FACTORS AFFECTING SUSTAINABILITY OF HYGIENE PROJECTS IN RURAL COMMUNITIES:

CASE STUDY OF ACDI/VOCA- MYAP PROGRAM IN AMURU DISTRICT

By:

JERRY GRANTS ANYOLI

REGISTRATION No: 11/MMSPPM/25/072

A DISSERTATION SUBMITTED TO THE SCHOOL OF MANAGEMENT SCIENCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER'S DEGREE IN MANAGEMENT STUDIES (PROJECT PLANNING AND MANAGEMENT) OF UGANDA MANAGEMENT INSTITUTE

SEPTEMBER, 2014

DECLARATION

I *JERRY GRANTS ANYOLI* affirm that this is my original work. It has to the best of my knowledge never been presented to any higher institution of learning be it Uganda Management institute or any other institution for any academic award.

Signed: …… Date: ……..

APPROVAL

This research has been done under our supervision and we approved for submission to School of Management Sciences in partial fulfilment of the requirements for the award of Master's degree in Management Studies (Project planning and Management) of Uganda Management Institute

First supervisor:

Mr. ANDAMA FELIX A`DIBURU

Consultant in Public Administration

Uganda Management Institute

Approved and signed

…….. ……. ……

Second supervisor:

Mr. LUGEMOI WILFRED BONGOMIN

Consultant in Project Planning and Management

Uganda Management Institute

Approved and signed

…… ……. ……..

DEDICATION

This work is dedicated to my beloved parents; Ronald Anyoli and Jane Ocwii Anyoli and all other persons who contributed to my studies.

ACKNOWLEDGEMENT

My sincere gratitude goes to my supervisors Mr. Andama Felix A`Diburu and Mr. Lugemoi Wilfred Bongomin for the tireless guidance, assistance and encouragement they offered that enabled me complete this work despite the challenges faced.

Special thanks go to my sister - Veniss Anyoli, my dear friends (Ogogolos) - Dr. Okello Samuel Moses and Mr. Alengo Geofrey, and my dear wife- Irene, for the encouragement and assistance that they gave me while carrying out this work.

I am also very grateful to ACDI/ VOCA, Charity for Peace Foundation, WACFO and CHAFORD especially the Field extension staff and Managers who gave me guidance and support during my study period. Also not forgetting my fellow students especially the 2012-2013 class, for the friendship they showed me during the study period, may the almighty God bless you all.

I give glory and thanks to the almighty God and our Lord Jesus Christ who granted me life, courage, endurance, patience and love, and provided me with people of good will who helped me during the study, preparation and compilation of this work.

Table of Contents

List of Tables

LIST OF FIGURES

ACRONYMS

ACDI VOCA – Agricultural Cooperative Development International- Volunteers of Overseas Cooperative Assistance

CHAFORD Charity For Rural Development

CPF Charity for Peace Foundation

FAO Food and Agricultural Organization

GTZ German Technical Cooperation

IFAD International Fund for Agricultural Development

MoH Ministry of Health

MYAP Multi Year Assistance Program

WACFO Women And Children First Organization

ABSTRACT

This study examined factors that affect sustainability of hygiene projects in rural communities, case study of ACDI/VOCA- MYAP program in Amuru District. The objectives of the study were; to assess how the participation of beneficiaries in technical training sessions contributed to the adoption of good personal hygiene practices promoted by the project, to examine how cultural beliefs and practices on hygiene in the community affected the sustainability of good hygiene practices, to find out how household income affected sustainability of good personal hygiene practices and to examine the extent to which access to water affected sustainability of good personal hygiene practices. The methodology employed was case study design and used questionnaires, observation guide and key informant interviews to collect qualitative and quantitative data.

Findings from this study revealed that; there is a positive significant relationship between beneficiary participation and adoption of promoted good hygiene practices. Cultural practices and beliefs about hygiene in communities hindered adoption and sustainability of good hygiene practices. Household income had no statistically significant effect on sustainability of good hygiene practices and maintenance of hygiene facilities. More households (66%) are able to access safe water from their main sources of water (Borehole, protected wells and springs). However, most of these water sources are ageing or malfunctioning and need immediate repair for the communities to continue using them for better hygiene and sanitation.

The study recommends that; Beneficiary participation should be included while designing and implementing health and hygiene projects. More efforts need to be added in sensitizing the communities about dangers of unhygienic cultural practices. This should be done through awareness programs that address distorted perceptions about good hygiene in the communities. Water and sanitation project interventions by NGOs, CBOs and government of Uganda need to focus and ensure increased construction, repair and maintenance of water sources in Amuru district.

This study was limited by the geographical scope which covered only Amuru district, and case study as a methodology, therefore, a repeat of this study needs to be done in other districts in Acholi Sub region using a different methodology to get a stronger generalisation of findings.

CHAPTER ONE

INTRODUCTION

1.0. Introduction

This study was an investigation on the factors affecting sustainability of hygiene projects in Amuru District. Factors affecting adoption were conceived in this study as the independent variable while their influence on sustainability of personal hygiene practices and maintenance of hygiene facilities were the dependent variable. This chapter covered the background to the study, the statement of the problem, the purpose of the study, objectives, research questions, the hypothesis, the conceptual frame work, the scope of the study, the significance, justification and operational definitions of terms and concepts.

1.1. Back ground to the study

1.1.1. Historical back ground

There are many meanings and interpretations of the term sustainability depending on the dimensions and context in which it is used (IFAD, 2007) Sustainability can be interpreted in environmental, social, economic and infrastructural dimensions.

In common phrasing, sustainability connotes self-sufficiency and long term self-restraint and self-reliance. Socially, in livelihoods context, sustainability is used to refer to the ability to maintain and improve livelihoods while maintaining and enhancing the local and global assets and capabilities on which community livelihoods depends (Chambers, 1991).

In the 1990s, after more than four decades of providing foreign assistance to developing countries, the major donor communities started to raise more concern on the sustainability of activities and benefits achieved after the withdrawal of foreign assistant (Bossert, 1990). Increasingly it was thought that it would be better to help people to be self- reliant and independent rather continued dependence on the charity from foreign assistance.

After Second World War, the success of the Marshall Plan in the 1950s led to the thinking that planned development intervention could stimulate rapid development if it was rationally conceived and scientifically managed. The need for development became a justification for intervention and assistance from developed countries (Brohman, (1996) as cited by Komalawati, 2008). From that time on, development projects were implemented and foreign assistance delivered to the third world countries.

Project sustainability has increasingly been of importance to donors and governments because there is a mounting pressure from domestic constituencies to drastically reduce, or possibly halt, foreign aid programmes Brown, (1998) as cited by Komalawati, (2008). Furthermore, donors also started to see that the aid being given in the past few decades gave few benefits to the recipient countries and that the benefits often ended with the withdrawal of foreign assistance from the project or programme.

As a solution to this problem, Local participation was seen as the remedy to this problem of project sustainability. Mc Gee, (2002) notes that, not only would participatory approaches assist project sustainability but it was also argued that participation would make projects more efficient and effective in achieving project objectives and goal.

Since the 1980s, participation has been seen as an antidote to the future of development assistance, but it was in the 1990s that multilateral agencies such as the World Bank placed greater emphasis on the stakeholder participation as a way to ensure development sustainability. It is now regarded as a critical component of practice which could promote the chances of development initiatives being sustainable through community capacity building and empowerment (Lyons et al, 2001).

Roodt, (2001) and Dodds, (1986) have noted that the participatory development approach stresses the participation of the majority of the population especially the previously excluded components such as Community Based Organizations (CBOs), Women, Youth and the illiterate in the process of development program. This approach views development as a process which focuses on community's involvement in their own development using available resources and guiding the future development

of their own community. The wishes of an individual never superimposes on those of a group. This approach emphasis concept such as: capacity building, empowerment, sustainability and self-reliance.

1.1.2. Theoretical Background

Diffusion of Innovations Theory This study used diffusion of innovations theory which holds that, diffusion of innovations is the process by which an innovation/ practice is adopted by members of a certain community. There are four elements that influence adoption of an innovation/practice. These include; the innovation/practice itself, the communication channels used to spread information about the innovation/practice, time, and the nature of the society to whom it is introduced (Rogers, 1995).

There are four major theories that deal with the diffusion of innovations. These are the innovation-decision process theory, the individual innovativeness theory, the rate of adoption theory, and the theory of perceived attributes (Rogers, 1995).

The Innovation-Decision Process

The innovation-decision process theory is based on time and five distinct stages. The first stage is knowledge. Potential adopters must first learn about the innovation. Second, they must be persuaded as to the merits of the innovation. Third, they must decide to adopt the innovation. Fourth, once they adopt the innovation, they must implement it. Fifth, they must confirm that their decision to adopt was the appropriate decision. Once these stages are achieved, then diffusion results (Rogers, 1995).

Individual Innovativeness

The individual innovativeness theory is based on who adopts the innovation and when. A bell-shaped curve is often used to illustrate the percentage of individuals that adopt an innovation. The first category of adopters is innovators (2.5%). These are the risk-takers and pioneers who lead the way. The second group is known as the early adopters (13.5%). They climb on board the train early and help spread the word about the innovation to others. The third and fourth groups are the early majority and

late majority. Each constitutes 34% of the potential adopting population. The innovators and early adopters convince the early majority. The late majority waits to make sure that adoption is in their best interests. The final group is the laggards (16%). These are the individuals who are highly skeptical and resist adopting until absolutely necessary. In many cases, they never adopt the innovation (Rogers, 1995).

Rate of Adoption

The theory of rate of adoption suggests that the adoption of innovations is best represented by an s-curve on a graph. The theory holds that adoption of an innovation/practice grows slowly and gradually in the beginning. It will then have a period of rapid growth that will taper off and become stable and eventually decline (Rogers, 1995).

Perceived Attributes

The theory of perceived attributes is based on the notion that individuals will adopt an innovation if they perceive that the innovation/practice has the following attributes. First, the innovation must have some relative advantage over an existing innovation or the status quo. Second, it is important the innovation be compatible with existing values and practices. Third, the innovation cannot be too complex. Fourth, the innovation must have trial ability. This means the innovation can be tested for a limited time without adoption. Fifth, the innovation must offer observable results (Rogers, 1995).

1.1.3. Conceptual Background

There are number factors that affect the adoption of hygiene practices in rural communities. This ranges from water availability, social and cultural practices, availability of household income, technological factors and level of participation by project beneficiaries (IFAD, 2006 and ACF, 2007). These factors can act individually or in combination to aid or bar adoption of hygiene practices.

The theory of perceived attributes helped explaining the beneficiaries' perception and attitude towards the hygiene facilities promoted in terms of relative advantage of the facilities promoted, compatibility with existing values and practices and complexity of the structures in terms of construction design and materials needed. It is used to explain how household income and availability of water affect adoption and sustainability of good hygiene practices.

While the innovation- decision theory is used to explain the process of adoption of hygiene practices by beneficiaries. It is used to determine whether the knowledge passed on to the beneficiaries concerning personal hygiene and sanitation and methods used were persuasive and informative enough to encourage adoption of these practices by the community. This theory will also explain how cultural beliefs and values come into play and influence beneficiaries' decision on adoption and sustainability of good hygiene practices.

1.1.4. Contextual Back Ground

The annual health sector performance report by the Ministry of Health indicates that, Amuru district is one of the lowest performing districts on the national sanitation coverage. It had a sanitation coverage of only 22 % which is far below the national average of 70 %. Meanwhile it also had meagre pit latrine coverage of 20 % compared to 70% national target per district (MOH Report, 2009/2010).

Furthermore, Amuru district has the highest and most recurring diarrhoea, cholera and Hepatitis E outbreaks in the Acholi region resulting from poor sanitation and hygiene (ACTED, 2010). In its annual program overview, World Vision, 2010 also reports that one of the most critical challenges

faced by households in Amuru district is lack of clean water, poor sanitation and wide spread poverty among households, and only 10.06% of households in Amuru district lives within 1kilometre of a water source. In addition, in a baseline report done by ACTED in June 2012, 61% of the population in Acholi region is living below the poverty line compared to 30 % at national level and Amuru district contributing the biggest percentage.

Meanwhile, Save the Children, 2010 observes that in addition to poor access to water and increased poverty among households in Amuru district, sustainability of Water, Sanitation and Hygiene (WASH) projects is challenged by poor community mobilization and participation in project activities. The MoH report, 2009/ 2010 identifies little knowledge about good hygiene and sanitation practices and strong attachment to cultural beliefs and practices amongst communities in the district as some of the factors contributing to the continued poor sanitation and hygiene coverage in Amuru district.

ACDI/VOCA was chosen for this study because it implemented a multi-year assistance program (MYAP) in Northern Uganda in the districts of Gulu, Amuru, Kitgum, Pader and Lira. The program started in 2007 and ended in January 2012. This program was successful in implementing and giving significant benefits to rural communities in Amuru district. Although generally the program seems to have achieved its overall goal of reducing household food insecurity in Acholi region, hygiene status of the beneficiary communities has not improved, with the hygiene status dropping lower, than before the project was introduced with the lowest drop being in Amuru district (ACDI/VOCA- MYAP Final Evaluation Report, 2012).

1.2. Problem statement

Observation of good personal hygiene and sanitation at household levels in communities, reduces the outbreak and spread of hygiene related illnesses such as; diarrhea, dysentery, hepatitis B, respiratory infections, intestinal and skin diseases and many others (Water Aid, 2012).

In a study done by MoH (2009) and UBOS (2010) on water and sanitation planning in Uganda, Amuru district was ranked one of the lowest districts on hygiene and sanitation improvement. Furthermore, the study pointed out that Amuru district had one of the lowest Pit latrine (25%) and safe water (30%) coverage and improved sanitation facilities (20%) failing to reach the national hygiene and sanitation target for rural sub counties which was set at 58%, despite government interventions and interventions done by NGOs to promote adoption and sustainability of good hygiene and sanitation in Amuru District. In addition, ACDI/VOCA final project evaluation report on Sanitation and Hygiene indicates that there is a sharp decline in personal hygiene practices of the beneficiary communities from 70.98 % to 26.59% in Amuru district (ACDI/VOCA- MYAP Final Project Evaluation, 2012).

This marked decline in adoption and sustainability of good personal hygiene and sanitation practices in Amuru district can be attributed to poor access to water, low household income, poor knowledge about good hygiene practices and sanitation and cultural beliefs and practices that affect and influence sustainability of these promoted hygiene practices. In addition, the transition of beneficiary communities from former IDP camps to their original homes after staying in the camps for over twenty years has predisposed the people to these factors.

Basing on the above mentioned facts, the researcher found it necessary to examine the predisposing factors that led to falling personal hygiene levels of the program beneficiaries in the project area with special interest on the issues of cultural practices and beliefs, beneficiary participation, access to water and household income and their influence on sustainability of hygiene practices by the program beneficiaries in Amuru district.

1.3. Purpose of the study

To examine the factors affecting sustainability of hygiene projects in rural communities in Amuru district taking a case study of ACDI/VOCA- MYAP program.

1.4. Objectives of the study

1.4.1. To assess how the participation of beneficiaries in technical training sessions contributed to the sustainability of good personal hygiene practices promoted by the project.

1.4.2. To examine how cultural beliefs and practices on hygiene in the community affected the sustainability of good hygiene practices.

1.4.3. To find out how household income affected sustainability of good personal hygiene practices.

1.4.4. To examine the extent to which access to water affected sustainability of good personal hygiene practices.

1.5. Research Questions

1.5.1. Does participation of beneficiaries in technical training sessions contribute to sustainability of good personal hygiene practices promoted?

1.5.2. Do cultural practices and beliefs in the community affect sustainability of good hygiene practices?

1.5.3. How does household income affect sustainability of good personal hygiene practices?

1.5.4. To what extent does access to water affect sustainability of good personal hygiene practices?

1.6. Research Hypothesis

1.6.1. Participation by beneficiaries increased sustainability of good hygiene practices.

1.6.2. Cultural values and beliefs about hygiene in communities hindered sustainability of good hygiene practices promoted.

1.6.3. Increased Household income positively affected sustainability of good hygiene practices and maintenance of hygiene facilities.

1.6.4. Regular access to water encouraged sustainability of good personal hygiene practices.

1.7. Conceptual Framework

The conceptual framework of the study shows the relationship between the independent and dependent variables diagrammatically and how they were operationalized in this research. Factors affecting sustainability were conceived in this study as the independent variable while their influence on sustainability of personal hygiene practices and maintenance of hygiene facilities were the dependent variable.

The factors affecting sustainability were conceived as; beneficiary participation in project activities, access to water, household income and cultural practices and beliefs. These factors were believed to have an influence on sustainability of hygiene practices promoted by the project in broad dimensions of knowledge transfer and retention and ownership of hygiene facilities by the beneficiaries.

Conceptual Frame work showing interaction between Dependent and Independent Variables

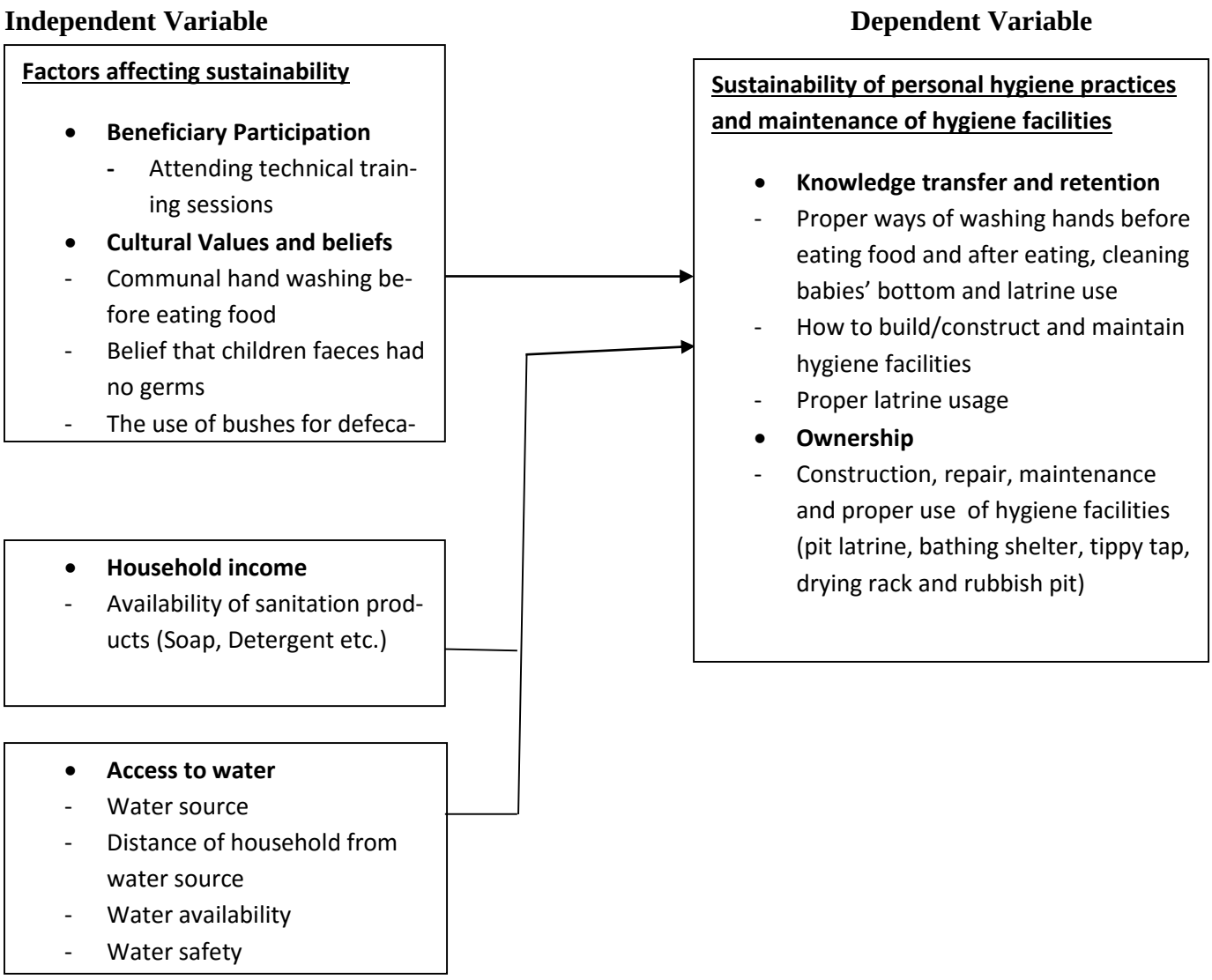


Figure 1: Conceptual Frame Work

(Source: Primary)
(Adapted and modified from: WHO, (2009), IFAD, (2006), Mafuya and Shuckla, (2004) and ACDI/VOCA- GDU operational Manual)

1.8. Scope of the study

Content scope

. The study was focused on the following specific hygiene practices that were promoted by ACDI/VOCA in Amuru district; latrine use, washing hands with clean soap and water after using the latrine, washing hands before eating food, washing hands after eating food, washing hands after cleaning babies' bottoms, bathing (washing) body regularly and general homestead sanitation facilities.

Geographical scope

The research was carried out in Amuru district. It covered three sub counties in Amuru District namely; Pabbo Sub County, Attiak Sub County and Lamogi sub county. (Explain location of the district: the coordinates and boundaries with other districts so that someonereading your research can locate the place within the world map).

Time scope

The research focused on the time period from 2009 and the end of 2011. This was believed to be the time when there was complete peace and most of the beneficiaries had settled to their original homes. By 2009 most people were leaving IDP camps to resettle in their original villages or places near their original villages. 2011 marked the period when all IDP camps were abolished in Northern Uganda marking secession of war and return of peace in the region. The study period is a period when the returnees started to rebuild their lives in new homes away from IDP camps.

1.9. Significance of the study

Findings from this study provides an insight to project managers about the likely sustainability of other personal hygiene projects. This could also be useful to donors to give them assurance that their money is put to good use.

The findings of the study provides opportunities to resolve problems affecting promotion of sustainable hygiene practices in the post-war ravaged area in Amauru district. The findings of this study

provide opportunities for further research into the subject of promoting sustainable hygiene practices in rural communities in Uganda.

