FACTORS INFLUENCING THE WASH PRACTICES ADOPTION AMONG RESIDENTS OF DADAJABULLA WARD, WAJIR SOUTH CONSTITUENCY, KENYA

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DECLARATION AND APPROVAL

STUDENT DECLARATION

This thesis is entirely unique with no submissions for credit toward a degree or other honors from any other university.

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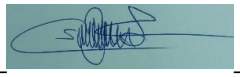
Signature: _____  _____Date: ___12TH JULY 2025___

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DEDICATION

I dedicate this research to my family.

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ABSTRACT

In the context of Dadajabulla Ward, Wajir South Constituency, a region characterized by water scarcity, frequent severe weather conditions, and socio-economic challenges, the adoption and sustained use of Water, Sanitation, and Hygiene (WASH) practices are crucial for enhancing public health and socio-economic development. However, despite the critical need, the implementation of effective WASH practices remains inadequate. There is a significant lack of localized data that considers the unique socio-economic, cultural, and environmental characteristics of specific regions like Dadajabulla Ward, hindering targeted interventions. The current study aims to bridge this gap by investigating the particular local factors that influence WASH practice adoption in the region. The study was a descriptive cross-sectional study with a mixed-methods approach with a sample respondents of 368. This study employed multistage sampling incorporating both purposive and systematic random sampling. Primary data was gathered using interviewing of the key informants and structured questionnaires. The data collected was analysed through descriptive and inferential statistics involving chi-square, and logistic regression. In 53.3% of the families, the overall WASH practices were found to be extremely inadequate. The majority of respondents (41.9%) said that the bad state of WASH was caused by strong cultural and traditional practices. Given its higher variability (M=2.09, SD=1.38, Weighted Score=1003.2) and ranking first in relation to other components, it was clear that cultural practices were having a greater impact than the other categories. A statistically significant correlation ($\chi 2=8.255$, df=1,p=0.004) was found between the water source and the WASH habits. In addition, a statistically significant relationship between WASH practices and household size was found using a chi-square test for independence ($\chi 2=12.287$, df=1,p=0.002). Further, it was shown that cultural limitations such as adherence to traditional and myth-based norms and satisfaction with them are impeding WASH activities. The study's findings also showed that every socioeconomic element has a major impact on the kind of sanitary facilities that homes in the ward use. The research unveiled nuanced insights that informs policy and intervention strategies. this study meaningfully contributed to the advancement of knowledge and the improvement of WASH practices adoption among the Dadajabulla Ward residents and communities in similar setups.

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LIST OF ABBREVIATIONS AND ACRONYMS

CDC	Centers for Disease Control and Prevention
CSO	Civil Society Organization
DHS	Demographic and Health Surveys
FGD	Focus Group Discussion
GDP	Gross Domestic Product
HIC	High-Income Country
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IDI	In-Depth Interview
IEBC	Independent Electoral and Boundaries Commission
KNBS	Kenya National Bureau of Statistics
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, and others
LMICs	Low and Middle-Income Countries
MCA	Member of County Assembly
NACOSTI	National Commission for Science, Technology, and Innovation
NGOs	Non-Governmental Organizations
R&D	Research and Development
RCT	Randomized Controlled Trial
SOP	Standard Operating Procedure
SPSS	Statistical Package for the Social Sciences
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development

WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

This chapter covers the following topics: the study's background; the problem statement; the study's purpose; its objectives; research questions; its justification; its significance; its scope; its limitations; its delimitations; its assumptions; and, at the end, an operational definition of terms.

1.1 Background to the Study

Given the important role that Water, Sanitation, and Hygiene (WASH) practices play in promoting public health and preventing disease, it makes sense to investigate the factors that influence the adoption of these practices. Combating waterborne diseases, which continue to be a major health burden in many parts of the world, especially in low- and middle-income countries (LMICs), requires the provision and promotion of clean water as well as adequate sanitation and proper hygiene (Chaysiri *et al*., 2024).

Diseases like diarrhoea, cholers, dysentery, typhoid, and hepatitis A are spread worldwide due to contaminated water, poor sanitation, and poor hygiene (Binga *et al*., 2022). As per the World Health Organisation (WHO), diarrhoea continues to be the primary cause of death for children under five years old, accounting for roughly 525,000 child fatalities on a yearly basis. By implementing WASH practices holistically, the majority of these deaths can be avoided (Abdi, 2021). Additionally, through raising productivity, decreasing healthcare costs, and improving school attendance, enhanced WASH infrastructure not only lowers the prevalence of waterborne illnesses but also significantly contributes to socioeconomic development, nutrition, and security (Takeshima, 2024).

Water, Sanitation, and Hygiene (WASH) practices are crucial for maintaining public health and preventing the spread of diseases. However, cultural barriers significantly affect the adoption of these practices in various communities. Studies have shown that cultural norms and beliefs can either support or hinder health-promotion activities, including WASH initiatives (Nasir *et al*., 2020). For instance, certain cultures may have specific practices regarding water sources and sanitation facilities, which might conflict with modern WASH protocols. Addressing these cultural barriers is essential to enhance the effectiveness of WASH programs and ensure their widespread acceptance and sustainability (Lue *et al*., 2023).

Demographic factors such as age, gender, and education level play a significant role in the adoption of WASH practices. Research by Habte *et al*., (2024) indicates that these factors can influence perceptions and behaviors related to hygiene and sanitation. For example, gender roles often dictate who in the household is responsible for water collection and management of sanitation, which can affect the implementation and sustainability of WASH interventions. Furthermore, age and education levels impact the likelihood of individuals adopting new hygiene practices, with younger and more educated individuals typically more receptive to change (Herlitz *et al*., 2020).

Socio-economic status is another critical determinant of the adoption of WASH practices. Families with higher incomes and better living conditions are more likely to have access to clean water and sanitation facilities, which facilitates easier adoption of recommended WASH practices (Puspita, 2022). Conversely, impoverished communities often face significant challenges due to lack of infrastructure and financial resources, making it

difficult to adhere to safe WASH practices. Addressing these socio-economic disparities is crucial for the equitable distribution of WASH facilities and services (Darmon, 2022).

The role of local governance is pivotal in the implementation and sustainability of WASH initiatives. Effective governance can ensure the proper planning, funding, and execution of WASH programs, while also fostering community participation and compliance (Kharel, 2019). Studies have highlighted that local governments play a crucial role in resource allocation and in establishing regulations that promote healthy sanitation and hygiene practices. Moreover, accountability and transparency in governance are essential for building trust and encouraging community engagement in WASH programs (Dadhich *et al*., 2022).

In the neighboring Somalia, where similar socio-economic and environmental conditions prevail, only 52% of the population has access to basic water supplies, and practices such as open defecation are common, with 28% of the population engaged in such activities (UNICEF, 2024). These inadequate WASH facilities contribute to the high incidence of preventable diseases such as cholera, respiratory infections, and diarrhoea particularly affecting children under five, who are the most vulnerable to these conditions. Abdi (2021) notes that these challenges are compounded by the gender-specific burden that falls on girls and women, who are primarily in-charge of collecting water, often facing physical risks and sacrificing educational and economic opportunities. Furthermore, conflict and displacement exacerbate the scarcity of safe water and sanitary facilities, making it difficult to implement sustainable WASH practices. These insights into the Somalian context highlight the relevance and urgency of understanding and addressing the factors influencing WASH practices adoption in similar regions like Dadajabulla Ward.

Numerous factors pertaining to resource availability, climatic conditions, and socio-economic challenges influence the WASH practices adoption in Kenya, specifically in Dadajabulla Ward, Wajir South Constituency. Kenya is among the nations with the least amount of water in the world, according to Abdi (2019), with only 60% of the population having access to clean drinking water and only 29% having access to decent sanitation. The scarcity is made worse by regular extreme weather events and the depletion of natural resources, which reduces the amount of water available for productive and domestic uses (Kiama *et al*., 2023). Additionally, an estimated five million Kenyans practise open defecation, which poses serious risks to public health, and 9.9 million of them rely on contaminated surface water (Abdi, 2021). There is a serious deficiency in basic hygiene practices since only 25% of people have handwashing stations access points with enough and frequent water and soap at home (USAID, 2024). These figures highlight the critical need for strong WASH interventions in areas such as Dadajabulla Ward, where the combination of inadequate access of water, poor facilities for sanitation, and low levels of hygiene practices probably makes it difficult to maintaining and adopting WASH practices, which in turn affects socioeconomic development and public health.

Despite the known benefits of WASH practices, there is an existing gap in comprehending the particular local factors which influence their adoption in various contexts. This research aims to fill that gap by identifying the key determinants that influence the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency. By doing so, this study hopes to contribute valuable insights that can guide the development of targeted interventions aimed at improving public health outcomes through enhanced WASH practices.

1.2 Statement of the Problem

In the context of Dadajabulla Ward, Wajir South Constituency, a region characterized by water scarcity, frequent severe weather conditions, and socio-economic challenges, the adoption and sustained use of Water, Sanitation, and Hygiene (WASH) practices are crucial for enhancing public health and socio-economic development (Abdi, 2021). However, despite the critical need, the implementation of effective WASH practices remains inadequate. As noted by Abdi (2021), only about 60% of Kenya's population has access to safe drinking water and just 29% to basic sanitation facilities. Moreover, a significant portion of the community engages in open defecation, and merely a quarter have access to hand-washing facilities at home (Kiama *et al*., 2023). These statistics indicate a dire need for improved WASH infrastructure and services, especially in areas like Dadajabulla Ward.

Globally, the correlation between inadequate WASH facilities and the spread of waterborne diseases is well-established. For instance, diseases such as cholera and diarrhea are prevalent in regions with poor sanitation and hygiene practices (Binga et al., 2022). The World Health Organization (2024) underscores that enhanced WASH practices could prevent the deaths of numerous children annually. In contexts similar to Dadajabulla Ward, such as Somalia, a lack of basic water supplies affects over half the population, emphasizing the urgent need for comprehensive WASH interventions (Abdi, 2019).

Cultural barriers, demographic factors, and socio-economic status further complicate the adoption of WASH practices. Studies by Nasir *et al*., (2020) and Lue et al. (2023) highlight how cultural norms can either hinder or facilitate the adoption of health-promoting

activities, including WASH practices. Additionally, demographic aspects such as age, gender, and education significantly influence the implementation of WASH interventions, with younger, more educated individuals generally more receptive to adopting new practices (Herlitz *et al*., 2020). Economically disadvantaged communities face substantial challenges due to inadequate infrastructure, which complicates adherence to recommended practices (Darmon, 2022).

The adoption of clean WASH practices is still very low in many communities in Kenya's arid and semi-arid regions, despite multiple government and non-governmental organization interventions to promote these practices. One such region is Dadajabulla Ward in Wajir South Constituency, where people still struggle with poor hygiene habits, insufficient sanitary infrastructure, and restricted access to clean water. High rates of child mortality and morbidity, frequent outbreaks of waterborne illnesses, and generally subpar public health outcomes are all caused by these difficulties. A number of intricately interacting elements, such as sociocultural views, financial limitations, educational attainment, infrastructure accessibility, and community awareness, affect the adoption of WASH practices in this area.

While existing research provides insights into general barriers and facilitators affecting WASH practice adoption, there is a significant lack of localized data that considers the unique socio-economic, cultural, and environmental characteristics of specific regions like Dadajabulla Ward (Abdi, 2019; Abdi, 2021). Most studies offer a broad perspective or focus on regions with different socio-economic conditions and cultural backgrounds. This gap in localized, context-specific research inhibits the development of targeted interventions that are crucial for effectively improving WASH practices in specific

settings. The current study aims to bridge this gap by investigating the particular local factors that influence WASH practice adoption in Dadajabulla Ward, Wajir South Constituency. By identifying these key determinants, the research intends to provide actionable insights that can support tailored, sustainable WASH interventions aimed at enhancing public health outcomes and socio-economic conditions in this high-need area.

1.3 Purpose of the Study

The purpose of the study was to investigate the factors that influence the adoption of wash (water, sanitation, and hygiene) practices in Kenya, focusing specifically on Dadajabulla Ward in Wajir South Constituency.

1.4 Objectives of the Study

1.4.1 General Objective

The main aim of this research was to examine the factors influencing the adoption of WASH practices in Kenya with specific reference to the residents in Dadajabulla Ward, Wajir South Constituency.

1.4.2 Specific Objectives

i. To determine the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.
ii. To examine the influence of cultural barriers on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.
iii. To determine the influence of socio-economic factors on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.

iv. To identify the influence of local governance on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.

1.5 Research Questions

i. What is the status of adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency?
ii. How does cultural barriers influence the WASH practices adoption among the Dadajabulla Ward residents, Wajir South Constituency?
iii. What socio-economic factors WASH practices adoption influence among the Dadajabulla Ward residents, Wajir South Constituency?
iv. What is the influence of local governance on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency?

1.6 Justification of the Study

The justification for studying the factors influencing the adoption of Water, Sanitation, and Hygiene (WASH) practices in Dadajabulla Ward, Wajir South Constituency, is compelling given the critical role that these practices play in public health and socio-economic development, particularly in resource-limited settings (WHO, 2021). The local context, characterized by water scarcity, prevalent use of contaminated surface water, and low access to sanitation facilities and hygiene practices, presents significant public health risks and underscores the urgency of tailored interventions (Abdi, 2021). Additionally, understanding the interplay of cultural, demographic, socio-economic, and governance factors that facilitate or hinder the adoption of WASH practices is crucial for crafting effective strategies (Bønløkke *et al*., 2024). This study aimed to bridge the knowledge gap by exploring these local determinants, thereby offering insights that can inform the development of interventions that are not only practical but also culturally appropriate and sustainable. Given the high stakes of preventable diseases and the socio-economic

ramifications of inadequate WASH infrastructure, this research is poised to contribute significantly towards enhancing public health outcomes and advancing global health priorities in similar settings.

1.7 Significance of the Study

This study was significant for a variety of stakeholders, including the government, non-governmental organizations (NGOs), and the researchers.

For the government, the study's findings provides invaluable insights into the challenges and barriers that communities face when implementing WASH (Water, Sanitation, and Hygiene) practices. Policymakers can develop targeted interventions and policies to promote and support WASH adoption in Dadajabulla Ward, Wajir South Constituency, by understanding the cultural, demographic, socioeconomic, and governance factors that influence this practice. Furthermore, understanding the role of local governance can assist the government in improving governance structures and mechanisms that promote WASH adoption at the grassroots level.

NGOs working in the field of WASH benefits from the study's findings by tailoring their interventions to the identified factors influencing WASH adoption in Dadajabulla Ward. NGOs may improve the effectiveness and long-term viability of their WASH initiatives by incorporating the study's findings into programme design and implementation strategies. Based on the study's findings, collaboration with local governance structures may be strengthened, allowing non-governmental organizations to work more effectively at the community level.

For the researchers, conducting this study adds to the existing body of knowledge on WASH adoption in Kenya, particularly in the context of Dadajabulla Ward, Wajir South Constituency. Researchers may identify gaps in current understanding and provide evidence-based recommendations for future research and interventions by systematically examining the impact of cultural, demographic, socioeconomic, and governance factors on WASH adoption. Furthermore, the study methodology and findings may be used as a resource for other researchers researching similar contexts or topics related to WASH adoption.

1.8 Scope of the Study

Content: The main focus of the study's content was on the variables that affect WASH practice adoption. Cultural barriers, important demographic variables, socioeconomic variables, and local government are all included in this. The content scope concentrated on comprehending how the factors relates to the community's WASH practices adoption.

Geographical: The study's geographic scope was limited to Dadajabulla Ward, Wajir South Constituency, Kenya. By focusing on a specific ward within a constituency, the study hoped to provide insights that are relevant and applicable in the local context. This geographic limitation enabled a more focused examination of the factors influencing WASH adoption within a specific community, ensuring that the findings are contextually relevant and actionable.

