groups and centers that encourage community members to save some money that are monitors using the Dream Save Application where the savings are monitored thus after a while the sanitation products are brought to the communities to feed the demand of improved sanitation facilities (Kar K, 2008). These organization both create the demand and supply of the sanitation facilities.

Multiple Efforts are being made to scale up successful sanitation marketing interventions in Malawi. This includes expanding coverage to more communities and districts, as well as integrating sanitation marketing into broader development programs. (WHO, 2020). Despite progress, sanitation marketing in Malawi faces challenges such as limited access to financing for sanitation products, cultural beliefs and practices around sanitation, and the need for sustainable business models for sanitation products and services.

Overall, sanitation marketing in Malawi is helping to improve access to sanitation facilities and promote hygiene practices, but ongoing efforts are needed to address remaining challenges and ensure sustainability.

1.3.2. Community Led Sanitation Marketing Approach in Malawi

Community-Led Total Sanitation (CLTS) is an approach used to achieve improved sanitation and hygiene outcomes. It focuses on igniting a change in sanitation behavior rather than constructing infrastructure. Here's how CLTS works:

Triggering: CLTS starts with a process called "triggering," where facilitators work with communities to create a realization of the health risks associated with open defecation. This often involves activities like community mapping of open defecation sites and calculating the amount of feces produced and spread in the community.

Community Mobilization: Once triggered, communities are mobilized to take action collectively to become open defecation-free (ODF). This can include building simple latrines using local materials and adopting safe hygiene practices like handwashing. CLTS relies on natural leaders within the community to drive change. These leaders help mobilize their peers and sustain the momentum for sanitation improvements (Munkhondia, 2023).

After achieving ODF status, communities are monitored to ensure they maintain their sanitation and hygiene practices. Follow-up visits are conducted to address any challenges or issues that may arise. CLTS has been successful in many countries and has been scaled up to reach millions of people. It has been integrated into national sanitation policies and programs in countries like India, Bangladesh, and Kenya (Kullmann, 2011).

CLTS has been praised for its community-driven approach, which empowers communities to take ownership of their sanitation and hygiene practices. However, it has also faced criticism for being too coercive in some cases and for not always ensuring the sustainability of sanitation outcomes (Dreibelbis, 2013).

1.3.3. Theoretical Framework

In the context of sanitation marketing, several theoretical frameworks can be applied to understand and address the factors influencing sanitation behaviors and adoption of sanitation products and services (Bongartz, 2016).

Behavior Change Theories such as the Health Belief Model, the Theory of Planned Behavior, and the Social Cognitive Theory can be used to understand the factors influencing individual behavior change related to sanitation practices. These theories emphasize the role of beliefs, attitudes, norms, and self-efficacy in shaping behavior. The Diffusion of Innovation theory can help understand how new sanitation products and practices spread within a community or population (Heynnor, 2021). It highlights the importance of communication channels, social networks, and the perceived attributes of innovations in the adoption process. Social Marketing Theory focuses on using marketing principles and techniques to promote behavior change. It emphasizes the importance of understanding the target audience, developing compelling messages, and using appropriate channels to influence behavior (Hinton, 2023). CLTS is both a theoretical framework and a practical approach to sanitation promotion. It emphasizes community empowerment, social norms, and collective action in achieving open defecation-free status. Institutional Theory can help understand the role of institutions, policies, and regulations in shaping sanitation practices (Dreibelbis, 2013). It highlights how formal and informal rules influence behavior and adoption of new practices. The Socio-Ecological Model considers the multiple levels of influence on behavior, including individual, interpersonal, community, and societal factors. It can help identify interventions at each level to promote sanitation behavior change. By applying these theoretical frameworks, sanitation marketing programs can better understand the complexities of behavior change and design more effective strategies to promote improved sanitation practices and access to sanitation products and services (Crocker, 2017).

CHAPTER 2 METHODOLOGY

2.1 Research Design

The research conducted in this study utilized a mix of research methods that involved gathering and analyzing data. The quantitative method collected numerical data and employed statistical, mathematical, and computational techniques for analysis. Conversely, the qualitative method utilized non-numerical data to comprehend the reasons, opinions, and motivations behind the phenomenon being studied.

The research design utilized both retrospective and prospective approaches. In a retrospective design, the researcher had no control over the variables and could only collect and analyze preexisting data. This study also employed a cross-sectional research design, which involved data collection only once during the study period. This type of study examines data at a particular moment in time to make estimations about a population or investigate a specific phenomenon.

The study focused on both the rural and peri-urban area in Malawi, alternative methods were used to analyze the distribution of different types of sanitation facilities, such as sewerage systems, pit latrines with or without a slab or platform. This analysis helped establish the cause-and-effect relationship of a social marketing program on improved sanitation without the aid of spatial mapping.

Additionally, demographic analysis was conducted to understand the distribution of the study area's population by age and sex. This information was valuable in identifying vulnerable groups of individuals who may be at a higher risk of poor sanitation.

The research project also included a database that tracked customer visits and bill payments. Enumeration exercises and socio-economic surveys were undertaken to gather data on the community while avoiding assumptions about their knowledge or practices.

Under this study, both primary and secondary data will be used. Primary data involved the collection and analysis of new information, and it was obtained through questionnaires, interviews, and observations. On the other hand, secondary data involved the collection and analysis of existing information, and it was obtained through books, scholarly journals, our world in data website.

In conclusion, this research project employed a combination of quantitative and qualitative research methods, a retrospective and prospective research design, as well as demographic analysis to understand the distribution of improved sanitation and identify vulnerable populations in the study area.

2.1.1 Sample and Sampling Design

This study employed a qualitative research approach to gain a comprehensive understanding of the social marketing approach in sanitation landscape in Malawi. The methodology section outlines the details of the research design, data collection, sampling techniques, and data analysis methods (Palinkas, 2015).

The qualitative research design allowed for an in-depth exploration of the sanitation needs and challenges faced by promoting institutions. This approach is particularly well-suited for exploring the success and areas of improvement for the utilized approach. In this study, a

combination of document and report analysis were used as primary sources of data from the source our world in data.

Eight structured interviews were conducted with key stakeholders from various domains (two interviews via the phone for each organization), including:

- Tertiary Project implementation teams leaders (WASHTED)
- Institution Implementation officers (World Vision Malawi)
- Government officials responsible for sanitation marketing.
- A questionnaire for community-based sanitation approaches

The interviews were guided by close and open-ended questions focused on the research questions, allowing the respondents to elaborate on their experiences, insights, and recommendations (Trémolet, 2011). These interviews were conducted in-person, by phone, or via video conferencing, depending on the availability and preferences of the interviewees. In addition to the abovementioned interviews, relevant documents were reviewed to supplement the data collected.

Purposive sampling was used to identify the key stakeholders for the interviews. This technique allows for the selection of participants based on their specific knowledge and experience related to the research questions (Palinkas, 2015). The data was analyzed using thematic analysis, a widely-used method in qualitative research (Braun, 2006). Transcripts of the expert interviews were created and carefully read and the following themes were identified: behavior change, sanitation awareness, and attractiveness of CLTS approach. These themes were coded and refined through an iterative process, with constant comparison between the data to ensure consistency and validity. This qualitative research approach - combining interviews and document analysis- allowed for a comprehensive assessment structure for sanitation marketing in Malawi.

2.1.2 Data Collection

A couple of Interviews were done in questioning the officers from World vision Malawi, Water for People, Water Aid and WASHTED to gather information on the success of CLTS in Malawi. These Interviews were both conducted in-person and over the phone using both structured, semi-structured, or unstructured questions (Data, 2023).

Checklists were used to systematically record the presence or absence of specific indicators related to sanitation, such as the availability of handwashing facilities or the condition of latrines in the focus areas of the aforementioned organizations.

Key informant interviews involved interviewing individuals who have expert knowledge or experience relevant to CLTS approach in sanitation marketing. Key informants provided valuable insights into community dynamics, cultural norms, and local context.

By using a combination of these data collection instruments in sanitation marketing programs some comprehensive and reliable information was gathered to inform the conclusion of this research, interventions and suggested recommendations to monitor progress, and evaluate the CLTS impact effectively.

2.1.3. Ethical Issues

Ethical issues related to social and sanitation marketing can be complex and multifaceted. Ethics are mostly related to how an individual is conversant with the target audiences' culture and beliefs. What's ethically expected in one area is not the same in another social setting. This is difficult to handle to the fullest as it is mostly dependent on morals and one's upbringing. The following are some of the ethical issues driving social and sanitation marketing in Malawi.

Truthfulness and Transparency it is really important for marketers/ project initiators to be honest about the benefits and limitations of their products or initiatives. In most scenarios the promoters always present the benefits but do not say much on the limitations and are even keen on sidelining these limitations (Crocker, 2017). This misleading or exaggerated claims can erode trust and harm the community that later abandon the initiative all together.

Most of the social marketing approaches target vulnerable groups of society. Targeting Vulnerable Populations with sanitation marketing efforts usually exploit or target vulnerable populations, such as low-income communities, in ways that could be seen as taking advantage of their circumstances. In Malawi most of these approaches are seen as rescuing the targeted population, making them believe that they are incapable of rescuing themselves. This has in hand created a "hand me staff" syndrome. It's with this that most communities do not participate in approaches that have led to them inputting some efforts and substantiating the approach (Heynnor, 2021).

Sanitation and social marketing campaigns should be culturally sensitive and respectful of local customs and beliefs. Insensitive or culturally inappropriate messaging can lead to backlash and resistance. Most of the initiators are trying to learn and imitate the cultures of the target population but still more misappropriate the culture as they do not fully understand some of the beliefs they are trying to abolish. This is something that brings up the choke down kind of sanitation marketing.

Sanitation marketing should consider the environmental impact of products and practices promoted. For example, promoting the use of non-biodegradable materials for sanitation purposes could harm the environment. These are the most promoted as they are cheaper to accumulate and thus brings up better cleanliness practices while destroying the environment. The best case for this is the introduction of baby diapers that prove to be hard to dispose of.

Privacy and data protection. The collection and use of personal data for marketing purposes should comply with relevant privacy laws and regulations. Individuals should be informed about how their data will be used and have the option to opt out, the use of pictures without consent in various settings that end up in publications and mis representation of what was actually taking

place. This has made most Malawians weary of giving out information to strangers thus they give out either too little or false information altogether.

Community engagement and participation is vital in social marketing initiatives should involve the community in planning and decision-making to ensure that their needs and preferences are taken into account. In most scenarios these concerns and preferences are denied or overlooked as the target or goals of the projects become the guiding lines besides people's inputs. The end result of this approach is unsustainable projects that do not tally with people's needs.

Marketing efforts should aim for long-term sustainability, both in terms of the products or services promoted and their impact on the community and environment. These approaches should also be something that the target communities can carry over without burdening themselves for easy adoptability (Donovan, 2010). There should always be mechanisms in place to monitor the impact of marketing efforts and hold marketers accountable for their actions, in this light the target communities get protected and the marketers understand the impact of their actions.

CHAPTER 3 RESULTS

3.1. Demographic Characteristics

The population of Malawi has a double growth rate from 9,540,000 in 1990 to 20,932,000 in 2023. The table below defines how this is distributed between the urban and rural areas. Most of the programs handling sanitation marketing in Malawi target rural areas.