1.10. Justification of study

The issue of promoting sustainable hygiene is a global concern for public health practitioners and academics as attested to by the studies done by the like of Mafuya and Shuckla (2005) when they did a descriptive survey to determine the success factors, constraints and techniques for adoption and sustainability of safe hygiene practices in rural communities of the Eastern Cape Province in South Africa. Success factors and constraints in adoption of safe hygiene practices included social, economic, structural, educational, cultural and environmental factors.

Furthermore, Ademiluyi and Odugbesan (2008) in their study on the sustainability and impact of community water and sanitation programs realized that the impacts of community water and sanitation programmes are limited, because many of them are ill-conceived and are abandoned prematurely due to numerous attitudinal, institutional and economic factors. No such studies has yet been done in Amuru district especially given its' post war and resettlement dilemma.

Much as the issues has been researched in other parts of Africa, it has still remained under researched in Uganda even when it estimated that 80% of the disease burden in Uganda is associated with poor sanitation and hygiene where diarrhoea alone accounts for 19% of all infant deaths (MoH, 2010). The situation is even worse in Amuru district considering that the district has remained one of the districts in the region with the highest incidences of diseases resulting from poor personal hygiene and sanitation. Hepatitis B, Dysentery and diarrhoea are the most common of such hygiene and sanitation related ailments.

None of the organizations implementing hygiene and sanitation programs in Amuru district have tried to understand the underlying factors affecting and also influencing adoption and sustainability of personal hygiene practices despite their continued failure at fostering adoption of the promoted practices. It was on this background that this study was study necessary.

1.11. Operational definition of key Terms

Beneficiary participation: In this study this means involvement by a local population and, at times, additional stakeholders in the creation, content and conduct of a program or policy designed to change their lives. In the projects perspective, beneficiary participation involves project participants attending training sessions organized at an agreed interval, working together in a group to construct hygiene facilities in each group members' household.

It further means a process of collective analysis, learning and action with the aim of generating shared understanding of problems, priorities and possibilities, agreeing achievable and sustainable change and action, building the capacity of local stakeholders to initiate self-mobilized action and celebrating achievements to develop strengths and generating shared learning.

Project sustainability: This is used to mean ability of a project to continue to function effectively for the foreseeable future.

It is the effects of a project over time and space, its impact in the short and long term on the economy, society and environment of a given community, whether local or global. In this case, project sustainability would entail project beneficiaries having a proper understanding of personal hygiene practices and having the will to own and maintain the hygiene facilities built in their households.

Project ownership: ability of project beneficiaries to willingly construct, use and maintain hygiene facilities in their homesteads and also understand hygiene principles and practices and be able to willingly share this knowledge with other members of the community.

Personal hygiene practices: refers to the set of practices associated with the preservation of health and healthy living. It may also be described as the principle of maintaining cleanliness and grooming of the external body. In the project, the personal hygiene practices considered were; latrine use, proper bathing, washing hands with clean soap and water after using the latrine, before and after eating food and after cleaning babies' bottoms, use of hand washing facilities near latrine.

Hygiene Facilities: This refers to places which can be used by individuals in the community to maintain their personal and environment hygienic and sanitary. Such facilities promoted are; tippy tap for washing hands, bathing shelter, plate drying rack, Pit latrine, rubbish pit and crop drying rack.

Adoption: Acceptance by community beneficiaries to put into practice in their daily lives knowledge and skills taught to them in regards to personal hygiene practices and maintenance of hygiene facilities.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presented the theoretical review, conceptual review and thematically highlights specific arguments and discussions on factors affecting sustainability of hygiene projects. It also gave a summary of major trends and most important gaps that have been identified in this field of study.

2.2. Theoretical Review

The innovation (technology)-decision process

According to Rogers (2003), the technology-decision process is the process through which an individual (or other decision-making unit) passes from first knowledge of a technology, to forming an attitude toward the technology, to a decision to adopt or reject or to implement the new idea, and to confirm this decision. Rogers' (2003) diffusion of innovation theory consists of five stages in the innovation-decision process.

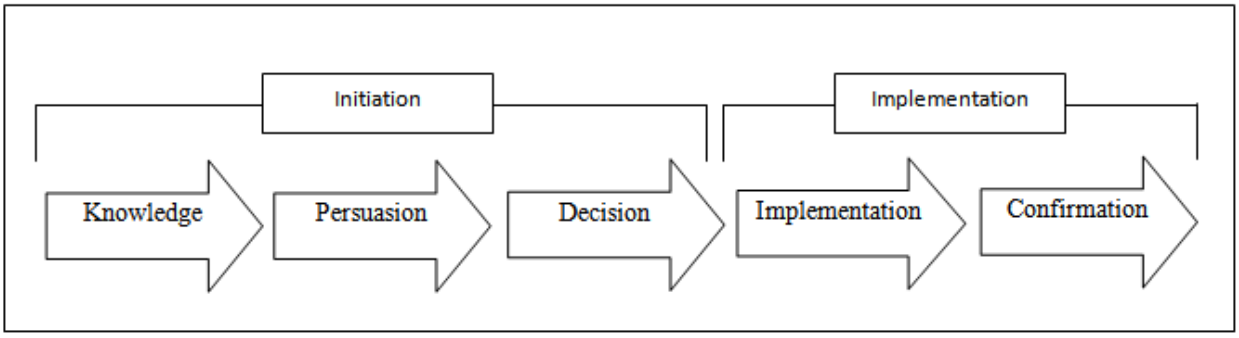


Figure 2: Innovation – Decision process

Model of stages in the innovation-decision process (Rogers, 2003; Damounpor, 1991)

From the above figure, it can be seen that:

Knowledge occurs when an individual (or other decision-making unit) is exposed to the innovation's existence and gains some understanding of how it functions. Persuasion (attitude formation) occurs when an individual (or other decision-making unit) forms a favourable or unfavourable attitude toward the innovation. Decision occurs when an individual (or other decision-making unit) engages in activities that lead to a choice to adopt or reject the innovation. Implementation occurs when an individual (or other decision-making unit) puts an innovation to use; and Confirmation occurs when an individual (or other decision-making unit) seeks reinforcement of an innovation-decision already made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation (Rogers, 2003 as cited by Murzida and Thomson, 2011)

Conversely, these stages were summarized into two phases by Damanpour (1991): Initiation and Implementation. In the first phase, initiation, the organization considers the need to introduce the innovation, it researches for information, training is carried out, resources are proposed, the process is evaluated and finally the decision to adopt the innovation is made. In the second phase, implementation, first use of the innovation is made, and subsequently organizational routines are modified appropriately.

Meanwhile, Premkumar and Roberts (1999) noted and summarised five phases in the adoption process, which are similar to Roger's technology-decision process. These consist of: Awareness, Persuasion, Decision, Implementation and Confirmation.

Furthermore, Rogers (1962) observed that there are two factors that determined what type of decision is made for adoption to take place:

- Whether the decision is made freely and implemented voluntarily,
- Who makes the decision

Based on these considerations, Rogers (1962) identified three types of innovation-decisions; the first one is optional innovation decision where the decision is made by an individual who is in some way distinguished from others in a social system. The second type of decision is collective innovation decision which involves collectively making decisions by all individuals of a social system. And finally, authority innovation decision, where the decision is made for the entire social system by few individuals in positions of influence or power.

As Rogers, (1962) wisely identified the types of decisions that affect adoption of a given innovation in communities, the beneficiaries of the ACDI/VOCA nutrition and hygiene project seems to have gone through these phases of decision making in the project (Murzida and Thomson (2011) and ACDI/VOCA- MYAP Final Project Evaluation, 2012).

2.3. Conceptual Review

The factors such as beneficiary participation, cultural values and beliefs, household income and access to water are considered to be crucial in the realization of sustainable personal hygiene practices in the communities. Technical trainings empower the beneficiaries with knowledge on good hygiene practices and skills on how to construct and maintain hygiene facilities and this encourages adoption and sustainability; on economic factors the researcher examined household income. Households with stable sources of income can easily afford to buy hygiene products like soap and detergents and many others. This is a motivating factor to adoption and sustainability of good hygiene practices; on environmental factors the researcher examined access to safe water by the beneficiaries in the community. (Water Aid (2003), ACF (2007), MoH (2009) and Mafuya and Shuckla (2005)

Access to safe water regularly is a motivating factor for sustainability of good hygiene practices; the researcher also believed that there are cultural beliefs and practices done by the Acholi people that promote or hinder adoption and sustainability of good hygiene practices in the communities. The researcher would identify and examine these factors. Rogers (1962) identified four factors that influ-

ence adoption of an innovation/practice. These include; the innovation/practice itself, the communication channels used to spread information about the innovation/practice, time, and the nature of the society to whom it is introduced

2.4. Beneficiary participation and sustainability

2.4.1. The Concept of Community Participation

Part of the principles of participation is the belief that the prospect for success in any attempt to change people's behaviour depends on two factors. One is the readiness or otherwise of the target group to change and two, the method or an approval that the latter believe will enable them to change (Young and Kingle, 1996). The most obvious interpretation one can give to this is that participation is an important principle of behaviour change. No principle of behaviour may have greater recognisability than the principle of participation.

Participation in a greater sense therefore, is the involvement of members of a particular community in the formulation of public policy or its implementation and its usage. That is, it is the participation of local people in the development process as a whole (Green 1986, Huff and Kline 1999).

Green and Raeburn, (1990) candidly pointed that, beneficiary Participation as a process has been widely recognized and accepted as both a basic right of people and of crucial importance to the success of development efforts generally. The challenge of development, in the broadest sense, is to improve the quality of life (QOL). In the world's poor countries especially, a better quality of life generally calls for higher incomes, better education, higher standards of health and nutrition, less poverty, and more equality of opportunity.

Although thinking on development is believed to have shifted repeatedly during the past five decades, the method of community participation, specifically, has been one of the enormous efforts or strategies devised to improve the lives of many millions of disadvantaged people in the world (Oakley 1989, World Bank 1996).

It is in the light of the above argument that a link need to be made between beneficiary participation and sustainability of programs designed to improve people's health, hygiene and nutrition.

2.4.2. Advantages of Beneficiary Participation

FAO (2003) argues that beneficiary participation gives advantages to the rural poor as well as to the agencies which implement or support a project considering that there is need to: to reach and involve on a wider scale the disadvantaged rural people through institution building, that is the creation of adequate "receiving" systems at grass root level as well as of corresponding "delivery" systems and obtain a cost-efficient design and implementation of a project.

The beneficiaries are perceived to contribute more in project planning and implementation by providing ideas, manpower, labour and/or other resources (cost-sharing). Consequently project resources are used more efficiently. The people involved in a project obtain a say in the determination of objectives and actions, and assist in various operations like project administration, monitoring and evaluation. They obtain also more opportunities to contribute their indigenous knowledge of the local conditions to the project and thus facilitate the diagnosis of environmental, social and institutional constraints as well as the search for viable solutions (FAO, 2003).

It is further argued that the beneficiaries can develop greater responsiveness to new methods of production; technologies as well as services offered which are sustainable; higher production levels can be achieved while ensuring more equitable distribution of benefits; more and better outputs and impact are obtained in a project and thus longer-term viability and more solid sustainability.

By stressing decentralization, democratic processes of decision-making and self-help, various key problems can be better solved, including recurrent costs, cost-sharing with beneficiaries as well as operation and maintenance;

Self-reliance: this broad, ultimate objective embraces all the positive effects of genuine participation by rural people. Self-reliance demolishes their over-dependency attitudes, enhances awareness, confidence and self-initiative. It also increases people's control over resources and development efforts, enables them to plan and implement and also to participate in development efforts at levels beyond their community.

2.4.3. Forms of Participation

Pretty, (1994) in her study on *alternative systems of inquiry and participation for sustainable agriculture*, critically identified and observed the following forms of participation in community projects;

Passive Participation, where People participate by being told what is going to happen or has already happened. It is unilateral announcement by an administration or project management without any listening to people's responses.

Participation by Consultation, here People participate by being consulted, and external agents listen to views. These external agents define both problems and solutions, and may modify these in the light of people's responses. Such a consultative process does not concede any share in decision-making and professionals are under no obligation to take on board peoples' views.

Participation for Material Incentives, People participate by providing resources, for example labor, in return for food, cash or other material incentives. Much in-situ research and bio prospecting falls in this category, as rural people provide the fields but are not involved in the experimentation or the process of learning. It is very common to see this called participation, yet people have no stake in prolonging activities when the incentives end.

Functional Participation involves People participating by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organisation. Such involvement does not tend to be at early stages of project cycles or planning, but rather after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent

Interactive Participation, here People participate in joint analysis, which leads to action plans and the formation of new local groups or the strengthening of existing ones. It tends to involve interdisciplinary methodologies that seek multiple perspectives and make use of systematic and structured learning processes. These groups take control over local decisions, and so people have a stake in maintaining structures or practices.

Self-Mobilization- People participate by taking initiatives independent of external institutions to change systems. Such self-initiated mobilisation and collective action may or may not challenge existing inequitable distributions of wealth and power.

The choice of a form of participation is highly dependent on the project design and target population, the level of involvement of key stake holders and their contribution to project success (Pimbert, 2003).

2.4.4. Efficiency and empowerment views of participation and how it fosters sustainability

Nthigai, (2008) argues that much of the theorizing of beneficiary participation is based on a distinction between the *efficiency argument* and the *equity and empowerment argument*. He further gives the distinctions that, Empowerment envisages the use of participation instrumentally, to achieve better project outcomes or greater sustainability in rural development terms, for instance by mobilizing beneficiaries' contributions through their involvement in implementation, or by increasing project acceptance, local ownership and sustainability.

Meanwhile, equity regards participation as a process that empowers the poor and strengthens their capacity to take independent collective action in order to improve their own situation and can, in some

cases, even lead to changes in the distribution of power, as successful collective action and the associated increase in awareness and self-confidence lead the poor to claim a larger share of power and resources in the rural community.

Advocates for equity dismiss instrumental uses of participation as inadequate, since they rarely if ever lead to the effective empowerment of the majority, particularly the poor and oppressed (cook, 2007). Against this, some people argue that some beneficiary involvement is usually better than none, and that instrumental forms of participation may, over time, lead to more comprehensive and more empowering participation, particularly if care is taken to protect rural development projects from elite capture (Nthigai, 2008).

2.4.5. Criticisms against beneficiary participation leading to sustainability

The debates on beneficiary participation have changed in recent years, in ways that matter to both critics and proponents of beneficiary participation (Hickey and Mohan, 2004). Therefore, any claims that beneficiary participation can challenge the problems of uneven development must be grounded in evidence and theoretically - informed argument rather than in opposition to previously dominant models of development (Hickey and Mohan, 2004).

In the 1990s, the populist approach to beneficiary participation in development came under increasing criticism. Broadly, the key arguments against beneficiary participation in development include; an obsession with the "local" as opposed to wider structures of injustice and oppression (Mohan and Stokke, 2000); an insufficiently sophisticated understanding of how empowerment may occur (Kothari 2001); a tendency for certain agents of participatory development to treat beneficiary participation as a technical method of project work rather than a political methodology of empowerment (Carmen 1996, Cleaver, 1999 and Rahman, 1995).

Brown, Howes, Hussein, Longley and Swindell, (2002) argue that however much community participation is praised to be a sure way to project sustainability in communities, it has short comings. These short comings range from the methodological applications which are weak and without safe guards which poses a high opportunity cost to the poor; during Community mobilization, Participation may

be biased to certain categories of people, not necessarily the poor; community participation risks raising over-inflated expectations from beneficiaries, with negative repercussions.

Furthermore, Brown et al., (2002) purports that the claims of beneficiary participation empowering the poor people are overblown. Beneficiary participation offers no means, on its own, to challenge power relations and it patronizes the poor in the guise of transformation which is unlikely to be sustainable.

However much beneficiary participation has its short comings, these short comings do not outweigh the benefits to the project. Short comings may result from inadequate project design and implementation which does not adequately address the beneficiaries' needs and does not involve the beneficiaries in the key stages of the project as attested to by the arguments of FAO (2003).

2.5. Access to safe water and Sustainability of good hygiene practices

2.5.1. Sources of water and good hygiene practices

According to UNICEF and WHO, (2010) almost 900 million people in the world do not have access to safe drinking water. The situation with access to basic sanitation is even worse, with 2.6 billion people not using basic sanitation facilities. In small towns and rural areas of Uganda, where 90% of the population lives, water shortages are part of daily life. In these areas, 60% of the population lacks access to safe water, and water borne diseases and infant mortality are widespread (IFC, 2010).

In a case study done by Water Aid (2012) on Financing of the water, sanitation and hygiene sector in Uganda, it is estimated that, 70% of the population Uganda should have access to clean water and improved sanitation by 2015 respectively in both urban and rural areas. Uganda's national target is to increase access to safe water in rural areas to 77% and in urban areas to 100% by 2015, and to increase access to improved sanitation in rural areas to 80% and in urban areas to 100% (MoH, 2012).

There is concern over the country's ability to meet the water and sanitation MDG targets. In terms of water, the 2011 Ministry of Water and Environment (MWE) performance report recorded stagnation in levels of water supply coverage, at 66% in urban areas and 65% in rural areas in that year. The

2012 report actually reported a decrease in rural areas, to 64%, mainly as a result of the creation of many new district local governments and a reduction in the budget for water and sanitation in 2012, but an increase to 69% in urban areas.

According to the most recent Joint Monitoring Program (JMP) Report by UNICEF and WHO (2012), 95% of people in urban areas and 68% in rural areas have access to safe water. Access to sanitation is much lower, with 34% of the population in both urban and rural areas using improved sanitation facilities. While significant water infrastructure exists in Uganda, due to a lack of strong operation and maintenance mechanisms, many systems are broken down and much of the infrastructure no longer meets government standards for access, quantity, and quality.

In the Uganda, the biggest proportion of households that get drinking water from unsafe sources (47%) is from the Acholi region. According to the study done by UNICEF and ACF (2011), the main sources of water in the Acholi region were categorized as two; protected water sources and unprotected water sources. Among the protected water sources- whose water is deemed safe for drinking and home use included; boreholes, taps and protected wells or springs, while the unprotected water sources are; unprotected/ open wells or springs, rivers, swamps, water holes and flood water.

From the study, In Lamwo and Kitgum districts, the households' main drinking water source was boreholes (99% and 89% respectively), while in other districts many households used water from unsafe sources (47% of households in Amuru used unprotected wells/springs). The study further points out that, the main source of drinking water was a borehole in all districts except in Amuru where nearly half the population got their drinking water from unsafe sources (UNICEF and ACF, 2011).

Mafuya and Shuckla (2005), point out that, one of the key factors that could motivate people to adopt safe hygiene practices is access to water supply sources for example, house connections, public stand water pipes, bore holes and protected springs/ wells. More so, these water sources should be safe for drinking and house use for improved health and hygiene in households. The study observes that, one

of the appropriate strategic interventions to ensure adoption and sustainability of safe hygienic practices may include ensuring availability of regular water supply and related sanitation facilities.

One of the key aspects of good hygiene is hand washing with soap at critical junctures (MoH, 2009). UNICEF and ACF, (2011) observes that hand washing practices with soap at critical junctures are generally low across the Acholi region. In line with this argument, Amuru district had the lowest percentage of households washing hands with soap; after defecation (35%), after cleaning baby's bottom (5%), before food preparation (10%), before eating (12%) and before feeding child/before breast feeding (2%) compared to other districts in the Acholi region, and this is attributed to low accessibility to safe water sources in Amuru district. Furthermore, Pit latrines were the main means of human waste disposal in Gulu (77%), Kitgum (69%), and Lamwo (69%); however in Pader and Amuru, 59% and 39% of households reported to use the bush for human waste disposal respectively. These results depict how appalling the sanitation and hygiene situation is in Amuru district. Also, the above results show how important access to safe water by communities or households is to promotion and sustainability of good hygiene practices.

From the above observations by Mafuya and Shuckla (2005) and UNICEF and ACF, (2011) it can be argue that access to clean water plays a great role in encouraging adoption of good hygiene practices among community members. Good personal hygiene practices like bathing hand washing, brushing teeth, washing kitchen utensils and cooking food require clean or safe water.

2.6. Household income and sustainability of good hygiene practices

Access to water supply and sanitation

Access to safe water is measured by the number of people who have a reasonable means of getting an adequate amount of water that is safe for drinking, washing, and essential household activities, expressed as a percentage of the total population. It reflects the health of a country's people and the country's capacity to collect, clean, and distribute water to consumers (World Bank, 2006).

In a baseline survey done by Orsola-Vidal and Yusuf (2011) on *scaling up hand washing behavior* in Senegal, access to improved water sources among the poorer households was observed to decrease to 37 %; these households relied mainly on unprotected wells for water supply, While wealthier households had more or better access to better quality water and improved water sources.

Furthermore, access to improved sanitation varied largely among wealth quintiles. Among the wealthier households, access to improved sanitation was 99 % and the most common sanitation facility was a flush toilet with septic tank. In contrast, among the poorer households access to improved sanitation was as low as 24 %, and open defecation was practiced by the majority of households (58 %).

Access to place for hand washing and Hand washing with soap behaviour

Orsola-Vidal and Yusuf (2011) found out that a designated place for Hand washing stocked with soap and water was only in a third of the households surveyed, and among poorer households a hand washing station with soap and water could be observed only in 12% of the households compared to 95% of the wealthier households.

Nearly all caregivers (97.4%), despite their socioeconomic status, reported washing their hands with soap at least once during the past 24 hours when prompted. However, when prompted for the occasions over the past 24 hours during which they washed their hands with soap, less than a quarter reported washing hands with soap at times of faecal contact (20.4% during toilet use and 13.8% cleaning children's bottoms), 12.4 % reported hand washing with soap at times of cooking or food preparation, and fewer than 5% did so before feeding a child. Overall, only 37% of the caregivers reported having washed their hands with soap at a critical juncture in the previous day, and poorer households were half as likely to report hand washing with soap at critical times as wealthier households (Orsola-Vidal and Yusuf 2011)

World Bank, 2008 and Cangjiang et al., (2009) noted that, in Bangladesh, the poorest people spend 11 % of their household income on fuel to boil their drinking water. In the urban slums of Nigeria, people spend 18 %of the household income for water. In Port of Spain, the capital of Trinidad and Tobago, the poorest people spend 20 % of their household income for water (World Bank, 2008).The most obvious benefit of access to safe water and sanitation is a reduction in disease (Cangjiang et al., 2009). But the economic position of poor families is often dramatically improved when they gain access to these basic services like safe water sources.