Time: The study was carried out from July to September 2024. The timeframe suggested a thorough examination of the factors influencing WASH adoption in Dadajabulla Ward over a period of approximately three months. By establishing this time frame, the study hoped

to capture a snapshot of the current dynamics and trends in WASH practices within the community during that particular period.

1.9 Study Limitations

Time constraints may be a significant limitation. Comprehensive research necessitates significant time for data collection, analysis, and interpretation. However, due to the complexities of the factors influencing WASH practice adoption, the study's timeframe may be limited. As a result, the depth of analysis and scope of data collection may be limited, compromising the robustness of the conclusions reached.

Furthermore, respondents' willingness to participate was a limitation. Despite efforts to engage the community, some people were reluctant to share their thoughts on WASH practices. This reluctance could be due to a variety of factors, including cultural norms, mistrust of researchers, or concerns about privacy.

1.10 Delimitations

The delimitation of the study is defined by its content, geographic, and temporal boundaries. The study specifically focuses on the adoption of WASH practices within Dadajabulla Ward, Wajir South Constituency, Kenya, examining cultural, socioeconomic, and governance factors that may influence these practices. The geographic delimitation restricts the research to this particular ward, allowing for a concentrated and contextually relevant analysis. Additionally, the study is temporally limited to a period from January to September 2024, which confines the investigation to the dynamics and trends within this nine-month window. These delimitations ensure a focused and manageable research scope,

but they also mean that the findings may not be generalizable beyond this specific community or time frame.

The time constraints imposed by the study was acknowledged and dealt with by the researcher. Owing to the time constraints, the study focused on enhancing the effectiveness of the procedures for gathering and analysing data. Using efficient research techniques and giving priority to data sources that offerred the most pertinent insights in the allotted time frame was necessary to achieve this. Furthermore, the researcher was open and honest about the temporal limitations of the study when interpreting the results, stressing the need for cautious generalisation and identifying any potential gaps brought on by the limited timeline.

To address the respondent reluctance, the researcher used culturally sensitive and community-centered approaches to build trust and engagement. Building rapport with community leaders and stakeholders was prioritized in order to increase participant access and active participation in the research process. The researcher also emphasized confidentiality and anonymity safeguards in order to alleviate privacy concerns and encourage open responses. Furthermore, the study used a variety of recruitment strategies to reach a wide range of community members, reducing the risk of biased sampling. Throughout the research process, the researcher reflected on and document challenges related to respondent willingness to participate, allowing for a more nuanced interpretation of the findings and taking into account potential biases introduced by non-participants.

1.11 Assumptions of the Study

The following were the assumptions of the study:

i. The researcher assumed that the cultural barriers identified in Dadajabulla Ward, Wajir South Constituency, significantly influence the adoption of WASH practices.

ii. The researcher assumed that key demographic factors, such as age, gender, education level, and household size, have a notable impact on the adoption of WASH practices among the Residents of Dadajabulla Ward.

iii. The researcher assumed that socio-economic factors, including income level, employment status, and access to resources such as clean water and sanitation facilities, play a significant role in shaping WASH adoption behaviors in Dadajabulla Ward.

iv. The researcher assumed that local governance structures and policies have a considerable influence on the adoption of WASH practices, assuming that they provide support, resources, and enforcement mechanisms to promote WASH initiatives effectively.

1.12 Operational Definition of Key Terms

Cultural barriers: These refer to social norms, beliefs, traditions, and practices within the cultural context of Dadajabulla Ward, Wajir South Constituency that hinder or facilitate the adoption of WASH practices.

Factors Influencing the Adoption of WASH Practices: Refers to the various elements that affect the acceptance and implementation of Water, Sanitation, and Hygiene (WASH) practices within the specified area of Dadajabulla Ward, Wajir South Constituency in Kenya. These factors encompass cultural, demographic, socio-economic, and governance aspects that either facilitate or hinder the uptake of WASH practices.

Local governance: This term refers to the system of governing or administration at the local level, including the roles and responsibilities of local government authorities, community leaders, and other relevant stakeholders in Dadajabulla Ward, Wajir South Constituency, and how their actions or policies influence the adoption of WASH practices.

Socio-economic factors: These include the economic status, income level, employment status, access to resources, and infrastructure within Dadajabulla Ward, Wajir South Constituency that can impact the adoption of WASH practices.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Based on the study's objectives, this chapter examines the numerous research projects conducted by various academics in various contexts. As a result, this chapter contains a summary of the literature review as well as the theoretical, empirical, and conceptual framework literature.

2.2 Empirical Literature

Based on the goals of the study, this section addresses the empirical review from numerous scholars in various contexts and geographical areas. It discusses the relationship between WASH practices and cultural barriers, important demographic factors and WASH practices, socioeconomic factors and WASH practices, and lastly the relationship between local governance and WASH practices.

2.2.0: Overview of WASH Practices

Adopting WASH practices has become widely acknowledged globally as an essential part of sustainable development and public health. The SDG 6, which seek to guarantee universal access to clean water and appropriate sanitation by 2030, have propelled tremendous progress on a global scale (USAID, 2024). WHO, UNICEF, WaterAid, and the World Bank are just a few of the organizations that have been instrumental in funding and carrying out WASH initiatives, especially in underprivileged areas (WHO, 2024). Disparities still exist, though; more than 3.5 billion people worldwide lack access to basic sanitation facilities, and over 2 billion people lack access to adequately managed drinking water, with the biggest obstacles being found in rural regions and among communities affected by war (Binga et al., 2022).

WASH adoption in Africa, especially Sub-Saharan Africa, is still hindered by poverty, fast urbanization, inadequate infrastructure, and cultural norms that affect personal cleanliness (Abdi, 2019). With over 700 million people without access to sanitary facilities and about 400 million without basic water services, the continent continues to be the most afflicted in the world (Darmon, 2022). Though progress is uneven, regional organizations like the

African Ministers' Council on Water (AMCOW) and programs like AfricaSan are working to close these disparities (USAID, 2024).

Water access in Kenya has improved substantially, but cleanliness and sanitation standards are still uneven, particularly in rural and underserved areas. The most recent data shows that while over 71% of people have access to basic drinking water, only roughly 29% have access to basic sanitary facilities (Kithuki et al., 2021). The differences are most noticeable in arid and semi-arid nations, where the adoption of sustainable WASH solutions is hampered by recurrent droughts, inadequate infrastructure, and sociocultural constraints (Abdi, 2021). In order to scale up WASH initiatives, the Kenyan government, working with the Ministry of Water, Sanitation, and Irrigation, has created a number of policies, such as the Kenya Environmental Sanitation and Hygiene Policy (KESHP), and collaborated with a number of non-governmental organizations (Mwangi & Kariuki, 2022).

The continuous difficulties in implementing WASH are best illustrated by Wajir County, which is situated in Kenya's arid north (Abdi, 2019). Access to reliable water and sanitary facilities is hampered by the region's periodic droughts, water scarcity, and mostly nomadic way of life. Low toilet coverage leads to a high prevalence of open defecation, and poor hygiene habits persist mostly because of cultural norms and a lack of health education (Kiama *et al*., 2023). Despite these obstacles, interventions like borehole drilling, hygiene teaching, building school restrooms, and rainwater collection projects are actively carried out by both governmental and non-governmental players (Abdi, 2019). However, in terms of WASH access, Wajir continues to rank among Kenya's most underserved regions, highlighting the necessity of culturally aware and context-specific approaches to improve the uptake and sustainability of WASH practices.

2.2.1 Cultural Barriers and WASH Practices

In South Punjab, Pakistan, Ghaffoor *et al.* (2020) employed a qualitative methodology to examine the influence of socio-cultural barriers on the uptake of Water, Sanitation, and Hygiene (WASH) practices. The results showed that the community's adoption of WASH practices was slowed by deeply rooted cultural beliefs and practices. The study concluded that people's willingness to adopt improved WASH practices was significantly influenced by cultural factors, such as taboos surrounding water sources and gender roles in sanitation duties.

A quantitative survey carried out in Visakhapatnam, South India by Vijayalakshmi *et al.* (2023) to investigate schoolchildren's hygiene and sanitation practices. The study found that implementing better sanitation practices was significantly hampered by cultural norms and traditions, such as open defecation during religious festivals. The study's conclusion recommended that interventions meant to modify WASH behaviour take into account the deeply rooted cultural practices and beliefs of the community.

Muniyapillai *et a*l. (2022) investigated the Water, Sanitation, and Hygiene (WASH) Practices among Households in Perambalur District, India, using a mixed-methods approach. Qualitative data showed that people's attitudes regarding sanitation and hygiene practices were significantly influenced by cultural factors, including social norms and religious beliefs. The quantitative analysis did, however, show a discrepancy between the understanding of the significance of WASH practices and real behavioural change, suggesting that cultural barriers might obstruct the application of knowledge. The

significance of culturally sensitive interventions intended to address particular cultural barriers found in urban slum contexts was emphasised in the study's conclusion.

A cross-sectional study was carried out in South Africa by Ali *et al*. (2017) to look into the factors that encourage and hinder the use of water, sanitation, and hygiene (WaSH) practices. The study discovered that low adoption of hygiene practices was caused by patriarchal cultural norms that restricted women's decision-making authority in WASH-related issues. Additionally, women's access to and use of sanitation facilities was impeded by social stigma and religious beliefs related to menstruation. The study came to the conclusion that gender-sensitive strategies are needed to successfully remove cultural obstacles to women's adoption of WASH.

Through focus groups and in-depth interviews, Tamene and Afework (2021) carried out a qualitative study in rural Ethiopian communities to explore the obstacles to the adoption and utilisation of improved latrine facilities. The results emphasised how cultural practices and beliefs influence people's attitudes and behaviours regarding water and sanitation. Better WASH practices were hampered by deeply rooted customs in the community, such as using natural water for ceremonial purposes and urinating in open fields. The importance of culturally appropriate interventions that respect regional customs and traditions was emphasised in the study's conclusion.

2.2.2 Socio-Economic Factors and WASH Practices

Daniel *et al*. (2021) carried out a cross-sectional survey in rural Indonesia to look into how different factors interact to affect how long-term WASH (water, sanitation, and hygiene) services can be sustained. According to the study, income level significantly influences the

adoption of WASH practices, with higher-income households being more likely than lower-income households to adopt improved WASH practices. It was discovered that wealthier households had easier access to sanitary facilities and sources of clean water, highlighting the significance of income in advancing WASH practices. The authors came to the conclusion that low-income households should be the target of economic empowerment programs in order to boost WASH adoption (Abdi, 2021).

Tripathi *et al.* (2024) employed a mixed-methods approach to examine the effects of tracking WASH (water, sanitation, and hygiene) indicators in India's tribal districts. The results showed that living conditions and WASH adoption were strongly correlated, with urban households adopting WASH at a higher rate than rural households. Additionally, there was a higher likelihood of WASH practice adherence in households with upgraded housing structures and basic amenities. The study underlined how crucial it is to enhance living circumstances, especially in rural areas, in order to promote WASH adoption and slow the spread of illnesses that are transmitted by water.

Bartolata (2020) used a quantitative survey to study the effects of the Water, Sanitation, and Hygiene (WASH) Situation at Bicol University in Albay, Philippines. The study found a strong correlation between WASH adoption and infrastructure availability, with higher levels of WASH compliance reported by households in areas with better infrastructure (such as sewage systems and piped water supplies). The study also discovered that WASH adoption differed in urban and rural regions, with urban households enjoying superior infrastructure compared to their rural counterparts. Consequently, the author underscored the significance of focused infrastructure development programs for enhancing WASH results, especially in rural regions.

In a study conducted in the Ghanaian community of Nsukwao, Aryee (2024) employed a longitudinal design to evaluate the water, sanitation, and hygiene (WASH) experience during flooding. The results showed that although income level had an initial impact on WASH adoption, as other socioeconomic factors entered the picture, the effect diminished. Particularly, characteristics like education level and availability of health information turned out to be more reliable indicators of WASH adoption, highlighting the significance of multimodal interventions targeting different socioeconomic factors. The study came to the conclusion that thorough approaches that take into account the intricate interactions between socioeconomic factors are necessary for long-term improvements in WASH practices.

Ndumo *et al*. (2023) looked into how financing practices affected the sustainability of water and sanitation companies in Kenya using a qualitative research design. The results showed that adoption behaviours were significantly influenced by cultural beliefs and social norms, even though income level made it easier to access WASH infrastructure. Adoption decisions were also influenced by community perceptions of the affordability and effectiveness of WASH technologies. The research underscored the significance of culturally appropriate interventions that tackle social and economic determinants to foster sustainable WASH practices in Kenyan water and sanitation enterprises.

Sugita (2022) examined the effects of water, sanitation, and hygiene (WASH) in elementary schools in a study that was carried out in Japan. They employed a mixed-methods approach to gather data, which included focus group discussions and household surveys. The results showed that older adults were less likely than younger adults to adopt new WASH practices. Age-appropriate interventions are crucial because this resistance

was caused by deeply rooted habits and beliefs (Sugita, 2022). Therefore, in order for interventions targeted at enhancing WASH practices to be successful and long-lasting, they must consider age differences.

In the context of the Free Basic Sanitation policy, Muanda *et al*. (2020) looked into the factors and effects of sanitation practices of residents of informal settlements on the sustainability and accessibility of sanitation services in rural India. Researchers found significant gender differences in WASH adoption using a quantitative survey methodology. Since women were typically in charge of taking care of the home and children, they were more likely to adhere to recommended practices. Moreover, women were often delegated by cultural norms to oversee household sanitation and water, giving them the ability to effect change (Muanda *et al*., 2020). As a result, programs that support WASH practices ought to empower and involve women, recognising their vital role in bringing about behavioural change.

Data were gathered using a structured questionnaire as part of a cross-sectional study by Bah *et al*. (2022) that examined the effects of children's WASH coverage and practices from five public primary schools in Guinea. The adoption of WASH practices and education level were found to be positively correlated. Higher educated people showed more consistent adoption of WASH practices due to their increased awareness of the health benefits of good hygiene and sanitation (Bah *et al*., 2022). Therefore, initiatives to enhance educational opportunities may be useful tactics for disseminating WASH practices and enhancing public health results.

Sy *et al*. (2021) examined the effects of Senegal's regional water supply, sanitation, and hygiene (WASH) program on rural livelihoods and sustainable development in a study carried out in rural areas. They conducted focus groups and in-depth interviews using a qualitative methodology. The results showed that older adults often had traditional attitudes towards water and sanitation, which made them reluctant to embrace contemporary WASH practices. Younger generations were more adaptable to change, particularly those who had access to education and urban settings (Sy *et al*., 2021). Targeted interventions that are customised to the unique requirements and preferences of different age groups are therefore essential for boosting the adoption of WASH.

A semi-arid county's water, sanitation, and hygiene coverage and practices were investigated in a mixed-methods study conducted in Eastern Region Kenya (Kithuki *et al*., 2021). Researchers who conducted household surveys and interviews found that WASH behaviours were significantly influenced by gender norms and roles. Women were more involved in and adhered to WASH practices than men because they were primarily in charge of water collection and sanitation tasks. However, because they lacked the authority to make decisions, women's capacity to bring about long-term changes within households was constrained (Kithuki *et al*., 2021). Therefore, increasing WASH adoption and encouraging long-term behaviour change require addressing gender dynamics and giving women the authority to actively participate in decision-making processes.

2.2.3 Local Governance and WASH Practices

Trivedy and Khatun (2024) assessed the effects of West Bengal, India's water, sanitation, and hygiene conditions through research conducted in the region utilising a quantitative

survey methodology. The results showed that communities were more likely to follow WASH standards and guidelines when there were robust regulatory enforcement mechanisms in place. Regression analysis showed that increased adherence to WASH practices among households and communities was related to regular monitoring of water quality, enforcement of sanitation regulations, and penalties for noncompliance.