Table 1 below is the population growth in Malawi since 1990-2023, WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation – processed by Our World in Data (Data, 2023)

Malawi				
POPULATION FIGURES (Thousands)				
Year	Urban	Rural	National	% Urban
1990	1 103	8 437	9 540	11.6
1991	1 168	8 663	9 832	11.9
1992	1 236	8 880	10 115	12.2
1993	1 288	8 969	10 257	12.6
1994	1 308	8 824	10 132	12.9
1995	1 341	8 772	10 113	13.3
1996	1 405	8 905	10 311	13.6
1997	1 472	9 041	10 513	14.0
1998	1 544	9 189	10 732	14.4
1999	1 594	9 380	10 974	14.5
2000	1 641	9 589	11 229	14.6
2001	1 690	9 809	11 499	14.7
2002	1 742	10 042	11 784	14.8
2003	1 798	10 290	12 088	14.9
2004	1 857	10 554	12 411	15.0
2005	1 920	10 835	12 756	15.1
2006	1 987	11 132	13 118	15.1
2007	2 056	11 439	13 495	15.2
2008	2 129	11 761	13 889	15.3
2009	2 206	12 093	14 299	15.4
2010	2 288	12 431	14 718	15.5
2011	2 374	12 772	15 146	15.7
2012	2 464	13 118	15 581	15.8
2013	2 559	13 466	16 025	16.0
2014	2 658	13 820	16 478	16.1
2015	2 763	14 176	16 939	16.3
2016	2 873	14 533	17 406	16.5
2017	2 989	14 893	17 881	16.7
2018	3 111	15 257	18 368	16.9
2019	3 240	15 627	18 867	17.2
2020	3 377	16 000	19 377	17.4
2021	3 519	16 370	19 890	17.7
2022	3 669	16 736	20 405	18.0
2023	3 826	17 105	20 932	18.3

Table 2 access to hygiene facilities in 2014, WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation – processed by Our World in Data

Access to handwashing		Malawi		
MWI_2014_MICS		UNICEF		
Survey with microdata		Multiple Indicator Cluster Survey		
Definitions	Facility type estimates	Urban	Rural	National
	Handwashing facilities	23.0	9.9	11.7
	Facility with water and soap	14.3	2.6	4.2
	Data used for estimates			
	Handwashing facilities	No	No	No
	Facility with water and soap	No	No	No
Notes	Handwashing estimate excludes no permission to see. Not used as data appear to relate only to fixed facilities.			
Original denomination	Classification	Urban	Rural	National
	Presence of handwashing facility			
Observed handwashing facility	Handwashing facility	22.9	9.8	11.6
Not in dwelling/other reason	No handwashing facility	76.8	89.4	87.6
No permission to see	No permission to see	0.2	0.9	0.8
Missing	DK/missing	0.0	0.0	0.0
	Total	100.0	100.0	100.0
	Proportion of facilities which are:			
	Fixed			
	Mobile			
	Total			
	Proportion of facilities with:			
Water and soap/detergent available	Water and soap	62.4	26.1	36.0
Water only	Water only	33.4	44.5	41.5
Soap only	Soap only	1.4	3.6	3.0
Neither	No water or soap	2.8	25.8	19.5
	DK/missing			
	Total	100.0	100.0	100.0

Table 3 hygiene data for Malawi in 2016 (Source ICF Macro Our World in Data) WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation – processed by Our World in Data

Access to handwashing		Malawi		
MWI_2016_DHS		ICF Macro		
Survey with microdata		Demographic and Health Survey		
Definitions	Facility type estimates	Urban	Rural	National
	Handwashing facilities	92.9	83.0	84.4
	Facility with water and soap	16.5	7.7	9.0
Data used for estimates				
	Handwashing facilities	Yes	Yes	No
	Facility with water and soap	Yes	Yes	No
Notes	Handwashing estimate excludes no permission to see.			
Original denomination	Classification	Urban	Rural	National
	Presence of handwashing facility			
Observed handwashing facility (fixed or mobile place)	Handwashing facility	92.9	82.5	84.0
Not in dwelling/other reason	No handwashing facility	7.1	17.0	15.5
No permission to see	No permission to see	0.1	0.5	0.4
	DK/missing			
	Total	100.0	100.0	100.0
Proportion of facilities which are:				
Fixed place	Fixed	33.7	22.8	24.6
Mobile place	Mobile	66.3	77.2	75.4
	Total	100.0	100.0	100.0
Proportion of facilities with:				
Water and soap/detergent available	Water and soap	17.7	9.3	10.7
Water only	Water only	26.7	29.4	29.0
Soap only	Soap only	2.1	2.9	2.8
Neither	No water or soap	53.5	58.4	57.6
	DK/missing			
	Total	100.0	100.0	100.0

Table 4 Hygiene data in Malawi 2017 (Source World Vision Malawi) WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation – processed by Our World in Data

Access to handwashing Malawi				
MWI_2017_WV		WV		
Survey with microdata		World Vision International Assessment		
Definitions	Facility type estimates	Urban	Rural	National
	Handwashing facilities		8.2	
	Facility with water and soap		2.1	
	Data used for estimates			
	Handwashing facilities	No	No	No
	Facility with water and soap	No	No	No
Notes	Handwashing estimate excludes decline to state. No data on fixed vs mobile facilities. Rural only. Not used.			
Original denomination	Classification	Urban	Rural	National
	Presence of handwashing facility			
Designated area for handwashing	Handwashing facility		8.2	
No designated area	No handwashing facility		90.9	
Decline to state	No permission to see		0.9	
Don't know	DK/missing		0.1	
	Total		100.0	
	Proportion of facilities which are:			
	Fixed			
	Mobile			
	Total			
	Proportion of facilities with:			
Water and soap	Water and soap		25.3	
Water only	Water only		61.6	
Soap only	Soap only		0.0	
Neither	No water or soap		13.1	
	DK/missing			
	Total		100.0	

Table 5 Access to handwashing facilities (source National Statistics office our world in data) WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation – processed by Our World in Data

Access to handwashing		Malawi		
MWI_2020_MICS Survey with microdata		National Statistical Office Multiple Indicator Cluster Survey		
Definitions	Facility type estimates	Urban	Rural	National
	Handwashing facilities	86.5	72.3	74.5
	Facility with water and soap	38.5	16.4	19.8
	Data used for estimates			
	Handwashing facilities	Yes	Yes	No
	Facility with water and soap	Yes	Yes	No
Notes Handwashing estimate excludes no permission to see.				
Original denomination	Classification	Urban	Rural	National
	Presence of handwashing facility			
Facility observed	Handwashing facility	86.2	71.7	73.9
No facility/other reason	No handwashing facility	13.4	27.5	25.3
No permission to see	No permission to see	0.4	0.9	0.8
	DK/missing			
	Total	100.0	100.0	100.0
	Proportion of facilities which are:			
	Fixed	26.9	17.3	19.0
	Mobile	73.1	82.7	81.0
	Total	100.0	100.0	100.0
	Proportion of facilities with:			
Water and soap	Water and soap	44.6	22.7	26.6
Water only	Water only	29.0	35.8	34.6
Soap only	Soap only	7.6	4.7	5.2
Neither	No water or soap	18.8	36.6	33.4
No response	DK/missing	0.0	0.2	0.2
	Total	100.0	100.0	100.0

The figures 3 and 4 below summaries the basic hygiene data from 2000 to 2020.

Figure 3 basic hygiene in urban areas in Malawi 2000-2020

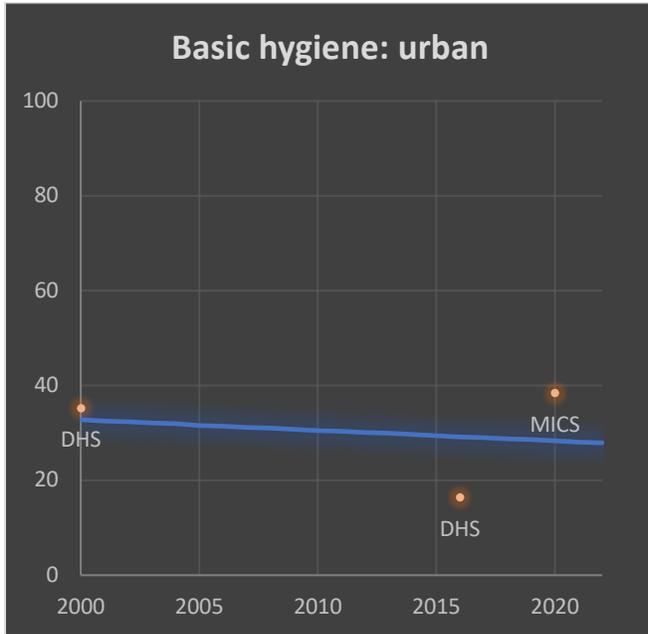


Figure 4 Basic hygiene analysis in Malawi rural areas, 2000-2022

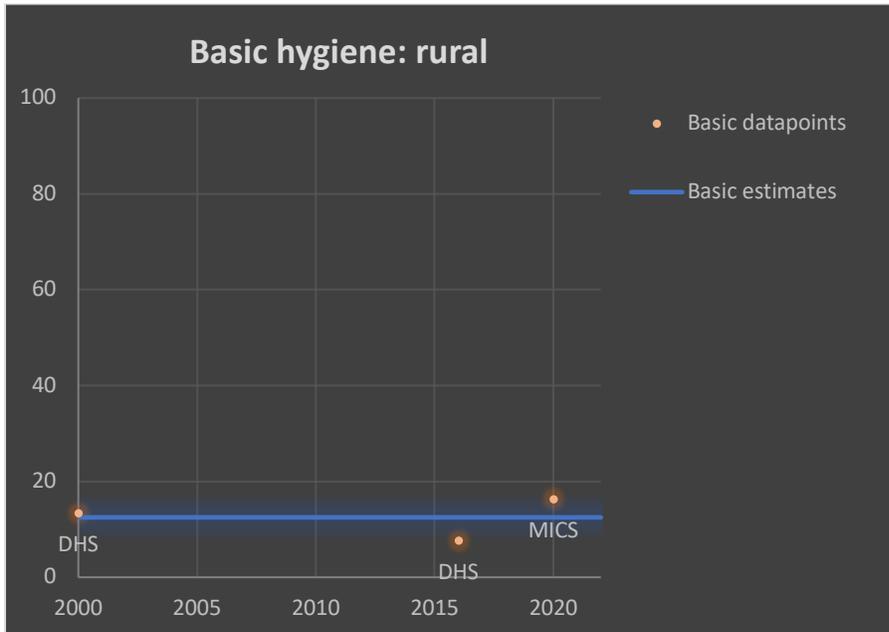


Table 6 Sanitation Data for Malawi 2014

Use of sanitation facilities		Malawi			
MWI_2014_MIS		Malaria Indicator			
Survey with microdata		Survey, 2014			
Definitions	Facility type estimates		Urban	Rural	National
	Improved		57.0	30.2	34.1
	Sewer connection		14.1	1.3	3.5
	Septic tanks				
	Other		42.9	28.8	30.6
	Open defecation		2.7	13.0	11.3
	Service level estimate				
Default assumption: 100%	Sewer connection		14.1	1.3	3.5
	Wastewater enters network				
Default assumption: 100%	Wastewater reaches treatment plant				
Default assumption: 50%	Septic tanks				
	Contained/stored				

Default assumption: 50%
Default assumption: 0%
Default assumption: 0%
Default assumption: 50%
Default assumption: 100%
Default assumption: 100%
Default assumption: 50%
Default assumption: 0%
Default assumption: 0%
Default assumption: 50%
Default assumption: 100%
Default assumption: 50%
Default assumption: 0% or based on wastewater treatment if offsite is dominant

and treated			
Not emptied/stored and disposed in situ			
Emptied and buried on site			
Emptied and discharged locally			
Emptied and removed offsite			
Delivered to treatment plant			
Latrines and other improved	42.9	28.8	30.6
Contained/stored and treated			
Not emptied/stored and disposed in situ			
Emptied and buried on site			
Emptied and discharged locally			
Emptied and removed offsite			
Delivered to treatment plant			
Treated			
At wastewater treatment plant			
At faecal sludge treatment plant			
Shared	52.1	42.	47.3

		1	
	Safely managed		
Data used for estimates			
	Improved Sewer connection	Yes	Yes
	Wastewater enters network	Yes	No
	Wastewater reaches treatment plant	No	No
	Septic tanks Contained/stored and treated	No	No
	Not emptied/stored and disposed in situ	No	No
	Emptied and buried on site	No	No
	Emptied and discharged locally	No	No
	Emptied and removed offsite	No	No
	Delivered to treatment plant	No	No
	Latrines and other improved	Yes	No
	Contained/stored and treated	No	No
	Not emptied/stored and disposed in situ	No	No
	Emptied and buried on site	No	No