Water and sanitation are crucial for poverty reduction, as they impact upon so many areas of people's lives in the developing world including health, education and nutrition (Cangjiang et al., (2009). There are also direct impacts upon people's finances, for example; poor people, particularly women, are often unable to engage in paid work when they don't have safe water nearby. These is because they often spend hours each day, trekking to the nearest water source, waiting their turn in long queues for water, or are too ill with water-related diseases to have the strength to work.

In contrast, people living near safe water supplies can look after the water needs of their family in a matter of minutes, leaving the rest of the day free to earn much-needed cash (Water Aid, 2010). The World Health Organization (WHO) estimates 5.6 billion working days would be gained annually if there was universal access to safe water and sanitation.

Furthermore, Cangjiang et al., (2009) points out that, in countries without welfare states, poor families often have to spend high proportions of their income on doctors' fees and medicines. Having access to safe water supplies and latrines leads to a large reduction in water-related diseases and consequent falls in the amount spent on healthcare. This frees up income for other needs. Conversely, IFAD (2007) argues that, Village income has greater effect than household income on sanitation facilities, hygiene behaviours of caretakers, and child nutrition status.

Meanwhile, Poor communities without access to water supplies, particularly in urban areas, often have no option but to spend money they can ill afford on buying water from expensive water vendors who can get their water from dubious sources (Water Aid, 2010).

Household disposable income plays a big role in ensuring that household items like soap, detergent, clean water and other items needed in the household are available for use by the household members. This intern accelerates the adoption of good hygiene practices in these households compared to households with little or no income. Although village/ community income has a greater effect as noted by IFAD (2007), it is at a higher level where the total income per household contributes to the total village income hence standard of living.

2.7.Cultural values and beliefs and sustainability of good hygiene practices

Culture is part of the fabric of every society, that shapes the way things are done and peoples' understanding of why things should be what they are.

Culture is the whole complex of distinctive spiritual, material, intellectual and emotional features that characterize a society or a social group. It includes the modes of life, the fundamental rights of the human being, value systems, traditions and beliefs (Mexico, 1982)

Culture is the sum total of the ways in which a society preserves, identifies, organizes, sustains and expresses itself. Uganda is endowed with a rich and diverse cultural heritage, which includes sixty-five indigenous communities with unique characteristics (Ministry of Gender, Labour and Social Development, 2006)

Culture might be an influential factor on hygiene whatever the religious background (WHO 2009). In certain African countries (e.g. Ghana and some other West African countries) hand hygiene is commonly practised in specific situations of daily life according to some ancient traditions. For instance, hands must always be washed before raising anything to one's lips. In this regard, there is a local proverb: "*when a young person washes well his hands, he eats with the elders*". Furthermore, it is customary to provide facilities for hand aspersion (a bowl of water with special leaves) outside the

house door to welcome visitors and to allow them to wash their face and hands before even enquiring the purpose of their visit (WHO, 2009).

Mafuya and Shuckla, (2005) in their study on the Factors that could motivate people to adopt safe hygienic practices in the Eastern Cape Province, South Africa observed that, acceptable and affordable sanitation technologies and flexible sanitation systems, incorporating respect for community values, perceptions and practices which are appropriate to the resource base of the community and the physical environment in which it is located are critical for adoption of safe hygienic practices. Further they indicated that introducing awareness programmes that take into consideration the values, culture and beliefs of communities and of indigenous knowledge and experience could lead to increased adoption rates.

Mafuya and Shuckla, (2005) further argue that programmes should also address the myths, attitudes, beliefs and distorted perceptions, for example: most communities did not perceive children's faeces as harmful, some people preferred to defecate in the bush because they were afraid to share toilets to avoid being bewitched. Furthermore, in some communities, it was sometimes perceived as a disgrace for the father in law to use a toilet used by the daughter in law, so he had to use the bush. Meanwhile some people had their personal sentiments like, defecating outside in order to examine the faeces to see if s/he has been bewitched or not.

In a study done by Shekar and Babu (2009) on cultural factors in health and oral health in India, they identified common cultural practices and how they affect personal hygiene and community health, they discovered that; majority of the people in the rural areas use open fields for defecation. The villagers were averse to the idea of latrines due to the misbelief that the latrines are meant for city dwellers where they lack open fields. They were ignorant about the ill effects of improper disposal of human excreta which may result in water, food, soil contamination, favour the breeding of mosquitoes and flies. Villagers allowed the solid wastes to accumulate and decompose in the vicinity of their

houses. This also may result in food and water contamination as well as favour the breeding of flies and mosquitoes.

Shekar and Babu (2009) further reveals that well water is the major source of drinking water for a large segment of the Indian population in rural areas along with tanks and ponds to some extent. These sources are notoriously subject to contamination due to human activities like bathing, washing of clothes and utensils. These are often the places where animals also are given a bath and drink which contaminates the water. Some rivers are considered to be holy. People go on pilgrimage, carry samples of holy water in bottles, preserve them for long duration and carry them over long distances to be distributed among the relatives and friends. This is also cause for epidemics of cholera and gastroenteritis. The rural houses are usually damp, ill- lighted and ill ventilated with lack of separate kitchen, latrine, and proper drainage. Animal keeping is common practice in the villages. All these practices mentioned increase the risk for most of the communicable diseases among the rural people.

Pengpid and Peltzer (2012) studied Hygiene behavior and health attitudes in nine African countries and found out that, Suboptimal hygiene knowledge and behaviour (hand washing, hand washing with soap and oral hygiene) were found among African children and adults, contributing to diarrhoeal diseases, helminth infections, dental caries, eriodontal diseases and other communicable diseases. Community studies also found contamination of hands with feces to be common and to be associated with various ill-health conditions perpetrated by cultural practices that do not promote good health and hygiene.

A study conducted by Water Aid (2012), in Uganda, shows that community members had strong cultural beliefs on water sources and use respectively and were predisposed to poor hygiene and sanitation due to the prevalent cultural settings. Case in point is a cross-sectional study in Bududa; both

qualitative and quantitative data were collected 2 weeks after a land slide disaster in Bududa. Qualitative results showed that there were strong traditional beliefs governing water use and human excreta disposal.

The river Manafwa water was used for household consumption because it was tastier, and the community culturally saw no need to boil drinking water. Latrines were few (23 for 5000 people), shallow, dirty (70% reported flies, 60% faecal littering), not separated by sex and had limited privacy and no light at night. This affected their use. Men were three times more likely to wash hands with soap after latrine use than women. Of the 90% respondents who indicated that they always washed hands after latrine use, 76% said they used water and soap. This situation influenced people's sanitation and hygiene behaviors.

Gulu District Local Government (2010) and Caritas, (2010) in a stake holders' workshop on health and nutrition and hygiene, examined the different Cultural beliefs, attitudes and practices that promote sanitation and hygiene in Acholi Region. The following cultural practices, beliefs and attitudes were observed to promote sanitation and hygiene; Attitude of building bathing and urinary shelters, the culture of providing water for washing hands before eating, the tradition of allocating different roles to household members e.g. boys slashing compounds, girls cleaning dishes etc, cleaning of the water pots/points, the tradition of well cooked food in traditional African clay pots, Acholi culture of cleaning around homesteads, keeping away pets and snakes.

Furthermore, Caritas, (2010), identified the following cultural beliefs that do not promote/inhibit sanitation and hygiene in Acholi Region; Communal sharing of water drinking containers or same pots, cups, traditional ways of washing hands at funeral services or eating from same bowls, local beliefs that pregnant women should not use pit latrines, general shaking of hands when greeting, the habits of using bathrooms as urinals, sharing of houses with birds and animals, use of buckets to fetch water while using leaves to avoid the water from spilling, using one pot and one straw for drinking *Marua*, having rubbish heaps not pits.

In addition, Ogora (Not Published, 2012) asserts that there are some Acholi traditional practices that are considered for prestige yet they do not promote good hygiene and sanitation in communities. He cites an example of; letting children drop faeces in the compound; this shows that the home is "alive" and that the children are "fed" well. He also pointed out that during his childhood, washing hands was not taken seriously, and if it was done it was collectively done using a bowl of water where everyone washes their hands. The use of pit latrines was a rear occasion; bushes for defecation locally called "Bunga" were demarcated for each household. While there are other practices that were good for promoting good sanitation and hygiene. For instance, the use of chew stick locally known as "Opwobo" promoted good oral hygiene. Menstruating women were excluded from doing house work especially cooking food. And all children were encouraged to bath either at a stream (especially Boys) or at home (for Girls).

2.8.Summary

Green and Raeburn, (1990), FAO and Heck, (2003) and Nthigai, (2008) agree that, Beneficiary Participation as a process gives advantages to the rural poor as well as to the agencies which implement or support a project in terms of wider scale of coverage, efficiency and effectiveness, increased adoption and sustainability of promoted innovations. Furthermore, beneficiary participation in projects fosters sustainability by empowering and strengthening the capacity of the beneficiaries through independent collective action in order to improve their own situation.

However, Hickey and Mohan, (2004) and Kothari, (2001), argue that, there is no grounded evidence and theory that supports beneficiary participation leading to development and project sustainability through empowerment and capacity building of the local people. Furthermore, there is an insufficiently sophisticated understanding of how empowerment may occur and a tendency for certain agents of participatory development to treat beneficiary participation as a technical method of project work rather than a political methodology of empowerment of the local people. In addition, Brown, Howes, Hussein, Longley and Swindell, (2002) identified the shortcomings of beneficiary participation in its' methodological applications which are weak and without safe guards which poses a high

opportunity cost to the poor; during Community mobilization, Participation may be biased to certain categories of people, not necessarily the poor; community participation risks raising over-inflated expectations from beneficiaries, with negative repercussions.

Regular access to clean water is considered one of the environmental factors that affect sustainability of good hygiene practices. Mafuya and Shuckla (2005) observed that access to clean water sources is one of the key factors in motivating people to adopt safe hygiene practices and it is one of the appropriate strategic interventions to ensure adoption and sustainability of safe hygienic practices. In addition, UNICEF and ACF, (2011) attributes observed low percentages of households washing hands in Amuru district compared to other districts in the Acholi region to possibly poor access to safe water sources in the district though there could be other factors contributing to this low percentage.

Basing on Mafuya and Shuckla (2005) and UNICEF and ACF, (2011) observations, it is agreeable that that access to clean water sources has an effect on adoption and sustainability of good hygiene practices. The poor hygiene situation in Amuru district could be due to accessibility to clean water challenges.

IFAD (2007) and Orsola-Vidal and Yusuf (2011) affirm that Economic factors such as household income determine ease of accessibility of households to hygiene and sanitation products like soap and detergents, clean and safe water and others hence determining adoption and sustainability of hygiene practices in households and also determines ability of household members to access hygiene facilities like latrines, hand washing facilities and others.

However, Yang et al., (2009) strongly believe that village income plays a bigger role in adoption and sustainability of hygiene practices. Although village income plays a big role to a large extent, household income plays a fundamental role at homestead level, therefore I do agree with IFAD (2007) and Orsola-Vidal and Yusuf (2011)

Cultural practices and beliefs shapes the way things are done and peoples' attitudes and perceptions. Mafuya and Shuckla, (2005) observed that, for hygiene practices promoted by projects to be accepted and adopted, projects should incorporate respect for community values, perceptions and practices which are appropriate to the resource base of the community to ensure sustainability of these practices in the community. In addition, the projects should also address the myths, attitudes, beliefs and distorted perceptions about hygiene in the communities to increase rates of adoption of promoted hygiene practices.

In the Acholi culture, there are beliefs, Attitudes and practices that promote or hinder adoption of good hygiene and sanitation practices (Gulu District Local Government and Caritas, 2010). These cultural beliefs, attitudes and practices have a profound influence on adoption and sustainability of hygiene and sanitation practices promoted. As Mafuya and Shuckla, (2005) aptly observed and reported that, cultural values, practices and beliefs have a strong effect on people's attitudes and perceptions, these influence peoples' decisions on adoption and sustainability of hygiene practices.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter presents; research design, study population, determination of the sample size, sampling techniques and procedures, data collection methods, data collection instruments, validity and reliability, procedure of data collection and data analysis.

3.2. Research Design

The design was a case study. This was preferred because it provided a practical solution when a big sample population is difficult to obtain, it allowed for representative sampling in communities where ACDI/VOCA carried out trainings to beneficiaries in Amuru district in northern Uganda.

Secondly, the case study allowed the researcher to understand from the beneficiaries and project managers why there was low adoption rates and sustainability of promoted hygiene practices among the beneficiaries than expected. This is in agreement with (Yin, 1984 as cited in Zainal, 2007 p-5) that, in a case study, examination of the data was conducted within the situation in which the activity took place.

This study adopted a mixed approach, where both quantitative and qualitative data was collected and analysed, this enabled the researcher to incorporate a qualitative component into an otherwise quantitative study (Creswell, 2008). This provided a more complete understanding of the study than either quantitative or qualitative study alone could have done.

The use of mixed approach enabled the researcher triangulate data collected by use of both questionnaires and in depth interviews, and exploited both synergies offered by both qualitative and quantitative study. This ensured robustness and generalization of findings to a bigger population (Mugenda and Mugenda, 2003).

3.3. Population of study

The population of the study was 400 community members in three sub counties of Amuru district. The three sub counties included; Lamogi, Pabbo and Atiak sub counties. The target population included farmer group members in the different villages that were supported by Community Based Organizations supported by ACDI/VOCA, and also other community members who were not supported by the CBOs in the respective villages.

This category was chosen because it was intended to investigate the factors affecting the sustainability of hygiene projects in rural communities. The farmer groups were trained in the best personal hygiene and sanitation practices by the respective CBOs and members were expected to adopt and use at least three of the hygiene practices being promoted by ACDI/VOCA.

. The accessible population consisted of farmer group members, trained by CBO's supported by ACDI/VOCA and key informants in each sub county.

3.4. Sample size and selection

This study population consisted of project beneficiaries who were trained in good hygiene practices by ACDI/VOCA through the respective CBOs in the three sub counties of Amuru Districts.

Key informants were also used in this study. These included; project managers from the respective CBOs and NGOs that were supported by ACDI/VOCA, Field extension workers and Parish chiefs.

Stratified random sampling method was used to determine sample respondents for the quantitative study while purposive sampling method was used for the qualitative study.

The minimum sample size, according to Krejcie and Morgan's (1970) Table of Sample Size Determination was 196 community members.

Category	Accessible Population (N)	Sample size (n)
Project beneficiaries	336	162
Project managers	6	6
Field Extension workers	10	10
Parish chiefs	18	18
Total	**N = 400**	**n= 196**

Table 1 : Showing sampling frame

3.5. Sampling techniques and procedure

The researcher intended to carry out the research in only three sub counties in Amuru district. This was because the CBOs that were supported by ACDI/VOCA were working in these sub counties and they formed farmer groups that were trained in the best personal hygiene and nutrition practices.

Stratified random sampling was employed in the study and random numbers used on the strata to ensure that all individuals in the defined population had an equal and independent chance of being selected (Sarantakos, 2005).

This involved randomly selecting samples from all the parishes (sub Strata) in each sub county selected. This gave an equal and unbiased chance to all community members of being selected.

The following samples were picked per parish in each respective sub county

Sub county	*Parishes*	*Sample size respondents for questionnaire*	*Sample size respondents for key informants interviews*
Lamogi	Gira gira	8	5- Parish Chiefs 5- Field Extension Workers 1-Project Manager
	Guru guru	8	
	Pagoro	9	
	Palema	9	
	Lacor	9	
Pabbo	Gaya	7	6-Parish Chiefs 5-Field Extension Workers 1-Project Manager
	Parubanga	7	
	Pogo	7	
	Labala	7	
	Kal	7	
	Palwong	7	
Attiak	Palukere	7	7-Parish Chiefs 3-Field Extension Workers 1-Project Manager
	Pupwonya	6	
	Kal	6	
	Pawel	6	
	Parwacha	6	
	Pachilo	6	
	Okidi	6	
	Total: 18 parishes	**Total sample size: 196 Respondents**	

Table 2 : Sample distribution per Sub County and Parish

3.6.Data collection methods

Primary data was collected by using questionnaires administered by a research assistant, by observation and key informant interviews.

3.7. Data collection instruments

Close ended Structured questionnaires were used to ensure that all respondents reply to the same set of questions and also, to elicit data on respondents' background, independent and dependent variables.

In addition, observation guides or checklist/ form containing the physical things to be observed was used.

A key informant interview guide was used to moderate and guide respondents in the interview session

3.8. Quality of research instruments

3.8.1. Reliability

To ensure that measuring instruments measured what they were supposed to measure, a test for the reliability of instruments was done (Crocker & Algina, 1986 as cited in Golafshani (2003, p-5). This test ensured repeatability of the result. For the quantitative study, the reliability of the questionnaire (quantitative) was determined by using the test- retest method. Using this method, a group of five non- target respondents were randomly picked in each sub county. These non- target respondent were subjected to the same questionnaire. To ensure reliability the same respondents were subjected to the same questionnaire again after 12 (twelve) days (Sarantakos, 2005).

Both data obtained were analysed using SPSS to determine the coefficient of stability or reliability- which was 0.838 with standard deviation of only 0.25, showing that the responses did not vary significantly hence, that the questionnaire was reliable (annex). More so, experts (the two supervisors) passed their judgment on matters of relevance, accuracy, and precision of the questionnaire and noted that it was reliable and questions were valid.

In the qualitative study, the researcher used communicative validation to ensure validity and reliability of the interview guide and observation guide.

Using this method, the researcher pretested the interview guide and observation guide with non- target respondents. Five non-target respondents were chosen from each sub county and the interview guide and observation guide were administered to them. Each one of them gave feedback as regards to relevance and accuracy of the questions that were asked. The researcher then discuss the feedback given with the supervisors and made necessary changes to the interview guide (Sarantakos, 2005).

3.8.2. Validity

The association of quantitative with qualitative paradigm permitted triangulation which maximized trustworthiness, rigor, quality of the research process, which reinforced validity of the research outcome as advanced by Golafshani (2003, pp1-9). Triangulation of data and information from qualitative and quantitative sources and their interpretations, created convergence of multiple perceptions about a single reality in the realism paradigm, which minimized bias and subsequently augmented the validity level and enhanced the researcher's truthfulness of a proposition about the research concept in line with (Denzin, 1978 as cited in Golafshani, 2003, p-3).

Triangulation was used to enhance evaluation of findings and paved way for generalizability of the results to a wider groups and circumstances as tests of validity of the study (Patton, 2001 as cited in Nahid Golafshani, 2003 p-4).

3.9. Procedure of data collection

After the approval of the proposal, the researcher secured a letter of introduction to assist the researcher proceed with the study. In the community the researcher introduced himself to the relevant authorities at the Sub Counties and parishes. Before administering the data collection tools to the respondents, the researcher introduced himself and explained the topic of study to the respondent and then sought the respondents' willingness to participate in the research.

To mitigate bias, three independent research assistants were selected one from each of the sub counties to help in the administration of questionnaires to the respondents. The research assistants were briefed on; research ethics, data collection methods especially questionnaire approaches and interview skills and made acquainted with all the data collection tools before starting data collection.

A chronologically structured data collection process was followed. The research assistant introduced himself to the respondent and vice versa, stated the purpose, and then gradually administered ques-

tions from a simpler one to a more in-depth, to the conclusion. Meanwhile ethical conducts and standards including anonymity and confidentiality were given utmost consideration. For the questionnaire approach, the researcher distributed the tool, allowed the respondents to independently complete them, and collected them within three to seven days. The collected data was then handed to the researcher for analysis.

3.10. Data analysis

3.10.1. Analysis of quantitative data

The quantitative data was processed and analysed using SPSS). After completing data collection, a systematic sequence of activities followed: data preparation (checking, editing, and coding); data entry (entering data into SPSS); data processing and analysis using statistical method (frequencies, means, standard deviation, correlation, and coefficient of variation); presentation in tables; interpretation findings (explaining the meaning of the data individually) and conclusions (proposing direct answers to the research questions).

3.10.2. Analysis of qualitative data.

The qualitative data was analysed through careful reading of the recorded responses which allowed for the development of themes, pattern, frequency, magnitude, structures, processes, causes, and consequence of a phenomenon. Logical meanings were drawn from the data as presented in chapter four and discussed in chapter five. . Variable oriented analysis, which described and explained the interrelationship of a particular independent and dependant variable liking them to the concept, study objectives, research questions and hypotheses were used. Data was logically organised and presented as shown below:

Data organization:

The researcher used interview notes, to record available data. The field notes were edited, cleaned up, organized and used to create relevant structures.

Creating categories, themes, and pattern:

Since the researcher was familiar with study subject area, he detected various categories in the data through coding and then established the relationship among the categories, themes and patterns.

Interpreting information:

The researcher evaluated and analysed the data to determine the frequency of the information and credibility, usefulness, consistency and validation (or non-validation) of the hypotheses.

Reporting:

Narrative with descriptions of behaviour in the context at which it occurs were given. Respondent's voices were quoted as well. The report showed how different or similar the findings were from the researches and expectations derived from literature review. The analysis of relationships and explanations led to some statement about the theory and hypothesis.

3.10.3. Measurements of Variables

Quantitative.

In essence, measurement of variables was done with aid of computer package-SPSS. Distributions were described in detail through measuring how scores differed among themselves in magnitude.

Measurement central tendency (frequency).

This was determined through using the mean, standard deviation, and coefficient of variation.

- Mean was determined using formula $X=\sum x / n$

  Where:

  X=mean x=each score;

  $\sum$=sum of the scores; n=number of score.

- Standard Deviation(S) was determined by formula $S= \sqrt{\sum(x_i-x)^2} /n-1$

  Where:

  x= sample mean S=sample standard deviation

  x_i= each score or value ∑=sum of score

  n-1= degrees of freedom

- Coefficient of variation was determined by formula = $S^{2,}$ Where S=standard deviation

Frequency distribution

The distribution of scores was represented in frequency tables, where normal distribution had skewness of zero. Any distribution with skewness greater or less than zero was considered positively or negatively skewed (with a varying degree)

Determination of relationship

- Correlation analysis

The spearman's rank correlation technique was used to determine the degree of relationship between independent variables and dependent variables.