In Australia, Schiedek *et al*. (2021) examined the effects of national WaSH targets via a water governance perspective using a mixed-methods approach. The researchers found that communities adopted WASH practices at higher rates in municipalities with efficient resource allocation mechanisms. Access to and usage of WASH facilities increased as a result of transparent and accountable resource allocation for WASH infrastructure and education programs, according to surveys and interviews conducted with local officials and community members.

Using a qualitative case study methodology, Danert and Hutton (2020) investigated the effects of drawing attention to household investments in water, sanitation, and hygiene in India. The results demonstrated that the adoption of WASH practices in rural areas was significantly impacted by the strict regulatory frameworks that local governments enforced. According to government and community leaders surveyed, community attitudes regarding WASH practices were significantly influenced by compliance with laws pertaining to sanitation facilities, water quality standards, and hygiene promotion initiatives.

In a study by Raine *et al*. (2023), the influence of water, sanitation, and hygiene (WASH) practices among fishermen in the Indian region of Udupi Taluk was evaluated through the

use of a quantitative survey. The results demonstrated that WASH practice uptake was higher in communities with responsible local governance structures than in those with less effective accountability frameworks. According to statistical analysis, open decision-making procedures enhanced trust between local government and citizens and made it easier to execute WASH programs. These factors were paired with channels for community input and supervision.

In Dhoba (2022), Zimbabwe, institutional arrangements for the WASH sector were critically reviewed and a mixed-methods approach was used to strengthen governance over water, sanitation, and hygiene. The study found that municipalities with effective resource allocation strategies allocated a higher percentage of their budget to WASH programs and infrastructure, which improved the accessibility of sanitary facilities and clean water. Prioritising WASH investments within municipal budgets was essential for sustaining long-term improvements in public health outcomes related to water and sanitation, as focus group discussions and budget analysis demonstrated.

2.2.4 WASH Practices

Gude *et al*.'s (2020) investigation in Ethiopia was centred on assessing how better water supply systems affect rural communities' public health outcomes. Using a quasi-experimental design, the study compared health metrics in multiple villages before and after clean water systems were put in place. The results showed that among children under five, waterborne infections, especially diarrhoea, had significantly decreased. According to the authors' findings (Gude *et al*., 2020), having access to clean water not only improves

health outcomes but also raises overall quality of life by lowering the burden of disease and related healthcare costs.

In an Indian study published in 2021, Vally and Elshaug (2021) looked at the connection between slum hygiene and the prevalence of infectious diseases. The study used a cross-sectional survey methodology, gathering information via both direct observation of household hygiene practices and structured interviews. According to the study, there is a significant correlation between a lower incidence of gastrointestinal infections and proper food handling, safe disposal of waste, and routine hand washing with soap. Vally and Elshaug (2021) concluded that encouraging and maintaining good hygiene practices is essential for preventing infectious diseases, especially in areas with a high population density and limited resources.

In Ghana, Chadchan and Shankar (2019) evaluated the impact of sanitation infrastructure on environmental conditions and community health. The researchers employed a mixed-methods approach, gathering qualitative information through key informant interviews and focus groups and quantitative information through household surveys. According to the study, communities with better sewage and toilet systems also had significantly lower levels of environmental contamination and associated health problems. According to Chadchan and Shankar (2019), developing nations must invest in sanitation infrastructure if they hope to achieve long-term health gains and environmental protection.

Mwangi and Kariuki (2022) looked into how community involvement affected WASH program success in Kenya. Participatory action research was used in the study, where community members were involved in WASH project planning, execution, and

assessment. The results demonstrated that increased acceptance and sustainability of WASH interventions were associated with proactive community involvement. Fostering community ownership and participation, according to Mwangi and Kariuki (2022), is essential for the long-term success of WASH programs because it gives communities the power to take charge of their own health and sanitation needs.

Anthonj *et al*. (2021) investigated the knowledge of water, sanitation, hygiene, and health education interventions found in Kenyan school textbooks. A randomised controlled trial was employed by the researchers to evaluate the efficacy of different educational interventions, such as workshops, pamphlets, and media campaigns. The results of the study showed that focused instruction greatly enhanced participants' understanding and application of WASH practices, including routine hand washing and appropriate water storage. According to Anthonj *et al*. (2021), ongoing education and awareness initiatives are essential for improving WASH practices, which will lower the incidence of waterborne illnesses and foster healthier communities.

2.3 Theoretical Framework

The goals of the study are supported by the following theories: governance and institutional theory, socioeconomic development theory, and cultural capital theory.

2.3.1 Cultural Capital Theory

The French sociologist Pierre Bourdieu created the Cultural Capital Theory in 1979. It states that cultural elements like norms, values, and beliefs have a big influence on people's actions and behaviours inside a community. Everybody has different levels of cultural

capital, which is the term for the cultural knowledge, abilities, and customs that people pick up via education and socialisation. According to the cultural capital theory, people's perceptions and interactions with WASH initiatives in Dadajabulla Ward, Wajir South Constituency, are influenced by cultural norms and traditions. WASH practices may be easier or harder for community members to adopt depending on cultural taboos or practices surrounding water use, sanitation, and hygiene (Ramsey, 2023).

Academics have expounded upon Bourdieu's Cultural Capital Theory, highlighting its significance in comprehending the ways in which culture influences individuals' actions and customs. For instance, Danert & Hutton (2020) address how social networks and relationships—in addition to knowledge and skills—are essential components of cultural capital and are required for gaining access to opportunities and resources within a society. Ramsey (2023) emphasise the dynamic character of cultural capital by arguing that individuals actively negotiate and reinterpret cultural norms and practices in light of their social contexts and experiences.

Cultural Capital Theory has been criticised and has limitations despite its contributions. According to some academics, the theory ignores how social identities like gender, race, and class intersect to influence people's experiences and access to cultural capital (Danert & Hutton, 2020). Some criticise the theory, saying it oversimplifies the intricate relationships between people and their sociocultural contexts, and takes a deterministic view of culture.

To comprehend the influence of cultural barriers on the adoption of WASH practices among the residents of Dadajabulla Ward, Wajir South Constituency, Cultural Capital

Theory is still pertinent. Policymakers and practitioners can develop more culturally sensitive and successful WASH interventions that are suited to the unique needs and contexts of the community by acknowledging the influence of cultural norms, beliefs, and traditions. In order to improve public health outcomes and well-being, it can be helpful to develop strategies for overcoming cultural barriers and promoting the adoption of WASH practices. This can be achieved by understanding the dynamics of cultural capital in the community (Abdi, 2021).

As a result, knowing how cultural capital influences WASH adoption helps identify behavioral obstacles and enablers, enabling the development of more successful and culturally sensitive treatments. The research focuses on the socio-cultural factors that affect hygiene practices by including the theory into the investigation, moving beyond economic or infrastructure-based explanations. In terms of methodology, the theory encourages a mixed-approaches strategy that combines qualitative interviews and structured questionaires to investigate community norms, attitudes, and practices with quantitative surveys to evaluate educational attainment and access to WASH facilities. By relating hygiene practices to types of cultural capital, the theory directs the data interpretation throughout the analysis phase, demonstrating how differences in WASH adoption may have more to do with cultural dispositions than just material deprivation. Thus, this theoretical framework guarantees a thorough and culturally aware comprehension of the obstacles and facilitators of WASH adoption.

2.3.2 Socioeconomic Development Theory

The Socioeconomic Development Theory was put forth by Schultz in 1964 and maintains that a variety of socioeconomic factors have a significant impact on how people behave and conduct themselves. In line with this theory, societal development and individual choices are significantly influenced by factors such as income, employment status, resource availability, and infrastructure development (Coccia, 2023). Understanding and addressing developmental challenges requires an awareness of socioeconomic factors, as highlighted by Schultz's groundbreaking work in this area.

Many academics have contributed to the Socioeconomic Development Theory's expansion and improvement. Carrillo *et al.,* (2024) highlighted the importance of capacities and liberties in development, contending that enhancing the ability of people to live happy, meaningful lives ought to be the top priority of socioeconomic development. Additionally, Coccia (2023) stressed the significance of governance frameworks and institutions in reducing the influence of socioeconomic factors on development results. These contributions emphasise the multifaceted character of socioeconomic development and the significance of all-encompassing strategies for resolving its intricacies.

The Socioeconomic Development Theory has flaws and has been criticised despite its significance. For instance, Stiglitz (2015) argued that GDP per capita and other conventional measures of development miss crucial aspects of distributional issues and well-being. Additionally, Carrillo *et al.,* (2024) underlined the value of community participation in development projects, contending that top-down interventions based exclusively on economic indicators run the risk of ignoring the priorities and viewpoints

of the community. These criticisms draw attention to the necessity of a more complex, non-economic understanding of development processes.

An useful approach for analyzing the impact of socioeconomic factors on the WASH practices adoption in Dadajabulla Ward residents, Wajir South Constituency, is provided by the Socioeconomic Development Theory. By accounting for variables like employment opportunities, access to clean water sources, availability of sanitation facilities, and poverty levels, the theory clarifies the complex relationship between socioeconomic conditions and health-related behaviours. Comprehending these dynamics is imperative in order to formulate focused interventions and policies that cater to the distinct requirements and obstacles faced by the community in enhancing WASH procedures (Carrillo *et al.*, 2024).

The theory guides the data collection instruments design and the choice of variables in terms of methodology. In order to analyze the relationship between socioeconomic determinants and WASH behavior, questionaires and interviews may ask about household income, education, employment, and WASH facilities access. Using stratified sampling procedures can guarantee representation from a range of social and economic backgrounds. The idea encourages the use of qualitative as well as quantitative methods in analysis to look at the ways in which socioeconomic barriers or facilitators impact the adoption of WASH. For example, regression models can be used to evaluate how income or education affects particular WASH habits, and the qualitative data themes analysis might reveal perceived constraints associated with poverty or inadequate infrastructure. Consequently, socioeconomic development (Coccia, 2023). Therefore, Socioeconomic Development Theory offers a strong framework for investigating the circumstances at the macro level as well as the experiences at the micro level that influence WASH practices.

2.3.3 Governance and Institutional Theory

According to the Governance and Institutional Theory, which was initially advanced by academics like North (1990) and Williamson (1996), institutional arrangements and governance structures have a big influence on people's behaviours and the way society turns out. According to this theory, governance is the set of laws, customs, and traditions that control how people, groups, and governments interact within a society. Conversely, institutions are the formal and informal frameworks that impact individual behaviour and societal outcomes, like laws, regulations, and cultural norms (Berthod; 2023 and Tangworachai & Lo, 2024).

Academics have expounded upon Governance and Institutional Theory, presenting a range of viewpoints regarding its consequences and implementations. For instance, Jones and Baumgartner (2015) contend that institutional decision-making procedures and resource allocation are influenced by governance structures, which in turn shape both individual and policy outcomes. Additionally, Berthod (2023) highlights the significance of comprehending the different institutional arrangements that control collective action and resource management, emphasising the function of community-based governance mechanisms in attaining long-term results.

Governance and Institutional Theory has drawbacks even though it is crucial for comprehending the workings of institutional arrangements and governance dynamics. The theory's emphasis on formal institutions is criticised by academics, who advocates for a more thorough investigation of informal institutions and social norms that may have an impact on people's behaviours and institutional outcomes. Additionally, others highlights

the problem of institutional inertia, which is the resistance to change exhibited by long-standing institutional arrangements and governance structures, which hinders the adoption of novel practices or policies (Tangworachai & Lo, 2024).

Governance and Institutional Theory offers a framework for understanding how local governance structures, policies, and institutional capacities shape the implementation and efficacy of WASH initiatives. This framework is relevant to the study of how local governance affects the WASH practices adoption among the Dadajabulla Ward residents, Wajir South Constituency. Researchers that look into aspects of local governance such as accountability, transparency, community involvement, and resource allocation can find ways to enhance the uptake of WASH practices and public health outcomes (Tangworachai & Lo, 2024).

Methodologically, the choice of qualitative and mixed-method techniques, including policy analysis, stakeholder interviews, and institutional mapping, is guided by governance and institutional theory in order to understand how institutional arrangements and governance structures affect the provision of WASH services and behavioral adoption. While document checks assist in monitoring the efficacy and gaps of policies, key informant interviews with local leaders, public health authorities, and NGO representatives can offer insights into institutional dynamics.

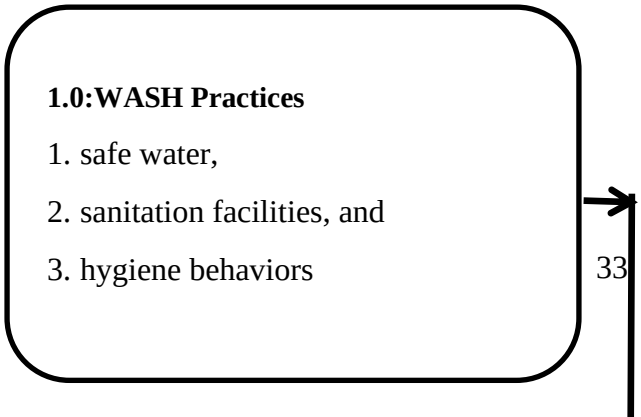
This approach encourages the application of thematic or content analysis to find trends in the ways that institutional elements—like administrative capacity, decentralization, and public institution trust—affect WASH-related behaviors. It also makes it possible to compare governance models in other communities or areas in order to find bottlenecks or

best practices (Berthod, 2023). In the end, this theoretical framework emphasizes how institutions facilitate sustainable WASH results by means of efficient regulation, community engagement, and accountability systems.

2.4 Conceptual Framework

Within a particular field of study or discipline, a conceptual framework provides a theoretical basis for understanding, analysing, and interpreting phenomena. It creates a framework of related ideas, precepts, and concepts to aid practitioners and researchers in the investigation and understanding of complicated phenomena. Researchers and practitioners can better understand the complex factors influencing WASH practices and create focused interventions to enhance community health and well-being by incorporating these independent variables into the conceptual framework. The studys dependent variables was the WASH practices adoption while the independents variables were the cultural beliefs, socio-economic charasteristics and the local governance whose relationship with dependent variable was that it can either help or hurt sanitation and hygiene habits, impacts one's capacity to construct restrooms, purchase soap, containers, water, etc., and creating an environment that is supportive and enforces policies respectively.