	Emptied and discharged locally	No	No	No
	Emptied and removed offsite	No	No	No
	Delivered to treatment plant	No	No	No
	Treated	-	-	-
	At wastewater treatment plant	No	No	No
	At faecal sludge treatment plant	No	No	No
	Shared	Yes	Yes	No
	Open defecation	Yes	Yes	No
Notes				
Original denomination	Classification	Urban	Rural	National
	Flush and pour flush	<i>14.1</i>	<i>1.3</i>	<i>3.5</i>
	to piped sewer system	<i>14.1</i>	<i>1.3</i>	<i>3.5</i>
	to septic tank			
	to pit			
	to unknown place/ not sure/DK			
	to elsewhere			
	Flush/toilets	<i>14.1</i>	<i>1.3</i>	<i>3.5</i>
flush to piped sewer system	to piped sewer system	14.1	1.3	3.5
	to septic tank			
	to pit			
	to unknown place/ not sure/DK			

		to elsewhere			
		Private flush/toilet			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Public/shared flush/toilet			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Latrines		83.1	85.5	85.1
	Pour flush latrines				
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Private pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			

		to elsewhere			
		Public/shared pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Dry latrines		<i>83.1</i>	<i>85.5</i>	<i>85.1</i>
		Improved latrines	<i>38.0</i>	<i>8.5</i>	<i>13.5</i>
		Ventilated Improved Pit latrine	0.9	0.2	0.3
	ventilated improved pit latrine (vip)				
	pit latrine with slab	Pit latrine with slab/covered latrine	37.1	8.3	13.2
		Traditional latrine			
	pit latrine without slab/open pit	Pit latrine without slab/open pit	45.1	77.0	71.6
	hanging toilet/latrine	Hanging toilet/hanging latrine	0.0	0.0	0.0
		Bucket latrine			
		Other			
		Private Latrines			
		Ventilated Improved Pit latrine			
		Pit latrine with slab/covered latrine			
		Traditional latrine			
		Pit latrine without slab/open pit			
		Hanging toilet/hanging latrine			

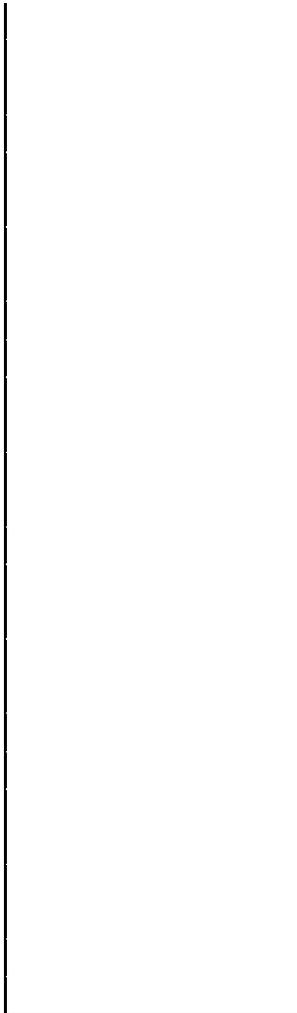
		Bucket latrine			
		Other			
		Public/shared Latrines			
		Ventilated Improved Pit latrine			
		Pit latrine with slab/covered latrine			
		Traditional latrine			
		Pit latrine without slab/open pit			
		Hanging toilet/hanging latrine			
		Bucket latrine			
		Other			
composting toilet	Composting toilets		0.1	0.0	0.0
		Composting toilet (private)			
		Composting toilet (shared)			
	Other improved				
		Other			
		Other			
no facility/bush/field	No facility, bush, field		2.7	13.0	11.3
	Other unimproved		0.0	0.1	0.1
other		Other	0.0	0.1	0.1
		Other			
	DK/missing				
	Total		100.0	100.0	100.0
Calculations					

Estimations	Adjusted for pit latrines with slab made of mud, rock or wood based on MICS14	4.8	20.3	17.1
Ratios	Shared improved facilities/all improved facilities	52.1%	42.1%	47.3%
	Improved latrine / All latrines	46%	10%	16%
	Covered dry latrines / All dry latrines	45%	10%	
	VIP / All latrines	1%	0%	
	Traditional latrines / All latrines			
	Improved + traditional latrines / All latrines			
	Sewerage connection among flush/pour flush	100.0	100.0	
	Sewerage connection among flush	100.0	100.0	

Table 7 2016 Sanitation Data

Use of sanitation facilities		Malawi			
MWI_2016_PHIA		Ministry of Health/National Statistical Office			
Survey with microdata		Population-based HIV Impact Assessment, 2015-2016			
Definitions	Facility type estimates		Urban	Rural	National
		Improved	57.9	33.3	37.0
		Sewer connection			
		Septic tanks			
		Other			
		Open defecation	0.4	4.3	3.6
	Service level estimate				
		Sewer connection			
Default assumption: 100%		Wastewater enters network			
Default assumption: 100%		Wastewater reaches treatment plant			
		Septic tanks			
Default assumption: 50%		Contained/stored and treated			
Default assumption: 100%		Not emptied/stored and disposed in situ			
Default assumption: 0%		Emptied and buried on site			
Default assumption: 0%		Emptied and discharged locally			

Default assumption: 0%	Emptied and removed offsite			
Default assumption: 100%	Delivered to treatment plant			
Default assumption: 100%	Latrines and other improved Contained/stored and treated			
Default assumption: 50%	Not emptied/stored and disposed in situ			
Default assumption: 0%	Emptied and buried on site			
Default assumption: 0%	Emptied and discharged locally			
Default assumption: 50%	Emptied and removed offsite			
Default assumption: 100%	Delivered to treatment plant			
Default assumption: 50%	Treated At wastewater treatment plant			
Default assumption: 0%	At faecal sludge treatment plant			
	Shared	46.2	33.1	38.1
	Safely managed			
Data used for estimates				
	Improved	Yes	Yes	No
	Sewer connection	No	No	No
	Wastewater enters network	No	No	No
	Wastewater reaches treatment plant	No	No	No
	Septic tanks	No	No	No
	Contained/stored and	No	No	No



treated			
Not emptied/stored and disposed in situ	No	No	No
Emptied and buried on site	No	No	No
Emptied and discharged locally	No	No	No
Emptied and removed offsite	No	No	No
Delivered to treatment plant	No	No	No
Latrines and other improved	No	No	No
Contained/stored and treated	No	No	No
Not emptied/stored and disposed in situ	No	No	No
Emptied and buried on site	No	No	No
Emptied and discharged locally	No	No	No
Emptied and removed offsite	No	No	No
Delivered to treatment plant	No	No	No
Treated	-	-	-
At wastewater treatment plant	No	No	No
At faecal sludge treatment plant	No	No	No
Shared	Yes	Yes	No
Open defecation	Yes	Yes	No

Notes					
Original denomination	Classification	Urban	Rural	National	
Flush or pour flush toilet	Flush and pour flush	11.9	0.6	2.5	
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Flush/toilets				
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Private flush/toilet				
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Public/shared flush/toilet				
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			

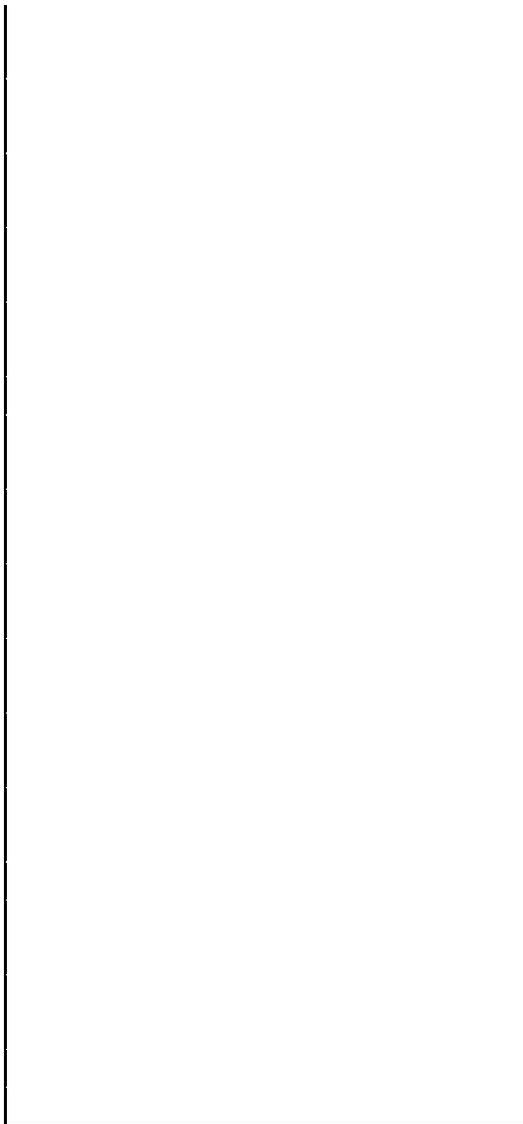
		to elsewhere			
	Latrines		87.6	94.8	93.6
	Pour flush latrines				
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Private pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Public/shared pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Dry latrines		87.6	94.8	93.6
		Improved latrines	40.8	17.0	21.0
	Ventilated improved pit latrine	Ventilated Improved Pit latrine	2.8	1.2	1.5
	Pit latrine with slab	Pit latrine with slab/covered latrine	38.0	15.7	19.5
		Traditional latrine			
	Pit latrine without	Pit latrine without slab/open pit	46.7	77.	72.5

Other		Other	0.1	0.2	0.2
		Other			
	DK/missing				
	Total		100.0	100.0	100.0
Calculations					
Estimations	Adjusted for pit latrines with slab made of mud, rock or wood based on MICS14		5.2	15.7	13.4
Ratios	Shared improved facilities/all improved facilities		46.2%	33.1%	38.1%
	Improved latrine / All latrines		47%	18%	22%
	Covered dry latrines / All dry latrines		43%	17%	
	VIP / All latrines		3%	1%	
	Traditional latrines / All latrines				
	Improved + traditional latrines / All latrines				
	Sewerage connection among flush/pour flush				
	Sewerage connection among flush				

Table 8 2017 Sanitation Data (source World Vision Malawi) WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation – processed by Our World in Data

Use of sanitation facilities		Malawi				
MWI_2017_WV		World Vision				
Survey with microdata		World Vision Assessment				
Definitions	Facility type estimates		Urban	Rural	National	
<p>Default assumption: 100%</p> <p>Default assumption: 100%</p> <p>Closest sanitation is not full, overflowing, or leaking</p> <p>Not emptied/treated and disposed in situ</p> <p>Emptied and buried on site</p> <p>Emptied and discharged locally</p> <p>Emptied and removed offsite</p>		Improved		83.1		
		Sewer connection		0.3		
		Septic tanks		0.1		
		Other		82.7		
		Open defecation		3.7		
		Service level estimate				
		Sewer connection network	enters		0.3	
		Wastewater reaches treatment plant				
		Septic tanks			0.1	
		Contained/stored and treated			96.4	
		Not emptied/stored and disposed in situ			98.9	
		Emptied and buried on site			0.0	
		Emptied and discharged locally			1.0	
		Emptied and removed offsite			0.1	

Closest sanitation is not full, overflowing, or leaking Not emptied/treated and disposed in situ Emptied and buried on site Emptied and discharged locally Emptied and removed offsite Default assumption: 50% Default assumption: 0%	offsite				
	Delivered to treatment plant				
	Latrines and other improved Contained/stored and treated	82.7			
	Not emptied/stored and disposed in situ	96.4			
	Emptied and buried on site	0.0			
	Emptied and discharged locally	1.0			
	Emptied and removed offsite	0.1			
	Delivered to treatment plant				
	Treated				
	At wastewater treatment plant				
	At faecal sludge treatment plant				
	Shared	24.1			
	Safely managed				
	Data used for estimates				
	Improved Sewer connection	No	No	No	
Wastewater enters network	No	No	No		
Wastewater reaches treatment plant	No	No	No		
Septic tanks	No	No	No		
Contained/stored and treated	No	Yes	No		