The formula used $\square=6\sum d_{\underline{i}}^{2}/1-n\ (n^2-1)$

Where:

□=dependent variable

$d_{\underline{i}}$ =the difference between the ranks of corresponding value of x_i and y_i

$n_=$ is number of value in each data set.

Qualitative

The researcher observed the guidelines for analyzing qualitative data (Sarantakos, 2005). The researcher paid attention to words and phrases during the key informant interviews and captured the meaning of what they had to say.

The researcher then identified different themes and looked for underlying similarities between them, named and categorized the themes and made connections between a category and its subcategories

The data from these interviews was transcribed, analyzed and presented according to the guiding questions in the interview guide.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRESENTATION

4.1.Introduction

In this chapter, the findings are presented and discussed along the lines of set objectives of this study as stated in chapter one. It also presents the response rate and results on the back ground characteristics of respondents. Descriptive results were presented in frequencies and percentages, while correlation and regression were used to determine relevant relationships.

4.2.Response rate

The study had targeted 196 respondents, only 141 responded. Out of the 141 people who responded; 120 were project beneficiaries, six were project managers, 9 were parish chiefs and 6 were field extension workers.

In total, 120 responded to the quantitative aspects and 21 responded to the qualitative aspects. Overall the study had a response rate of 71.9% which is internationally acceptable since it is above the 50% rate (Mugenda & Mugenda, 2003).

Response rate = $\frac{\text{Total number of tools received}}{\text{Total number of tools given out}} \times 100 = 141/196 =$ **71.9%**

Table 3: Showing the response rate of the respondents

Category of respondents	Target Sample	Actual Response	Percentage
Project beneficiaries	162	120	74.1
Project managers	6	6	100
Field extension workers	10	6	60
Parish chiefs (Key informants)	18	9	50
Total	**196**	**141**	**71.9**

Source: Primary data

4.3. Demographic characteristics of respondents

The researcher established the back ground characteristics of the respondents as it was important in making meaningful interpretation of the data collected using the accepted data collection tools.

4.3.1. Respondent's sex ratio

In this study, both males and females were targeted. From the data collected, 68.0 % of the respondents were females and 31.9 % of the respondents were males as shown in table 6.

Table 4: Showing gender of respondents by percentage.

Gender of Respondents

Gender	Frequency	Percentage	Valid Percentage
Female	96	68.0	68.0
Male	45	32	32
Total	141	100.0	100.0

Source: Primary Data

Results from the study showed that 68% of respondents were females while only 32% were males therefore, there were more females who responded than males. This could be attributed the different work schedules and gender roles between males and females in the communities in Amuru district and more so, Women and men prioritize hygiene and sanitation differently (SNV, 2013).

4.3.2. Level of education of the respondents

The study revealed that 56% of the respondents had attended Primary school, 17% had attended Secondary school, 0.6% had attended tertiary institution and 26.4 % had not achieved any form of education at all. This means that most respondents had their highest level of education at primary level (56.0%) followed by those who never attained any level of education (26.4%) then secondary education (17.0%). Only one respondent had attained tertiary level education (0.6%)

See table below.

Highest Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary	80	54.9	56.0	56.0
	Secondary	27	16.7	17.0	73.0
	Tertiary	1	.6	.6	73.6
	None	33	25.9	26.4	100.0
Total		141	100.0		

Source: Primary Data

4.4. Objective 1: Beneficiary participation and sustainability of good hygiene practices.

4.4.1. Training in good hygiene practices

The study reveals that getting the right training on good hygiene practices empowers the beneficiaries with the required knowledge on hygiene practices and better skills on how to construct, use and maintain hygiene facilities and it is an important factor in fostering adoption and sustainability of good hygiene practices. The study showed that most of respondents who were interviewed had received training in good hygiene practices (79%), while only 21% of the respondents had not

received any training. According to the key informants that were interviewed in the field, training of project beneficiaries in good hygiene was extremely important and beneficial in the communities in Amuru district. Majority of the key informants (71%) had participated in trainings on good hygiene and sanitation in their respective communities and 67% of the key informants strongly believe that training in good hygiene practices has empowered the community with good knowledge on hygiene and community members now construct and use pit latrines better, have bathing shelters, wash hands before and after eating food and generally household sanitation has greatly improved.

Table 5: Showing percentage of respondents who received training in Good Hygiene Practices

Received Training

	Frequency	Percentage	Valid Percentage
No	25	21	21
Yes	95	79	79
Total	120	100.0	100.0

Source: Survey data

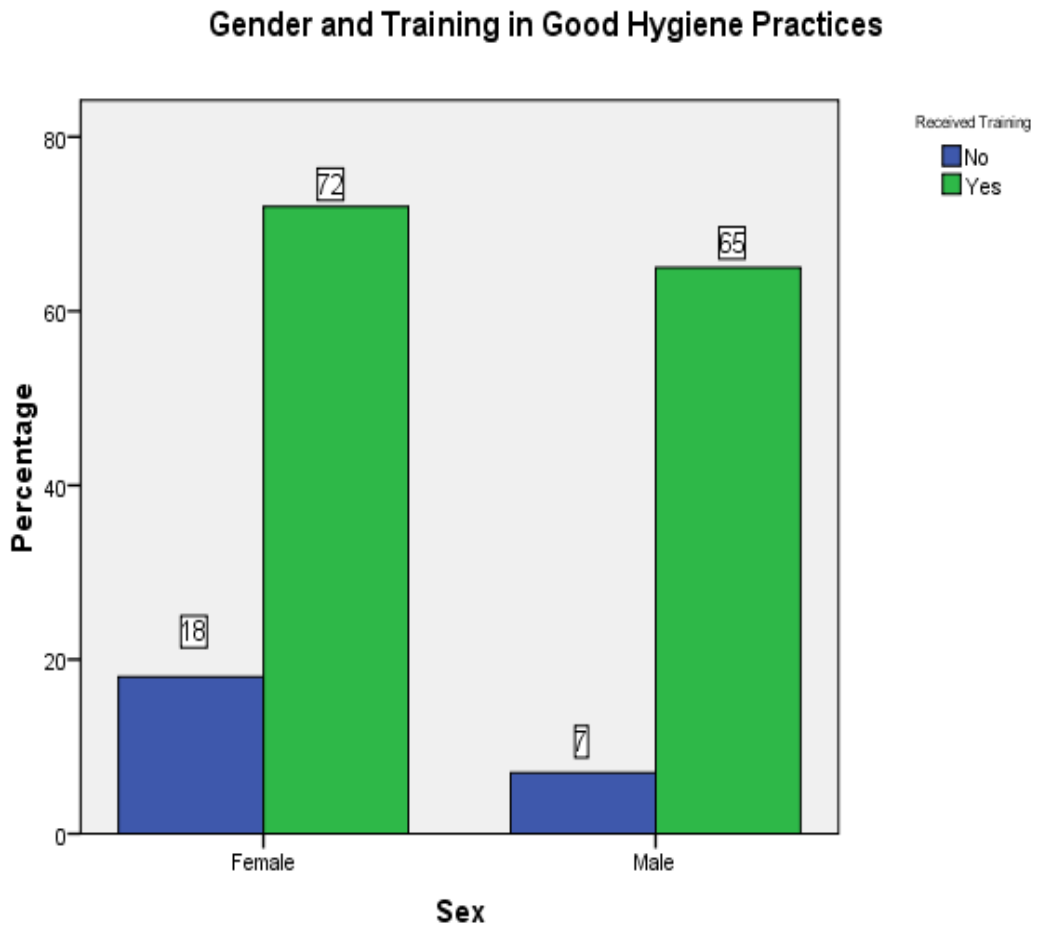
4.4.2. Gender and training in good hygiene practices.

The finding of the study showed that 72% of the women who were interviewed had received training in good hygiene practices while 18% of the women had not received any training. 65% of the men interviewed had received training while only 7% had not received any training. This is illustrated in the bar graph below.

The gender of the participants is important in determining the factors affecting sustainability of hygiene projects in rural communities. Women and men have different roles in the community,

in many places women traditionally manage domestic and community hygiene and the disposal of waste water and solid waste. They are therefore usually more motivated to improve local conditions and practices than men (World Bank, 2013). In addition, 80 percent of key informants interviewed strongly believed that inclusion of women in hygiene trainings empowered them more to improve local conditions in their respective households.

Figure 3: Bar graph showing percentage of males and females who received training in good hygiene practices.



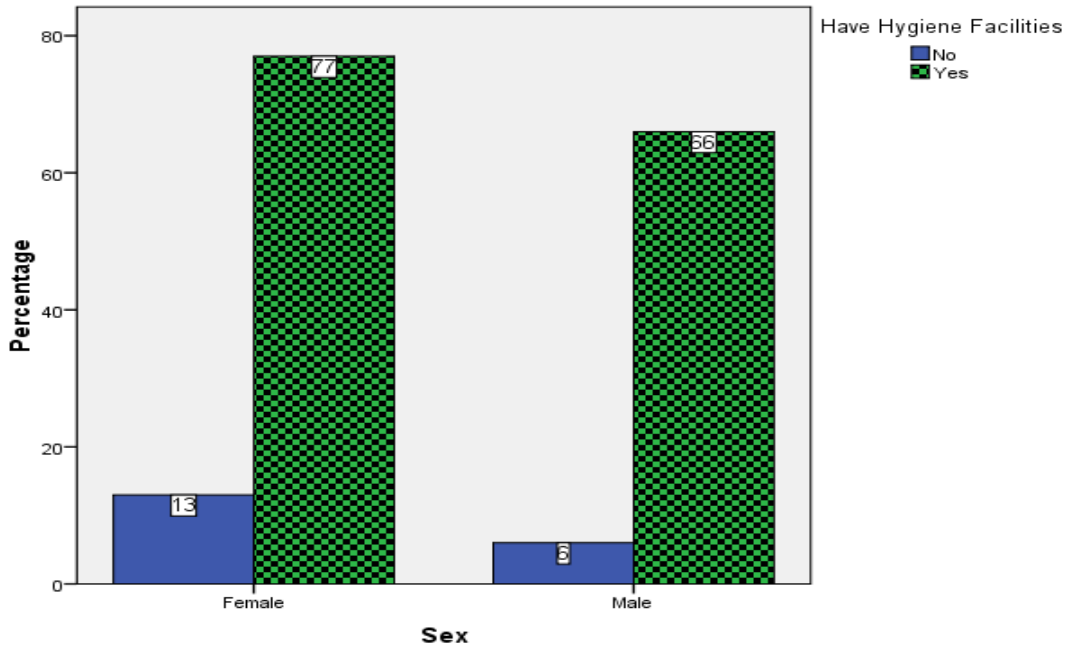
Source: Survey data

4.4.3. Gender, construction and maintenance of hygiene facilities

The findings of the study reveals that more women constructed, used and maintained sanitation facilities (77%) than men (66%), though the gap between them is narrow. 13% of the women interviewed never had sanitation facilities while 6% of the males interviewed did not have sanitation facilities.

Findings of the study from key informant interviews indicated that 65 % of the key informants strongly agreed that, men often make decisions about construction and purchases in the households but issues regarding hygiene and sanitation are relegated to the women. Many at times men may participate in construction of the pit latrine and probably the bathing shelter, but other hygiene facilities like plate drying rack, tippy tap and rubbish pit are tasked to the women to construct and maintain. Furthermore, the key informants highlighted that, in addition to their other roles Women have a disproportional responsibility for keeping toilets clean, carrying water and supporting household, child hygiene and keeping other hygiene facilities clean and functional.

Figure 4: Bar graph showing percentage of respondents owning hygiene facilities by gender



Source: Survey data

The above data can be interpreted to mean that women play a big role in construction and maintenance of key hygiene facilities in the communities of Amuru district and the men's role in this regard is subtle.

4.4.4. Participation in technical trainings and important lessons learnt

Results from this study indicated that 84.6 % of the respondents had received training in good hygiene and sanitation. The study further found out that the most important lessons learnt from these trainings, and are still practiced by the beneficiaries are; How to construct, use and Maintain sanitation facilities (81.5%), washing hands before eating food (64.2%) and washing hands after defecating (53.1%).

The study further reveals that, the least practiced lessons learnt during the training in good hygiene practices were; washing hands after cleaning or changing baby (93.8%), washing hands before feeding children (72.2%), how to prepare and store food safely (68.5%), washing hands after eating (59.1%), bathing regularly (58.6%) and proper ways of washing hands (51.2%).

Table 6: Showing Important lessons learnt from training in good hygiene practices

Important Lessons Learnt from training in Good hygiene Practices		
Lesson Learnt	**Response**	**Valid Percentage**
Construction, Use and Maintenance of Sanitation facilities	Yes	81.5
	No	18.5
Proper ways of washing Hands	yes	48.8
	No	51.2
How to prepare and store food safely	yes	31.5
	No	68.5
Washing hands before eating food	Yes	64.2
	No	35.8
Washing hands before preparing food or cooking	Yes	41.4

	No	58.6
Washing hands before feeding children	Yes	27.8
	No	72.2
Washing hands after cleaning or changing Baby	Yes	6.2
	No	93.8
Washing hands after Defecating	Yes	53.1
	No	46.9
Washing hands after eating	Yes	40.1
	No	59.1
Bathing Regularly	Yes	41.4
	No	58.6

Source: Primary Data

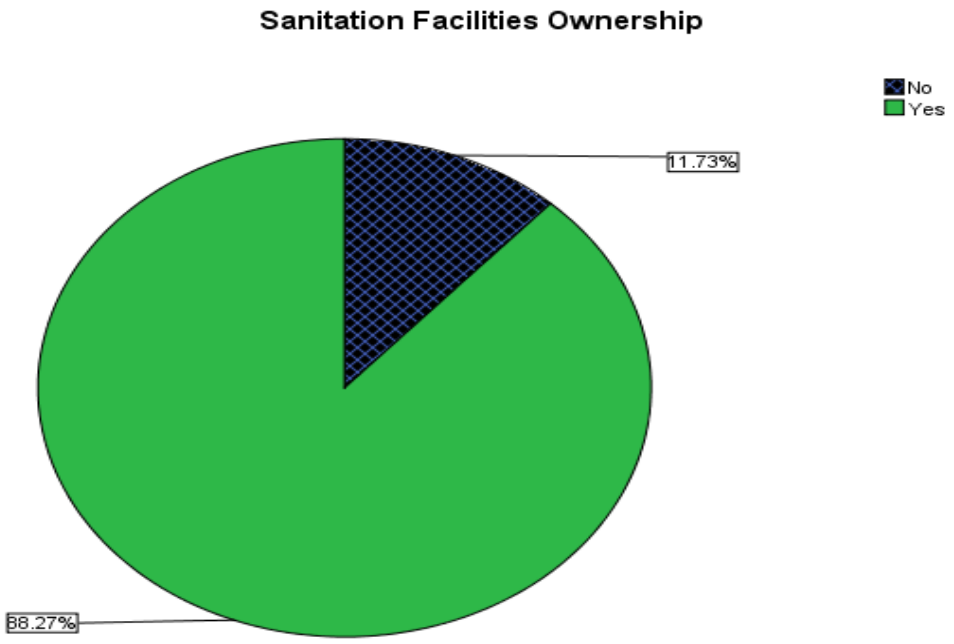
Results from key informant interviews indicated that 80% of the key informants strongly agreed that the important lessons learnt during the trainings were construction and maintenance of hygiene facilities, washing hands at all times especially before eating food and after using the pit latrine. 15% of the key informants disagree on the important lessons that were learnt during the training, they argued that all the trainings were of paramount importance meanwhile 5% of the key informants were undecided and could not give their views in this regard.

The above data can be interpreted to mean that construction and maintenance of hygiene facilities and proper washing of hands before eating and after using the pit latrine to be the most important lessons learnt from technical trainings in hygiene.

4.4.5. Sanitation Facilities

This study also revealed that 88.27% of participants owned at least 3 sanitation facilities. These sanitation facilities include; Pit latrine, bathing shelter, tippy tap, plate drying rack and rubbish Pit.

Figure 5: showing sanitation facility Ownership



Source: Primary Data

It was further realised that the most owned sanitation facility is Pit latrine (84.6%), Bathing Shelter (72.2%), Plate drying rack (64.2%) and Rubbish Pit (63.6%), while tippy tap is the least used and maintained sanitation facility (22.2%) as shown in the table 10.

Most of the key informants interviewed (69%) strongly emphasized that the most owned hygiene facility were; pit latrine, bathing shelter and rubbish pits. This was because of a by-law which was

passed by the district health committee instructing every household to at least construct a pit latrine, bathing shelter and rubbish pit, though the by law is not strongly enforced. Few people owned plate drying racks and tippy taps.

Table 7: Showing Sanitation Facilities ownership

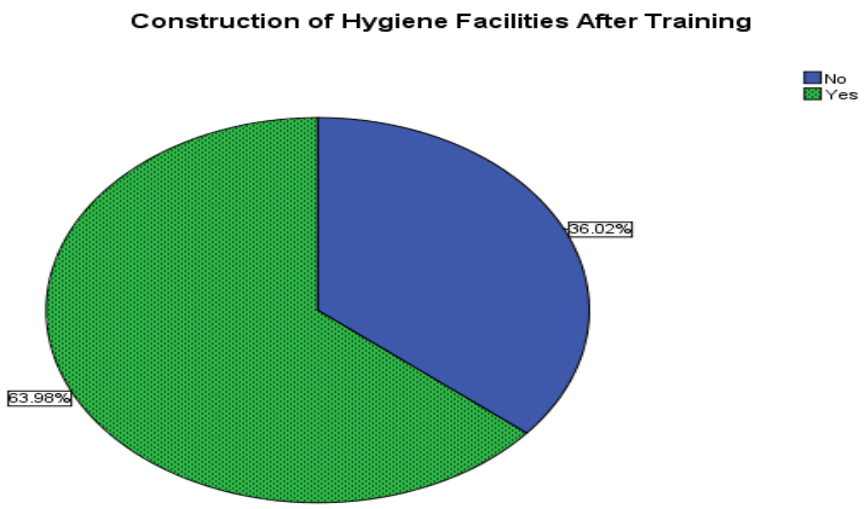
Sanitation Facility	Response	Valid Percentage
Bathing Shelter	No	27.8
	Yes	72.2
Tippy Tap	No	77.8
	Yes	22.2
Rubbish Pit	No	36.4
	Yes	63.6
Plate Drying Rack	No	35.8
	Yes	64.2
Pit Latrine	No	15.4
	Yes	84.6

Source: Primary Data

4.4.6. Technical trainings and Construction of Sanitation facilities

The study found out that 63.98% of the respondents constructed Sanitation facilities while 36.02% of the respondents did not construct any facility even after the trainings, as shown in the figure 7 below.

Figure 6: Showing percentage of participants who constructed hygiene facilities after attending technical trainings



Source: Primary Data

Furthermore, the most constructed sanitation facility after technical training was the plate drying rack (64.2%) followed by Tippy Tap (42.6%), the least constructed was the Pit latrine (11.1%).

Table 8: construction after technical training

Sanitation Facility	Response	Valid Percentage
Bathing Shelter	No	67.3
	Yes	32.7
Tippy Tap	No	57.4
	Yes	42.6
Rubbish Pit	No	58.0
	Yes	42.0
Plate Drying Rack	No	35.8
	Yes	64.2
Pit Latrine	No	88.9
	Yes	11.1

Source: Primary data

The implication of the above data is that technical trainings on how to construct, maintain and use sanitation facilities properly help to build the capacity of the beneficiaries. They are given hands

on technical skills on sanitation facility construction and maintenance, and then knowledge on how to use these facilities and why they are important in their households.

4.4.7. Sanitation facilities considered important

The find shows that 95.7% of the respondents considered the pit latrine as the most important sanitation facility while the tippy tap was the least important (32.1%). Interviews with key informants revealed that, community members considered the pit latrine and bathing shelter as the most important hygiene and sanitation facility. Parish chiefs and project managers urged development partners and government to promote and encourage community members to construct and use pit latrines.

Table 9: Sanitation facilities considered important

Sanitation Facility	Response	Valid Percentage
Bathing Shelter	No	42.0
	Yes	57.4
Tippy Tap	No	67.9
	Yes	32.1
Rubbish Pit	No	59.9
	Yes	40.1
Plate Drying Rack	No	53.7
	Yes	46.3
Pit Latrine	No	4.3
	Yes	95.7

Source: Primary data

4.5. Objective 2: Cultural beliefs and practices and sustainability of good hygiene practices

4.5.1. Common Sanitation and Hygiene Cultural practices and Beliefs

The study showed that the most common practices in the community are; general shaking of hands (98.1%), communal sharing of water drinking containers (Cups) (94.4%), habit of using bathrooms as urinals (92.0%), habit of providing water for washing before eating (92.6%), communal cleaning of water points (90.1%) and regular cleaning around homesteads (82.7%).

The least common practices are; Local beliefs that pregnant women should not use pit latrines (21.6%), Attitudes of building bathing and urinary shelters (26.5%), Use of buckets to fetch water while using leaves to avoid the water from spilling (27.2%), sharing of houses with birds and animals (38.3%) these are illustrated in the table below.

Table showing common sanitation and Hygiene practices in the community

common Practices	Response	Valid Percentage
Communal sharing of water drinking containers or same pots, cups	No	5.6
	Yes	94.4
Local beliefs that pregnant women should not use pit latrines	No	78.4
	Yes	21.6
General shaking of hands when greeting	No	1.9
	Yes	98.1
The habits of using bathrooms as urinals	No	8
	Yes	92
Sharing of houses with birds and animals	No	61.7
	Yes	38.3
Use of buckets to fetch water while using leaves to avoid the water from spilling	No	72.8
	Yes	27.2
Using one pot and one straw for drinking Marua (local brew)	No	50
	Yes	50
Having rubbish heaps not rubbish pits.	No	40.7
	Yes	59.3
Attitudes of building bathing and urinary shelters	No	73.5

	Yes	26.5
providing water for washing hands before eating	No	7.4
	Yes	92.6
communal cleaning of the water points	No	9.9
	Yes	90.1
cleaning around homesteads every morning and evening	No	17.3
	Yes	82.7

Source: Primary Data

Findings from interviews with key informants indicated that cultural practices amongst the people in communities in Amuru district were still held with strong attachment. Interviews with parish chiefs emphasized that, general shaking of hands and communal sharing of drinking containers like cups and drinking straws for local brew (Marua) at social gatherings were most common. Sharing of the same cup or drinking straws is a sign for unity amongst the community. They further added that, traditionally when a visitor comes to pay you a visit at your home, the household head has to share a drink with the visitor using the same cup as a sign of good welcome. Meanwhile, interviews with project managers and Field extension staff strongly pointed out- in addition to the views forwarded by the parish chiefs; using bathrooms as urinals and regular cleaning of homesteads to be common cultural practices in Amuru communities. Therefore, basing from these interviews with key informants, general shaking of hands, sharing of drinking cups and straws, using bathrooms as urinals and general cleaning of homesteads are the most common cultural practices in Amuru communities.