(Independent Variables) **(Dependent Variable)**



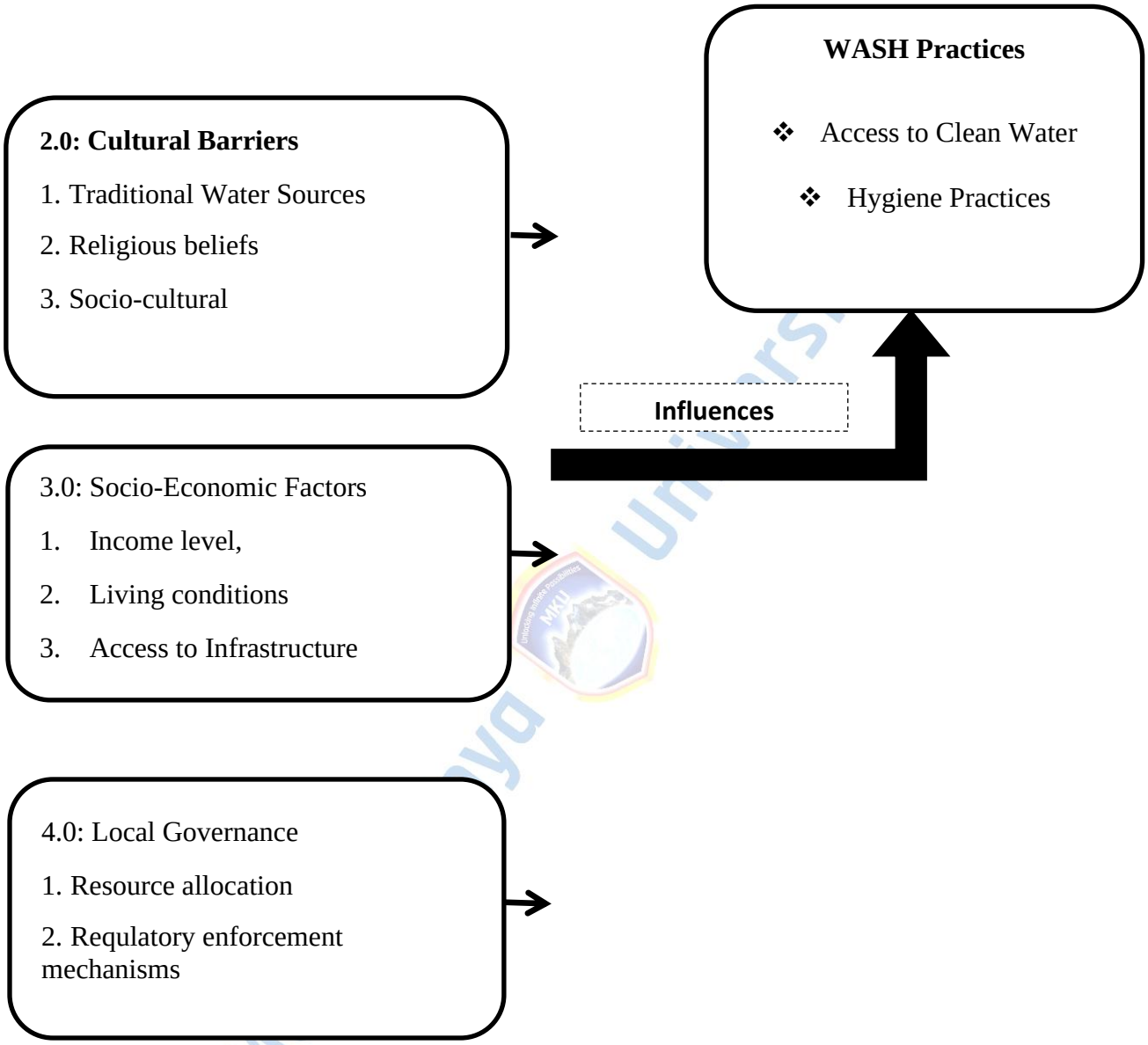


Figure 2.1 The Conceptual Framework

Source : (Author, 2024)

2.4.1 Summary of the Conceptual Framework

Cultural barriers that impact the adoption of WASH (Water, Sanitation, and Hygiene) practices include religious beliefs and dependence on traditional water sources. Religious

convictions may dictate specific water and hygiene practices in many communities, which may or may not encourage the adoption of contemporary WASH practices. For example, certain religious beliefs may emphasise the use of water from particular traditional sources that are considered sacred, discouraging the use of more contemporary sources that may be safer. Similar to this, communities that have historically relied on conventional water sources could be reluctant to accept new techniques or technologies for gathering and purifying water because they think such methods are superfluous or unsuitable for their culture. Therefore, these cultural barriers may make it more difficult to implement good hygiene practices and obtain clean water, two essential WASH components.

When it comes to a community's adoption and efficacy of WASH practices, socioeconomic factors are critical. The ability of individuals and households to afford and sustain appropriate WASH practices is largely determined by factors such as income levels, living situations, and access to infrastructure. Low-income households might find it difficult to purchase hygiene products or pay for clean water, which could result in poor sanitation and negative health effects. Inadequate living circumstances, like crammed housing, can also accelerate the spread of illnesses because there isn't enough room for sanitary facilities. Furthermore, the availability and calibre of WASH services are directly impacted by access to infrastructure, which includes waste management facilities, water supply systems, and roads. Socioeconomic factors pose a significant obstacle to the effective implementation of WASH, as communities with inadequate infrastructure may encounter difficulties in accessing clean water and upholding hygiene practices.

For WASH practices to be implemented and sustained, local governance is essential. Ensuring that WASH programs are appropriately funded and managed requires efficient

resource allocation and regulatory enforcement mechanisms. Access to clean water and the promotion of hygiene practices can be greatly increased by local governments that place a high priority on allocating funds for the improvement of water and sanitation infrastructure. However, the failure of WASH initiatives can be attributed to weak governance, which is typified by inefficient use of resources and lax enforcement of regulations. The efficacy of WASH practices is undermined when local authorities fail to enforce regulations pertaining to water safety and sanitation, thereby exposing communities to unsafe sources of water and inadequate facilities for sanitation.

The main dependent variable influenced by cultural, socioeconomic, and governance factors is the adoption of WASH practices, such as access to clean water and hygiene practices. Having access to clean water is essential for maintaining general wellbeing, lowering the prevalence of waterborne illnesses, and enhancing public health. In a similar vein, maintaining a healthy environment and stopping the spread of infectious diseases depend heavily on good hygiene practices, such as handwashing and sanitation. But these actions are not taken in a vacuum; rather, they are influenced by the interactions of governmental frameworks, economic realities, and cultural norms. For example, the availability of clean water may not always translate into its use for hygiene due to cultural or financial constraints.

2.5 : Research gap

Significant research gaps still exist in Kenya despite numerous attempts to enhance WASH outcomes, especially in underserved and dry areas like Dadajabulla Ward in Wajir. There was a dearth of localized data in the literature on WASH adoption that took into account

the distinct sociocultural, economic, and environmental circumstances of this particular region. Pastoralist communities' hygiene practices are greatly influenced by indigenous knowledge systems and cultural beliefs, which were frequently disregarded. Understudied were the effects at the institutional and policy levels, including the function of local government. Developing efficient, situation-specific methods to enhance WASH adoption in Dadajabulla Ward and comparable contexts requires filling in these gaps.

2.6 Recap of Literature Review

In order to comprehend the dynamics at play in Dadajabulla Ward, Wajir South Constituency, Kenya, a thorough examination of the factors influencing the adoption of Water, Sanitation, and Hygiene (WASH) practices in various contexts is provided by the literature review. Empirical research examining the effects of socioeconomic, cultural, and demographic barriers as well as local government on the WASH practicesadoption is included in the review.

Cultural barriers emerge as a significant impediment to WASH practice adoption, as evidenced by studies conducted in a variety of settings, including South Punjab, Pakistan, South India, and rural Ethiopia. These studies emphasize the impact of deeply ingrained cultural beliefs, traditions, and taboos on water consumption, sanitation behavior, and hygiene practices. Furthermore, gender roles and power dynamics within households exacerbate these cultural barriers, affecting women's decision-making power and access to sanitation facilities (Ghaffoor et al., 2020; Vijayalakshmi et al., 2023; Tamene and Afework, 2021).

Furthermore, socio-economic factors also include demographic factors such as age, gender, educational level, and household structure influence WASH practices. Studies from Japan, rural India, and Senegal highlight the importance of taking demographic transitions and sociocultural contexts into account when designing interventions. For example, older generations may be resistant to change due to deeply ingrained habits and beliefs, whereas women frequently bear primary responsibility for household water and sanitation activities, necessitating gender-sensitive approaches (Sugita, 2022; Muanda et al., 2020; Sy et al., 2021).

Furthermore, socioeconomic factors emerge as important drivers of WASH practice adoption, with income levels, living conditions, and access to infrastructure all having a significant impact on behaviors. Studies conducted in Indonesia, India, and Kenya show disparities in WASH adoption based on economic status and access to resources. Furthermore, the role of local governance structures in facilitating or impeding WASH initiatives is discussed, emphasizing the importance of regulatory enforcement, resource allocation, and community engagement (Daniel et al., 2021; Aryee, 2024; Ndumo et al., 2023; Schiedek et al., 2021).

The theoretical literature adds to the empirical findings by providing frameworks for understanding the underlying mechanisms driving WASH practice adoption. Cultural Capital Theory, Socioeconomic Development Theory, and Governance and Institutional Theory all provide useful insights into the complex interplay of cultural, demographic, socioeconomic, and governance factors that influence WASH behaviors.

Despite the abundance of research available, there is a significant research gap in understanding the unique context of Dadajabulla Ward, Wajir South Constituency, Kenya, and how these multifaceted factors interact within this community to influence WASH practice adoption. While existing research provides valuable insights from a variety of geographical and cultural contexts, there is a need for more localized research that focuses on the unique cultural, socioeconomic, and governance dynamics of Dadajabulla Ward. This study aims to fill this gap by providing a nuanced understanding of the factors influencing WASH practices in this specific context, which will inform targeted interventions and policy recommendations tailored to the community's needs.

CHAPTER THREE: RESEARCH METHODLOGY

3.1 Introduction

The research design, study location, target population, sampling procedures and techniques, sample population, instrument construction, validity and reliability testing, data collection and analysis methods and procedures, and ethical considerations are all covered in this chapter on research methodology.

3.2 Research Approach

A mixed research approach was used. This method combines qualitative and quantitative research techniques, allowing for a thorough understanding of the complex sociocultural, economic, and governance factors that influence WASH practices. The qualitative component allows for a thorough examination of cultural barriers and local governance dynamics, whereas the quantitative component makes it easier to assess demographic and socioeconomic influences. This mixed approach is necessary because it provides a comprehensive perspective, providing insights that would be missed if either method was used alone, thereby increasing the robustness and validity of the study's findings.

3.3 Study Design

The overall plan or strategy for addressing research questions and objectives, as well as guiding data collection, analysis, and interpretation, is referred to as research design. In this study, a descriptive cross-sectional study is essential. This design is significant because it allows for a systematic investigation and description of the various factors influencing WASH practices, such as cultural barriers, demographic factors, socioeconomic factors,

and local governance. Using a descriptive cross-sectional study, the researcher can collect extensive data to assess the current state of WASH practices in the specific area of study, providing valuable insights for developing effective interventions and policies to increase WASH adoption rates both quantitatively and qualitatively. The study investigated the relationship between independent and dependent variables and the adoption of WASH practices.

3.4 Location of the Study

The precise geographic area where research is conducted, which offers context and setting for the inquiry, is referred to as the study's location. Kenya's Wajir South Constituency is a voting district. Among the six constituencies that make up Wajir County, Wajir South is one of the biggest in Kenya. Since its founding, it has also been one of Kenya's most underserved, undeveloped, and steady constituencies. Wajir South has a land mass of about 21,424 square kilometres, which is greater than the combined areas of the Central (11,449), Nairobi (696), and Western (7,400) constituencies, according to IEBC data. Burder Ward, Dadajabula, Ibrahim Ure, Diif, Lagboqol South, Habaswein, and Banane Ward are the seven wards that make up the constituency. These wards elect Members of County Assembly (MCA) to the Wajir County Assembly (KNBS, 2019).

Dadajabulla Ward, in Kenya's Wajir South Constituency, is the focus of this study on the factors that influence the adoption of wash practices (See Appendix VII). This choice of location is critical because it allows for a more focused examination within a specific community, revealing insights into the unique socioeconomic, cultural, and environmental factors at play. By focusing on a specific location, researchers can gain a better

understanding of the local dynamics that influence attitudes and behaviors towards washing practices, increasing the study's relevance and applicability to the target community. The study site was chosen because of its accessible location and responsive populace.

3.5 Target Population

According to Verma, Verma, & Abhishek, (2024), a population that is targeted is the entire set of people, subjects, or cases that share certain traits that are observable. Residents of Dadajabulla Ward in Wajir County, Kenya, were the subjects of the study. 8646 households were the target population, and seven key informants were selected from among them. These included five NGO representatives from Innovations for Poverty Action and two nursing officers in charge from the Dadajabulla Health Center and Dadajabula Sub District Hospital, the two medical facilities utilized at the location.

Because of their particular susceptibility to water scarcity, inadequate sanitation infrastructure, and low hygiene awareness—all of which are made worse by the region's arid climate and frequent droughts—the people of Dadajabulla Ward in Wajir County were purposefully chosen for the study on WASH practices. This community is illustrative of the obstacles to WASH adoption in arid and neglected locations since they consistently struggle to obtain safe water and sufficient sanitation facilities. Furthermore, the ward's limited involvement of NGOs and the government in WASH initiatives offers a chance to evaluate current procedures and pinpoint important gaps that can guide focused and long-lasting WASH initiatives.

3.7 Sample Size Determination

The sample size for the study was based on Krejcie and Morgan's (1970) Table. According to the Kenya National Bureau of Statistics, the target population for Dadajabulla Ward is 8,646 households. Using Krejcie and Morgan's table (As indicated in Appendix VIII), the sample size was 368 participants, allowing for a representative and meaningful exploration of the factors influencing wash practice adoption in this specific community.

3.6 Sampling Procedures and Techniques

This study employed a multistage sampling approach, integrating both purposive and systematic random sampling methodologies. Initially, purposive sampling was used to selectively identify participants from participants who are aged 18 years and above in Dadajabulla Ward, Wajir South Constituency. As they were believed to possess extensive knowledge and information on sanitation issues at the community level, the study also conducted key informant interviews with two nursing officers in charge from the Dadajabula Health Center and Dadajabula Sub District Hospital, as well as five NGO representatives from Innovations for Poverty Action who were purposefully selected for the study.

In the subsequent stages, systematic random sampling was employed to ensure that each potential participant within the selected demographic had an equal chance of being included in the sample, thereby minimizing bias and enhancing the generalizability of the findings. Practically, systematic random sampling was carried out by first creating a complete list of all households in Dadajabulla Ward. From this list, the researchers randomly selected a starting point. Then, at regular intervals (e.g., every 5th household),

At the household the participants who were the head of the household were selected until the desired sample size was achieved. This method ensured that the representation of diverse perspectives and experiences within the study area. By combining purposive and systematic random sampling techniques, the study aimed to comprehensively capture and analyze the multifaceted factors influencing WASH practice adoption among youth, enhancing both the validity and reliability of the study outcomes through a balanced representation of the population of interest.

3.8 Inclusion and Exclusion Criteria

The researcher used the following inclusion and exclusion criteria

Inclusion Criteria: Participants eligible for inclusion in this study must meet the following criteria:

- The residents in Dadajabulla Ward, Wajir South Constituency, Kenya.
- Aged between 18 and above.
- Willing to participate voluntarily in the study.
- Able to provide informed consent for participation.
- Individuals who can communicate effectively in English or the local languages used for data collection (Somali and Swahili).

Exclusion Criteria: Participants were excluded from the study if they:

- Are outside the specified age range of 18 or below.

- Declined to participate or were unable to provide informed consent.
- Couldn't effectively communicate in English, Somali, or Swahili, hindering data collection.
- Had no relevant knowledge or experience regarding WASH practices.

These criteria were designed to ensure that the study focused on the target population most relevant to understanding the factors influencing WASH practice adoption in Dadajabulla Ward, while also maintaining methodological rigor and relevance to the research objectives.

3.9 Construction of Research Instruments

Questionnaires were the main instrument used in the study to collect data. There were closed-ended questions on the survey. Open-ended questions were used to gather qualitative data from the Key Informants, who were the nursing officers in charge and representatives of the non-governmental organization Innovations for Poverty Action. The key informants provided a thorough understanding of the nuances and complexities of the factors, allowing for the exploration of local perspectives, experiences, and contextual insights that quantitative measures alone may not capture. Closed-ended and Likert-scaled questions designed to elicit information from the respondents were used to gather quantitative data. The significance of these approaches was the ability to facilitate an extensive analysis of the variables and by combining the two approaches, the study ensured a comprehensive and nuanced understanding of the dynamics influencing WASH adoption

in Dadajabulla Ward, Wajir South Constituency, providing valuable insights for policy and intervention strategies.

3.10 Testing to Establish the Research Instruments Validity and Reliability

A pilot study is a crucial first step towards raising the overall standard and level of rigour of the research endeavour. Based on the suggestion by Gay and Diehl (1992) that a pilot study should use 10% of the sample size, a decision was made to conduct a pilot test with a sample size of 37 volunteers from nearby Ward Benane were selected at random for the pilot study.