Not emptied/stored and disposed in situ	No	No	No
Emptied and buried on site	No	No	No
Emptied and discharged locally	No	No	No
Emptied and removed offsite	No	No	No
Delivered to treatment plant	No	No	No
Latrines and other improved	No	No	No
Contained/stored and treated	No	Yes	No
Not emptied/stored and disposed in situ	No	No	No
Emptied and buried on site	No	No	No
Emptied and discharged locally	No	No	No
Emptied and removed offsite	No	No	No
Delivered to treatment plant	No	No	No
Treated	-	-	-
At wastewater treatment plant	No	No	No
At faecal sludge treatment plant	No	No	No
Shared	No	No	No
Open defecation	No	No	No

Notes	Survey is designed to be representative of rural areas. JMP analysis based on control communities.			
Original denomination	Classification	Urban	Rural	National
	Flush and pour flush		0.4	
Flush toilet to piped sewer system	to piped sewer system		0.3	
Flushed toilet to septic tank	to septic tank		0.1	
Flushed toilet to pit latrine	to pit		0.0	
	to unknown place/ not sure/DK			
Flushed toilet to elsewhere	to elsewhere		0.1	
	Flush/toilets			
	to piped sewer system			
	to septic tank			
	to pit			
	to unknown place/ not sure/DK			
	to elsewhere			
	Private flush/toilet			
	to piped sewer system			
	to septic tank			
	to pit			
	to unknown place/ not sure/DK			
	to elsewhere			
	Public/shared flush/toilet			
	to piped sewer system			
	to septic tank			

		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Latrines			95.2	
	Pour flush latrines				
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Private pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Public/shared pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
	Dry latrines			95.2	
		Improved latrines		29.1	
		Ventilated Improved Pit latrine		0.4	
Ventilated improved pit (VIP) latrine					
Pit latrine with slab		Pit latrine with slab/covered		28.8	

		Composting toilet (private)			
		Composting toilet (shared)			
	Other improved			0.1	
Community latrines		Other		0.1	
		Other			
Open defecation	No facility, bush, field			3.7	
	Other unimproved			0.4	
Other		Other		0.4	
		Other			
	DK/missing				
	Total			100.0	
Calculations					
Estimations	Adjusted for pit latrines with slab based on MICS20			53.3	
Ratios	Shared improved facilities/all improved facilities			24.1%	
	Improved latrine / All latrines			31%	
	Covered dry latrines / All dry latrines			30%	
	VIP / All latrines			0%	
	Traditional latrines / All latrines				
	Improved + traditional latrines / All latrines				
	Sewerage connection among flush/pour flush			66.7	
Sewerage connection among flush					

Table 8 2020 Sanitation Data (Malawi Integrated Household Survey, 2019-2020). WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation – processed by Our World in Data

Use of sanitation facilities		Malawi			
MWI_2020_IHS		NSO			
Survey with microdata		Malawi Household Survey, 2019-2020		Integrated Survey,	
Definitions	Facility type estimates		Urban	Rural	National
	Improved		86.9	78.9	80.1
	Sewer connection		1.6	0.1	0.4
	Septic tanks		9.5	0.2	1.6
	Other		75.7	78.6	78.1
	Open defecation		1.8	9.1	7.9
	Service level estimate				
Default assumption: 100%	Sewer connection		1.6	0.1	0.4
	Wastewater enters network				
Default assumption: 100%	Wastewater reaches treatment plant				
	Septic tanks		9.5	0.2	1.6
Default assumption: 50%	Contained/stored and treated				
Default assumption: 100%	Not emptied/stored and disposed in situ		83.3	76.9	82.7
Default assumption: 0%	Emptied and buried on site		1.5	0.0	1.4
Default assumption: 0%	Emptied and		3.5	0.0	3.3

Default assumption: 0%	discharged locally			
Default assumption: 100%	Emptied and removed offsite	11.7	23.1	12.6
Default assumption: 100%	Delivered to treatment plant			
Default assumption: 50%	Latrines and other improved	75.7	78.6	78.1
Default assumption: 0%	Contained/stored and treated			
Default assumption: 0%	Not emptied/stored and disposed in situ	92.0	98.5	96.8
Default assumption: 0%	Emptied and buried on site	4.3	1.1	1.9
Default assumption: 0%	Emptied and discharged locally	1.8	0.4	0.8
Default assumption: 50%	Emptied and removed offsite	1.9	0.0	0.5
Default assumption: 100%	Delivered to treatment plant			
Default assumption: 50%	Treated At wastewater treatment plant			
Default assumption: 0% or based on wastewater treatment if offsite is dominant	At faecal sludge treatment plant			
	Shared	45.7	26.3	31.9
	Safely managed			
Data used for estimates				
	Improved Sewer connection	No	No	No
	Wastewater enters network	Yes	Yes	No
	Wastewater reaches	No	No	No

treatment plant			
Septic tanks	Yes	Yes	No
Contained/stored and treated	No	No	No
Not emptied/stored and disposed in situ	Yes	Yes	No
Emptied and buried on site	Yes	Yes	No
Emptied and discharged locally	Yes	Yes	No
Emptied and removed offsite	Yes	Yes	No
Delivered to treatment plant	No	No	No
Latrines and other improved	Yes	Yes	No
Contained/stored and treated	No	No	No
Not emptied/stored and disposed in situ	Yes	Yes	No
Emptied and buried on site	Yes	Yes	No
Emptied and discharged locally	Yes	Yes	No
Emptied and removed offsite	Yes	Yes	No
Delivered to treatment plant	No	No	No
Treated	-	-	-
At wastewater treatment plant	No	No	No
At faecal sludge treatment plant	No	No	No

	Shared Open defecation	Yes	Yes	No
		Yes	Yes	No
Notes				
Original denomination	Classification	Urban	Rural	National
	Flush and pour flush	12.0	0.4	2.2
Flush to piped sewer system	to piped sewer system	1.6	0.1	0.4
Flush to septic tank	to septic tank	9.5	0.2	1.6
Flush to pit latrine	to pit	0.7	0.0	0.1
Flush to DK where	to unknown place/ not sure/DK	0.0	0.0	0.0
Flush to open drain	to elsewhere	0.2	0.0	0.0
	Flush/toilets			
	to piped sewer system			
	to septic tank			
	to pit			
	to unknown place/ not sure/DK			
	to elsewhere			
	Private flush/toilet			
	to piped sewer system			
	to septic tank			
	to pit			
	to unknown place/ not sure/DK			
	to elsewhere			

		Public/shared flush/toilet			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Latrines	85.6	89.3	88.8
		Pour flush latrines			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Private pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			
		to elsewhere			
		Public/shared pour flush latrine			
		to piped sewer system			
		to septic tank			
		to pit			
		to unknown place/ not sure/DK			

		to elsewhere			
	Dry latrines		85.6	89.3	88.8
		Improved latrines	54.5	29.5	33.4
Ventilated Improved Pit latrine		Ventilated Improved Pit latrine	1.4	1.4	1.4
Pit latrine with slab		Pit latrine with slab/covered latrine	53.1	28.2	32.1
		Traditional latrine			
Pit latrine without slab /Open pit		Pit latrine without slab/open pit	31.1	59.6	55.2
Hanging toilet / Hanging latrine		Hanging toilet/hanging latrine	0.0	0.2	0.1
Bucket		Bucket latrine	0.0	0.1	0.0
		Other			
		Private Latrines			
		Ventilated Improved Pit latrine			
		Pit latrine with slab/covered latrine			
		Traditional latrine			
		Pit latrine without slab/open pit			
		Hanging toilet/hanging latrine			
		Bucket latrine			
		Other			
		Public/shared Latrines			
		Ventilated Improved Pit latrine			
		Pit latrine with slab/covered latrine			

		Traditional latrine			
		Pit latrine without slab/open pit			
		Hanging toilet/hanging latrine			
		Bucket latrine			
		Other			
Composting toilet	Composting toilets		0.5	1.0	0.9
		Composting toilet (private)			
		Composting toilet (shared)			
	Other improved				
		Other			
		Other			
No facility / Bush / Field	No facility, bush, field		1.8	9.1	7.9
	Other unimproved		0.0	0.3	0.2
Other(Specify)		Other	0.0	0.3	0.2
		Other			
	DK/missing				
	Total		100.0	100.0	100.0
Calculations					
Estimations	Adjusted for pit latrines with slab based on MICS20		20.0	48.1	43.7

Ratios	Shared improved facilities/all improved facilities	45.7%	26.3%	31.9%
	Improved latrine / All latrines	64%	33%	38%
	Covered dry latrines / All dry latrines	62%	32%	
	VIP / All latrines	2%	2%	
	Traditional latrines / All latrines			
	Improved + traditional latrines / All latrines			
	Sewerage connection among flush/pour flush	13.2	38.9	
	Sewerage connection among flush			

Figure 5 Summary of basic Malawi National sanitation data from 2000-2022 processed by Our World in Data

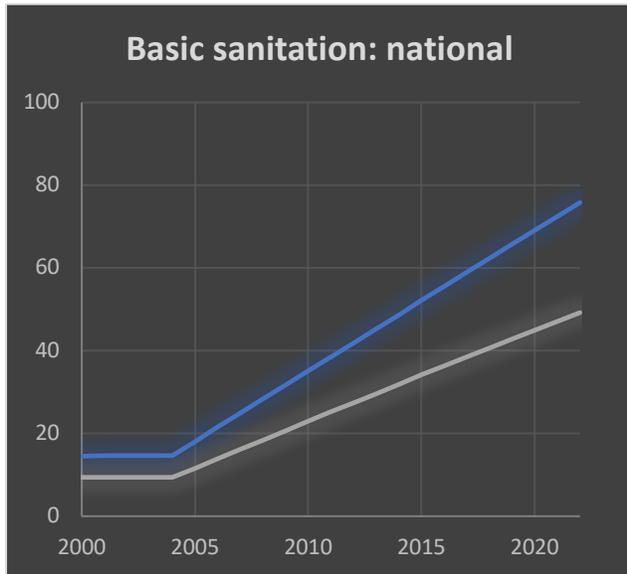


Figure 6 Summary of Urban Sanitation data 2000-2022 in Malawi processed by Our World in Data