4.5.2. Practices that Promote good hygiene and sanitation practices

The study found out that; providing water for washing hands before eating (94.4%), cleaning around homesteads every morning and evening (87.0%) and communal cleaning of the water points (84.0%) were the cultural practices that highly promoted good hygiene and Sanitation in the communities.

Meanwhile, Using one pot and one straw for drinking Marua (local brew) (98.85%), Communal sharing of water drinking containers or same pots, cups (95.7%), Genera shaking of hands when greeting (95.1%), The habits of using bathrooms as urinals (80.2%) were cultural practices and beliefs that were found not to promote good hygiene and sanitation in the communities, as shown in the table below.

Table showing common sanitation and Hygiene practices in the community that promote adoption of good Hygiene Practices

common Practices	Response	Valid Percentage
Communal sharing of water drinking containers or same pots, cups	No	95.7
	Yes	4.3
Local beliefs that pregnant women should not use pit latrine	No	100.0
	Yes	0.0
Genera shaking of hands when greeting	No	95.1
	Yes	4.9
The habits of using bathrooms as urinals	No	80.2
	Yes	19.8
Sharing of houses with birds and animals	No	98.1
	Yes	1.9
Use of buckets to fetch water while using leaves to avoid the water from spilling	No	99.4
	Yes	0.6
Using one pot and one straw for drinking Marua (local brew)	No	98.8
	Yes	1.2
Having rubbish heaps not rubbish pits.	No	95.1
	Yes	4.9

Attitudes of building bathing and urinary shelters	No	43.2
	Yes	56.8
providing water for washing hands before eating	No	5.6
	Yes	94.4
communal cleaning of the water points	No	16.0
	Yes	84.0
cleaning around homesteads every morning and evening	No	13.0
	Yes	87.0

Source: Primary Data

Remarkably, interviews with key informants identified and pointed out that, certain cultural practices though are done out of cultural obligation promote the spread of communicable diseases because keeping them hygienic is quit a hard task. Such practices pointed out were; general shaking of hands and sharing of cups and straws for drinking, mean while other practices like using bathrooms as urinals are behavioural they strongly believe once the community is well sensitized, this practice can be addressed. However, on the cultural practices that promote good hygiene, proper washing of hands before eating and after eating, washing hands with soap after using the pit latrine, cleaning around homesteads and general body hygiene like bathing and putting on clean clothes, were identified.

4.5.3. Cultural practices and Beliefs still practiced

From the study, it was found out that, Communal sharing of water drinking containers or same pots, cups (96.3%), Genera shaking of hands when greeting (96.3%), The habits of using bathrooms as urinals (93.8%), communal cleaning of the water points (74.7%), providing water for washing hands before eating (71.6%), cleaning around homesteads every morning and evening (71.6%) were cultural practices and beliefs that were still practiced in the communities.

Table showing common sanitation and Hygiene practices in the community that are still practiced

common Practices	Response	Valid Percentage
Communal sharing of water drinking containers or same pots, cups	No	3.7
	Yes	96.3
Local beliefs that pregnant women should not use pit latrine	No	85.2
	Yes	14.8
Genera shaking of hands when greeting	No	3.7
	Yes	96.3
The habits of using bathrooms as urinals	No	6.2
	Yes	93.8
Sharing of houses with birds and animals	No	55.6
	Yes	44.4
Use of buckets to fetch water while using leaves to avoid the water from spilling	No	92.6
	Yes	7.4
Using one pot and one straw for drinking Marua (local brew)	No	45.6
	Yes	54.4
Having rubbish heaps not rubbish pits.	No	53.7
	Yes	46.3
Attitudes of building bathing and urinary shelters	No	79.0
	Yes	21.0
providing water for washing hands before eating	No	28.4
	Yes	71.6
communal cleaning of the water points	No	25.3
	Yes	74.7
cleaning around homesteads every morning and evening	No	28.4
	Yes	71.6

Source: Primary Data

From the study findings, communal sharing of water drinking containers or cups and pots is most practiced followed by general shaking of hands when greeting. These two practices are dominant because they have a strong cultural meaning to the people in the communities. Communal sharing

of drinking containers is considered as a sign of friendship and welcome. From key informant interviews, it was realised that in the Acholi culture, when a visitor comes to your home and you serve him/ her water or anything to drink, you are supposed to share with the visitor and drink from the same cup as a sign of welcome (You have no bad intensions towards the visitor). This is in agreement with findings by Caritas (2010).

In addition, hand shaking is a form of greeting that is widely practiced in many African cultures (WHO, 2009). In acholi communities it is also used as a form of greeting and welcoming people to a gathering, at home and many other places as confirmed from key informant interviews.

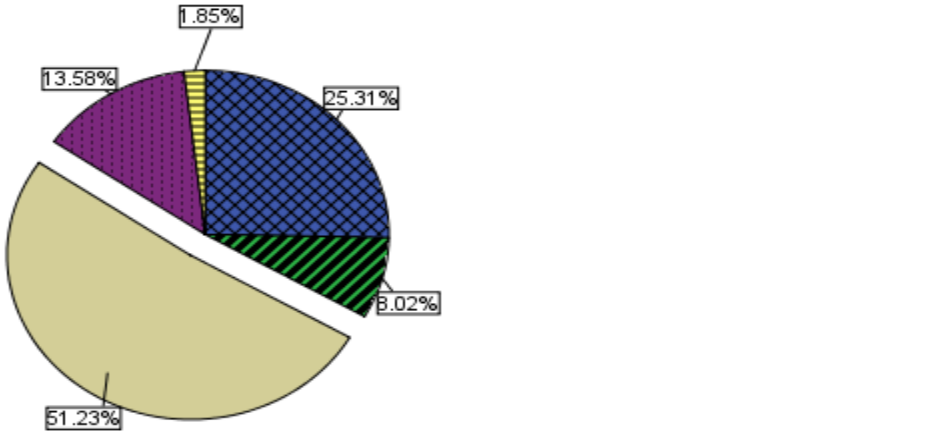
Meanwhile, the use of bath rooms as urinals can be explained by lack of separate Urinary shelters in most homesteads therefore, family members use the bath rooms as a resort.

4.5.4. Impact of practiced cultural beliefs and practices on households in the community

Results from the study indicated that 51.23% of the respondents interviewed agree that the cultural practices and beliefs that are still practiced in the communities have contributed to the reduction of hygiene and sanitation in their households. While, 25.31% of the respondents say that these practices have helped improve hygiene and sanitation in their households. 13.58% of the respondents are not sure of the impact of these cultural beliefs and practices on their households, 8.02% say there are no impact on sanitation and hygiene on their households.

Conversely, 60 % of key informants interviewed agreed that, poor personal hygiene and poor sanitation in homesteads as a results of practices like; not bathing regularly, not washing hands after eating and after using pit latrine, poor use of the pit latrine, greeting people with dirty hands and

many others have contributed to poor hygiene in households and the spread of various communicable diseases like diarrhoea, dysentery, flue and many others. Meanwhile 23% of the key informants believe that, cultural practices that are not hygienic are not to blame for poor hygiene, it is the people's attitudes and behaviour in regards to hygiene and their unwillingness to change that is to blame. They further pointed out that many government and non- governmental programs are put in place to promote good hygiene and behaviour change in the communities but the impact is little seen or felt because the people are rigid and unwilling to change. 17% of the key informants interviewed believed that not all the said cultural practices are bad or do not promote good hygiene, they believed that actually in most communities in Amuru district, these cultural practices have promoted good hygiene and harmonious living amongst the people.



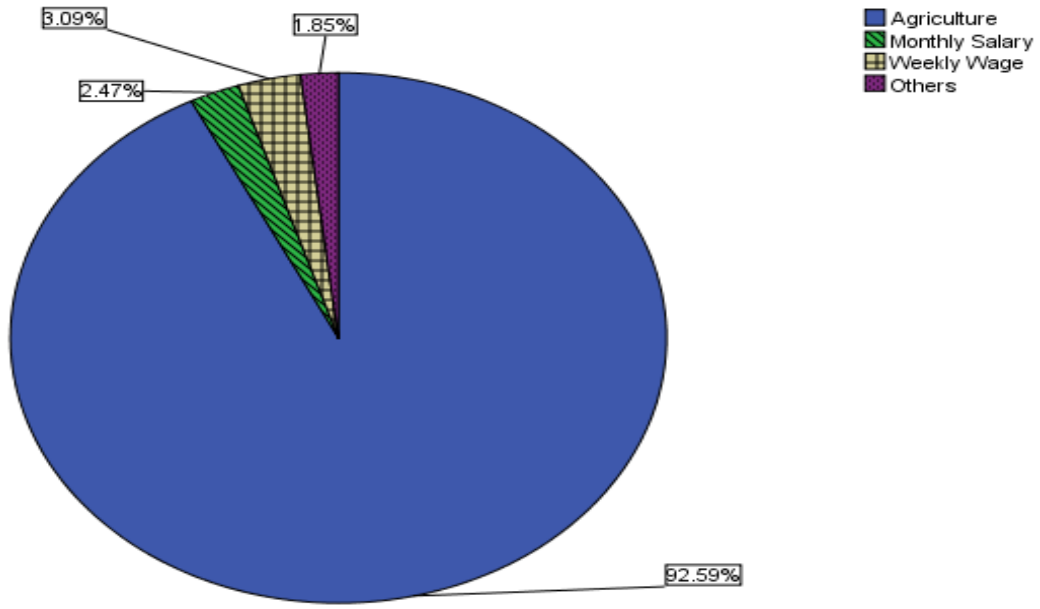
Source: Primary Data

4.6. Objective 3: Household income and sustainability of good personal hygiene practices.

4.6.1. Major source of income

The study revealed that 92.59% of the participants are involved in subsistence agriculture as their main source of income. The rest of the respondents are either earning Monthly salaries or weekly wages.

Figure 7: Showing major source of income



Source: Primary Data

66% of the participants whose main source of income is agriculture complained that this source of income is barely sufficient to cater for their household needs, while 4% of respondent who earn a salary or wage complained that it was not enough to cater for their household needs.

Table 10: Household income sufficiency

		Sufficient Income			
		Not Sufficient at all	Barely Sufficient	Sufficient	Total
Major Source of Income	Agriculture	45	55	8	108
	Monthly Salary	0	4	0	4
	Weekly Wage	5	0	0	5
	Others	0	3	0	3
Total		60	73	8	120

Source: Primary data

Most of the community members in Amuru district are low income earners depending on Agriculture as a source of income, as revealed by the key informants. Their household income is meagre and cannot take care of all their needs, most of the cases struggling to strive for a living.

4.6.2. Hygiene products and their availability

From the study, 84.6% of the participants agreed that hygiene and sanitation products were easily available to them in their respective communities. Only 4.9 % of the respondents said that they could not access any sanitation and hygiene products in their respective communities. Clean water (60.25%) and soap (39.75%) were the most easily available sanitation and hygiene product in the communities.

Table 11: Hygiene products and their availability

Easily Available

	Frequency	Percent-age	Valid Per-centage	Cumulative Percentage
Readily Available	116	84.6	84.6	84.6
Available at sometimes only	17	10.5	10.5	95.1
Not Available	8	4.9	4.9	100.0
Total	141	100.0	100.0	

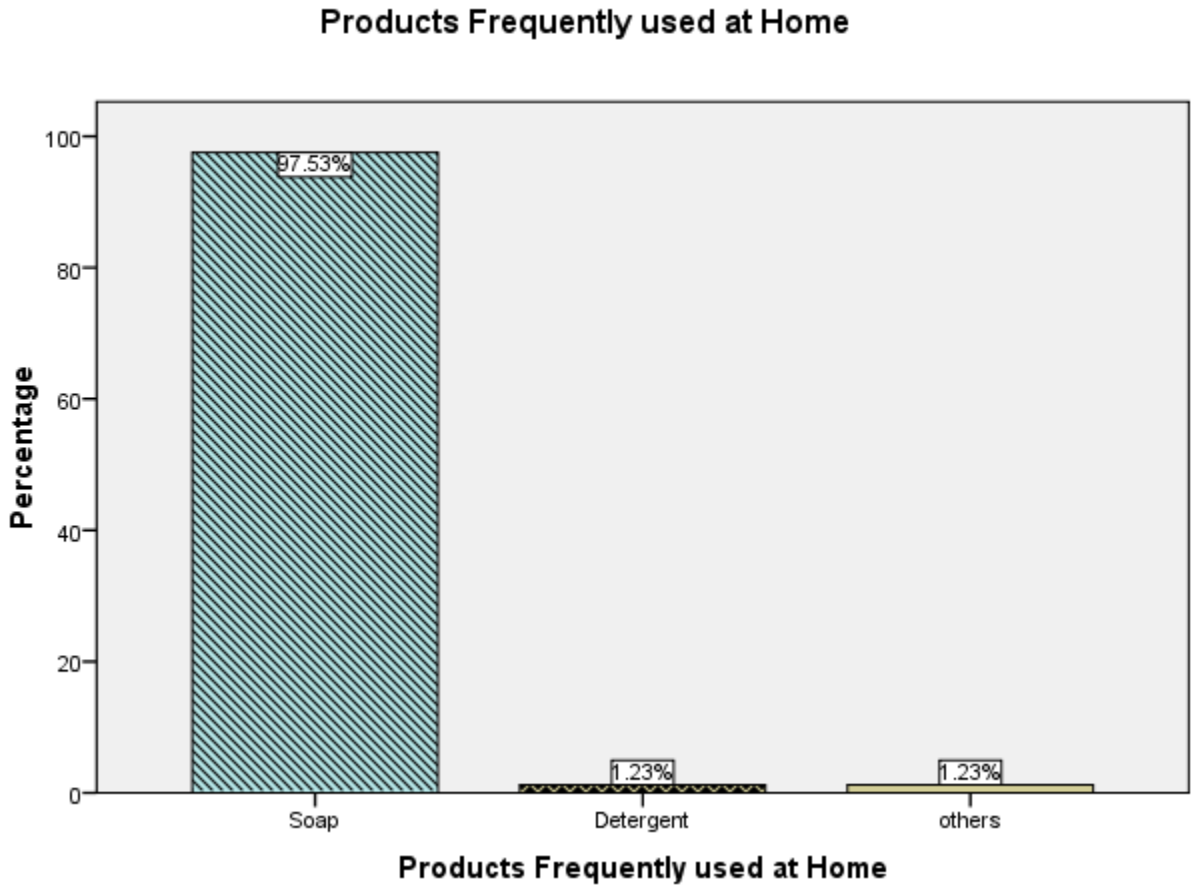
Source: Primary data

4.6.3. Hygiene products frequently used at home

The current study found out that soap (97.53%) is the most frequently used hygiene and sanitation product at home. Detergent (1.23%) and Ash (1.23%) were the least used sanitation and hygiene products at home.

Results from interviews with key informants indicated that soap was the most used hygiene product in the communities and it was readily available at shops and trading centres in the communities.

Figure 8: Hygiene products frequently used at home

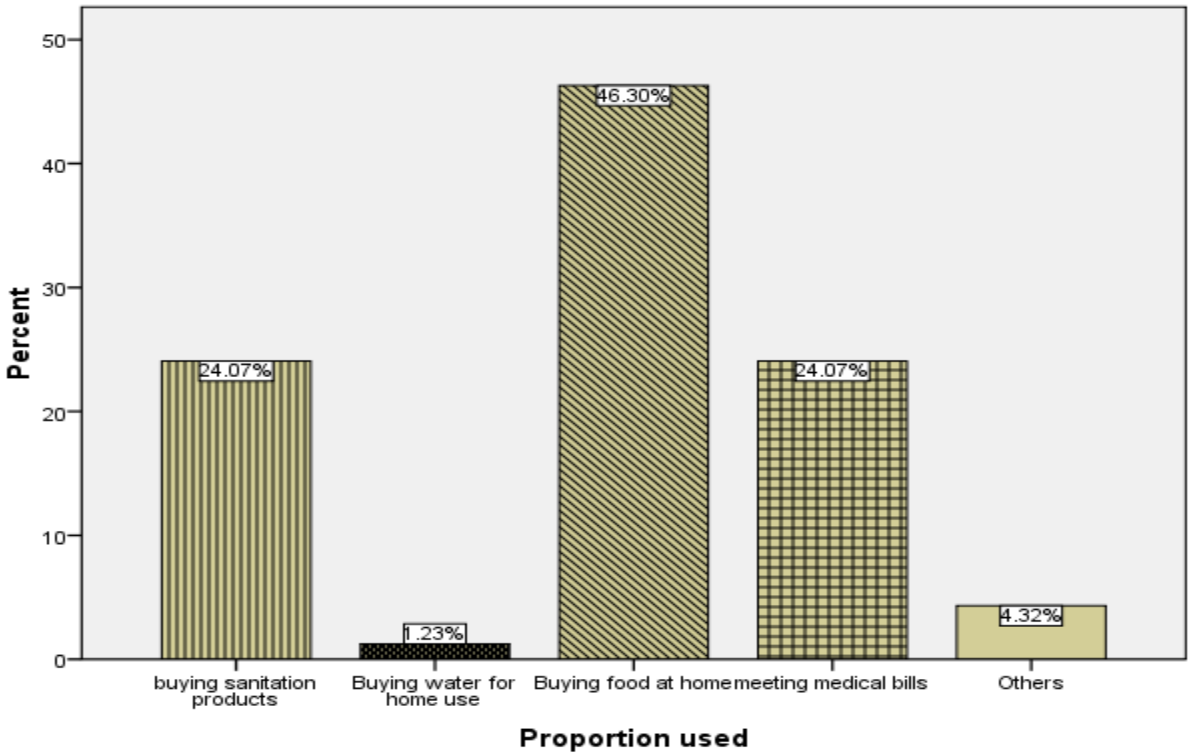


Source: Primary data

4.6.4. Income expenditure

The study shows that, 46.30% of the respondents spent most of their income on buying food at home meanwhile, 24.07% of the respondents spent their income on buying sanitation products and meeting medical bills. Only 1.23% of the respondents spent their income on buying water for home use.

Figure 9: Income expenditures



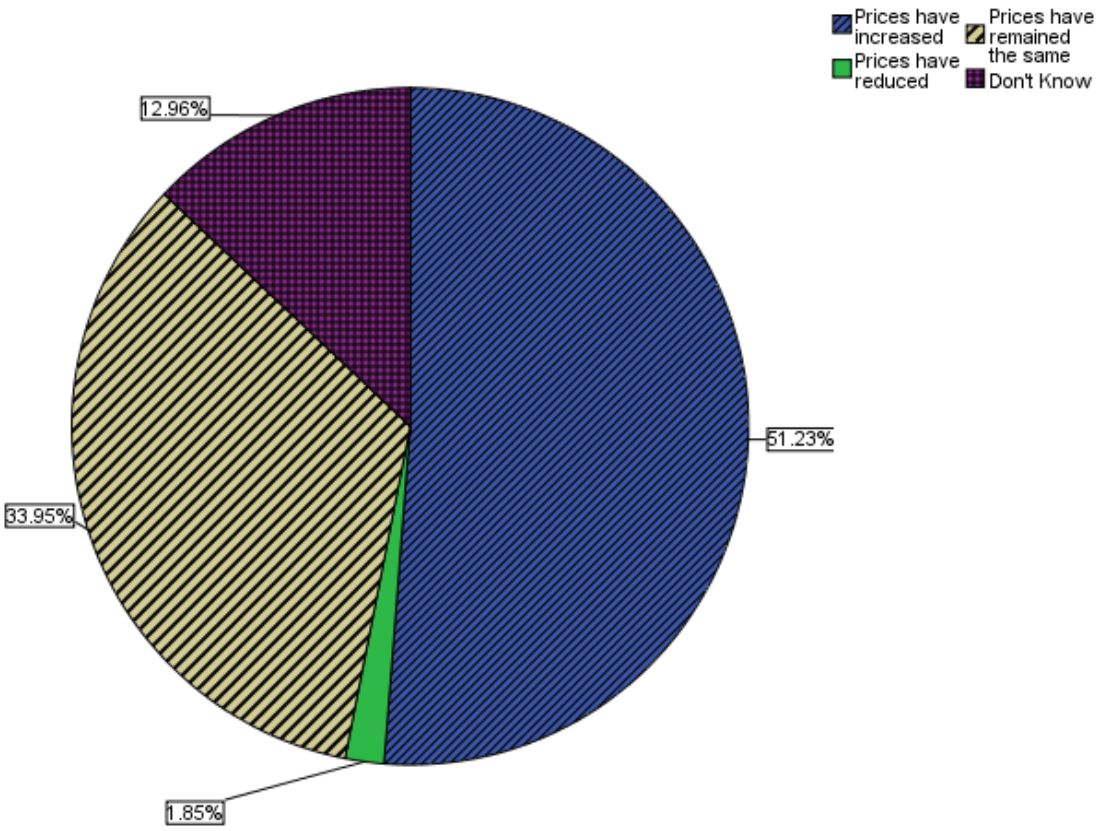
Source: Primary Data

Household expenditure includes consumption expenditure and non-consumption expenditure. Consumption expenditure is expenses on food, beverages, non-durable & frequently purchased services; semi-durable and durables. Non-consumption expenditure is expenses on taxes, contribution to funeral, medical bills and many others.

4.6.5. Price changes and ability to buy hygiene products

The study revealed that 51.23% of the respondents agree that hygiene product prices have increased in the market. Meanwhile, 33.95% say the prices have remained the same. Only 1.85% of the respondents said the hygiene product prices have reduced in the market. 12.96% of the respondents are not aware of any price changes in the market.