3.10.1 Validity of Research

The validity of the research findings was ensured using a range of techniques. The first step in addressing face validity was making sure that research tools, like questionnaires or interviewing techniques, were pertinent and suitable for the intended audience and the goals of the study. One way to do this was to have community members pilot test the instruments and provide input on their appropriateness and clarity. In order to guarantee that all pertinent factors were sufficiently captured in the research instruments, a comprehensive review of the literature on WASH practices and consultation with field experts was conducted to ensure content validity. This meant incorporating questions about a variety of cultural, demographic, socioeconomic, and governance aspects that affects Dadajabulla Ward's adoption of WASH into the surveys or interview protocols. To address the issue of construct validity, the study employed statistical methods, such as factor analysis, to investigate the underlying constructs associated with WASH adoption and verify that the research instruments were measuring the intended constructs.

3.10.2 Reliability of Research

Cronbach's Alpha was used in the study to assess the internal consistency of the research instruments in terms of reliability. This was done through performing data analysis and pilot testing to ascertain the validity of the research tools prior to distributing them to the full Dadajabulla Ward sample.

Cronbach's Alpha can be computed with this formula:

$$\alpha = \frac{N}{N-1}\left(1 - \frac{\sum \sigma^2_{item}}{\sigma^2_{total}}\right)$$

Table 3.1 Reliability Statistics

Cronbach's Alpha	N of Items
0.82	25

Strong internal consistency was indicated by Cronbach's Alpha result yield of 0.82, which suggested that survey questions and interview questions consistently measured the same underlying construct.

3.11 Data Collection Methods and Procedures

This study used several data collection methods and procedures to effectively gather information on the WASH practices adoption among the Dadajabulla Ward residents, Wajir South Constituency, Kenya. To begin, the structured questionnaire was interviewer administered had six sections, where: Section A focused on gathering demographic

information from the participants; Section B delved into the assessment of cultural barriers and their impact on the adoption of WASH practices; Section C of the questionnaire was dedicated to evaluating the influence of key demographic factors on WASH practice adoption; Section D focused on exploring the influence of socio-economic factors on WASH adoption: Second, obtaining approval from the Ward's Chiefs was critical to ensuring smooth access and cooperation within the community. In addition, five research assistants were sought to help with data collection. Participants were given two weeks to complete the research questionnaires, which were distributed and collected by the assistants.

For the interviews, the researcher arranged meetings with key informants and audio recording were conducted. These meetings served as a platform for conducting unstructured interviews, allowing for a more in-depth investigation of the factors influencing WASH adoption. Key informants had about an hour to respond to questions posed during those interviews, providing valuable insights into the cultural, demographic, socioeconomic, and governance factors that influence WASH practices in the specified area

3.12 Data Analysis Techniques and Procedures

Both descriptive and inferential statistical analyses were performed for the quantitative data analysis using SPSS version 29. To provide an overview of the data, descriptive statistics such as means, frequencies, percentages, and standard deviations were calculated. This gave a preliminary picture of the factors being studied and aided in understanding the distribution and central tendencies of the data. Afterwards, the relationships between

categorical variables were analysed using inferential statistics, specifically Chi-square tests. This test assisted in evaluating the importance of correlations between the adoption of WASH practices and variables like cultural barriers, demographic factors, socioeconomic factors, and local governance. By doing this, the researcher recognised the relationships that were statistically significant and derived insightful conclusions from the data. Every test was conducted with a significance level of 0.05.

Thematic analysis was also used to find and examine patterns and themes in the interview responses for the qualitative data. There were multiple steps in the process: reading the data several times to become familiar with it; coding it to highlight important features; looking for themes within the codes; fine-tuning the themes to make sure they accurately reflected the data; and finally, defining and labelling the themes. The codes and themes used in the analysis are attached as an appendix. Through the integration of results from both qualitative and quantitative analyses, the researcher was able to fully comprehend the research questions.

3.13 Ethical Considerations

When conducting research, the researcher gave ethical considerations top priority in all areas,. Initially, in order to guarantee adherence to established ethical guidelines and participant welfare, the researcher requested approval from the Ethical Review Committee at Mount Kenya University approval no. 3139. Second, in order to legally conduct research in Kenya, the researcher appllied for a licence from the National Commission for Science, Technology, and Innovation license number NACOSTI/P/24/40660. By ensuring adherence to national regulations, this step enhanced the research process's accountability

and transparency. The researcher placed a strong emphasis on voluntariness, privacy, confidentiality, and transparency throughout the entire process. Potential participants were given clear information about the goals and purpose of the study so they can decide whether or not to participate. Participants were also made aware of their freedom to leave the study at any moment and without facing any repercussions. In addition, the researcher safeguarded the participant rights and interests by preventing unauthorised access to or disclosure of research data and personal information. Lastly, to preserve the integrity and credibility of the study, the researcher made sure that results were communicated truthfully and openly.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.0 Introduction

This section presents the analysis of the data collected, findings, debates, and findings interpretation. The answers to the research questions posed in the previous chapter serve as the basis for how this chapter is structured. Among the theme areas are the respondents' demographics, socio-cultural factors, cultural barriers and their impact on the WASH practices adoption, and WASH adoption socio-economic factors, and influence of local governance on WASH adoption in regard to households in Dadajabulla Ward.

4.1.0 Response Rate

As part of this investigation, 368 qualified respondents were given questionnaires; 352 of those surveys were satisfactorily filled out and returned. Consequently, 352 respondents, or 95.65% of the total population, responded to the research. Verma, Verma, and Abhishek (2024) state that survey results with response rates more than 80% are regarded as trustworthy.

4.1.1 Social-Demographic Characteristics

The study subjects were asked to list their socio-demographic characteristics. Table 4.1 below provides the distribution of the findings.

Table 4.1 **Study Subjects Social-Demographic Characteristics**

Measuring Scale	Categories	Frequencies	Valid percentage
Age	15-19	103	29.3%
	20-24	146	41.5%

	25-29	66	19.2%
	30-34	28	8.0%
	35 and above	9	2.0%
Level of education	Primary	123	34.91%
	Secondary	79	49.11%
	University	39	11.25%
	No formal education	17	4.73%
Employment Status	Employed	83	23.6%
	Self-employed	138	39.2%
	Unemployed	88	25%
	Student	43	12.2%
Gender	Male	175	49.7%
	Female	177	50.3%
Income level	< 10,000	133	37.8%
	10,001-20,000	83	23.6%
	20,001-50,000	98	27.8%
	>50,000	38	10.8%

According to table 4.1, most of the study subjects—119 (41.5%)—are between the ages of 20 and 25. These were followed by 84 (29.3%) who were between the ages of 15 and 19, 55 (19.2%) who were between the ages of 26 and 31, 23 (8.0%) who were between the ages of 31 and 36, and 6 (2.1%) who were over the age of 37. This suggested that 119 (41.5%) of the respondents were between the ages of 20 and 25, while the least number of respondents were beyond the age of 37. A study finding by Gude et al., (2020) opines that

the younger generation places more importance on laundry and personal hygiene, while the elderly have less of these needs.

The variety of the respondents was gauged by gender and it was concluded that the respondents were equally selected without any biases on the specific gender. There was a slight difference between males and females. Females' respondents were 50.3% which is equal to 177 individuals, while males were 49.7% which is equal to 175 individuals. From the above table, it was found that 49.11% of the respondents attained secondary education which was the majority, 34.91% were primary dropouts, 4.73% never had formal education, 8.88% had a college education and only 2.37% of respondents attained university education. This indicates that all study participants had a high level of education, which allowed them to comprehend and provide the relevant information the study was seeking.

Regarding the employment status, most of the study subjects (138) were self-employed, 88 respondents were unemployed, 83 respondents were employed and 43 individuals were students. On the basis of the level of income, the data analysis shows that most of the study respondents, 133, earn less than 10,000 per month, 98 individuals earn between 20,001 to 50,000, 83 respondents earn between 10,000 to 20,000 and only 38 individuals out of total respondents receive more than 50,000 earnings per month. Findings by Dhoba (2022) opines that WASH adoption and practices are greatly reduced by income inequality. the study also shows that WASH adoption and practices are greatly increased by financial inclusion.

These result concur with the qualitative data from one of the key informants, who reported that:

"M*others' awareness of clean water, sanitation, and hygiene was influenced by their age and educational attainment, while their practice was influenced by their household income and education*".

4.2.0 WASH Practices Adoption Among the Dadajabulla Ward Residents

The study sought to find out the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.

4.2.1 Information on practices related to water.

Table 4.2 Participants Information on practices related to water

No.	Statements	Response n=352	
		n	Percentage
1	Primary water source for human consumption and other household purposes		
	Tube well	4	0.9
	Piped water/county piped water	348	99.1
2	Source of water location in metre within dwelling		
	<10 m	177	50.2
	10–20 m	10	30.1
	>20 m	46	13.5
		83	6.2
3	Drinking water stored in		
	Covered containers/ drinking Bottles	348	99.1
	Uncovered containers	4	0.9
4	Drinking water made safe by		
	Boiling	61	17.2
	Cloth straining	22	6.3
	Filtering	21	6.1
	Nothing is done	248	70.4
5	Technique of water drawing for cooking		
	Safe	313	88.8
	Unsafe	39	11.2
6	Water acceptability		
	Yes! Acceptable	295	83.7
	No! Very dirty, with bad odour	57	16.3
7	Mode of water supply (main source)		
	Intermittent	296	84.2
	Countinous	56	15.8

8	Frequency of cleaning storage container Once in every 3-4 weeks Once a fortnight On a weekly basis	 26 76 250	 7.3 21.5 71.2

The County water supply, which was located within 10 meters of their homes (177, 50.2%) and had erratic timings, provided drinking water and water for other uses to the majority of houses (348, 99.1%). In 161 (70.4%) families, drinking water was not pre-treated to make it safer to drink. 250 families (71.2%) had water storage containers cleaned at least once a week. Additionally, 295 (83.7%) respondents said they were satisfied with the water supply. The welfare of society depends on having access to sufficient WASH services, especially piped water, which enhances use and lessens the burden on girls and women, who are primarily in charge of gathering water in African environments. These results supported another study conducted in Somalia that found that the lack of a safe water supply quadrupled the likelihood of engaging in unsanitary behavior (Kebede & Aynalem, 2021). However, another Ethiopian study (Kassie & Workie, 2020) found no link between water source safety and hygiene behaviors.

4.2.2 Information on practice related to sanitation

The findings from the data analysis are represented as shown in table 4.3 below:

Table 4.3 Respondents Information on practices related to Sanitation

No.	**Statements**	**Response n=352**	
		n	**Percentage**
1	Type of toilet Unsanitary toilet Sanitary toilet	 77 275	 21.9 78.1
2	Water source in the toilet Unavailable Present	 300 52	 85.2 14.8
3	Frequency of toilet cleaning Infrequent	 126	 35.9

	Weekly daily	187 39	53.1 11.0
	Household water disposal Sink/drain connected to main sewer Sink/drain connected to open ground Disposed directly to the ground	 93 226 33	 26.5 64.3 9.2
	Sharing of toilet Shared with other other households Shared with the public Not shared	 297 25 30	 84.5 7.2 8.3
	Flushing Facility Cistern Manual	 298 54	 93.2 6.8

About three-fourths (322, 91.7%) used communal restrooms, which were shared by other homes (297, 84.5%) and had manual flushing facilities (298, 93.2%). Of the toilets, only 52 (14.8%) had a water supply. Only 39 (11.0%) of those surveyed said the restrooms were cleaned every day. 226 (64.3%) of the houses dumped their wastewater in open sewers, while the majority of the households disposed of their solid garbage in approved waste disposal zones. Eight (14.5%) of the 55 households with children under five disposed of their waste in latrines, while 23 (41.8%) of the households had children using communal latrines. Eleven families (20.0%) disposed of the excreta with other solid garbage, while twelve (21.8%) threw it carelessly down the drain. Toilets and water supplies are crucial components of water, sanitation, and hygiene (WASH) procedures.

The welfare of society depends on having access to sufficient WASH services, especially piped water, which enhances use and lessens the burden on girls and women, who are primarily in charge of gathering water in African environments which is lacking based on the study findings. There are serious risks to residents when there is a lack of clean water, working toilets, and enough handwashing stations in communal and households settings. The results were consistent with research done in South Africa (Tseole et al., 2022) and

India (Tripathi & Swain, 2024), where the majority of respondents believed that the availability of latrines had a significant impact on the adoption of water, sanitation, and hygiene practices.

4.2.3 Information on practice related to Hygiene

Table 4.4 Respondents Information on practices related to Hygiene

No.	Statements	Response n=352	
		n	Frequency
1	Hand-washing area		
	Sink or tap in dwelling	40	11.4
	Sink or tap in yard/plot or community	117	33.2
	Open (No sink)	195	55.4
2	Availability of soap		
	Detergent	8	2.3
	Bar or liquid soap	294	83.7
	none	50	14
3	Hand-washing with soap before eating		
	Never	9	2.5
	Sometimes	76	21.6
	Always	267	75.9
	Hand-washing with soap after using a toilet		
	Never	8	2.3
	Sometimes	37	10.4
	Always	307	87.3

Only 40 (11.4%) of the homes had a designated handwashing station, whereas over half of the survey participants cleaned their hands outside their homes (195, 55.4%). Hand-washing stations had a bar or liquid soap in 192 (84.2%) of them. Additionally, 294 (83.7%) and 171 (75%) of the survey participants said they always washed their hands with soap after using the restroom and before eating, respectively. A similar study carried in Kenya by Ndumo, Kiragu & Shano, (2023) yielded a chi-value 6.411(a) at 2df

obtained a p-value .041 showing significant association between availability of hand-washing area, soap, water supply with hand-washing practices. Another similar study in

Garissa county by Habtu et al., (2024) corraborated the findings. 2.3 billion people lack a handwashing station with soap and water at home, according to UNICEF thus hampering hygienic practices at home.

Thematic analysis of the the residents' in-depth key informant interviews (n=7)

Table 4.5 KII Thematic Analysis on Adoption of WASH Practices

Themes	Codes	Verbatims
Water-related issues	Collection and storage	"...one tap for over 30 people."
		"...mainly store for drinking and cooking and some water is stored for toilet purpose."
	Drinking water	"We directly consume water as supplied."
		"Boiled water is given only to children."
	Water supply	"In summers it is a problem as usage is more."
		"In the evening water comes for a very short time."
Sanitation-related issues	Latrine	"Drainage outlet gets blocked most of the time."
		"There should be a cistern and tap water connection."
		"Separate toilets for ladies and gents should be there."
	Waste collection	"Everyone should throw waste in one common area only.""Staff don't come every day to collect waste. Many times they are absent."
Hygiene-related issues	Handwashing	"...impossible for houses to have sink."
		"...know that it is important to wash hands before eating. We are doing this more often after COVID."
	Menstrual hygiene	"Use sanitary napkins only...some use cloth as it can be reused."

According to one of the primary informants, these findings are comparable to the qualitative data where it was observed that:

> " *Many rural residents believed that water purification technologies were time-consuming due to their inflexible thinking. They attributed the subpar WASH conditions on either their circumstances or the government. "Many people don't prioritize the construction of the latrine because they consider having a latrine inside the house to be a curse," said a KII member. Due to a lack of interest in maintaining hygienic conditions, latrine use is frequently irregular.*

The results of this study replicate those of the WHO (2024), which found that 99% of families have access to better sources of drinking water. 99.1% of the households in this survey drew their water from the county tap, which supported USAID's (2024) results about slum inhabitants in Nairobi. It exceeded the results of a research conducted in Kenya by Mwangi and Kariuki (2022), in which 92.4% of the participants drank water from the County Government. In contrast, Kithuki et al. (2021) found that 42% and 62.3% of research participants in a semi-arid district in Eastern Kenya cited public hand pumps as their primary source of water.