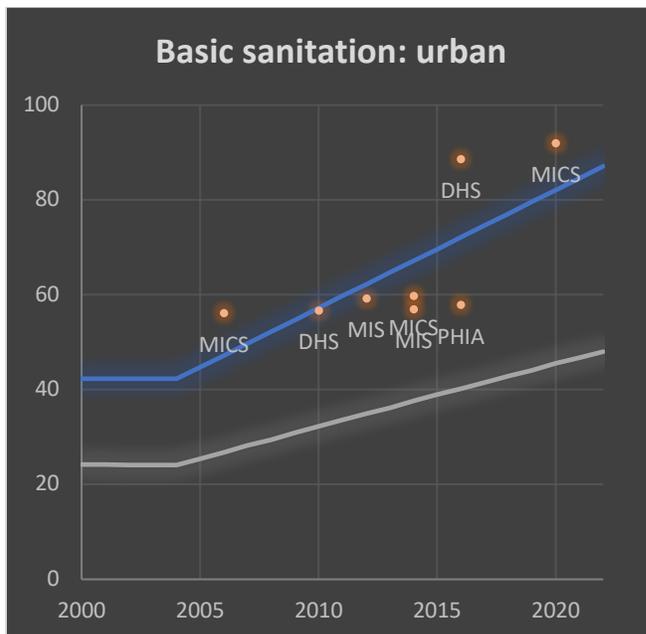


Figure 7 Summary of Rural Sanitation data processed by Our World in Data

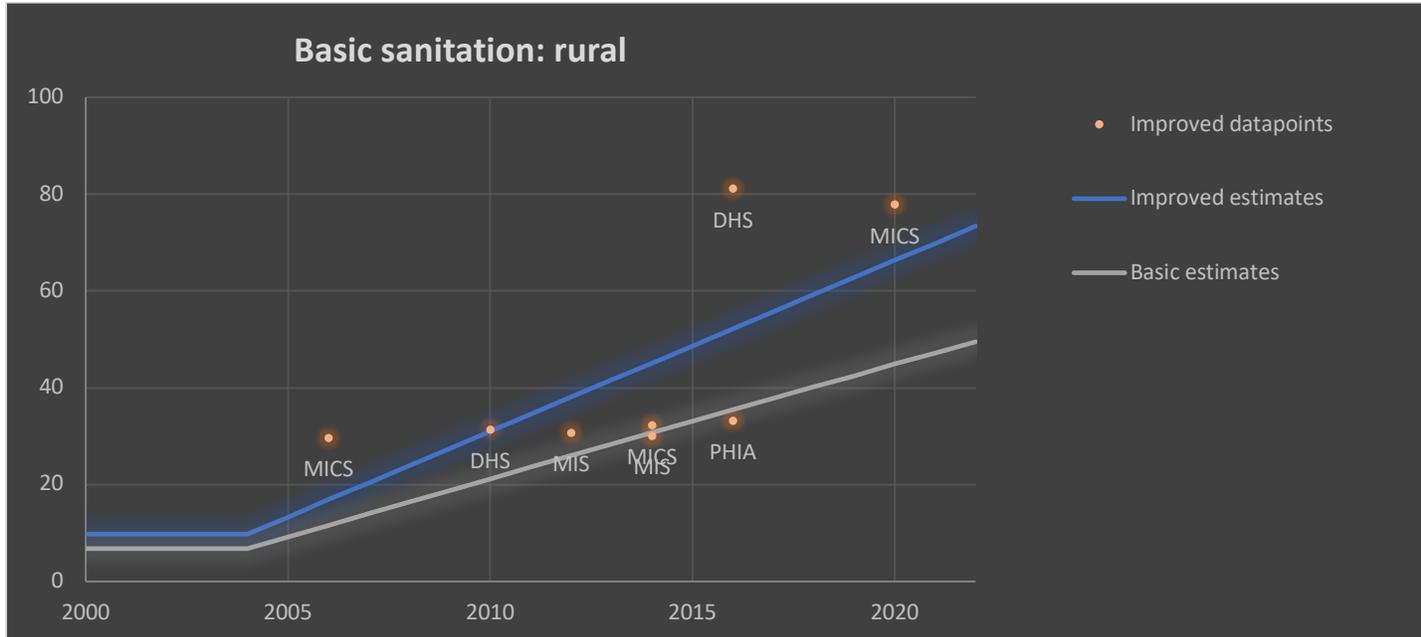


Figure 8 Summary of Open Defecation National Sanitation data processed by Our World in Data

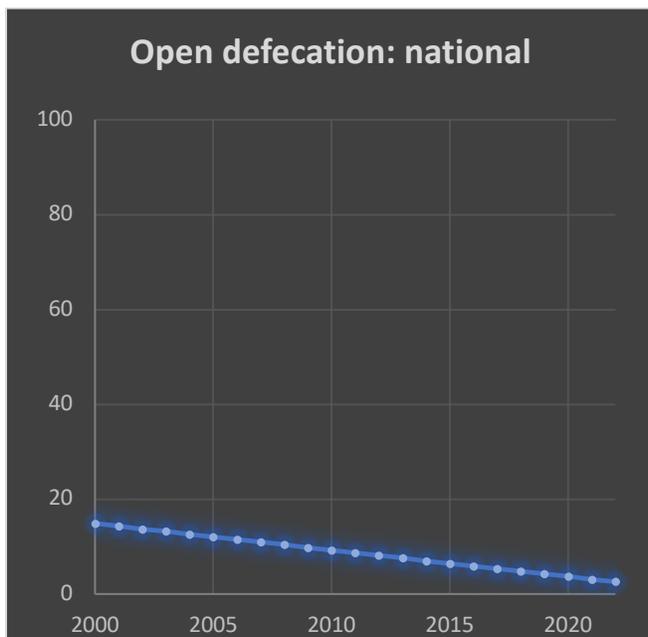
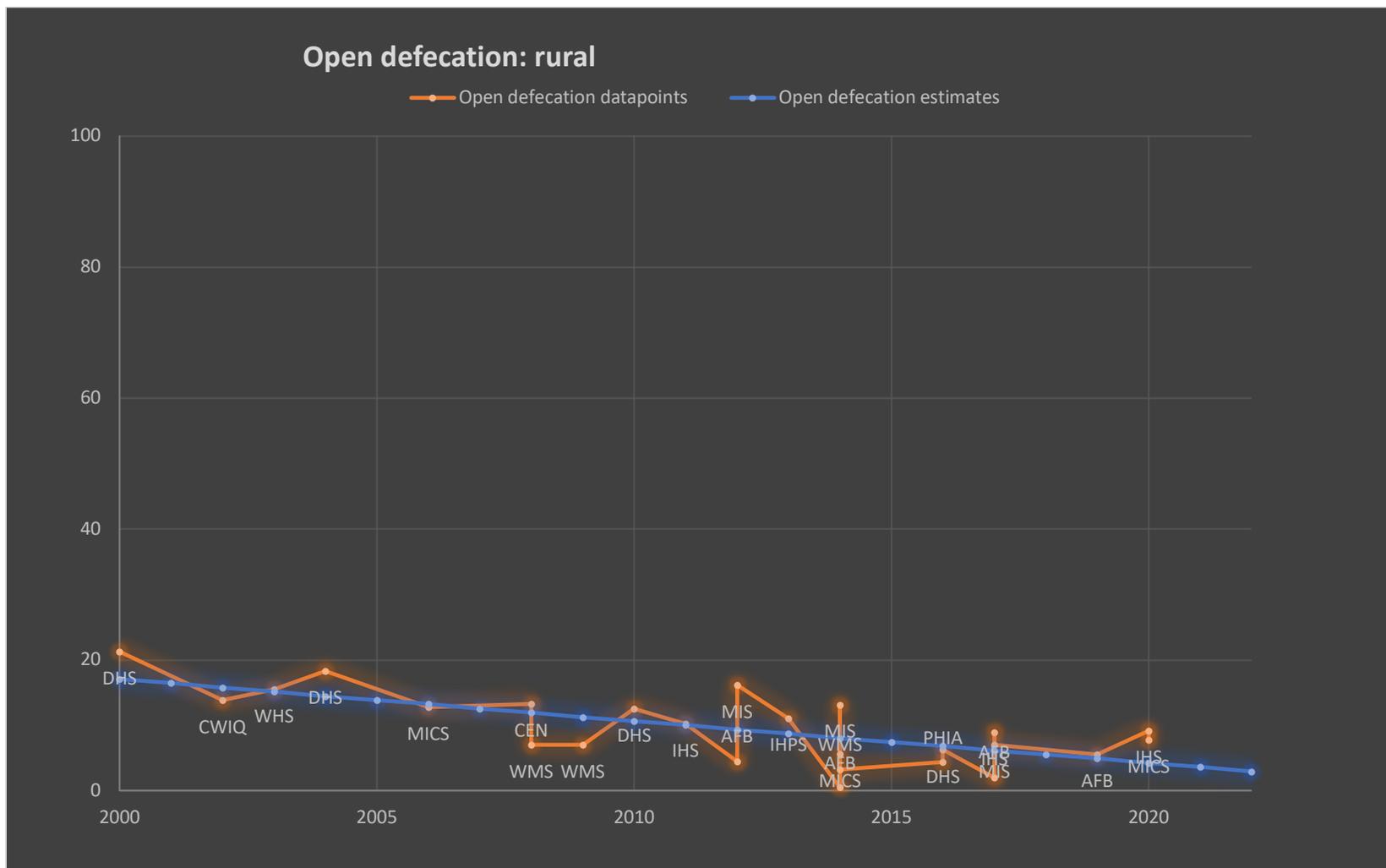
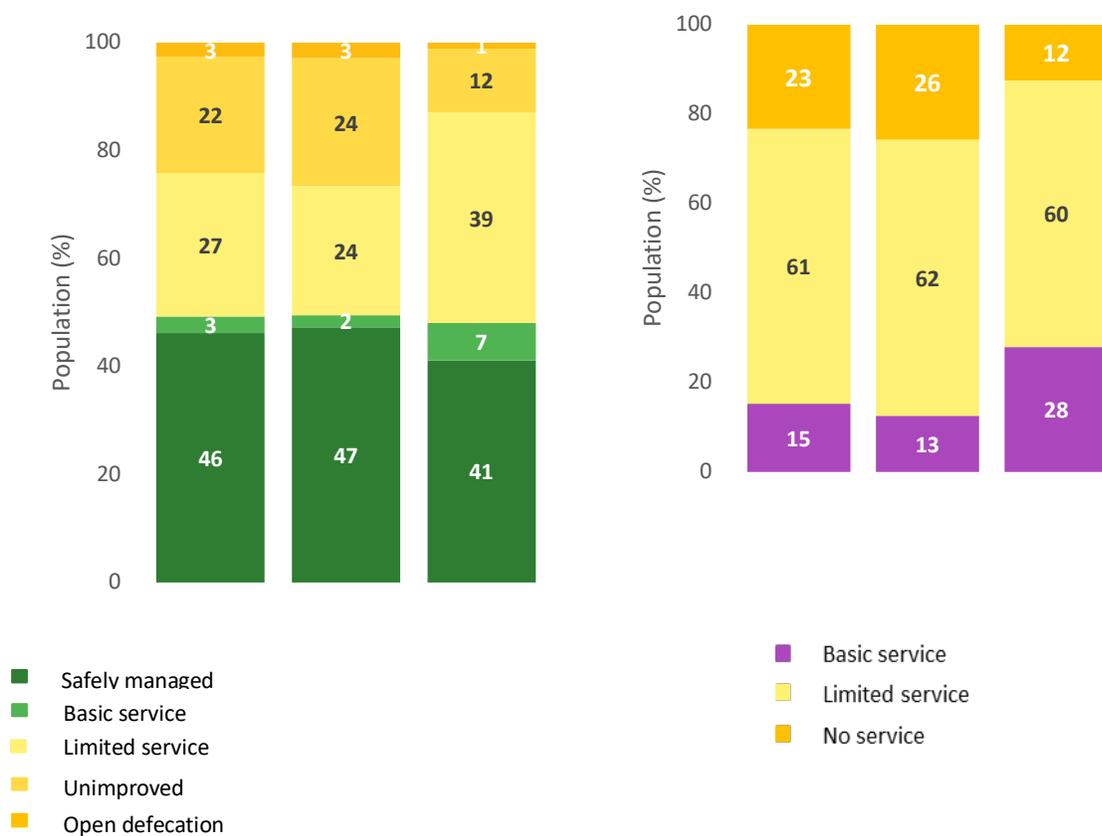


Figure 9 Summary of Open Defecation Rural Sanitation Data processed by our world in data



Sanitation and Hygiene ladders

Figure 10 Sanitation and Hygiene ladders source Our World in Data



Sanitation and Hygiene tabulated summary

Table 9 Summary of rural and urban sanitation and hygiene data for 2022

Malawi	Drinking water			Sanitation			Hygiene		
	National 2022	Rural 2022	Urban 2022	National 2022	Rural 2022	Urban 2022	National 2022	Rural 2022	Urban 2022
Safely managed	18	10	52	46	47	41	-	-	-
Basic service	54	59	34	3	2	7	15	13	28
Limited service	21	23	10	27	24	39	61	62	60
Unimproved	5	6	4	22	24	12	-	-	-
No service	2	2	0	3	3	1	23	26	12

Source: WHO/UNICEF JMP (2023)

Table 10 summary of hygiene and Sanitation data for urban and rural Malawi since 2000-2020

Estimates				Sanitation %										Hygiene %				
Country	Year	Setting	Population (1000s) Source: UN Population Division	Improved sanitation (at least basic (improved and not shared) or shared)			Unimproved sanitation			Population using improved sanitation facilities (including shared):			Population using improved sanitation facilities (excluding shared):			Population with a handwashing facility:		
				Improved sanitation (at least basic (improved and not shared) or shared)	Unimproved sanitation	Open defecation	Latrines and other	Septic tanks	Sewer connection	Disposed in situ	Emptied and treated	Wastewater treated	Observed (facility lacking water or soap)	Observed (facility with water and soap)				
Malawi	2000	National	14.5	9.4	5.2	70.6	14.9	10.1	2.4	2.0	7.2	0.0	0.6	7.8	91.3	75.9	15.5	
Malawi	2001	National	14.6	9.4	5.2	71.1	14.3	10.2	2.5	2.0	7.2	0.0	0.6	7.8	90.7	75.2	15.5	
Malawi	2002	National	14.6	9.4	5.2	71.7	13.7	10.2	2.5	1.9	7.2	0.0	0.6	7.8	90.0	74.5	15.5	