Figure 10: Ability to Buy Hygiene products



Source: Primary data

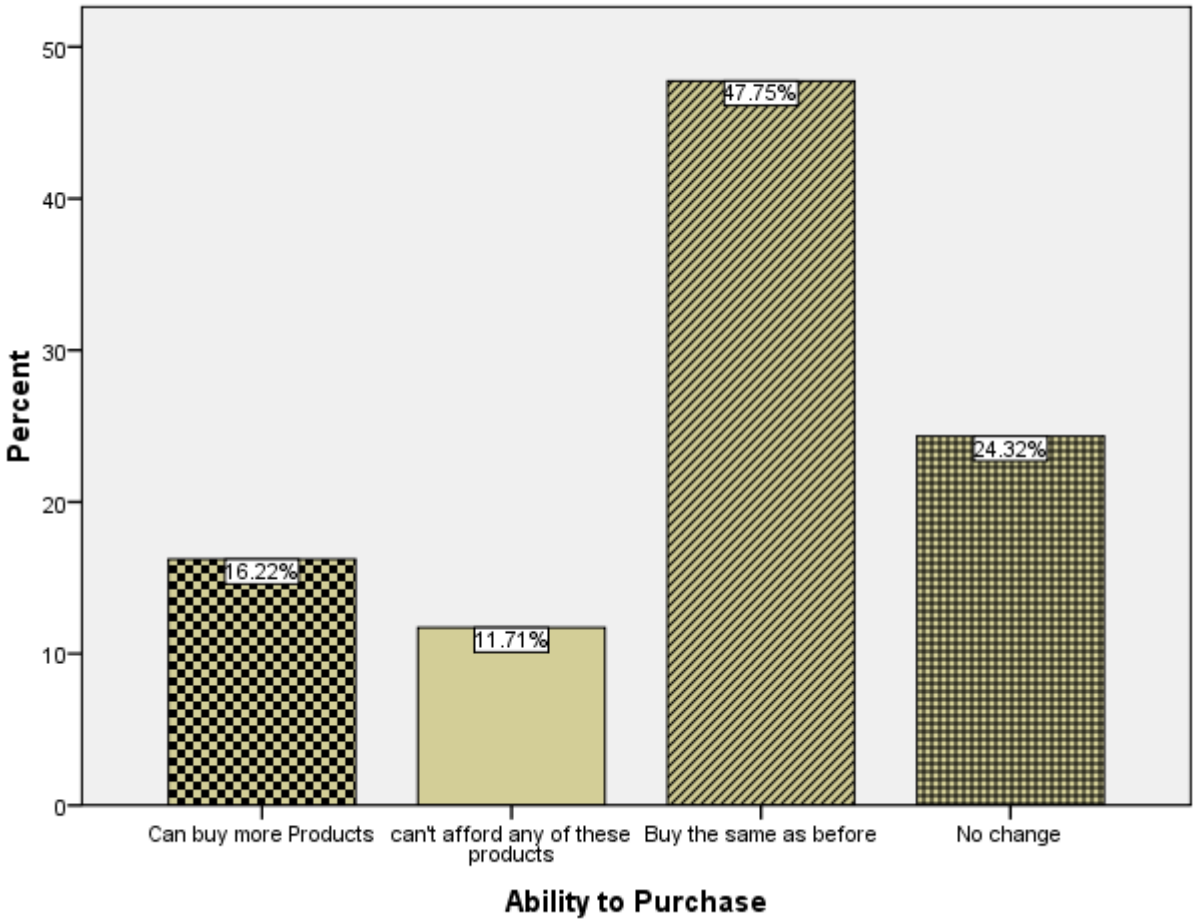
4.6.6. Effect of price change

The study reveals that 47.75% of respondents still buy the same amount of products as before although 51.23% of the respondents said that hygiene product prices have increased in the markets in their communities, as revealed by this study. Furthermore, 16.22% of the respondents could afford to buy more products than before, while 11.71% of the respondents could no longer afford any of the hygiene products due to the price increment.

Interviews with key informants indicated that, 55% percent of the key informants strongly believe that the change in prices of hygiene products has not affected their ability to buy them. Community

members can still afford to buy soap and many other hygiene related products from the shops as before. Meanwhile, 45% of the key informants disagreed, they pointed out that current price changes has affected many poor households, most households in the villages of Amuru district cannot afford soap at a regular basis. One bar of soap can be rationed to take a longer per period of time. This has made these households vulnerable and key hygiene practices like washing hands with soap, bathing with soap and washing clothes with soap are shunned or if not are regulated.

Figure 11: Showing effect of price change



Source: Primary data

4.7. Objective 4: Access to water and its effect on sustainability of good Hygiene practices

4.7.1. Main source of water

The study found out that the main source of water was borehole (62.3%) followed by unprotected dug well (16.0%), 13.6% of the respondents could easily access piped water (tapped water).

Table 12: Showing main source of water

Source of Water	Response	Valid Percentage
piped water	No	86.4
	Yes	13.6
borehole	No	37.7
	Yes	62.3
protected dug well	No	90.7
	Yes	9.3
unprotected dug well	No	84.0
	Yes	16.0
protected spring	No	97.5
	Yes	2.5
unprotected spring	No	98.1
	Yes	1.9
rain water collection	No	99.4
	Yes	0.6
surface water (river/stream/pond)	No	100.0
	Yes	

Source: Primary Data

From the study findings, it is revealed that most of the community members got their water from bore holes and only 9.3% got from protected dug wells. Key informants interviewed also agreed that most of the community members got their water from bore holes. Most of the bore holes were constructed through government programs and others were constructed by Non- governmental organisations. In addition, over 80% of people in Amuru district can access safe drinking water and 95% of these get their water from bore holes (UBOS, 2009).

4.7.2. Water collection

The study realised that Adult women (90.7%) collected most of the water needed for household use, followed by school age female children (48.1%). Adult men (11.1%) and school age male children (27.8 %) rarely collected water.

Who collects Water	Response	Valid Percentage
adult women	No	9.3
	Yes	90.7
adult men	No	88.9
	Yes	11.1
school age female children	No	51.9
	Yes	48.1
school age male children	No	72.2
	Yes	27.8
young, pre-school age children	No	100.0
	Yes	

Source: Primary Data

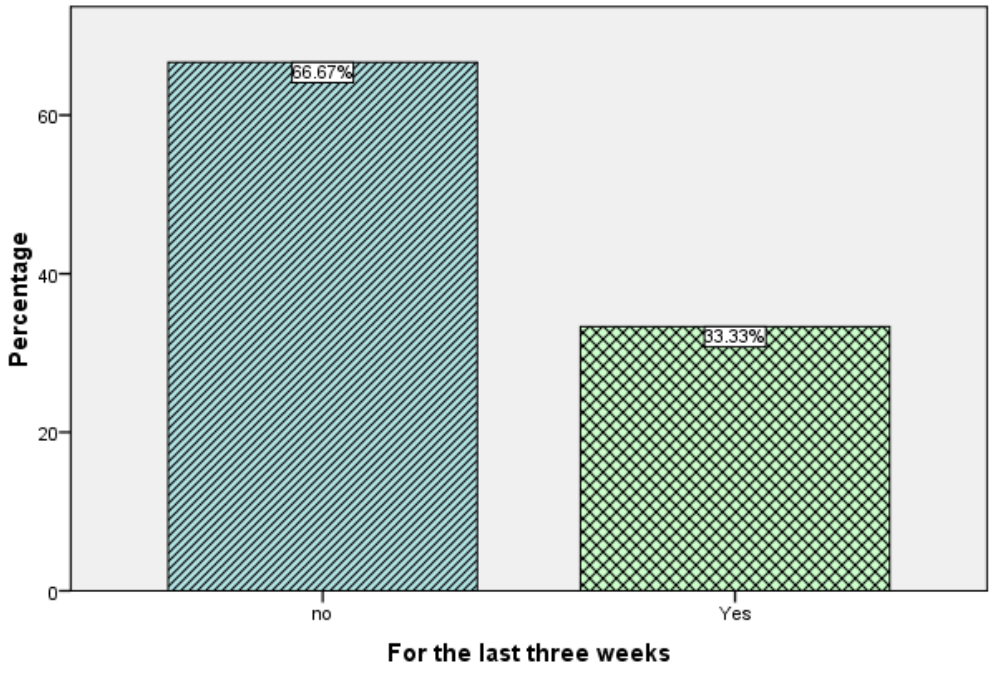
Results from key informant interviews shows that, 80 % of the key informants agreed that adult women collected most of the water used in the household. School age children were only sent to nearby water sources with lighter water containers while men rarely collected water. They further pointed out that men only fetched water when their wives were not there or if they are ill.

From the study findings it is realised that adult women and school age females fetched most of the water in a homestead. This is attributed to the gender roles in the community, women and school age children are charged with the duty of doing most of the domestic chores and fetching water is one of them (SNV,2013).

4.7.3. Water unavailability

From the study, it was found out that 66.67% of the respondents had constant access to their main source of water supply, while 33.33% of the respondents did not have constant access to their main source of water supply.

Figure 12: water unavailability in the community



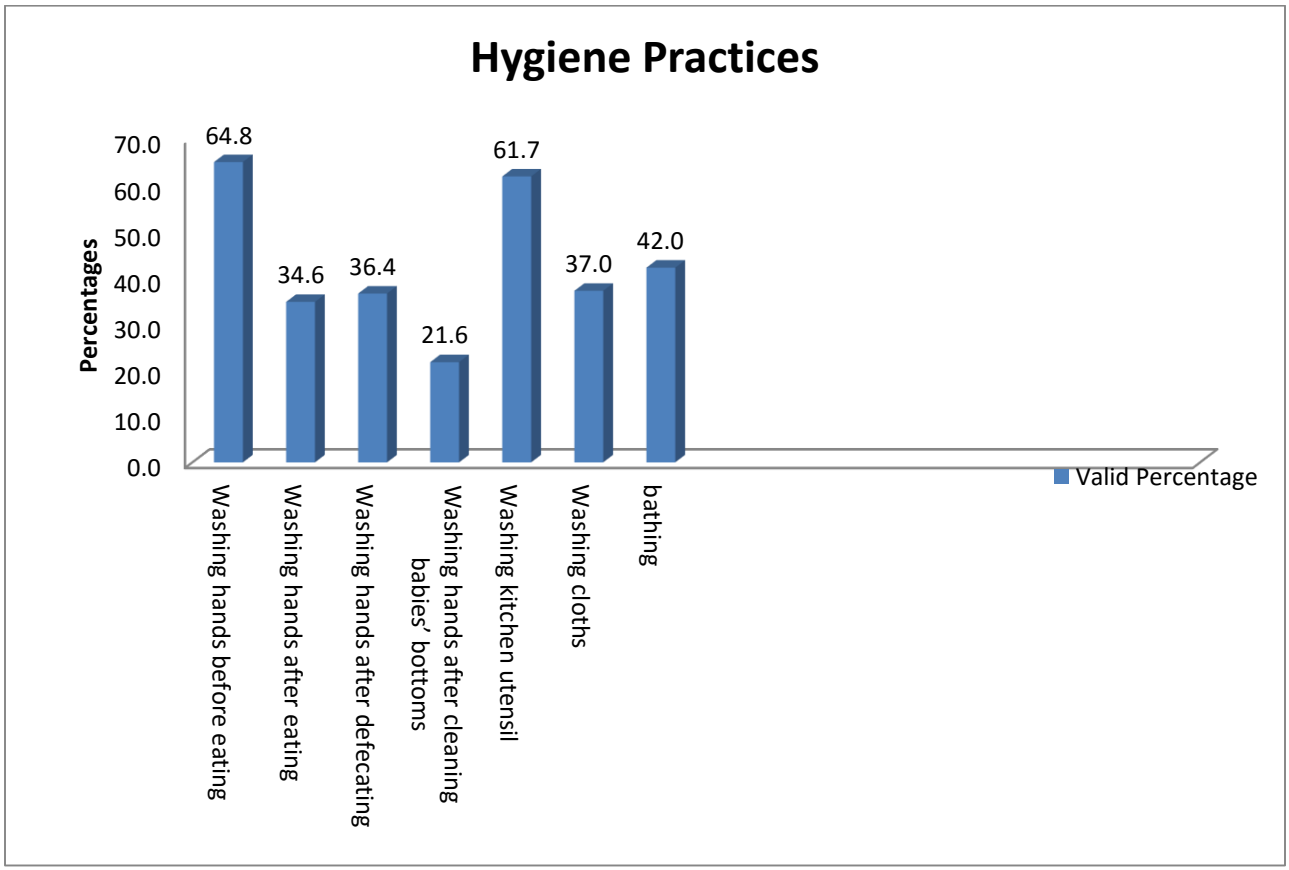
Source: Primary data

From interviews with key informants, it was realised that majority of the community members in Amuru district have access to water at all times. Parish chiefs emphasised that in their respective parishes, there was a borehole, a well or spring where people can fetch water. Although, most of the bore holes have now broken down and are in dire need of repair, the wells have constant water and can supply water in all seasons.

4.7.4. Hygiene practice hampered by lack of water

Finding from this study show that, 64.8% of respondents do not wash hands before eating, 61.7% do not wash kitchen utensils and 42.0% do not bathe when faced with water scarcity. While, 36.45 of the respondents do not wash their hands after defecating, 37.0% do not wash their cloths and 34.6% do not wash their hands after eating food.

Figure 13: Hygiene practices hampered by lack of water



Source: primary data

From key informant interviews, it was established in this study that, important hygiene practices like bathing, washing clothes, washing hands before and after eating food and washing hands after using the pit latrine are ignored in the community in cases of great water scarcity. The little water

available is reserved for cooking and drinking as these are the most vital for survival. Furthermore, for community members with constant water shortage, bathing and washing of clothes is an option to them.

From the above data presented, it can clearly be seen that the lack of access to and availability of clean water has devastating effects on many aspects of daily life in Amuru district. Yet, access to and the availability of clean water is a prerequisite to the sustainable growth and promotion of good personal hygiene and sanitation in communities. In areas that face scarcity of water, as a coping mechanism, some sanitation and hygiene practices are seriously limited or abandoned as shown by results from this study.

4.7.5. Use of soap as a cleaning agent

From the study, respondents were asked what they last used soap for in their households. The study found out that, 92.0% of the respondents used soap for bathing, 65.4% for washing clothes and 52.5% used it for washing kitchen utensils.

Only 21.6% of the respondents used soap for washing hands after defecating, only 7.4 % used soap for washing hands before eating, 21.0% washed hands with soap before feeding children, 11.1 % used soap to clean children's bottoms and 25.3 used it while washing children's hands.

Table 13: showing soap usage

What Soap was used for	Response	Valid Percentage
washing cloths	No	34.6
	Yes	65.4
washing cooking pots or dishes	No	47.5
	Yes	52.5
washing my body	No	8.0
	Yes	92.0
washing my children	No	65.4

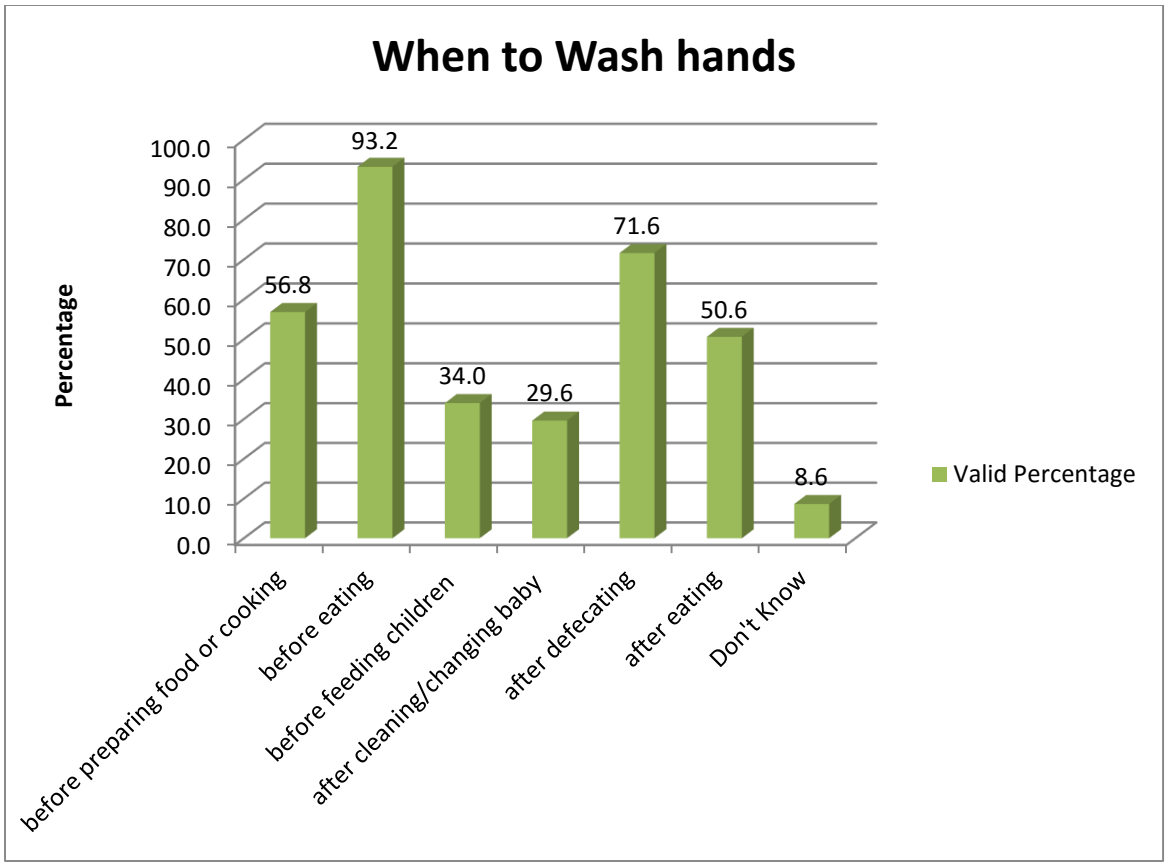
	Yes	34.6
washing child's bottoms	No	88.9
	Yes	11.1
washing my children's hands	No	74.7
	Yes	25.3
washing hands after defecating	No	78.4
	Yes	21.6
washing hands after cleaning child	No	77.8
	Yes	22.2
washing hands before feeding child	No	79.0
	Yes	21.0
washing hands before preparing food	No	86.4
	Yes	13.6
washing hands before eating	No	92.6
	Yes	7.4

Source: Primary data

4.7.6. When to wash hands

Results from the study reveal that, 93.2 % of the respondents agree that the most important time for washing hands is before eating, after defecating (71.6%), before preparing food (56.8%) and after eating food (50.6%). Key informants when asked when community members should wash their hands, the all pointed out that, the most important time to wash hands is after defecating, before eating, after eating, before feeding children and before preparing and serving food.

Figure 14: When to wash hands



Source: Primary Data

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1.Introduction

This chapter presents summary of the findings and discusses the findings according to the objectives of the study and in relation to the literature reviewed and draws conclusions and recommendation.

5.2.Objective one: Beneficiary participation and sustainability of good hygiene practices.

5.2.1. Summary

Participation in Technical training in good hygiene and sanitation Practices

The study showed that 84.6% of respondents who were interviewed had received training in good hygiene practices, while only 15.4 % of the respondents had not received any training.

Furthermore, the results from the study shows that 72% of the women who were interviewed had received training in good hygiene practices while 18% of the women had not received any training, 65% of the men interviewed had received training while only 7% had not received any training.

There was a positive significant relationship between receiving technical training and adoption of good hygiene practices, and 80.5% of variability in adoption and sustainability of good personal hygiene practiced was explained by participation in technical trainings.

This implied that if project beneficiaries are well trained and empowered with the right knowledge on good hygiene and sanitation, sustainability of the promoted practices will be fostered.

The study further found out that the most important lessons learnt from these trainings, and are still practiced by the beneficiaries are; how to construct, use and Maintain sanitation facilities (81.5%), washing hands before eating food (64.2%) and washing hands after defecating (53.1%).

Concurrently, the least practiced lessons learnt during the training in good hygiene practices are; washing hands after cleaning or changing baby (93.8%), washing hands before feeding children (72.2%), how to prepare and store food safely (68.5%), washing hands after eating (59.1%), bathing regularly (58.6%) and proper ways of washing hands (51.2%).

Participation in technical training and ownership of hygiene and sanitation facilities.

The study reveals that 77% of women interviewed constructed, used and maintained sanitation facilities than men (66%) interviewed. This study indicates that there is a weak relationship between gender, age, number of members in household and ownership/ construction of Hygiene and sanitation facilities. There was a positive significant correlation relationship between receiving technical training in good hygiene and sanitation and respondent's ability and willingness to construct and maintain hygiene facilities after the trainings, and 24.5% of the variability in ownership of good hygiene facilities was explained by beneficiary participation in technical training sessions. This implied that when people are empowered with the right knowledge and skills on construction of hygiene and sanitation facilities, they are more incline to adopt and continue using these practices and construct and maintain these hygiene facilities.

This study also revealed that 88.27% of participants owned at least 3 sanitation facilities. These sanitation facilities include; Pit latrine, bathing shelter, tippy tap, plate drying rack and rubbish Pit. In addition, from the study, it was realised that the most owned sanitation facility is Pit latrine

(84.6%), Bathing Shelter (72.2%), Plate drying rack (64.2%) and Rubbish Pit (63.6%), while tippy tap is the least used and maintained sanitation facility (22.2%).

5.2.2. Discussion

From the study results, it can be seen that majority of the respondents had been trained in good hygiene and sanitation practices, and these trainings were attended more by women than men. And that gender is significant in promotion, adoption and sustainability of good hygiene practices and construction and maintenance of hygiene facilities. The wide involvement of NGOs and CBOs in Water and Sanitation promotion projects explains this trend. NGOs and CBOs have continued to contribute to the water and sanitation subsector in Northern Uganda by mobilising funds for the sector, supporting water and sanitation infrastructure development, and building the capacity of communities to demand, develop and maintain water, sanitation and hygiene facilities through wide scale trainings (UWASNET, 2011).

A study by World Bank (2013) revealed that, Women and men have different roles in the community, in many places women traditionally manage domestic and community hygiene and the disposal of waste water and solid waste. They are therefore usually more motivated to improve local conditions and practices than men. Inclusion of women in hygiene trainings empowers them more to improve local conditions in their respective households.