4.3.0 Influence of Cultural Barriers on the Wash Practices Adoption Among the Dadajabulla Ward Residents

Essentially, a society's standards and values serve as the sociocultural barriers to WASH. This section highlights the cultural and societal barriers that prevent sate WASH practices.

4.3.1 WASH Behaviours Motivators

The study sought to determine the motivators for currently practised behaviours in the area. The referred WASH practices were: the safe solid waste disposal, managed sanitation, safe solutions for drinking water, good food preparation and storage, and excellent practice of menstrual hygiene. The findings on WASH behaviours motivators are as shown below in table 4.6

Table 4.6 Distribution Regarding General Wash Conditions in Respondent's Area

Categories	Frequency	Percentage
Worst	126	35.8
Poor	62	17.5
Moderate	129	36.7
Good	35	10.0
Total	352	100.0

According to Table 4.6, the majority of respondents (126+62=188), or 53.3%, believed that the overall state of WASH in their communities was extremely poor. This implies that, there was unsafe solid waste disposal, unmanaged sanitation, unsafe solutions for drinking water, poor food preparation and storage, and poor practice of menstrual hygiene. Of those surveyed, 35.8% believed that the state of WASH in their communities was at its worst, and 17.5% believed that the conditions were poor. However, just 10% of respondents reported that the aforementioned WASH conditions were good in their location, while 36.7% of respondents said that the conditions were moderate. This study results are contrary to a findings by Nasir et al., (2020) which opines that the WASH conditions were generally good and getting better in rural areas and among lower socioeconomic groups, particularly as social media and literacy rates rose. Excellent WASH practices are essential because they improve community health, stop the spread of diseases, and promote sustainable development by enhancing living conditions and general well-being.

The investigator aimed to ascertain the opinion about the level of responsible for hygiene environment at the household level.

Table 4.8. Distribution Regarding Opinion about more Responsible for Hygienic Environment at the Household Level

Categories	Frequency	Percentage
Self-Responsibility	102	29.0
Administrative Responsibility	175	49.6
Political Responsibility	75	21.4
Total	352	100.0

It was widely believed that the self or head of the household was responsible for providing a hygienic environment at the household level. However, the data indicates that most of the study subjects (49.6%) (table 4.8) claimed administrative responsibility for providing a hygienic environment at the household level, followed by political responsibility (21.4%) and personal responsibility (29.0%). According to research findings by Mwangi & Kariuki (2022), accountability for WASH practices varies depending on the situation, however it may include: WASH service providers are in charge of organizing, carrying out, and maintaining WASH infrastructure and services. In public spaces, they serve as the WASH sector's coordinator and leader. The survey also discovered that the family were in charge of maintaining and cleaning any family-shared or household-level toilets similar to this study. The results corroborate those of Habte *et al.*, (2024), which came to the conclusion that basic cleanliness and hygiene requirements are largely and irreplaceably maintained in the home.

Table 4.9. Distribution with respect to reasons for not using WASH practices (n=352)

Reasons	Culture/ Old Traditions are Strong	Lack of Awareness	Poverty	No Interest in Hygienic Behaviors
	F (%)	F (%)	F (%)	F (%)
Reason for not using safe drinking water	166 (47.3)	46 (13.1)	115 (32.7)	25 (6.9)
Reason for not practice the easy method of water filtration for using safe drinking water by people	169 (47.9)	125 (35.6)	15 (4.2)	43 (12.3)
Reason for open defecation by people	165 (47.1)	62 (17.5)	81 (23.1)	44 (12.3)
Reason for not using soap for hand washing	129 (36.7)	23 (6.6)	78 (22.3)	122 (34.4)

F= number of Households, %= Percentage

Four justifications were given for not implementing WASH practices as shown in table 4.9. These factors included poverty, a strong sense of culture and ancient customs, ignorance, and a lack of enthusiasm in practicing hygienic conduct. 47.3 percent of respondents cited culture and customs as a reason for not using clean drinking water. According to 47.9%, 47.1%, and 36.7% of respondents, respectively, the use of open defection, the non-use of handwashing soap, and the non-use of the household technique of water filtration were all hampered by culture or ancient customs. This table's results are consistent with those of Cooper (2018) which found out that the cultural traditions are the cause of poor sanitary conditions, particularly in the rural areas.Culture has an impact on WASH behaviors, hence effective WASH initiatives should take local social and cultural norms into account. Water treatment, handling, and use have long been influenced by people's cultural beliefs and customs. Muniyapillai et al. (2022) study corraborates this as they concluded that in their studies that cultural attitudes and a lack of knowledge about better sanitation and hygiene prevent some people and cultures from adopting good WASH practices since they are unwilling to change their ways.

Table 4.10. Distribution Regarding Hurdles Behind the Poor Condition of WASH

Categories	Frequency	Percentage
Culture/Old traditions are strong	147	41.9
The poor economic condition of locals	81	22.9
No interest in hygienic behaviors	68	19.2
Political Issues	56	16.0
Total	352	100.0

According to table 4.10, the majority of respondents (41.9%) said that the bad state of WASH was caused by strong cultural and traditional practices. While 22.9 percent of respondents stated that the low economic standing of the community was a barrier to WASH, 19.2 percent said that they had little interest in practicing hygienic behavior, and 16 percent of households said that political difficulties were a contributing factor to the poor state of WASH. On the contrary, a study findings by Kosgei et al., (2024) in Bomet County concludes that poverty, malnutrition, inadequate data reporting, climate change, inadequate healthcare financing, and illiteracy are some of the major hurdles affecting WASH practices in the area. Also another study by Habte et al., (2024) was comparable to this and had concluded that there exist a complicated web of interrelated issues, such as cultural resistance, poverty, a lack of infrastructure, and limited understanding, frequently hinders WASH practices in Garissa county. The recent COVID-19 epidemic demonstrated that the WASH sector was not given enough priority. Despite the well-established advantages of WASH in preventing disease, many nations continue to underinvest in water delivery infrastructure (WHO, 2022; Pories et al. 2019).

Table 4.11 Distribution by Severity of Cultural Barrier Types Affecting Safe WASH Practices (n=352)

Statements	Mean	Standard Deviation	Weighted Score	Rank Order
The handwashing is critical timings doesn't require soap always	2.58	1.62	777.6	4th
Women participation was essential in the WASH education program	3.09	1.77	849.6	2nd
Cultural habits effects on safe WASH practices	2.09	1.38	1003.2	1st
Satisfaction from their old tradition regarding WASH practices	2.16	1.42	681.6	9th
They don't want to lose their cultural identity regarding WASH practices	2.29	1.46	700.8	8th
Indigenous methods regarding WASH practices are more reliable	2.47	1.51	724.8	6th
The habits of forefather regarding WASH practices are more reliable	2.47	1.52	729.6	5th
The idea of social change regarding any WASH practices belongs to the west agenda	3.50	1.48	710.4	7th
Having a latrine inside the house is a curse	4.24	1.29	619.2	10th
Underground water was always safe for drinking	3.39	1.74	835.2	3rd

By comparing the weighted scores, Table 4.11 shows the cultural restrictions ranked by severity. Given its higher variability (M=2.09, SD=1.38, Weighted Score=1003.2) and ranking first in relation to other components, it was clear that cultural practices were having a greater impact than the other categories. The perception that having a latrine inside the house is a curse (M=4.24, SD=1.29, Weighted Score=619.2) was ranked as the 10th (least) contributing factor influencing safe WASH practices, while satisfaction with their old tradition regarding WASH practices (Mean=2.16, SD=1.42, Weighted Score=681.6) was ranked ninth. This table's results are consistent with those of Vally & Elshaug (2021), who found that WASH issues were gendered and that its application was classified socially and culturally as being constrained by taboos and traditions.Tamene and Afework's (2021) study in Ethiopia made a similar conclusion, concluding that sociocultural influences are a significant component in the adoption of diverse attitudes or perceptions regarding the usage of water and sanitation as well as hygiene practices.

A KII cited that some of the cultural barriers hindering the WASH practices by the community was the gender roles, use of feaces for witchcraft purposes, and the associations with demons for those not willing to share.

Table 4.12. Cross-tabulation of respondent's opinions between hurdles behind poor Condition of WASH and General WASH Condition of Area

Reason	General WASH Conditions of Area				Chi-square value	*p*-value	*Df*
	Worst F (%)	Poor F (%)	Moderate F (%)	Good F (%)			
Hurdles behind poor Condition of WASH							
Culture/Old traditions are strong	55 (32.0)	23 (27.4)	79 (44.9)	19 (39.6)	32.586	.001	9
Lack of Awareness	8 (4.7)	13 (15.5)	9 (5.1)	2 (4.2)			
Poverty	36 (20.9)	29 (34.5)	33 (18.8)	9 (18.8)			
No interest to hygienic behaviors	73 (42.4)	19 (22.6)	55 (31.2)	18 (37.5)			

The cross-tabulation between the factors contributing to the targeted area's current WASH state and the obstacles causing it to deteriorate was displayed in Table 4.12. As compared to poverty (20.9%) and lack of awareness (4.7%), it was found that the worst WASH conditions in the targeted areas were caused by a lack of interest in hygienic behaviors (42.4%) and a strong contribution from culture and old traditions (32%). Analysis revealed a substantial correlation between the current WASH status of the targeted area and the obstacles causing poor WASH. With a p-value of.001 and a chi-square value of 32.586, the df=9 is less than.05.

Results from the qualitative analysis indicate that the poor WASH practices in rural regions are mostly caused by socio-cultural barriers, according to the KII. By doing as their forebears did, they are content with their everyday affairs. Many residents of Dadajabulla Ward thought the water purification techniques were time-wasting due to their inflexible

thinking. They attributed the terrible WASH conditions to either their fate or the government.

> *"Many people don't prioritize the construction of the latrine because they consider having a latrine inside the house to be a curse," said an NGO member. "Due to a lack of interest in maintaining hygienic conditions, latrine use is frequently irregular. Due to long-standing habits, many who own latrines were unaware of how clean they were".*

It was also discovered that, contrary to some misconceptions in the region, "diseases like diarrhea are not caused by unsanitary conditions and inadequate WASH conditions, but only by God's will." "Air has a naturally occurring quality to kill the germs of hands." According to one KII that:

> *"the cultural barriers towards safe WASH practices are rigid mindset, old formed habits, attachment to old traditions, cultural taboos, stereotypes, indigenous methods regarding WASH, and love towards cultural identities & forefather's habits."*

4.4.0 Influence of Socio-economic Factors on the Adoption of WASH Practices Among the Residents

The investigator sought to investigate the Socio-economic factors influence on the WASH Practices adoption amongst the residents. The results are tabulated below:

Table 4.13 Social-economic Factors Associated with WASH Practices

Independent variables	Categories	Dependent variable (WASH Practices)	Dependent Statistical

		Done (N=213)	Not Done (N=139)	Significance (Chi-square test)
Water source	safe	(72%)	(28%)	χ^2=8.255
	unsafe	(54.7%)	(45.3%)	df=1 P=0.004
Size of the household	1-3	(71.9%)	(28.1%)	χ^2=12.287
	4-6	(60.8%)	(39.2%)	df=1 P=0.002
	>7	(45.1%)	(54.9%)	
Education level	No education	(48.8%)	(51.2%)	χ^2=12.996
	Primary	(67.6%)	(32.4%)	df=3 P=0.005
	secondary	(71.3%)	(28.7%)	
	tertiary	(68.8%)	(31.3%)	
Income level	Above poverty line	(68.8%)	(31.2%)	χ^2=7.413
	Below poverty line	(53.2%)	(46.8%)	df=1 P=0.006

As can be seen from Table 4.13 above, over three-quarters (72%) of survey participants who reported having a safe water supply engaged in some form of hygiene. It is simpler to maintain proper sanitation and hygiene, such as washing your hands with soap, when you have access to clean water. A statistically significant correlation (χ2=8.255,df=1,p=0.004) was found between the water source and the WASH habits when the chi-square test for independence was used. Furthermore, the probability of having appropriate WASH habits was doubled in the absence of a safe water source. These results supported those of another County study that found that the risk of unsanitary practices increased by a factor of four when there was no safe water source (Raine, Kumar & Sabah, 2023). However, a second

Ethiopian study (Puspita, 2022) found no link between water source safety and washing methods.

Regarding the study participants' household size, as shown in Table 4.13 below, nearly three-quarters (72%) of those with households with one to three people engaged in some kind of WASH practice. There are fewer people to share resources in smaller homes. Each member may receive a larger share of resources per capita as a result, such as access to waste disposal, water, and toilets. A statistically significant relationship between WASH practices and household size was found using a chi-square test for independence ($\chi2=12.287, df=1, p=0.002$). The findings of this study supported those of two more investigations by Nasir et al. (2020) and Ndumo et al. (2023). However, a second Tanzanian study found no connection between household size and WASH practices, which contradicted these findings (Muanda, Goldin, & Haldenwang, 2020).

Table 4.13 above shows the educational attainment of the respondents. Of the participants without a formal education, more than half (51.2%) rarely practiced sanitary initiatives. Increased comprehension and awareness of WASH practices are correlated with higher educational attainment. The WASH behaviors and respondents' educational attainment were statistically significantly correlated when the chi-square test for independence was run ($\chi2=12.996$, df=3, $p=0.005$). The chi-square analysis results aligned with the thematic analysis findings, which included the following observations from one of the key informants:

> *"Parents with greater educational attainment are more likely to embrace healthy habits and behaviors that encourage proper hygiene. Additionally, they might be*

more open to behavior change treatments that improve their health status, such as hygiene education and WASH practices….."

Regarding the survey participants' financial situation, over three-quarters (68.8%) of the respondents made more than the poverty level and showed no concern for WASH habits. A statistically significant correlation between the respondents' income level and WASH habits was found using a chi-square test for independence ($\chi 2=7.413$, df=1, p=0.006). Access to clean WASH facilities is made more difficult by low income since the impoverished have unequal and insufficient access to these services. These findings were consistent with another study conducted in Kenya (Mwangi & Kariuki, 2022), which found that monthly income level and perception of income had a substantial impact on WASH conditions.

4.5.0 Influence of Local Governance on the Wash Practices Adoption Among the Dadajabulla Ward Residents

It has long been acknowledged that the provision of sustainable water and sanitation services depends on effective local government. Additionally, it is essential for long-term economic development and progress. The difficulty lies in figuring out what local good governance entails for better WASH services and how to accomplish it.

The researcher sought to find out how local government affects Dadajabulla Ward residents' adoption of WASH practices in the Wajir South Constituency (Five is Strongly Disagree, four is Disagree, three is Neutral, two is Agree, and one is Strongly Agree). the results are summarized in table 4.14:

Table 4.14 Local Governance Influence on the Wash Practices Adoption

Statements	1	2	3	4	5
The resource allocation in Dadajabulla Ward for WASH projects is efficient and effective	9%	7%	12%	32%	40%
The local government ensures regulatory compliance in WASH initiatives	34%	28%	21%	11%	6%
Perceived local governance entities in Dadajabulla Ward to be accountable for WASH-related decisions and actions	12%	17%	16%	23%	32%
There is transparency of resource allocation processes by the local government for WASH projects in Dadajabulla Ward	8%	10%	1%	26%	55%
The effective enforcement of WASH regulations by local governance contributes to the improvement of the community WASH practices.	56%	31%	4%	3%	6%

Local government has a huge role in ensuring that the locals of Dadajabulla adopt WASH practices. On whether is allocation of resources is effective and efficient for WASH practices. Majority of the respondents disagreed 40% while only 9% were in agreement with the statement. On whether the local government ensures regulatory compliance in WASH practices, majority of the respondents agreed (34%).