Malawi	2003	Natio nal	14. 6	9.4	5.3	72. 2	13. 2	10. 3	2.5	1.9	7.2	0.0	0.6	7.9	89. 3	73.9	15.4
Malawi	2004	Natio nal	14. 7	9.4	5.3	72. 7	12. 6	10. 3	2.5	1.9	7.3	0.0	0.6	7.9	88. 6	73.2	15.4
Malawi	2005	Natio nal	18. 1	11. 6	6.4	69. 9	12. 0	13. 7	2.5	1.9	9.5	0.0	0.6	10. 1	87. 9	72.5	15.4
Malawi	2006	Natio nal	21. 5	13. 9	7.5	67. 1	11. 5	17. 2	2.5	1.8	11.7	0.0	0.6	12. 3	87. 3	71.9	15.4
Malawi	2007	Natio nal	24. 9	16. 2	8.7	64. 2	10. 9	20. 6	2.5	1.8	13.9	0.0	0.6	14. 4	86. 6	71.2	15.4
Malawi	2008	Natio nal	28. 3	18. 4	9.8	61. 4	10. 4	24. 0	2.5	1.8	16.1	0.0	0.6	16. 6	85. 9	70.6	15.4
Malawi	2009	Natio nal	31. 7	20. 7	11. 0	58. 5	27. 9.8	27. 4	2.5	1.8	18.2	0.0	0.5	18. 8	85. 2	69.9	15.3
Malawi	2010	Natio nal	35. 1	23. 0	12. 1	55. 7	30. 9.2	30. 8	2.5	1.7	20.4	0.0	0.5	20. 9	84. 6	69.2	15.3
Malawi	2011	Natio nal	38. 5	25. 2	13. 3	52. 9	34. 8.7	34. 3	2.5	1.7	22.6	0.0	0.5	23. 1	83. 9	68.6	15.3
Malawi	2012	Natio nal	41. 9	27. 4	14. 4	50. 0	37. 8.1	37. 7	2.5	1.7	24.7	0.0	0.5	25. 2	83. 2	67.9	15.3
Malawi	2013	Natio nal	45. 3	29. 6	15. 6	47. 2	41. 7.6	41. 1	2.5	1.7	26.9	0.0	0.5	27. 4	82. 6	67.3	15.3
Malawi	2014	Natio nal	48. 7	31. 9	16. 8	44. 3	44. 7.0	44. 5	2.5	1.7	29.0	0.0	0.5	29. 5	81. 9	66.6	15.3

Malawi	2015	Natio nal	52. 1	34. 1	18. 0	41. 5	6.4	9	2.5	1.6	31.1	0.0	0.5	31. 6	81. 2	65.9	15.3
Malawi	2016	Natio nal	55. 5	36. 3	19. 2	38. 6	5.9	3	2.6	1.6	33.3	0.0	0.5	33. 7	80. 6	65.3	15.3
Malawi	2017	Natio nal	58. 9	38. 5	20. 4	35. 8	5.3	7	2.6	1.6	35.4	0.0	0.5	35. 8	79. 9	64.6	15.3
Malawi	2018	Natio nal	62. 3	40. 6	21. 6	32. 9	4.8	1	2.6	1.6	37.5	0.0	0.5	37. 9	79. 3	64.0	15.3
Malawi	2019	Natio nal	65. 7	42. 8	22. 9	30. 1	4.2	5	2.6	1.6	39.6	0.0	0.5	40. 0	78. 6	63.3	15.3
Malawi	2020	Natio nal	69. 1	45. 0	24. 1	27. 3	3.7	9	2.6	1.6	41.6	0.0	0.5	42. 1	78. 0	62.7	15.3
Malawi	2021	Natio nal	72. 4	47. 1	25. 3	24. 4	3.1	2	2.7	1.5	43.7	0.0	0.5	44. 1	77. 3	62.0	15.3
Malawi	2022	Natio nal	75. 8	49. 2	26. 6	21. 6	2.6	6	2.7	1.5	45.7	0.0	0.4	46. 2	76. 7	61.4	15.3
Malawi	2000	Rural	9.8	6.8	3.0	73. 2	17. 0	7.6	0.9	1.3	5.6	0.0	0.4	6.0	90. 2	77.7	12.5
Malawi	2001	Rural	9.8	6.8	3.0	73. 8	16. 4	7.6	0.9	1.2	5.6	0.0	0.4	6.0	89. 5	77.0	12.5
Malawi	2002	Rural	9.8	6.8	3.0	74. 5	15. 7	7.7	0.9	1.2	5.6	0.0	0.4	6.0	88. 8	76.3	12.5
Malawi	2003	Rural	9.8	6.8	3.0	75. 1	15. 1	7.7	0.9	1.2	5.6	0.0	0.4	6.0	88. 1	75.5	12.5

Malawi	2004	Rural	9.8	6.8	3.0	75.8	14.4	7.8	0.9	1.1	5.6	0.0	0.4	6.0	3	87.3	74.8	12.5
Malawi	2005	Rural	13.3	9.2	4.1	72.9	13.8	11.4	0.8	1.1	8.0	0.0	0.4	8.4	6	86.6	74.1	12.5
Malawi	2006	Rural	16.9	11.6	5.2	70.0	13.2	15.0	0.8	1.1	10.3	0.0	0.4	10.7	9	85.9	73.3	12.5
Malawi	2007	Rural	20.4	14.0	6.4	67.1	12.5	18.6	0.8	1.0	12.7	0.0	0.4	13.1	2	85.2	72.6	12.5
Malawi	2008	Rural	23.9	16.4	7.5	64.2	11.9	22.1	0.8	1.0	15.0	0.0	0.3	15.4	4	84.4	71.9	12.5
Malawi	2009	Rural	27.5	18.8	8.6	61.3	11.2	25.7	0.7	1.0	17.4	0.0	0.3	17.7	7	83.7	71.2	12.5
Malawi	2010	Rural	31.0	21.2	9.7	58.4	10.6	29.3	0.7	1.0	19.7	0.0	0.3	20.0	0	83.0	70.4	12.5
Malawi	2011	Rural	34.5	23.6	10.9	55.5	10.0	32.9	0.7	0.9	22.0	0.0	0.3	22.3	3	82.3	69.7	12.5
Malawi	2012	Rural	38.1	26.0	12.0	52.6	9.3	36.5	0.7	0.9	24.3	0.0	0.3	24.6	6	81.6	69.0	12.5
Malawi	2013	Rural	41.6	28.4	13.2	49.7	8.7	40.1	0.6	0.9	26.6	0.0	0.3	26.9	9	80.9	68.3	12.5
Malawi	2014	Rural	45.1	30.8	14.4	46.8	8.0	43.7	0.6	0.8	28.9	0.0	0.3	29.2	2	80.2	67.5	12.5
Malawi	2015	Rural	48.6	33.1	15.5	43.9	7.4	47.3	0.6	0.8	31.2	0.0	0.3	31.5	5	79.5	66.8	12.5

Malawi	2016	Rural	52.2	35.5	16.7	41.1	6.8	9	0.6	0.8	33.5	0.0	0.3	33.8	78.6	66.1	12.5
Malawi	2017	Rural	55.7	37.8	17.9	38.2	6.1	4	0.5	0.7	35.8	0.0	0.2	36.0	77.9	65.4	12.5
Malawi	2018	Rural	59.2	40.2	19.1	35.3	5.5	0	0.5	0.7	38.1	0.0	0.2	38.3	77.2	64.6	12.5
Malawi	2019	Rural	62.8	42.5	20.3	32.4	4.9	6	0.5	0.7	40.3	0.0	0.2	40.6	76.5	63.9	12.5
Malawi	2020	Rural	66.3	44.9	21.4	29.5	4.2	2	0.5	0.6	42.6	0.0	0.2	42.8	75.7	63.2	12.5
Malawi	2021	Rural	69.8	47.2	22.7	26.6	3.6	8	0.4	0.6	44.8	0.0	0.2	45.1	75.0	62.5	12.5
Malawi	2022	Rural	73.4	49.5	23.9	23.7	2.9	4	0.4	0.6	47.1	0.0	0.2	47.3	74.3	61.7	12.5
Malawi	2000	Urban	42.3	24.2	18.0	55.4	2.4	8	2	6.2	16.6	0.0	1.8	18.4	97.8	65.1	32.8
Malawi	2001	Urban	42.3	24.2	18.1	55.4	2.3	9	2	6.2	16.6	0.0	1.8	18.4	97.3	64.8	32.5
Malawi	2002	Urban	42.3	24.1	18.1	55.5	2.3	8	3	6.2	16.6	0.0	1.8	18.3	96.9	64.6	32.3
Malawi	2003	Urban	42.3	24.1	18.2	55.5	2.2	7	4	6.1	16.5	0.0	1.8	18.3	96.4	64.3	32.1
Malawi	2004	Urban	42.3	24.1	18.2	55.6	2.1	6	5	6.1	16.5	0.0	1.7	18.2	96.0	64.1	31.9

Malawi	2005	Urban	44.8	25.4	19.3	53.2	2.1	0	6	6.1	17.8	0.0	1.7	19.5	95.5	63.8	31.6
Malawi	2006	Urban	47.2	26.8	20.4	50.7	2.0	5	7	6.1	19.1	0.0	1.7	20.8	95.0	63.6	31.4
Malawi	2007	Urban	49.7	28.2	21.6	48.3	2.0	9	8	6.1	20.4	0.0	1.7	22.1	94.6	63.4	31.2
Malawi	2008	Urban	52.2	29.5	22.7	45.9	1.9	3	9	6.1	21.7	0.0	1.7	23.4	94.1	63.1	31.0
Malawi	2009	Urban	54.7	30.9	23.8	43.4	1.9	7	0	6.1	23.0	0.0	1.7	24.7	93.6	62.9	30.8
Malawi	2010	Urban	57.2	32.2	25.0	41.0	1.8	1	1	6.0	24.3	0.0	1.7	26.0	93.2	62.6	30.5
Malawi	2011	Urban	59.7	33.6	26.1	38.6	1.7	5	1	6.0	25.6	0.0	1.7	27.3	92.7	62.4	30.3
Malawi	2012	Urban	62.2	34.9	27.3	36.1	1.7	9	2	6.0	26.9	0.0	1.7	28.6	92.2	62.1	30.1
Malawi	2013	Urban	64.7	36.2	28.4	33.7	1.6	3	3	6.0	28.2	0.0	1.7	29.9	91.8	61.9	29.9
Malawi	2014	Urban	67.2	37.6	29.6	31.3	1.6	8	4	6.0	29.5	0.0	1.7	31.1	91.3	61.7	29.7
Malawi	2015	Urban	69.6	38.9	30.7	28.9	1.5	2	5	6.0	30.7	0.0	1.7	32.4	90.9	61.4	29.4
Malawi	2016	Urban	72.1	40.2	31.9	26.4	1.4	6	6	6.0	32.0	0.0	1.7	33.7	90.4	61.2	29.2

Malawi	2017	Urban	74.6	41.5	33.1	24.0	1.4	0	7	5.9	33.3	0.0	1.7	34.9	89.9	60.9	29.0
Malawi	2018	Urban	77.1	42.8	34.3	21.6	1.3	4	8	5.9	34.5	0.0	1.6	36.2	89.5	60.7	28.8
Malawi	2019	Urban	79.6	44.1	35.4	19.1	1.3	8	9	5.9	35.8	0.0	1.6	37.4	89.0	60.4	28.6
Malawi	2020	Urban	82.1	45.5	36.6	16.7	1.2	2	0	5.9	37.1	0.0	1.6	38.7	88.5	60.2	28.3
Malawi	2021	Urban	84.6	46.7	37.8	14.3	1.2	6	1	5.9	38.3	0.0	1.6	39.9	88.1	59.9	28.1
Malawi	2022	Urban	87.1	48.0	39.0	11.8	1.1	1	1	5.9	39.5	0.0	1.6	41.2	87.6	59.7	27.9

CHAPTER 4 DISCUSSION OF RESULTS

4.1. Demographic Characteristics

Improved Sanitation Facilities: The percentage of the population using improved sanitation facilities (excluding shared facilities) has increased over the years, indicating progress in infrastructure development.