This explains why in this study, more women were involved in the technical trainings in good hygiene and sanitation. This is because Women are most often the users, providers and managers of water in the household. They are usually the guardians of household hygiene. Women, and to a lesser degree children, are generally the ones who obtain water for the home, transport it, store it, and then use it for various household purposes. Because of this they may have a great deal

of knowledge about water sources, their quality and reliability, restrictions and advantages of their use, acceptable storage methods.

Women are also charged with keeping household hygiene; they ensure that the compound is clean, the dishes are washed and stored in a proper manner, children are properly bathed and the general hygiene of the pit latrine and bathing shelter. Therefore, involving more women in hygiene training and capacity building ensures greater sustainability of promoted practices. This is also in line with a study done by Water Aid (2004) on gender aspects of water and sanitation where they found out that women and children are the ones who are most affected by poor hygiene and sanitation. They bear the brunt of poor health due to lack of water and poor hygiene.

The findings of this study have also revealed that participation in technical trainings had a significant impact on; ownership and maintenance of hygiene facilities, washing hands before eating and washing hands before preparing food. Meaning that, participants who attended the technical trainings constructed hygiene facilities and have still maintained them and do wash hands regularly before eating, after defecating and before preparing food. These practices are recommended as good hygiene practices in the community.

It was hypothesised that Participation by beneficiaries in increases sustainability of good hygiene practices, basing on the premise that equipping participants with the right knowledge and relevant skills on sanitation and hygiene would increase adoption and sustainability of these promoted hygiene practices, this hypothesis was accepted by the researcher. Rogers (2003) explains in the innovation decision process theory that, when an individual is exposed to the right knowledge and is persuaded, He makes a decision to implement this knowledge; which leads to a decision to adopt or reject the innovation. Results from this study show that adoption of good hygiene practices

promoted by ACDI/VOCA has taken place and these practices are still being practiced in the communities. Therefore, participation of beneficiaries in technical training sessions contributed to the adoption and sustainability of good personal hygiene practices promoted by the project.

5.3.Objective two: *Cultural practices and Beliefs and Sustainability of good hygiene practices*

5.3.1. Summary

Common Sanitation and Hygiene Cultural practices and Beliefs

The study findings showed that the most common practices in the community are; general shaking of hands (98.1%), communal sharing of water drinking containers (Cups) (94.4%), habit of using bathrooms as urinals (92.0%), habit of providing water for washing hands before eating (92.6%), communal cleaning of water points (90.1%) and regular cleaning around homesteads (82.7%). Regression analysis results to establish the extent to which cultural practices and beliefs influenced sustainability of good hygiene practices showed that, 18.7% variability in hygiene and sanitation in homes was explained by hygiene related cultural practices.

5.3.2. Discussion

Amongst the above mentioned cultural practices and beliefs commonly practiced in the communities of Amuru district; providing water to wash hands before eating, communal cleaning of water points and regular cleaning of water points are cultural practices that promote good hygiene in the community. This further supports the findings by (Gulu District Local Government and Caritas, 2010). WHO (2009), also categorises these practices as safe, they promote good sanitation and hygiene in the community.

Meanwhile, the habit of using bathrooms as urinals, using one pot and one straw for drinking Marua (local brew), general shaking of hands and communal sharing of water drinking containers

are practices that do not promote good hygiene in the community. All these practices mentioned increase the risk for most of the communicable diseases among the rural people (WHO, 2009). Furthermore, Shekar and Babu (2009) argue that ignorance amongst the rural people and their strong attachment to cultural norms and beliefs has pre disposed them to various communicable diseases like diarrhoea, cholera, typhoid, dysentery, hepatitis and many others, which are attributed to poor hygiene.

The high prevalence of such diseases in Amuru district could be attributed to these cultural practices. Using bathrooms as urinals is widely practiced in homesteads and at social gatherings. This favours the breeding of flies and mosquitoes especially if the waste water is not well managed- which mostly is the case in rural areas. Flies transmit germs that cause communicable diseases like diarrhoea especially after getting in contact with a contaminated surface (Water Aid, 2007). Using one pot and straw for drinking marua (local brew) is commonly practiced at social gatherings and functions. This practice is considered unhygienic because it eases transmission of diseases through the sharing amongst many people. The same applies to using one cup to serve water to many people in a homestead.

General shaking of hands is practiced widely in many African cultures. It is a gesture for welcoming visitors and greeting. It shows affection, agreement and while greeting elders shaking hands shows respect. Shaking hands is one of the ways communicable diseases can be spread, especially diseases spread through the faecal – oral transmission and diseases spread through indirect contact with respiratory secretions (WHO, 2009).

Effect of practiced cultural beliefs and practices on sustainability of good hygiene practices on households in the community

Results from the study indicate that 51.23% of the respondents interviewed agree that the cultural practices and beliefs that are still practiced in the communities have contributed to the reduction of hygiene and sanitation in their households. While, 25.31% of the respondents say that these practices have helped improve hygiene and sanitation in their households. Concurrently, 18.7% variability in hygiene and sanitation in homes was explained by hygiene related cultural practices.

These study findings tend to suggest that cultural practices that are not hygienic have contributed to poor hygiene in households. Such practices include; general shaking of hands, sharing of water drinking containers and habit of using bathrooms as urinals. WHO (2009) categorises these as practices as those that aid in spreading germs that cause infections and diseases.

These unhygienic practices could have a contributing factor to the rampant spread and prevalence of hygiene related diseases like diarrhoea, dysentery, typhoid, Hepatitis B and many others in Amuru District.

This study also shows that people in the community still are strongly attached to their cultural values, beliefs and practices, some of which are not good hygiene practices. Mafuya and Shuckla (2005) in their study on factors that motivate people to adopt safe hygiene practices in Eastern Cape Town province observe that myths, attitudes, beliefs and practices in the community can distort people's perceptions about safe hygiene practices and these have a detrimental effect on adoption and sustainability of good hygiene practices.

Therefore, from the study findings cultural beliefs and practices to a certain extent do not encourage adoption and sustainability of good hygiene practices promoted in the communities of Amuru District.

5.4.Objective three: *Household income and sustainability of good hygiene practices*

5.4.1. Summary

Major source of income and availability Hygiene products

The study reveals that 92.59% of the participants are involved in subsistence agriculture as their main source of income. The rest of the respondents are either earning Monthly salaries or weekly wages. 66% of the participants whose main source of income is agriculture complained that this source of income is barely sufficient to cater for their household needs, while 4% of respondents who earn a salary or wage complained that it was not enough to cater for their household needs.

From the study, 84.6% of the participants agreed that hygiene and sanitation products were easily available to them in their respective communities. Only 4.9 % of the respondents said that they could not access any sanitation and hygiene products in their respective communities. Clean water (60.25%) and soap (39.75%) was the most easily available sanitation and hygiene product in the communities. In addition, the study found out that soap (97.53%) is the most frequently used hygiene and sanitation product at home. Detergent (1.23%) and Ash (1.23%) were the least used sanitation and hygiene products at home.

There was a negative correlation relationship between income sufficiency and ability to purchase hygiene/ sanitation products though this relationship was statistically not significant, implying that increased income did not necessarily mean beneficiaries would buy more hygiene and sanitation products.

5.4.2. Discussion

The findings from this study suggest that, household income has no effect on a households' ability to afford hygiene products like soap and clean water, which are essential for hand hygiene and general body hygiene at household level. Households with or without stable and constant sources of income are able to afford to buy important hygiene products like water, soap and many others. This is in contrast with study findings done by Orsola-Vidal and Yusuf (2011) on *scaling up hand washing behavior* in Senegal, the findings of the study showed that, households with more household income had more access to hygiene facilities and hygiene products compared to households with low household income.

Given the fact that both households with steady and unsteady sources of income were able to gain access to basic hygiene products like safe water, soap and many others, their economic positions are gradually improving because less of their income is spent on buying water which is readily available in the community and soap is readily available in shops in the community at affordable prices which most households can afford. This therefore, augments the research hypothesis that increased household income positively affected sustainability of good hygiene practices, at the same time it differs from the research hypothesis in that, increased household income did not necessarily mean that more hygiene products will be bought hence sustainability of good hygiene practices and construction and maintenance of hygiene facilities since the extra income would be channelled to other pressing needs like children education, health care bills and many others.

5.5.Objective four: *Access to safe water and sustainability of good hygiene practices*

5.5.1. Summary

The study found out that the main source of water was borehole (62.3%) followed by unprotected dug well (16.0%), 13.6% of the respondents could easily access piped water (tapped water). And, 66.7% of the respondents have constant access to their main source of water. Furthermore, the study realised that Adult women (90.7%) collected most of the water needed for household use, followed by school age female children (48.1%). Adult men (11.1%) and school age male children (27.8 %) rarely collected water.

5.5.2. Discussion

One of the key factors that could motivate adoption and sustainability of good hygiene practices is access to water supply sources. These water sources should be safe for drinking and house use for improved health and hygiene in households.

Study findings reveal that 66.7% of the respondents have constant access to their main source of water all the time. The major source of water accessed is bore hole water which is consider safe for home use (Water Aid, 2011 and UNICEF, 2011). This means that 33.3% of the respondents do not have constant access to their main sources of water. Although the percentage of respondents who had constant access to their main source of water is greater than those who did not have constant access to their main sources of water, the percentage access to water sources is still low according to the national target of 72% access to water in rural areas (IFC, 2010).

The lack of access to water could be attributed to ageing or malfunctioning water infrastructure like bore holes and protected springs. The districts of Northern Uganda – Amuru inclusive, that suffered insurgency for more than a decade have started returning to their normal life. However,

the provision of water sources is a problem, because the old sources were either destroyed or are nonfunctional. Efforts were made to provide water within the Internally Displaced Camps (IDPs) but now the population is moving back to the villages and abandoning these functioning water sources and then finding nonfunctional water infrastructure in their original villages.

The lack of access to and availability of clean water has devastating effects on many aspects of daily life. Areas without adequate supplies of freshwater carry the highest burdens of disease which disproportionately impact children less than five years of age and the elderly. Access to and the availability of clean water is a prerequisite to the sustainable growth and promotion of good personal hygiene and sanitation in communities. In areas that face scarcity of water, as a coping mechanism, some sanitation and hygiene practices are seriously limited or abandoned (Water Aid, 2011). Finding from this study show that, 64.8% of respondents do not wash hands before eating, 61.7% do not wash kitchen utensils and 42.0% do not bathe when faced with water scarcity. While, 36.45 of the respondents do not wash their hands after defecating, 37.0% do not wash their cloths and 34.6% do not wash their hands after eating food; when faced with water scarcity.

Previous studies done in Cape Town by Mafuya and Shuckla (2005), observe and candidly point out that, one of the key factors that could motivate people to adopt safe hygiene practices is access to water supply sources for example, house connections, public stand water pipes, bore holes and protected springs/ wells. More so, these water sources should be safe for drinking and house use for improved health and hygiene in households.

In this study, it is hypothesized that regular access to water encourages sustainability of good personal hygiene practices the researcher accepted this hypothesis. This study indicates that not all community members have constant access to clean water sources; this could be a demotivating factor for many households. More so, when faced with water scarcity, key hygiene practices like; washing hands before eating, bathing, washing kitchen utensils and washing hands after defecating are abandoned.

Therefore, this study concludes that, poor access to water has contributed to poor adoption and sustainability of hygiene practices in Amuru District.

5.6.Conclusion

5.6.1. **Objective one**: ***Beneficiary participation in technical training and sustainability of good hygiene practices.***

This objective was measured using two parameters; knowledge transfer and retention and ownership of hygiene facilities. Project beneficiaries/respondents who attended technical trainings owned at least three hygiene facilities in their homesteads and practiced most of the promoted good hygiene practices promoted. It was also found out that women participated more in hygiene projects than men and were more willing to adopt the promoted practices than men. The finds of this study have also revealed that participation in technical trainings had a significant impact on; ownership and maintenance of hygiene facilities, washing hands before eating and washing hands before preparing food. Meaning that, participants who attended the technical trainings constructed hygiene facilities and have still maintained them and do wash hands regularly before eating, after defecating and before preparing food. These practices are recommended as good hygiene practices in the communities of Amuru district.

According to the research findings and interpretation of the findings, it can be concluded that; Participation by beneficiaries in technical trainings has ensured sustainability of good hygiene practices promoted in the rural communities of Amuru district.

5.6.2. Objective two: *Cultural practices and beliefs about hygiene and sustainability of promoted good hygiene practices*.

This objective was measured using the following parameters; general shaking of hands, communal sharing of water drinking containers (Cups), habit of using bathrooms as urinals, habit of providing water for washing before eating, communal cleaning of water points, and regular cleaning around homesteads. Local beliefs that pregnant women should not use pit latrines, Attitudes of building bathing and urinary shelters, Use of buckets to fetch water while using leaves to avoid the water from spilling, Sharing of houses with birds and animals. These hygiene practices were identified by CARITAS (2010), Mafuya and Shuckla, (2005), and WHO, (2009) to be practices common in rural communities that affect hygiene and sanitation.

Certain Cultural practices and beliefs about hygiene in communities hinder adoption and sustainability of good hygiene practices promoted in communities of Amuru District. The study reveals that cultural practices like Communal sharing of water drinking containers or same pots or cups, General shaking of hands when greeting and the habit of using bathrooms as urinals are most commonly practiced. All these practices mentioned increase the risk for most of the communicable diseases among the rural people of Amuru district (CARITAS, 2010), yet general washing of hands after eating, defecating and cleaning of babies' bottoms was not commonly practiced.

These unhygienic practices could have a contributing factor to the rampant spread and prevalence of hygiene related diseases like diarrhoea, dysentery, typhoid, Hepatitis B and many others in Amuru District (Water Aid, 2010).

This study also shows that people in the communities of Amuru district still are strongly attached to their cultural values, beliefs and practices and some are ignorant about sanitation and hygiene practices. Therefore, this has affected adoption and sustainability of good hygiene practices in the communities of Amuru district.

5.6.3. Objective three: *Increased household income and sustainability of good hygiene practices*

This objective was measured using the following parameter; Availability of sanitation products (Soap & Detergent) in households. From the study, it was realised that hygiene product prices had increased. However, the respondents could still afford to buy and use these hygiene products as before. These research findings are in agreement with findings by Orsola-Vidal and Yusuf, (2011) in their study on *scaling up hand washing behavior* in Senegal, that, poorer households were as likely to report hand washing with soap at critical times as wealthier households given price increment.

The findings from this study suggest that, household income has no effect on a households' ability to afford hygiene products like soap and clean water, which are essential for hand hygiene and general body hygiene at household level. Households with or without stable and constant sources of income are able to afford to buy important hygiene products like water, soap and many others. This could be attributed to ease of access to water and soap and other hygiene products in the communities of Amuru District.

Therefore, Increased Household income has no significant effect on sustainability of good hygiene practices and maintenance of hygiene facilities.

5.6.4. Objective four: *Regular access to clean water and sustainability of good personal hygiene practices*

This objective was measured using the following parameters; Water source, Distance of household from water source, Water availability, Water safety.

The study found out that the main source of water is bore hole which provided safe water for household use and consumption. With easy access to water, more respondents could use soap for washing hands before and after eating food regularly, after using the pit Latrine, washing kitchen utensils, washing cloths and bathing; however only 66.7% of respondents had easy access to water, and these have to move long distances to fetch this water; however relating this percentage to the national target of 72% (MoH, 2012), the percentage of people having access to safe water in Amuru district is still low (UBOS, 2012). This could be a demotivating factor for many households more so, when faced with water scarcity. Mafuya and Shuckla, (2005) noted that, poor access to main source of water is a demotivating factor to adoption and sustainability of good hygiene practices in many rural communities in South Africa, the results from this study confirm their findings.

The lack of access to water in Amuru district could be attributed to ageing or malfunctioning water infrastructure like bore holes and protected springs which were destroyed during the insurgence which lasted for more than a decade in Amuru district (Water Aid, 2010). Therefore, this study concludes that, poor access to water has contributed to poor adoption and sustainability of hygiene practices in Amuru District and regular access to water encourages sustainability of good personal hygiene practices.

5.7.Recommendations

5.7.1. Objective one: participation of beneficiaries and sustainability of good personal hygiene practices

Basing on the research findings it was revealed that Participation of beneficiaries in technical trainings on sanitation and hygiene has shown good adoption and sustainability results and women participated more in hygiene project activities than men, in addition, women were more willing to adopt the promoted practices than men. It is therefore recommendable that more effort be put in place to promote participation of communities in hygiene projects in Amuru district, this is an eye opener to project managers and the government to include participatory approaches while designing and implementing health and hygiene projects in Amuru district.

5.7.2. Objective two: cultural beliefs and practices and sustainability of good hygiene practices.

Considering that certain unhygienic cultural practices like communal sharing of drinking cups and straws, general shaking of hands and using bathrooms as urinals are practiced in the communities, the recommendation is that, more effort has to be added in sensitizing the community in Amuru district about the dangers of hygiene practices that are culturally practiced yet pose a danger to community hygiene. This will involve designing evidence-based programs that incorporates interpersonal community-based approaches to promote good hygiene practices (Water Aid, 2011). In these programs, Community members should be helped to discuss, negotiate, and jointly identify problems and solutions for adoption of priority hygiene behaviours in the community. And for behaviour change, the idea is to focus not on messages, but on active understanding of high risk behaviours and good practices.

In addition, awareness programmes should take into consideration the values, culture and beliefs of communities in Amuru district and should also address the myths, attitudes, beliefs and distorted perceptions on good hygiene and sanitation.

5.7.3. Objective four: access to water and sustainability of good personal hygiene practices

In line with research findings, it was realised that the available safe water sources like bore holes and protected wells and springs have become old while most bore holes are in dire need of repair. It is recommendable that households have constant access to water at all times in the communities of Amuru district (Water Aid, 2012). To achieve this, Water and sanitation (WATSAN) project interventions by NGOs, CBOs and government in Amuru district should focus and ensure increased construction, repair and maintenance of water sources in Amuru district. In addition, from the study findings it was realised that only 66.7% of community members have easy access to clean water for household use, the national target is 72% of rural households should be able to access clean water at all times (UBOS, 2012) therefore, there is a need to construct more protected wells and springs and repair or install more bore holes. This will ensure safe water availability and accessibility to the community members, hence adoption and sustainability of safe hygiene practices in Amuru district.

General recommendations

This study limited its findings to only three sub counties in Amuru district, a more comprehensive study should be done to cover the remaining districts in the Acholi sub region; that is Gulu, Nwoya, Kitgum, Lamwo, Agago and Pader Districts.

This study provides a foundation for future studies related to factors affecting hygiene and sanitation in Amuru district. This study needs to be repeated involving many other NGOs in Amuru District and government institutes involved in hygiene and sanitation and Ministry of Health.

5.8.Limitation of the study

The geographical scope of the study covered only Amuru district, which may have not been representative enough to explain the situation in other districts in Northern Uganda. Secondly the period of two year chosen as a basis of studying the factors affecting sustainability of hygiene projects in rural communities in Amuru district, may not be reflective enough for the generalisation of the situation. Finally the case study as a methodology was a limiting factor since if a similar study is done using a different methodology, it might have produced a varying results.

5.9. Contribution of the study

This study examines the factors affecting sustainability of hygiene projects in rural communities in Amuru District. Findings from this study brings to light these factors and their effect on adoption and sustainability. Project managers can draw insight from these findings to design and implement better strategies for hygiene projects in Amuru district.

This study has revealed that beneficiary participation in hygiene project activities through technical trainings on good hygiene practices and construction and maintenance of hygiene facilities increased chances and rates of adoption of promoted good hygiene practices and women played an important role in maintaining household hygiene and sanitation while men played an important role of providing/ constructing the needed hygiene facilities like Pit latrines and products like soap and many others.

In addition, this study brings to light common cultural practices that are still practiced in the communities of Amuru District and the effect of such practices on overall community hygiene. Cultural practices like Communal sharing of water drinking containers or same pots or cups, General shaking of hands when greeting and the habit of using bathrooms as urinals were most commonly

practiced in communities of Amuru District, and these practices contributed to poor hygiene and spread of communicable diseases in Amuru district.

This study also points out that household income had no particular effect on household's ability to buy and use key hygiene product like soap and water. Poor households with unstable income sources were as likely to access and buy soap, water and other hygiene products as households with more stable sources of income.

Furthermore, this study brings to light the need for development agencies, donors and the government of Uganda to focus their attention to constructing and repairing more water access points like bore holes, protected wells and springs in the communities of Amuru district. This study reveals that, most of these water sources are ageing or malfunctioning and need immediate repair and rehabilitation for the communities to continue using them for better hygiene.

Therefore, this study has brought to light the factors affecting adoption and sustainability of good hygiene practices and how they influenced adoption and sustainability of good personal hygiene and sanitation in Amuru District.

5.10. Areas of future research

Considering the literature reviewed, methodology used, and the findings of the study, the researcher finds it imperative to recommend the following areas of further research.

Further research needs to be done on this same subject but considering a wider period of time, other than the five years of this study restricted its self to see whether these finding hold true.

A similar study should be done but for other regions (East, South, West and Central regions) outside northern region to find out whether these findings still hold true.

A similar study has to be done using other study designs to find out whether the same results will be generated.

Further study needs to be done on cultural myths and beliefs and their effect on hygiene in the Acholi Sub region.

REFERENCE

Adam Biran (2011). Enabling Technologies for Hand washing with Soap, *A Case Study on the Tippy-Tap in Uganda.* Retrieved from: http://www.wsp.org/wsp/sites/wsp.org/files/publications/uganda-tippy-tap-hwws.pdf Accessed on 3rd May, 2014

Alexandra Orsola-Vidal & Ahmad Yusuf (2011). Scaling up Hand washing Behaviour: *Findings from the Impact Evaluation Baseline Survey in Senegal*. Retrieved from http://www.wsp.org/wsp/sites/wsp.org/files/publications/WSP-Senegal-Baseline-HWWS.pdf Accessed on 3rd May, 2014

Amin, A. (2005). *Social Science Research, Conception, Methodology and Analysis:* Kampala: Makerere University Printery.

Best, J.W, & Kahn, J.V. (1993). *Research in Education* (7th ed.) NJ: Prentice Hall.