Regarding whether the respondents were satisfied with the resource allocation by the local government for WASH practices, majority of them at 55% strongly disagreed. Analysis on whether the local government regulations contribute to the WASH practices adoption,

shows that most of the participants agreed at 56%. Regarding the matter whether the local government should be held responsible for any decision relating to WASH practices,

These results of the qualitative information, which revealed that there is a need for improvement in infrastructure for WASH practices, according to one of the key informants:

> *"The local government ought to put up more WASH infrastructure as the existing ones are old and dilapidated and most of the time they don't work. For instance in the hospitals and the local market , this ought to include toilets and latrines that can be flushed or poured into a pit latrine, septic tank, or piped sewer system.*

Underappreciated despite their crucial functions, local governments can either promote or impede the adoption of WASH practices. Decisions regarding WASH services must be linked to other development decisions since WASH practices are a component of integrated development. These results supported those of Mwangi & Kariuki (2022), who came to the conclusion that Kiambu County's public health was enhanced by effective WASH governance.

4.6 : Regression Analysis

In order to investigate the factors impacting the adoption of WASH practices among the inhabitants of Dadajabulla Ward, Wajir South Constituency, this study used logistic regression analysis. The best analytical technique to model the association between WASH adoption and several independent variables was logistic regression since the dependent variable—implementation of WASH practices—is binary in nature (adopted

vs. not adopted). Critical information for focused interventions and policy development was made possible by the logistic regression model, which made it possible to identify statistically significant predictors and estimate the likelihood of implementing WASH practices depending on these characteristics. The output is shown in table 4.16 below:

Table 4: 16 : Logistic Regression Output

Variable	B (Coeff)	S.E.	Wald	Sig.	Exp(B) [Odds Ratio]	95% C.I. for Exp(B)
Constant	-1.432	.567	6.38	.012	0.239	0.079 – 0.718
Cultural Barriers (X1)	-0.980	.312	9.85	.002	0.375	0.204 – 0.688
Socio-Economic (X2)	1.124	.287	15.35	.000	3.077	1.754 – 5.401
Local Governance (X3)	0.743	.265	7.86	.005	2.102	1.260 – 3.507

The adoption of WASH practices among Dadajabulla Ward residents was found to be significantly correlated with cultural barriers, socioeconomic characteristics, and local government, according to the logistic regression analysis. WASH adoption was found to be adversely affected by cultural obstacles; households with significant cultural constraints were 62.5% less likely to adopt appropriate WASH practices than households without such barriers. Socioeconomic characteristics, on the other hand, had a significant beneficial impact; households with higher socioeconomic position were three times more likely than those with lower status to adopt WASH practices. Furthermore, there was a strong correlation between WASH adoption and efficient local governance; households with supportive local leadership were twice as likely to adopt better practices related to water, sanitation, and hygiene. These results highlight how important sociocultural factors, economic prosperity, and governance frameworks are in determining WASH outcomes, offering crucial information for focused policy and programmatic initiatives.

CHAPTER FIVE:

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The study's summary, conclusions, and recommendations are presented in this section.

5.1 Summary of Findings

WASH practices must be continuously improved if public health is to continue to advance. Safe WASH practices hinder the prevalence of water-borne infections in the community and stop their spread. The first study objective was to establish the adoption of WASH practices among the Residents of Dadajabulla Ward. The study found out that Majority of the respondents depended on the County water supply, which was located within 10 meters of their homes (177, 50.2%) and had erratic timings, provided drinking water and water for other uses. About three-fourths (322, 91.7%) used communal latrines, which were shared by other homes (297, 84.5%) and had manual flushing facilities (298, 93.2%). Of the toilets, only 52 (14.8%) had a water supply. Only 39 (11.0%) of those surveyed said the restrooms were cleaned every day. 226 (64.3%) of the houses dumped their wastewater in open sewers, while the majority of the households disposed of their solid garbage in approved waste disposal zones. Only 40 (11.4%) of the homes had a designated handwashing station, whereas over half of the survey participants cleaned their hands outside their homes (195, 55.4%). Hand-washing stations had a bar or liquid soap in 192 (84.2%) of them. Additionally, 294 (83.7%) and 171 (75%) of the survey participants said they always washed their hands with soap after using the restroom and before eating, respectively.

This study's second objective was to determine how sociocultural factors affect the adoption of WASH practices, and the findings indicate the majority of respondents (126+62=188), or 53.3%, believed that the overall state of WASH in their communities was extremely poor. Majority of respondents (49.6%) claimed that it was the administrative responsibility for providing a hygienic environment at the household level, followed by political responsibility (21.4%) and personal responsibility (29.0%). Four justifications were given for not implementing WASH practices. These factors included poverty, a strong sense of culture and ancient customs, ignorance, and a lack of enthusiasm in practicing hygienic conduct. 47.3 percent of respondents cited culture and customs as a reason for not using clean drinking water. Moreover, the majority of respondents (41.9%) said that the bad state of WASH was caused by strong cultural and traditional practices. Given its higher variability (M=2.09, SD=1.38, Weighted Score=1003.2) and ranking first in relation to other components, it was clear that cultural practices were having a greater impact than the other categories. Results from the qualitative analysis indicate that the poor WASH practices in rural regions are mostly caused by socio-cultural barriers, according to the KII.

The third objective of the study was to determine the influence of Socio-economic factors on the adoption of WASH Practices among the residents. The study found that over three-quarters (72%) of survey participants who reported having a safe water supply engaged in some form of hygiene. A statistically significant correlation ($\chi2=8.255$, df=1,p=0.004) was observed between the water source and the WASH habits. Nearly three-quarters (72%) of those with households with one to three people engaged in some kind of WASH practice. A statistically significant relationship between WASH practices and household size was found using a chi-square test for independence ($\chi2=12.287$,df=1,p=0.002). Of the

participants without a formal education, more than half (51.2%) rarely practiced sanitary initiatives. Increased comprehension and awareness of WASH practices are correlated with higher educational attainment. These results were consistent with the qualitative information, which included the following observations from one of the key informants: “Parents with greater educational attainment are more likely to embrace healthy habits and behaviors that encourage proper hygiene. Regarding the survey participants' financial situation, over three-quarters (68.8%) of the respondents made more than the poverty level and showed no concern for WASH habits. A statistically significant correlation between the respondents' income level and WASH habits was found using a chi-square test for independence ($\chi 2=7.413$, df=1, p=0.006).

Local government has a huge role in ensuring that the locals of Dadajabulla adopt WASH practices. The fourth objective was to find out how local government affects Dadajabulla Ward residents' WASH practices adoption in the Wajir South Constituency. The study concludes that the allocation of resources was ineffective and inefficient for WASH practices. Majority of the respondents 40% disagreed and only 9% were in support with the statement. On whether the local government ensures regulatory compliance in WASH practices, majority of the study subjects agreed (34%). Regarding whether the respondents were satisfied with the resource allocation by the local government for WASH practices, majority of them at 55% strongly disagreed. Analysis on whether the local government regulations contribute to the WASH practices adoption, shows that most of the study subjects agreed at 56%.

5.2 Conclusions

Regarding the study objectives one; to establish the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency. The study concludes that the WASH procedures of a significant percentage of the inhabitants were inadequate. Poor living conditions, trouble collecting and storing water, waterlogging, clogged sewage drains, shared restrooms for men and women, littering, and a lack of drive were the top obstacles identified by the locals. In addition, the study concludes that; economic considerations have a major impact on the adoption of WASH practices by the people living in Dadajabulla Ward, Wajir South Constituency. Access to better sanitation facilities, sources of safe water, and hygiene items is frequently hampered by low household incomes and other financial limitations. On the other hand, WASH practices are more likely to be adopted and maintained in areas with comparatively better economic conditions. In order to increase WASH adoption in the community and eventually improve public health and economic productivity, economic empowerment and focused financial support are essential.

Data analysis findings on the objective; to examine the influence of cultural barriers on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency concludes that; the targeted area's inadequate WASH practices were shown to be closely linked to local social norms and cultural features. Sociocultural factors that are impeding safe WASH practices in Dadajabulla Ward include a strong attachment to traditional customs, a degree of dependability towards the habits of forefathers, rigid norms, such as myth-based WASH beliefs, the fear of losing cultural identity, the strong patriarchal system that prohibits women from participating, cultural taboos like

considering a latrine inside the home to be a curse, and NGOs' perception of social change as a negative western agenda.

The third study objective was to examine the Socio-economic factors influence on the adoption of WASH Practices among the residents. The study concludes that the lack of a safe water source decreased the likelihood of having good WASH practices while earning above the poverty line, and households with a family size of one to three people increased the likelihood of having good WASH practices.

Finally, the findings to identify the local governance influence on the WASH practices adoption among the community of Dadajabulla Ward, Wajir South Constituency concludes that there is inadequate engagement of all stakeholders, the inclusiveness and equity of community members in the county WASH development practices is questionable and that decisions are made not in a transparent manner in accordance with regulation and rules which has influenced the poor WASH practices in the ward. Moreover, information on WASH practices is not openly accessible to people who will be impacted by the local government decision.

According to the study, WASH practice adoption rates in the study area are still moderate overall and vary by households.

5.3 Recommendations

The suggested recommendations that follow are based on the study findings.

Based on the first objective which was to establish the WASH practices adoption among the Dadajabulla Ward, Wajir South Constituency residents, it is recommended to policymakers that a comprehensive programs of WASH development must be launched

with the primary goal of social mobilization about the change of current inflexible social norms and resource allocation to enhance WASH conditions/practices to ensure that the SDGs relating WASH are fullfilled.

Based on the objectives two findings, the government ought to make sure that need assessments be carried out to comprehend the sociocultural norms of each given location before to launching any WASH programs. In particular, national and international organizations should focus their WASH initiatives on the sociocultural characteristics of the places they are targeting rather than creating a general strategy.

With the factors of socio-economic such as household wealth, occupation, education and income level, and access to infrastructure all having a significant impact on whether or not people can regularly engage in healthy WASH practices, the study recommends to the policymakers that advocacy be used to educate the people of Dadajabulla Ward, Wajir South Constituency, about the negative health and hygiene effects of not following proper WASH practices.

Improving sanitation and hygiene facilities access is largely dependent on local government policies, rules, and investments in WASH infrastructure, the study finally recommends that sanitation policies must be developed and put into effect that focus the available resources on knowledge empowerment and income-generating stream diversification, with the money made from these endeavors being given priority for investments in better sanitation facilities. In addition, promoting education and awareness about the impact of sociocultural factors on WASH practices should be a top priority for the county government.

To boost uptake, particularly among disadvantaged groups, the MOH should make sure WASH education is incorporated into regular health outreach initiatives. Additionally, more Community Health Volunteers should be trained and sent out to conduct door-to-door education campaigns about WASH practices, with a focus on women and pastoralist households.

The Wajir County Government should build and maintain public sanitary facilities, provide access to clean water sources, and make sure that rural communities have adequate waste disposal systems.

To prevent redundancy and improve synergy, the NGOs should work with government agencies, faith-based organizations, and community-based groups.

5.4 Further Research Suggestions

Even if the research's methodology and scope were constrained, a thorough anthropological investigation is still required to completely comprehend how hygiene and related practices impact WASH in various cultural contexts. Moreso, improving access to WASH requires government policies. Future research might therefore build on this work by examining how national policies affect WASH access.

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APPENDICES

Appendix I: Introduction Letter

Dear Participants,

With a particular case study carried out in Dadajabulla Ward, Wajir South Constituency, my current research project explores the factors influencing the adoption of WASH (Water, Sanitation, and Hygiene) practices in Kenya. I'm contacting you as part of this project to ask for your important cooperation in the data gathering procedure.

Appendix II: Consent Form

Title of Study: Factors Influencing the Adoption of WASH Practices Among the Residents of Dadajabulla Ward, Wajir South Constituency, Kenya

Principal Investigator: Sahal Ahmed Bashir

Mount Kenya University

College of Health Sciences

Introduction:

As a prerequisite for Mount Kenya University's Master of Public Health degree, you are being asked to take part in a research study. You can decide whether or not to participate in the study by reviewing the information provided in this consent form. Kindly carefully read this form, and don't hesitate to ask any questions you may have.

Purpose of the Study:

This study aims to explore the factors that influence Dadajabulla Ward, Wajir South Constituency, Kenyan residents' adoption of Water, Sanitation, and Hygiene (WASH) practices. Your involvement will give you important knowledge about the obstacles to and enablers of WASH practice adoption in your neighbourhood.

Procedures:

If you consent to take part in this research, you might be invited to take part in a follow-up interview in addition to being required to fill out a questionnaire. Aspects of WASH practices such as water use, sanitation facilities, hygiene behaviours, and factors influencing these practices will all be covered in the questionnaire. If an interview is held, it will delve deeper into your answers to the survey.

Duration:

Completing the questionnaire will take about thirty minutes. It will take roughly 45 minutes if you are chosen for an interview. It is anticipated that the entire time commitment will not exceed one hour and fifteen minutes.

Risks and Benefits:

There are no known risks related to taking part in this research. Your answers will be kept private, and no publications or reports will reveal who you are. Your participation may have the advantage of improving WASH programs in your community as a result of the study's findings.

Confidentiality:

All participant names will remain strictly confidential, as will all information submitted. No identifying information will be connected to your answers; all of your responses will be kept anonymous. The research team will be the only ones with access to the safely stored data.

Voluntary Participation:

Your involvement in this research is completely voluntary. You are under no obligation to continue with the study if you decide not to participate or withdraw at any point. Your choice to participate or not will not impact your ability to use services or receive any benefits you are eligible for.

Contact Information:

You can email [sahalahmed80@gmail.com] or call [+254 723 460 753] to speak with the study's principal investigator, Sahal Ahmed Bashir, if you have any questions about the study or your rights as a participant.

Consent:

You attest that you have read and comprehended the material above by signing below. You acknowledge that you may withdraw from this study at any time and that you are willing to participate voluntarily.

Signature: _____

Date: _____

Appendix III: Research Questionnaires

Section A: Demographic Information

Section A: Demographic Information

Kindly tick where appropriately.

1. What is your age group?

    a) 15-19 years ( )

    b) 20-24 years ( )

    c) 25-29 years ( )

    d) 30-34 years ( )

2. What is your gender?

    a) Male ( )

    b) Female ( )

    c) Non-binary/Third gender ( )

    d) Prefer not to say ( )

3. What is your highest level of education completed?

    a) No formal education ( )

    b) Primary school ( )

    c) Secondary school ( )

    d) College ( )

    e) University ( )

Section B : Adoption of Wash Practices Among the Residents

A.Information on practices related to water

Kindly provide the response to the below statements in your own opinion. Information on practices related to water

No.	Statements	Response
1	State your Main source of water for drinking and other purposes	
2	State the Location of the water source in metre	
3	How do you store your water	
	How do you make your drinking water to be safe	
	How safe is your method of drawing water for cooking	
	State your Water acceptability	
	What the Mode of water supply from the main source	
	How many times do you clean the water storage container	

B.Information on practices related to water.

No.	Statements	Response
1	What the type of your toilet	
2	Does your toilet have water	
3	How many times do you clean the toilet	
	Describe your household water disposal	
	Is your toilet shared and with whom?	
	Is there a flushing facility in your toilet?	
	How do you dispose of your garbage and rubbish?	

C.Information on practice related to Hygiene

No.	Statements	Response
1	What the type of your handwashing area?	
2	Is soap Availabile in your handwashing area?	
3	Do you practice handwashing with soap before eating?	
	Do you practice handwashing with soap after using a toilet	

Section B: To assess the influence of cultural barriers on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.

1.In your opinion how do you rate the general wash condition in the area (tick appropriately)

Worst ( ) Poor ( )

Moderate ( ) Good ( )

2. In your own opinion who should be more responsible for hygienic environment at the household?

Sellf-responsibility ( )

Administrative-responsibility ( )

Political-responsibility ( )

3. Identify the reasons for not using WASH practices

Statement	Old tradition/culture are strong	Poverty	Lack of awareness	No interest in hygienic behaviors
Argument for not using drinking water that is safe				
Reasons why individuals don't use the simple water filtering procedure to use safe drinking water				
The cause of people's open defecation				
Justification for not washing your hands with soap				

4. In your own opinion, what are the barriers Contributing to WASH's Poor Status

Statements	**1 Disagree**	**2 Neutral**	**3 Agree**
Residents of poor economic conditions			
Cultural/strong old traditions beliefs			
Political issues			
Lack of interest on hygienic practices			

5. Rank the following severity of Cultural Barrier Types Affecting Safe WASH Practices

Use Key: 1 = Strongly Agree; 2 = Agree; 3 = Neutral; 4 = Disagree; and 5 = Strongly Disagree.