1. Open Defecation: The percentage of the population practicing open defecation has decreased steadily, which is a positive trend towards better sanitation practices.
2. Handwashing Facilities: The percentage of the population with access to a handwashing facility has also shown improvement, although there is still a significant gap, especially in rural areas.
3. Safely Managed Sanitation: The proportion of the population with safely managed sanitation (including safe disposal of excreta and handwashing facilities) has increased, but there is still room for improvement, especially in rural areas.
4. Urban-Rural Disparities: There are significant differences between urban and rural areas in terms of access to improved sanitation facilities and handwashing facilities. Urban areas generally have better access to these facilities compared to rural areas.

Overall, while there have been improvements in sanitation and hygiene in Malawi over the years, there is still a need for continued efforts to ensure universal access to improved sanitation facilities and handwashing facilities, especially in rural areas

In the context of sanitation marketing, demographic characteristics are essential for understanding the target market and developing effective marketing strategies. Here are some key demographic characteristics that should be often considered:

1. The income of the target market determines their purchasing power and willingness to invest in improved sanitation products or services.
2. Education can influence people's awareness of sanitation issues and their understanding of the benefits of improved sanitation practices.
3. Rural and urban populations may have different sanitation needs and preferences, requiring tailored marketing approaches.
4. Larger households may have different sanitation requirements compared to smaller households.
5. Different age groups may have varying perceptions of sanitation and hygiene practices.
6. Gender roles and responsibilities can influence decision-making regarding sanitation practices and purchases.
7. The type of work people do can impact their access to sanitation facilities and their understanding of sanitation issues.
8. The availability and accessibility of sanitation services and facilities in a particular area can affect marketing strategies.
9. Cultural beliefs and social norms can influence attitudes towards sanitation and the adoption of new sanitation practices.
10. The health status of the target population can impact their priorities and willingness to invest in sanitation.

By considering these demographic characteristics, sanitation marketers can develop targeted campaigns and interventions that are more likely to resonate with their target audience and lead to increased adoption of improved sanitation practices

4.2. Descriptive Statistics

Here are some descriptive statistics based on the provided data for the percentage of the population using improved sanitation facilities (excluding shared facilities) in Malawi:

- Mean: The average percentage over the years is approximately 31.46%.
- Median: The middle value (or median) of the data is 31.9%, indicating that half of the values are below this point and half are above.
- Minimum: The minimum value in the data set is 9.4%, which likely occurred in the year 2000.
- Maximum: The maximum value in the data set is 51.3%, which likely occurred in the year 2022.

In a nutshell, the mean (or average) percentage of approximately 31.46% indicates the central tendency of the data. It provides a typical value around which the observations tend to cluster. In this case, it suggests that, on average, about 31.46% of the population in Malawi had access to improved sanitation facilities (excluding shared facilities) over the years. The median value of 31.9% is the middle value of the dataset when arranged in ascending order. It's useful because it is not affected by extreme values (outliers) in the dataset. In this case, it indicates that half of the observations fall below 31.9% and half fall above. The minimum value of 9.4% represents the smallest percentage of the population using improved sanitation facilities in any given year. This helps us understand the lowest level of access observed in the dataset. The maximum value of 51.3% represents the largest percentage of the population using improved sanitation facilities in any given year. This helps us understand the highest level of access observed in the dataset. The standard deviation of approximately 13.18% indicates the spread or dispersion of the data points around the mean. A higher standard deviation suggests that the data points are more spread out from the mean, indicating greater variability in access to improved sanitation facilities over the years. The standard deviation is approximately 13.18%, indicating the spread or dispersion of the data around the mean.

These statistics provide a basic understanding of the distribution of the percentage of the population using improved sanitation facilities in Malawi over the years and there is a substantial improvement in sanitation due to the approaches discussed.

4.3. Training

Based on the data provided, a training strategy for sanitation marketing in Malawi could focus on the following key areas to improve sanitation marketing and the outputs of the programs beyond project lifecycle to also promote sustainability.

1. Training should provide a thorough understanding product knowledge of the sanitation products and services being marketed, including their features, benefits, and how they meet the needs of different segments of the population.
2. Training should include how to conduct market research to identify target markets, understand customer needs and preferences, and assess the competition.
3. Training should cover effective marketing and promotion strategies, including branding, advertising, and customer engagement techniques tailored to the Malawian context.
4. Training should focus on developing sales skills, including effective communication, negotiation, and customer relationship management to convert leads into sales.
5. Training should include basic financial management skills, such as pricing strategies, budgeting, and profit calculation, to ensure sustainable business operations.
6. Training should cover how to monitor and evaluate the performance of sanitation marketing initiatives, including tracking sales, customer feedback, and impact on sanitation access.
7. Training should emphasize the importance of building partnerships and networks with government agencies, NGOs, and other stakeholders to support and scale up sanitation marketing efforts.
8. Training should include behavior change communication techniques to promote the adoption of improved sanitation practices among the population.
9. Training should ensure compliance with relevant laws and regulations related to sanitation marketing, including product standards and licensing requirements.
10. Training should focus on creating sustainable business models for sanitation marketing, including identifying revenue streams, cost-effective operations, and long-term planning.

Overall, the training strategy should be comprehensive, practical, and tailored to the needs of sanitation marketers in Malawi, aiming to build their capacity to effectively promote and sell sanitation products and services, ultimately improving sanitation access and public health

4.5 Regression Analysis

Overall results of regression analysis.

The model shows a very strong positive linear relationship between the year and the percentage of improved sanitation (R-squared: 0.991). This indicates that 99.1% of the variance in improved sanitation can be explained by the year.*The F-statistic (2316* and its p-value (5.61e-23) are highly statistically significant, meaning there is very strong evidence to reject the null hypothesis

that the slope of the regression line is zero. In other words, the year has a significant positive impact on the percentage of improved sanitation.

Coefficients:

The intercept (-4159.289) represents the estimated percentage of improved sanitation in the year 2000 (when the independent variable, year, is 0). However, this value is likely not meaningful in the context of this data, as improved sanitation wouldn't be negative. The slope coefficient (2.0821) indicates that for every year increase, the percentage of improved sanitation increases by an average of 2.0821%. This positive coefficient further confirms the positive relationship between year and improved sanitation.

Diagnostics:

The high R-squared and significant F-statistic suggest the model fits the data well overall. However, the high condition number (6.1e+05) indicates a potential issue with multicollinearity. This means the independent variable might be highly correlated with other factors not included in the model, potentially affecting the reliability of the coefficient estimates. The Omnibus test, Jarque-Bera test, and normality tests (skewness and kurtosis) indicate that the errors might not be normally distributed. This could affect the validity of the p-values and confidence intervals. The model suggests a strong positive relationship between the year and the percentage of improved sanitation. This is evidence that there is an improvement in sanitation due to sanitation marketing.

Aspect	Summary
Relationship between year and % of improved sanitation	Strong positive linear relationship (R-squared: 0.991)
Impact of the year	Each year increase results in an average increase of 2.0821% in improved sanitation
Statistical significance	Highly significant F-statistic (2316) and low p-value (5.61e-23)
Model fit	Model fits the data well overall (high R-squared)
Potential issues	High condition number suggests potential multicollinearity issues
Error distribution	Errors might not be normally distributed, affecting p-values and confidence intervals
Conclusion	Strong evidence of improvement in sanitation due to marketing efforts in Malawi

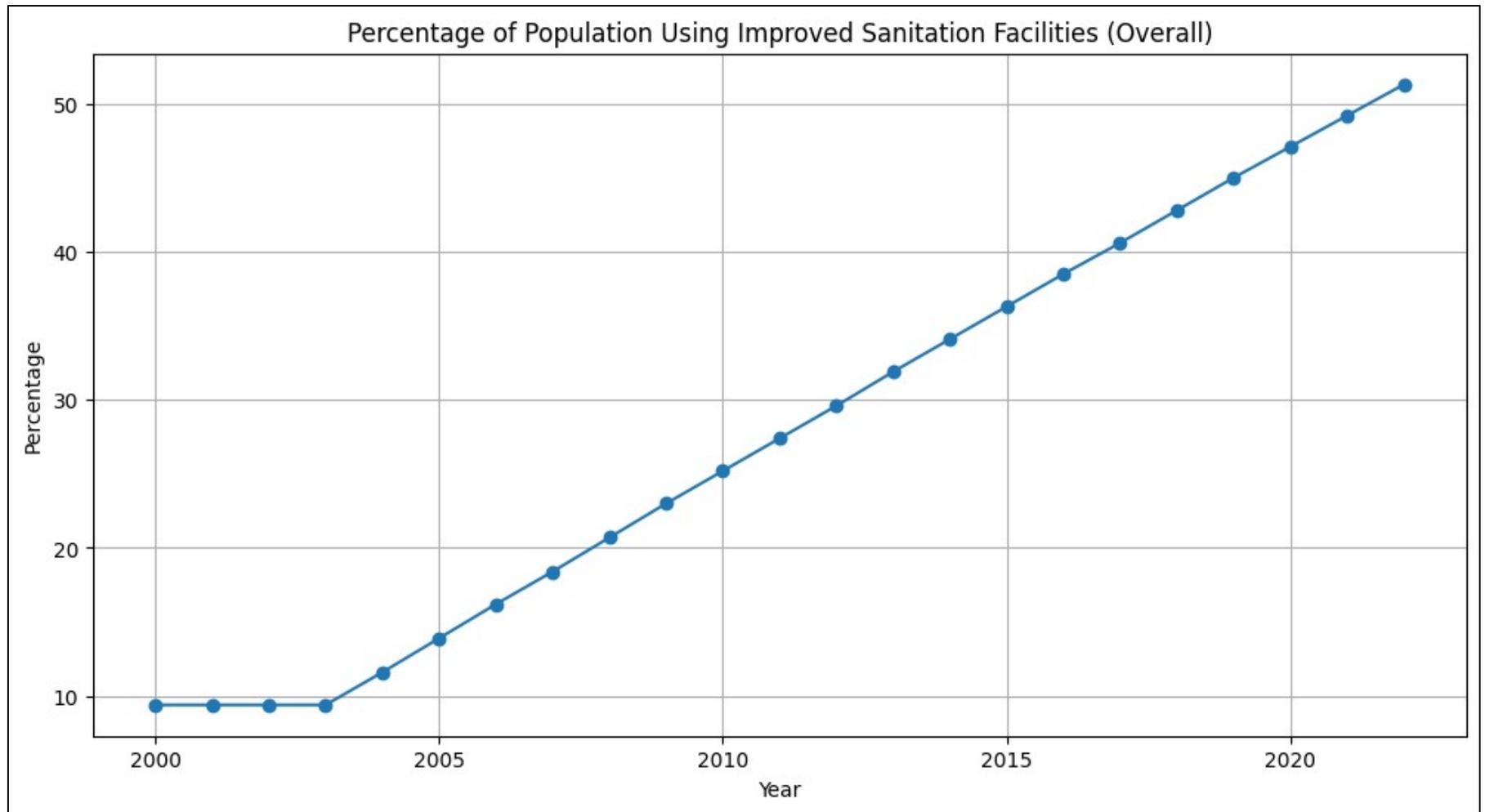
The regression analysis conducted in this study reveals a compelling and statistically significant relationship between the year and the percentage of improved sanitation in Malawi. With an impressive R-squared value of 0.991, it indicates that 99.1% of the variability in improved sanitation can be explained by the year, demonstrating a strong positive linear relationship.

The F-statistic, along with its extremely low p-value, further supports the significance of this relationship, providing robust evidence to reject the null hypothesis that the slope of the regression line is zero. This suggests that each passing year has a substantial positive impact on the percentage of improved sanitation, indicating tangible progress in sanitation due to marketing efforts.