No.	**Statements**	**1 (Strongly Agree)**	**2 (Agree)**	**3 (Neutral)**	**4 (Disagree)**	**5 (Strongly Disagree)**
1	Effects of cultural customs on safe WASH practices					
2	When it comes to WASH habits, they don't want to lose their cultural identity.					
3	Contentment with their long-standing customs surrounding WASH practices					
4	The Western agenda includes the idea of societal transformation with reference to any WASH practices.					
5	The forefather's WASH practice habits are more trustworthy.					

6	When it comes to WASH practices, indigenous approaches are more trustworthy.					
7	Drinking underground water was always safe.					
8	It is a curse to have a lavatory within the house.					
9	The involvement of women in the WASH education campaign was crucial.					
1	Handwashing is important at certain times, although soap isn't always necessary.					

Section C: To determine the influence of socio-economic factors on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.

Use Key: 1 = Strongly Agree; 2 = Agree; 3 = Neutral; 4 = Disagree; and 5 = Strongly Disagree.

No.	**Statements**	**1 (Strongly Agree)**	**2 (Agree)**	**3 (Neutral)**	**4 (Disagree)**	**5 (Strongly Disagree)**
1	Income level significantly affects WASH practice adoption.					
2	Living conditions play a crucial role in WASH practice adoption.					
3	Access to infrastructure influences the adoption of WASH practices.					

4	Individuals with higher income levels are more likely to adopt WASH practices.					
5	Improved living conditions lead to better adherence to WASH practices.					
6.	Age significantly influences the adoption of WASH practices.					
7	Gender plays a crucial role in determining the adoption of WASH practices.					
8	Education level affects individuals' willingness to adopt WASH practices.					

Section D: To determine the influence of socio-economic factors on the adoption of WASH practices among the Residents of Dadajabulla Ward, Wajir South Constituency.

Use Key: 1 = Strongly Agree; 2 = Agree; 3 = Neutral; 4 = Disagree; and 5 = Strongly Disagree.

No.	Statements	1 (Strongly Agree)	2 (Agree)	3 (Neutral)	4 (Disagree)	5 (Strongly Disagree)
1	Income level significantly affects WASH practice adoption.					
2	Size of the family play a crucial role in WASH practice adoption.					
3	Access to safe water the adoption of WASH practices.					
4	Individuals with higher income					

	levels are more likely to adopt WASH practices.					
5	Education level affects individuals' willingness to adopt WASH practices.					

What is the size of the household

1. 1-3 [ ]
2. 4-6 [ ]
3. >7 [ ]

Section E: To assess the influence of local governance on WASH practices adoption among the Residents of Dadajabulla Ward, Wajir South Constituency

No.	Statements	1 (Strongly Agree)	2 (Agree)	3 (Neutral)	4 (Disagree)	5 (Strongly Disagree)
1	Resource allocation in Dadajabulla Ward for WASH projects is efficient and effective?					
2	How well does the local government ensure regulatory compliance in WASH initiatives within Dadajabulla Ward?					
3	Perceive local governance entities in Dadajabulla Ward to be accountable for WASH-related decisions and actions?					
4	How satisfied are you with the transparency of					

	resource allocation processes by the local government for WASH projects in Dadajabulla Ward?					
5	Do you believe that effective enforcement of WASH regulations by local governance contributes to the improvement of WASH practices among the Residents of Dadajabulla Ward?					

THANK YOU FOR YOUR PARTICIPATION.

Appendix IV: Key Informant Interviews

Dear Esteemed Key Informants,

I hope this letter finds you well. The overarching aim of my research is to delve deep into the complexities surrounding WASH practices within the specified region. To achieve this, I have outlined specific objectives that will guide my investigation. Firstly, I aim to assess the influence of cultural barriers on the adoption of WASH practices among the Residents of Dadajabulla Ward. Secondly, I seek to evaluate how key demographic factors impact the adoption of WASH practices in the same locality. Thirdly, I will explore the influence of socio-economic factors on WASH practices adoption. Lastly, I aim to investigate the role of local governance in shaping WASH practices within the community.

To gather comprehensive insights, I intend to conduct unstructured interviews with esteemed individuals like yourselves, who hold valuable knowledge and experiences within the community. Your roles as Nyumba Kumi Leaders, Health Workers, Educators, Women's Group Representatives, Youth Leaders, Local Government Officials, Non-Governmental Organization (NGO) Representatives, and Community Health Volunteers provide invaluable perspectives that quantitative data alone cannot capture.

Your participation in this study will contribute significantly to our understanding of the nuanced factors affecting WASH practices among the Residents of Dadajabulla Ward. Moreover, your insights will help inform strategies for improving WASH initiatives in the region, ultimately contributing to enhanced public health outcomes.

Thank you for considering my request, and I look forward to the opportunity to engage with you further.

1. Can you share your experiences or observations regarding how cultural beliefs and practices influence the way people in Dadajabulla Ward approach WASH (Water, Sanitation, and Hygiene) practices?

2. From your perspective, how do you think demographic factors such as age, gender, or education level impact the adoption of WASH practices within the community of Dadajabulla Ward?

3. In your opinion, what role do socio-economic factors like income level, access to resources, or employment status play in determining the extent to which WASH practices are embraced in Dadajabulla Ward?

4. Could you describe any instances where local governance structures, such as community leadership or government initiatives such as resource allocation, have either facilitated or hindered the WASH practices adoption among the Dadajabulla Ward residents?

5. How do you think traditional leadership and community decision-making processes affect the promotion and implementation of WASH practices among the Residents of Dadajabulla Ward?

6. Can you provide examples of cultural barriers that have posed challenges in promoting WASH practices within the community? How have these barriers been addressed or navigated?

7. From your interactions within Dadajabulla Ward, what do you believe are the most significant factors influencing the community's attitude and behavior towards WASH practices, and why?

THE END!!

Appendix V: ERC Certificate

Mount Kenya University

REF: **MKU/ISERC/4419**
TO: **SAHAL AHMED BASHIR**

Date: 23 September 2024

REG: **MPH/2023/41957**

Dear Sir/Madam,

RE: FACTORS INFLUENCING THE ADOPTION OF WASH PRACTICES AMONG THE RESIDENTS OF DADAJABULLA WARD, WAJIR SOUTH CONSTITUENCY, KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **3139.** The approval period is **23/09/2024 - 22/09/2025.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used
ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

MOUNT KENYA UNIVERSITY P.O. Box 13495 - 00100, NAIROBI CAMPUS 24 SEP 2024 DIRECTOR Graduate Studies RECEIVED

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

MOUNT KENYA UNIVERSITY
ETHICS REVIEW COMMITTEE
P. O. Box 342 - 01000,
THIKA

Appendix VI: Introduction letter from MKU

Mount Kenya University

DIRECTORATE OF GRADUATE STUDIES

MPH/2023/41957

24th September, 2024

National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki, Upper Kabete
P.O Box 30623- 00100
NAIROBI, KENYA

Dear Sir/Madam,

RE: SAHAL AHMED BASHIR – REGISTRATION NO. MPH/2023/41957

The purpose of this letter is to introduce the above named student who is pursuing **Master of Public Health** in the department of **Epidemiology and Biostatistics** in the school of **Public Health.**

The title of the research is **"Factors Influencing the Adoption of Wash Practices Among the Residents of Dadajabulla Ward, Wajir South Constituency, Kenya."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **October, 2024 and December, 2024.**

Any assistance accorded to the student will be highly appreciated.

Thank you.

Mount Kenya University
P.O. Box 342 - 01000, THIKA
Office of the Director
Graduate Studies

Dr. Samuel M. Karenga, Ph.D
Director, Graduate Studies
Enc.

Appendix VII: NACOSTI research license

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **343608**

Date of Issue: **11/October/2024**

RESEARCH LICENSE

This is to Certify that Mr.. Sahal Ahmed Bashir of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Wajir on the topic: FACTORS INFLUENCING THE ADOPTION OF WASH PRACTICES AMONG THE RESIDENTS OF DADAJABULLA WARD, WAJIR SOUTH CONSTITUENCY, KENYA for the period ending : 11/October/2025.

License No: **NACOSTI/P/24/40660**

343608

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix VIII: Research Authorization

DEPARTMENT OF MEDICAL SERVICES, PUBLIC HEALTH AND SANITATION, WAJIR

When replying, please
Quote our Ref & Date**RESEARCH &**

WAJIR HEALTH SERVICES

DEVELOPMENT,
P O Box 2 – 70200
WAJIR

Ref: WCG/HR&D/P099/2024th

15 October 2024

Mr. Sahal Ahmed Bashir Mt. Kenya University, P.O. Box 13495 - 00100,
Nairobi.

Re: Authorization to conduct study titled Factors influencing the adoption of wash practices among the residents of Dadajabulla ward, Wajir County, Kenya

Wajir County Health Research and Development Directorate has granted Mr. Sahal Ahmed Bashir, MPH student at the Mt. Kenya University, authorization to conduct the above-mentioned study in Wajir County effective from15th October 2024 as part of their coursework. This authorization includes access to current and historical data, and interviews with key informants, as needed for study purposes.

Your approval number is WCG/HR&D/P099/2024 and it is valid for six (6) months. Please ensure that all ethical issues including customary and beliefs of the community are observed and respected throughout the study.

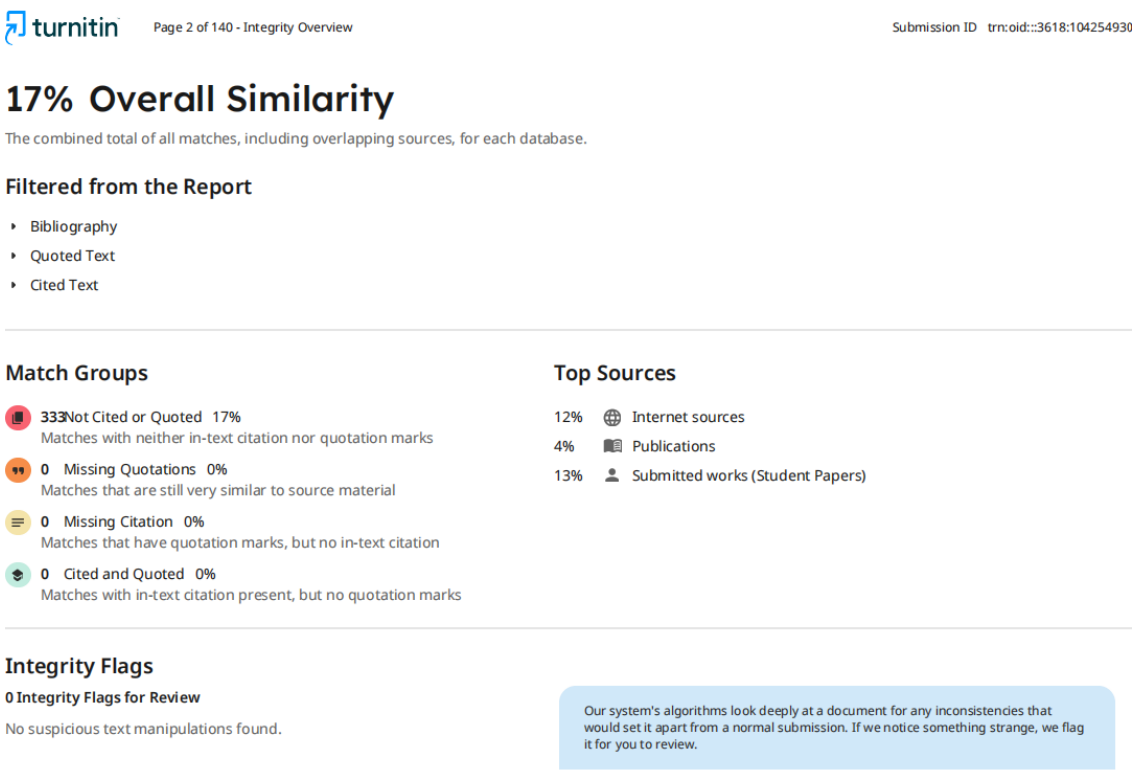
You are also required to share with us the final report of the study for our own consumption as a county.

Please do not hesitate to contact the undersigned for any other query. Yours
Sincerely,

Dr. Mohamed A. Ahmed

Director of Health Research & Development, Wajir CDRO Contact: 0722689038

APPENDIX 1X : Turnitin Report



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www.mku.ac.ke 1%

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ir-library.ku.ac.ke <1%

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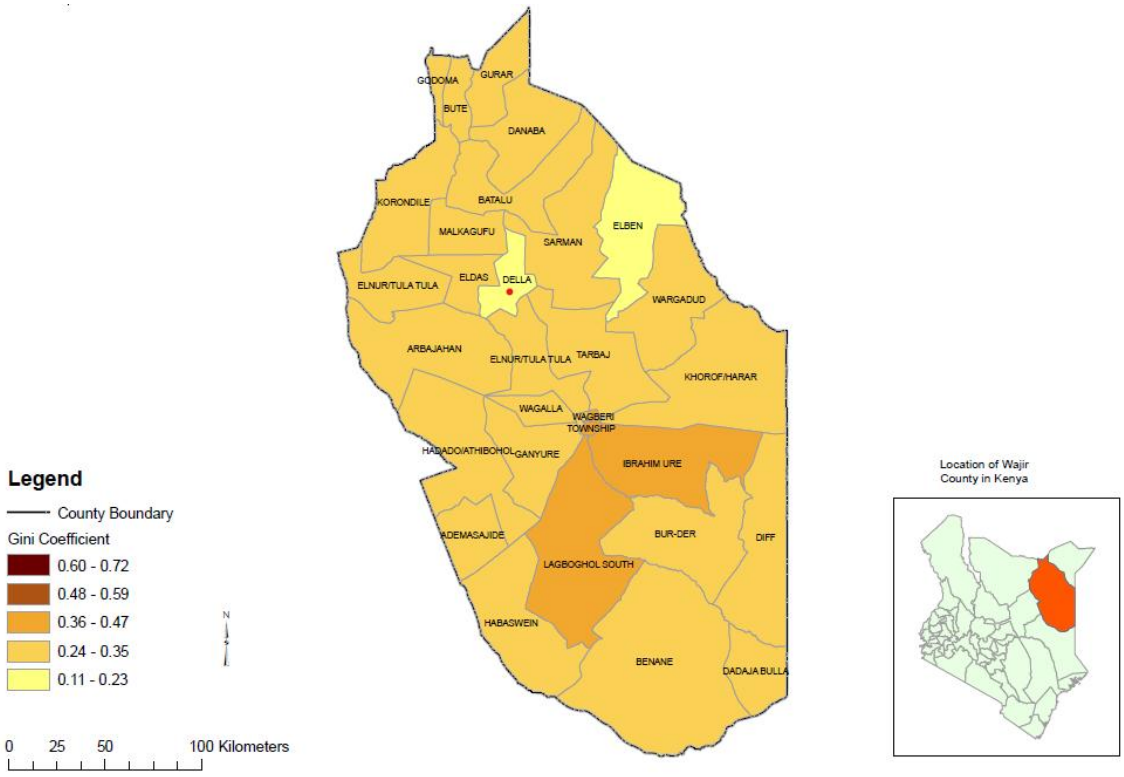
4 Internet

APPENDIX X : Study Location



Source: KNBS (2019)

Appendix XI: Krejcie and Morgan's Table

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970