However, it's worth noting that the high condition number raises concerns about potential multicollinearity issues, suggesting that the independent variable (year) might be correlated with other unaccounted factors. Additionally, the diagnostic tests indicate that the errors in the model might not be normally distributed, which could affect the reliability of the coefficient estimates.

Despite these considerations, the overall findings from the regression analysis strongly support the notion that sanitation marketing initiatives in Malawi have had a significant positive impact on improving sanitation access over time. This underscores the importance of continued efforts and targeted strategies to sustain and enhance these achievements for the benefit of public health and well-being in the region.

Figure 9 overall performance of Sanitation in Malawi



CHAPTER 5 CONCLUSION AND RECOMMENDATIONS

5.1. Summary of Research

The research focuses on sanitation marketing strategies in Malawi, aiming to understand the trends, challenges, and opportunities for improving sanitation access and public health. The study examines demographic characteristics, descriptive statistics, training strategies, and performance indicators related to sanitation marketing in Malawi.

Key Findings:

1. The research shows a significant increase in the percentage of the population using improved sanitation facilities, indicating progress in infrastructure development.
2. The study observes a steady decrease in the percentage of the population practicing open defecation, suggesting positive trends in sanitation practices.
3. There is improvement in access to handwashing facilities, although rural areas still lag behind.
4. The proportion of the population with safely managed sanitation has increased, but there is room for improvement, especially in rural areas.
5. There are significant differences between urban and rural areas in terms of access to improved sanitation facilities and handwashing facilities.

Demographic Characteristics:

1. Income levels influence purchasing power and willingness to invest in improved sanitation products or services.
2. Education influences awareness of sanitation issues and understanding of the benefits of improved sanitation practices.
3. Different sanitation needs and preferences require tailored marketing approaches.
4. Larger households may have different sanitation requirements compared to smaller households.
5. Different age groups may have varying perceptions of sanitation and hygiene practices.
6. Gender roles can influence decision-making regarding sanitation practices and purchases.
7. The type of work can impact access to sanitation facilities and understanding of sanitation issues.
8. The availability and accessibility of sanitation services and facilities can affect marketing strategies.
9. Cultural beliefs and social norms influence attitudes towards sanitation and adoption of new practices.
10. Health status impacts priorities and willingness to invest in sanitation.

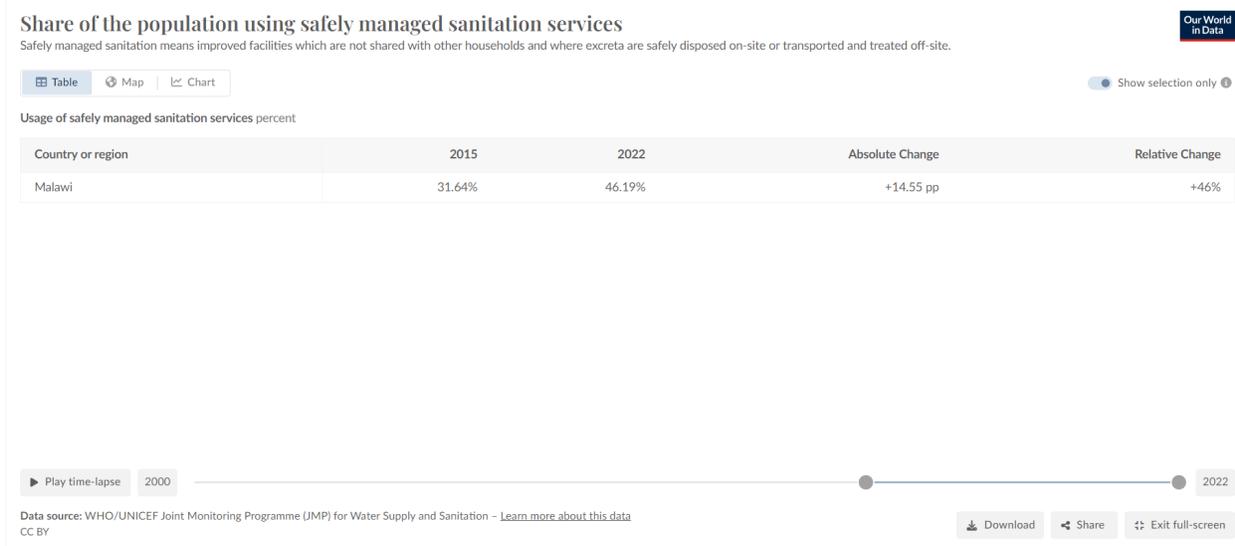
Training Strategies

1. Understanding sanitation products and services, their features, benefits, and how they meet different population segments' needs.
2. Identifying target markets, understanding customer needs and preferences, and assessing the competition.
3. Effective strategies tailored to the Malawian context, including branding, advertising, and customer engagement.
4. Effective communication, negotiation, and customer relationship management.
5. Pricing strategies, budgeting, and profit calculation for sustainable business operations.
6. Tracking sales, customer feedback, and impact on sanitation access.
7. Building partnerships with government agencies, NGOs, and stakeholders.
8. Promoting adoption of improved sanitation practices.
9. Ensuring compliance with relevant laws and regulations.
10. Identifying revenue streams, cost-effective operations, and long-term planning.

This research highlights the progress and challenges in sanitation marketing in Malawi, emphasizing the importance of tailored strategies to address demographic characteristics and promote sustainable improvements in sanitation access and public health. Further research and collaboration are needed to continue advancing sanitation marketing efforts in Malawi.

5.2. Conclusion of the Study

Figure 10 relative change in the population using improved sanitation



The findings of this study provide valuable insights into sanitation marketing strategies in Malawi, indicating significant progress in improving sanitation access and practices. The increase in the percentage of the population using improved sanitation facilities, coupled with a reduction in open defecation, reflects positive trends in infrastructure development and sanitation behavior. However, challenges remain, particularly in rural areas where access to handwashing facilities and safely managed sanitation is still limited.

Demographic characteristics such as income, education, rural-urban disparities, household size, and cultural beliefs play a crucial role in shaping sanitation preferences and practices. Tailoring marketing strategies to address these characteristics is essential for promoting behavior change and increasing adoption of improved sanitation practices.

The training strategies outlined in this study provide a comprehensive framework for building the capacity of sanitation marketers in Malawi. From product knowledge to financial management and compliance, these strategies aim to equip marketers with the skills and knowledge needed to effectively promote sanitation products and services.

Overall, this study underscores the importance of continued efforts to improve sanitation access and public health in Malawi. By addressing the diverse needs and preferences of the population through targeted marketing strategies and sustainable business models, we can work towards universal access to improved sanitation facilities and a healthier future for all Malawians.

5.3. Recommendations of the study

Based on the data on the percentage of the population using improved sanitation facilities in Malawi over the years, the following recommendations can be made to improve sanitation marketing and access to both urban and rural areas.

1. Targeted Marketing Strategies: Identify and target specific populations, such as those in rural areas or urban slums, with tailored marketing campaigns to increase awareness and adoption of improved sanitation facilities.
2. Partnerships and Collaborations: Collaborate with local governments, NGOs, and community organizations to enhance the reach and impact of sanitation marketing efforts, especially in underserved areas.
3. Product Innovation: Encourage the development and promotion of affordable and culturally appropriate sanitation products and services to meet the diverse needs of the population.
4. Behavior Change Communication: Implement behavior change communication programs to promote the adoption of improved sanitation practices, including proper handwashing and toilet use.
5. Financial Incentives: Explore the possibility of providing financial incentives, such as subsidies or microfinance options, to make improved sanitation facilities more accessible and affordable to low-income households.
6. Monitoring and Evaluation: Establish robust monitoring and evaluation mechanisms to track the progress of sanitation marketing initiatives and assess their impact on improving access to improved sanitation facilities.
7. Capacity Building: Provide training and capacity-building programs for sanitation marketers, community health workers, and other stakeholders to enhance their skills in promoting and selling sanitation products and services.
8. Policy Support: Advocate for supportive policies and regulations that promote investment in sanitation marketing and improve access to improved sanitation facilities for all.

By implementing these recommendations, stakeholders can work towards improving sanitation access in Malawi, leading to better public health outcomes and overall quality of life for the population.

5.4. Recommendations for Future Studies

Based on the data on the percentage of the population using improved sanitation facilities in Malawi over the years, here are some recommendations for future studies that would further clarify this data.

1. Conduct longitudinal studies to track changes in sanitation access and behavior over time, allowing for a deeper understanding of trends and factors influencing access to improved sanitation facilities.
2. Conduct qualitative research to explore the cultural, social, and economic factors that influence sanitation practices and decision-making in Malawi, providing insights into the underlying reasons for the observed trends.
3. Conduct impact assessment studies to evaluate the effectiveness of sanitation marketing interventions and identify best practices for improving access to improved sanitation facilities.
4. Conduct comparative studies to compare sanitation access and practices between different regions or demographic groups within Malawi, helping to identify disparities and target interventions more effectively.
5. Conduct cost-benefit analyses of sanitation marketing interventions to assess their economic viability and inform decision-making regarding resource allocation for sanitation improvement efforts.
6. Conduct policy analysis to evaluate the effectiveness of existing sanitation policies and regulations in Malawi and identify areas for improvement to enhance access to improved sanitation facilities.
7. Explore innovative approaches, such as using mobile technology or social marketing techniques, to promote improved sanitation practices and increase access to sanitation facilities in Malawi.

By conducting these types of studies, researchers can contribute to the development of evidence-based policies and interventions that can help improve access to improved sanitation facilities and ultimately enhance public health outcomes in Malawi

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Appendices

Appendix 1. Data tables explanation.

This document is a JMP country file. JMP country files have been created in Excel for drinking water, sanitation, hygiene and menstrual health in households based on the scope and ambition of the SDG targets. The country files detail the data sources that are available in the JMP database, as well as the resulting JMP estimates. The following outlines each tab of the country files for WASH in households.

Introduction	The Excel spreadsheet has a series of tabs but for ease of reference the front page includes links to the key tabs. The dropdown box can be used to choose the preferred UN language.
Ladders	This tab displays drinking water, sanitation and hygiene 'ladders' used by the JMP for global monitoring purposes. The ladders show the latest national, urban and rural estimates. Summary estimates are tabulated below as they will appear in the statistical tables at the back of JMP progress reports on households.
Charts SM	This tab includes charts showing estimate coverage trends since the year 200 for the proportion of population with: (1) improved water sources which are accessible on premises, available when needed and free from contamination); (2) improved water source which is piped/non piped; (3) improved sanitation facilities (including shared) with sewer connections/septic tanks/latrines and other; and (4) improved sanitation facilities (excluding shared) which are disposed of in situ/emptied and treated/wastewater treated).
Charts B	This tab includes charts showing estimated coverage trends for improved and basic drinking water, improved and basic sanitation, basic hygiene and open defecation since the year 2000. All the charts illustrate the JMP method of using a linear regression of available data points to generate estimates for a given reference year and highlight differences between estimates of 'improved,' which has been a common indicator used in the past, and estimates of 'basic' services.
Estimates	This tab provides estimated values for drinking water, sanitation and hygiene for all years possible from 2000 through the latest reference year. Estimates are provided for several settings: national, urban and rural
Data Summary	This tab provides a comprehensive list of all national data sources included in the country file in chronological order. It shows which sources are used for the calculation of different indicators, and the type of data source (survey, survey with microdata, census or other). Values in the database that are not used to produce estimates are indicated with square brackets. For more detailed information see the 'Water data', 'Sanitation data', 'Hygiene data' and 'Menstrual health data' tabs.
Water, sanitation, hygiene, wastewater and menstrual health data	These tabs include details on each data source for drinking water, sanitation, hygiene, wastewater and menstrual health in households, including original definitions and assumptions made. These tabs include notes detailing how the data have been extracted, recorded and used in the country file.
Population	This tab include the data from the UN Population Division used to calculate JMP estimates

Country files are available for each country with data on the JMP website: <https://washdata.org/data/downloads>

I hereby declare that this Master's Thesis is all my own work. I have only used the sources or resources I have explicitly referenced. I have attributed all direct and indirect quotations.

[Malawi, 01/03/2024] [