Bossert, T.J (1990). "*Can they get along without us? Sustainability of Donor Supported Projects in Central America and Africa*". Social Science Medicine

Chandra Shekar BR and Raja Babu P (2009). Cultural factors in Health and Oral Health. *Indian Journal of Dental Advancement* Retrieved from; http://www.nacd.in/ijda/volume-01-issue-01/8-cultural-factors-in-health-and-oral-health Accessed on 4th May, 2014

Cornwall Andrea (2005). Whose Voices? Whose Choices? *Reflections on Gender and Participatory Development.* Retrieved from; http://archive.k4health.org/system/files/gender_participatorydev.pdf Accessed on 20th November, 2013

Cooke. B. and U. Kothari, eds. (2001). *Participation: The New Tyranny?* London: Zed Books; Hickey, S. and G. Mohan, eds. (2004) Participation: From Tyranny to Transformation. London: Zed Books.

Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative and Mixed Method Approaches* (2nd ed.) London: Sage publishers.

Creswell, J.W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Upper Saddle River, NJ: Pearson Education.

Damanpour, F. (1991). Organizational Innovation: A Meta-analysis of Effects of Determinants and Moderators. *Academy of Management Journal* 34(3), 55-90 Retrieved from: http://smartech.gatech.edu/jspui/bitstream/1853/10731/1/gt_tiger_does_innovation.pdf Accessed on 3rd October, 2013

Earl Babbie (2007). The Practice of Social Research. 11th Edition. Chapman University

Dodds, M E. 1989. The need for appropriate inquiry concerning human development: *Development: the human challenge,* Development Society of Southern Africa.

FAO (2003). Participatory Development: *Guidelines on Beneficiary Participation in Agricultural and Rural Development. Rural Institutions and Participation Service*, retrieved from ftp://ftp.fao.org/docrep/fao/007/ad817e/ad817e00.pdf Accessed on 4th July, 2013

Fawcett, John and Tanner, Victor, *Review of Programs in the Former Yugoslavia*, USAID: OFDA, April 2000.

Gay, L.R. (1996). *Educational research: Competencies for analysis and application.* New Jersey: Prentice Hall.

Golafshani. N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report.* Volume 8, Number 4. Released on December 2003. Retrieved from; http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf Accessed on 24th July, 2014

Goulet, Denis & C. Wilber (1992). *Human Dilemma of Development*, in C. Wilber & Jameson. Political economy of development and underdevelopment. Pp. 469-477

Green, I.W (1986). "The Theory of Participation: A Qualitative Analysis of its Expression in National and International Policies", *Advances in Health Education and Promotion,* IA, pp. 211-236. Retrieved from: www.europeanjournalofsocialsciences.com/.../EJSS_26_4_06 Accessed on 30th July, 2013

Gregory, A. (2000). *Problematising Participation: Acritical Review of Approaches to Participation in Evaluation Theory*. Evaluation 6(2): SAGE Publications (London, Thousand Oaks and New Delhi) Retrieved from: http://www.stesapes.med.ulg.ac.be/Documents_electroniques/MET/MET-PAR/ELE%20MET-PAR%207510.pdf Accessed on 4th August, 2013

GTZ (2005) 'Services for Rural Development' Sector Project *Knowledge systems in rural areas*; Participatory Approaches. Retrieved from: www.giz.de/.../en-**knowledge**-powers-**rural**-**development**.pdf Accessed on 4th August, 2013

Gulu district local government and Caritas Gulu Archdiocese (2010). *Performance Improvement through Learning on Sanitation* – PILS. Retrieved from: www.irc.nl/content/download/.../**Gulu**%20DD01%20report.pd Accessed on 4th August, 2013

Huff, M. & Kline, V (1999) *Promoting Health in Multicultural Population*, California: Sage Publications

IFAD (2009), *Sustainability of Rural Development Projects - Best Practices and Lessons Learned in Asia*. Retrieved from: http://www.ifad.org/operations/projects/regions/pi/casestudies/vietnam.pdf Accessed on 10th May, 2014

IFAD (2008). *IFAD's Approach to Sustainability* Retrieved from: www.ifad.org/gbdocs/repl/8/iii/e/presentations/sustainability.pdf Accessed on 10th May, 2014

IFAD (2007) *Supervision and Implementation Support of Projects and Programmes funded from IFAD loans and grants*. Programme Management Department -Rome. (n.d)

IFC (2010) *Small scale infrastructure provider (SSIP) program- water.* International Finance Cooperation- World Bank Group. Retrieved from; http://documents.worldbank.org/curated/en/2010/11/14325576/uganda-small-scale-infrastructure-provider-ssip-program-water

Institute of Development Studies (1998). *Participatory Monitoring and Evaluation: Learning from Change.* Policy Briefing Issue 12 Retrieved from: http://archive.k4health.org/system/files/PB12.pdf Accessed on 5th June, 2013

Komalawati(2008). Participation and Project Sustainability: *Participatory Integrated Development in Rain fed Areas (PIDRA) Project in East Java- Indonesia.* Retrieved from: http://mro.massey.ac.nz/bitstream/handle/10179/1534/01_front.pdf?sequence=2 Accessed on 5th June 2013

Kothari C.R. (2004). *Research Methodology: Methods and Techniques* (2nd ed.). India: New Age International publishers.

Krejcie, R.V. & Morgan, D.W. (1970). Determining Sample Size for Research Activities: *Educational and Psychological Measurement,* 30pp. 607-610.State: Publisher. Retrieved from: http://wwwold.ctust.edu.tw/bhbc/%E8%AC%9B%E7%BE%A9/%E6%A8%A3%E6%9C%AC%E5%A4%A7%E5%B0%8F.pdf Accessed on 12th May, 2013

Linus Muriuki Nthigai (2008) *The Rhetoric and Reality of Beneficiary Participation in Client Based Microfinance Institutions in Kenya: The Case of Faulu Kenya: Institute of Social Studies*. Retrieved from; http://oaithesis.eur.nl/ir/repub/asset/7037/Linus%20Muriuki%20Nthigai%20POV.pdf Accessed on 12th May, 2013

Lyons, M., Smutts, C., and Stephens, A. (2001). 'Participation, Empowerment and Sustainability: (How) do this work? *Urban studies*, 38(8), pp. 1233-1251.

McGee and Rosemary (2002). *Participating in Development*, in U.Kothari & M.Minogue. Development Theory and Practice: Critical Perspectives. pp. 92-116 England: Palgrave Publishers Ltd.

Ministry of Gender, Labour and Social Development: *The National Culture Policy, 2006* Retrieved from: http://ugandaemb.org/Uganda%20_National_Culture_Policy.pdf Accessed on 19th January, 2014

Ministry of Health *Annual Health Sector Performance Report* Financial Year 2009/2010. Retrieved from http://www.health.go.ug/docs/AHSPR09.pdf Accessed on 19th January, 2014

Murzidah Ahmad Murad andJohn Douglas Thomson (2011). External Environment Factors Influencing the Technology Adoption-*Diffusion*

New Vision (2011). '*Elders want bigger post for Bigombe*' Publication date: Monday, 30th May, 2011. Retrieved from http://www.newvision.co.ug/D/8/16/756152 Accessed on 4th June, 2013

Oakley, P. (1989). "*Community Involvement in Health Development: An Examination of the Critical Issues" World Health Organisation*, Geneva.

Olive M. Mugenda and Abel G. Mugenda (2003). Research Methods. *Qualitative and Quantitative Approaches*. African Centre for Technology Studies (ACTS), Nairobi -Kenya

Pranietha Mudliar (2012). *People's Place in Development* _ Retrieved from: http://dailydunking-dose.blogspot.com/2012/04/role-of-people-in-development-programs.html Accessed on 12th June, 2013

Premkumar, G., Roberts, M. (1999) Adoption of new information technologies in Rural Small Business. The *International Journal of Management Science* 27, 467-84.

Pretty, J., Guijt, I., Thompson, J. and Scoones, I. (1995), *Participatory Learning and Action*, IIED Participatory Methodology Series, IIED, |London.

Ray Jennings (2000). Participatory Development as New Paradigm: The Transition of Development Professionalism Prepared for the *"Community Based Reintegration and Rehabilitation in Post-Conflict Settings"* Conference Washington, DC retrieved from: http://transition.usaid.gov/our_work/cross cutting programs/transition initiatives/pubs/ptdv1000.pdf Accessed on 15th April, 2014

Robert chambers and Cordon R Conway (1991). Sustainable rural livelihoods: practicle concepts for the 21st century. *IDS discussion paper 296*. Retrievuihged from: http://www.undp.mn/publications/HD-textbook%28Eng%2919Sep2007.pdf Accessed on 14th June, 2013

Rogers, E. M. (2003). *Diffusion of Innovation*, 5th ed. New York: The Free Press.

Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: Free Press.

Roodt, M. 2001. Participation, civil society, and development. (Eds) Coetee, J, Graaff, J, Hendricks, F, & Wood, G, 2001. *Development theory, policy and practice*. South Africa. Oxford University Press.

Rus Kinzinger. Self-funding as a guiding principle of project sustainability. Retrieved from: http://www.wishh.org/workshops/midwest/aug11/project-sustainability-wsf.pdf Accessed on14th June, 2013

SNV (2013). Gender Equality and Social Inclusion Learning Brief. *Sustainable Sanitation and Hygiene for All.* Retrieved from*:* http://www.snvworld.org/en/sectors/water-sanitation-hygiene Accessed on; 30th July, 2013.

Sotirios Sarantakos (2005), Social Research; Third Edition, Palgrave Macmillan publications

Steve Metiboba (2011) Nigeria's National Health Insurance Scheme: The Need for Beneficiary Participation: *Research Journal of International Studies* Euro Journals Publishing Inc. Retrieved from http://www.eurojournals.com/international_studies.htm Accessed on 30th September, 2013

Supa Pengpid and Karl Peltzer (2012). Hygiene behavior and health attitudes in African countries

Department of Health System Management and Policy, University of Limpopo

Retrieved from; http://www.cpdcentre.co.za/ArticleDocuments/DettolArticlesx2.pdf

Accessed on 15th May 2014

The state of Uganda population report 2008 Theme: *"The Role of Culture, Gender and Human Rights in Social Transformation and Sustainable Development".* Retrieved from: http://www.popsec.org/documents/state_of_uganda_population_report_2008.pdf Accessed on 15th May 2014

The World Bank *(*1996). *Participation Sourcebook,* World Bank Publications, Retrieved from http://www.worldbank.org/wbi/sourcebook/sbhome.htm Accessed on 4th may, 2013

UBOS (2010). Mapping a Healthier Future. *How Spatial Analysis Can Guide Pro-Poor Water and Sanitation Planning in Uganda. Published by:* World Resources Institute, 10 G Street NE, Washington, DC 20002, USA. Retrieved from: www.wri.org on 24th August, 2014

UNICEF- ACF (2011) *Nutrition Surveillance Acholi Region, Uganda Round* 1. Retrieved from http://www.ugandaclusters.ug/dwnlds/0010IM/07-2011/DHO ACF_Acholi_Nutrition_Surveillance_Round_1_2011_04.pdf Accessed on 15th May 2014

USAID (2008) '*Stability Peace and Reconciliation in Northern Uganda Project (SPRING). Annual Activity Report 1st October 2007 to 30th September 2008*. Retrieved from: http://pdf.usaid.gov/pdf_docs/PDACO729.pdf Accessed on 20th October, 2013

USAID- ACDIVOCA *Multi-Year Assistance Program Final Evaluation –UGANDA* Tango International 17th January, 2012.

VSO participatory Approaches: A facilitators Guide

Water Aid (2012). *Financing of the water, sanitation and hygiene sector in Uganda*- Case study Retrieved from; http://www.wateraid.org/~/media/Files/UK/Keeping%20Promises%20case%20studies/Uganda%20the%20financing%20of%20the%20water%20sanitation%20and%20hygiene%20sector.pdf Accessed on 5th June, 2014

WHO (2009). Guidelines on Hand Hygiene in Health Care: *First Global Patient Safety Challenge Clean Care Is Safer Care.* Retrieved from*;* http://www.ncbi.nlm.nih.gov/books/NBK143998/ Accessed on 13th June, 2014

WHO/UNICEF (2012). *Joint Monitoring program(JMP) for water supply and sanitation- Report.* Retrieved from; http://www.wssinfo.org/fileadmin/user_upload/resources/2012_Annual_Report_WHO-UNICEF_JMP_28Mar_e_version.pdf Accessed on 12th February, 2014

Yang. C., Sangthong. R., Chongsuvivatwong. V, McNeil. E and Lui. L (2009). Effect of Village Income and Household Income on Sanitation Facilities, Hygiene Behaviors and Child

Under nutrition during Rapid Economic Growth in a rural cross border area, Yunnan, China**.** *Research report;* published online: 02 Feb 2009. doi:10.1136/jech.2008.078246 or Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19188196

Young & Klingle (1996). Silent Partners in Medical Care: A Cross-Cultural Study of Patient Participation, *Health Communication* 8(1), 29-53.

Zainal Zaidah (2007). *Case study as a research method.* Jurnal Kemanusiaan (9). pp. 1-6.

APPENDIX

Appendix one

QUESTIONNAIRE

UGANDA MANAGEMENT INSTITUTE

Dear Sir/Madam,

This study is being conducted by a student of Uganda Management Institute, Kampala, towards the award of a Masters in management science degree in Higher Education Studies (project planning and management). The study concerns *"factors affecting sustainability of hygiene projects in rural communities".* Your views, ideas, observations, opinions and experiences as participant, beneficiary and stakeholder are therefore useful in this study. Please be assured that the data you will provide will be held confidentially.

Thank you

QUESTIONNAIRE

Date: ……

Questionnaire number: ……..

Sub county: …… parish: ……

Name of enumerator: …… Start time: ……..

Household information		
a) Name of respondent	…….	
b) Gender	Male ☐ Female ☐	
c) Age	…….	
d) Marital status	Married Single Widowed Separated/ Divorced	☐ ☐ ☐ ☐
e) Level of education	Primary Secondary Tertiary University None	☐ ☐ ☐ ☐ ☐
f) How many people live in this household?	……	

End Time: ……

Participation in Technical trainings

i. Have you received any training on good personal hygiene and sanitation? *Yes* ☐ *No* ☐

ii. From attending technical training on good hygiene and sanitation, what important lessons have you learnt? (*Do not read the answers, encourage by asking if there is anything else until s/he says there is nothing else and check all mentioned*)

a) How to construct, use and maintain good hygiene and sanitation facilities ☐

b) Proper ways of washing hands with soap and water ☐

c) How to prepare and store food safely ☐

d) Washing hands before;

Eating food ☐

Preparing food or cooking ☐

Feeding children ☐

After;

Cleaning/changing baby ☐

Defecating ☐

Eating ☐

e) Cleaning the body by bathing regularly ☐

f) Do you have any hygiene facilities? *Yes* ☐ *No* ☐

g) Which ones do you have? (*Tick only those present*)

Bathing shelter ☐ *Plate drying rack* ☐

Tippy tap ☐ *Pit latrine* ☐

Rubbish pit ☐

h) Did you construct these mentioned hygiene facilities after the technical trainings in good hygiene and sanitation? *Yes* ☐ *No* ☐

i) Which ones did you construct after the technical trainings in good hygiene and sanitation?

Bathing shelter ☐ plate drying rack ☐

Tippy tap ☐ Pit latrine ☐

Rubbish pit ☐

j) Which of the hygiene facilities do you consider very important for your household?

Bathing shelter ☐ plate drying rack ☐

Tippy tap ☐ Pit latrine ☐

Rubbish pit ☐

k) Are exchange visits with your group members helpful in promoting good hygiene practices among group members?

Not helpful at all ☐

Somewhat helpful ☐

Very helpful ☐

Don't Know ☐

l) Have these exchange visits been beneficial to you in terms of improving your personal hygiene?

Very beneficial ☐
Somewhat beneficial ☐
Not beneficial at all ☐
Don't know ☐

m) Have you participated in group evaluation meetings on good personal and household hygiene?
Yes ☐ No ☐

n) How effective are group evaluation meetings at promoting good personal hygiene practices amongst group members?
Very effective ☐
Somewhat effective ☐
Not effective at all ☐

Cultural practices and beliefs

i. The following are common practices done in this community.	*Communal sharing of water drinking containers or same pots, cups*	☐
	Local beliefs that pregnant women should not use pit latrines	☐
	General shaking of hands when greeting	☐
	The habits of using bathrooms as urinals	☐
	Sharing of houses with birds and animals	☐
	Use of buckets to fetch water while using leaves to avoid the water from spilling	☐
	Using one pot and one straw for drinking Marua (local brew)	☐
	Having rubbish heaps not rubbish pits.	☐
	Attitudes of building bathing and urinary shelters	☐
	providing water for washing hands before eating	☐
	communal cleaning of the water points	☐
	cleaning around homesteads every morning and evening	☐

ii.	Of the practices mentioned which one of them promotes adoption of good hygiene and sanitation practices?	*Communal sharing of water drinking containers or same pots, cups*	☐
		Local beliefs that pregnant women should not use pit latrines	☐
		General shaking of hands when greeting	☐
		The habits of using bathrooms as urinals	☐
		Sharing of houses with birds and animals	☐
		Use of buckets to fetch water while using leaves to avoid the water from spilling	☐
		Using one pot and one straw for drinking Marua (local brew)	☐
		Having rubbish heaps not rubbish pits	☐
		Attitudes of building bathing and urinary shelters	☐
		providing water for washing hands before eating	☐
		communal cleaning of the water points	☐
		cleaning around homesteads every morning and evening	☐
iii.	And of these mentioned which ones do not promote adoption of good hygiene and sanitation practices?	*Communal sharing of water drinking containers or same pots, cups*	☐
		Local beliefs that pregnant women should not use pit latrines	☐
		General shaking of hands when greeting	☐
		The habits of using bathrooms as urinals	☐
		Sharing of houses with birds and animals	☐
		Use of buckets to fetch water while using leaves to avoid the water from spilling	☐
		Using one pot and one straw for drinking Marua (local brew)	☐
		Having rubbish heaps not rubbish pits.	☐
			☐
			☐

	Attitudes of building bathing and urinary shelters	
	providing water for washing hands before eating	
	communal cleaning of the water points	☐
	cleaning around homesteads every morning and evening	☐
iv. Which of these cultural practices and beliefs do we still practice?	*Communal sharing of water drinking containers or same pots, cups*	☐
	Local beliefs that pregnant women should not use pit latrines	☐
	General shaking of hands when greeting	☐
	The habits of using bathrooms as urinals	☐
	Sharing of houses with birds and animals	☐
	Use of buckets to fetch water while using leaves to avoid the water from spilling	☐
	Using one pot and one straw for drinking Marua (local brew)	☐
	Having rubbish heaps not rubbish pits.	☐
	Attitudes of building bathing and urinary shelters	☐
	providing water for washing hands before eating	☐
	communal cleaning of the water points	☐
	cleaning around homesteads every morning and evening	☐
How have they impacted on hygiene and sanitation in our homes?	*Improved hygiene and sanitation*	☐
	Has no impact on hygiene and sanitation	☐
	Reduced hygiene and sanitation	☐
	Not sure	☐
	Don't know	☐

Availability of household income

1) What is your major source of income for daily living?
   (a) Agriculture ☐ *(c) Weekly wage* ☐
   (b) Monthly salary ☐ *(d) Others (specify)……*

2) Is your daily income for a living sufficient for your basic needs?
   (a) Not sufficient at all ☐ *(c) Sufficient* ☐
   (b) Barely sufficient ☐ *(d) Very sufficient* ☐
3) Are hygiene products easily available in this area?
   (a) Readily available ☐ *(c) Not available* ☐
   (b) Available at some times only ☐
4) Which of the following products are easily available?
   (a) Clean water ☐ *(d) Detergent* ☐
   (b) Soap ☐ *(e) Sanitizers* ☐
   (c) Others (specify) ……
5) Which one of the hygiene and sanitation products do you frequently use at home?
   (a) Soap ☐ *(c) Sanitizers* ☐
   (b) Detergent (OMO, NOMI, SUNSHINE, etc) ☐ *(d) others (specify)……*
6) Which of the following takes the biggest proportion of your income?
   (a) Buying sanitation products ☐ (d)Buying food at home ☐
   (b) Buying water for home use ☐ (d) Meeting medication bills ☐
   (c) Others (specify)……
7) Compared to last year, how do you find the prices of these products currently?
   (a) Prices have increased ☐ *(c) Prices have remained the same* ☐
   (b) Prices have reduced ☐ *(d) Don't know* ☐
8) Has the change in prices affected your ability to purchase these hygiene and sanitation products? *Yes* *no*
9) If yes how has it affected your ability to purchase them?
   (a) I can now buy more of these products than before ☐
   (b) I can't afford any of these products now ☐
   (c) I still buy the same as before ☐
   (d) *I feel no change* ☐
10) Do you have soap or any other cleaning agents?
   Yes ☐ No ☐
11) Are the materials for construction of the hygiene facilities easily available?

   Yes ☐ *No* ☐

12) Where did you get the materials for construction of the hygiene facilities in your home?
   (a) Bought from the market ☐ *(c) Given by friends and relatives* ☐
   (b) Locally collected them from around the village ☐ *(d) Others (specify)* ☐

13) If bought from the market, how has the current change in prices affected your ability to construct and maintain the hygiene facilities?

……
……

Access to clean safe water sources

What is the main source of water for members of this Household?	*piped water* *borehole* *protected dug well* *unprotected dug well* *protected spring* *unprotected spring* *rain water collection* *surface water (river/stream/pond)* *other* _____	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
How long does it take you to go to your main water source, get water, and come back?	*Minutes* *Hours* *on premises* *don't know*	☐ ☐ ☐ ☐
If water is not on premises, who usually collects water?	*adult women* *adult men* *school age female children* *school age male children* *young, pre-school age children* *Other*.....	☐ ☐ ☐ ☐ ☐
What is the main source of water used by this household for Hand washing, bathing and cleaning kitchen utensils?	*piped water* *borehole* *protected dug well* *unprotected dug well* *protected spring* *unprotected spring* *rain water collection* *surface water (river/stream/pond/lake/dam)*	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
In the last 3 weeks has the water from this source been unavailable for use?	*yes* *no* *don't know*	☐ ☐ ☐
For how many days did you not have water?	…… don't know	
Which of the following hygiene practices are most hampered by lack of water	Washing hands before eating	☐

	Washing hands after eating Washing hands after defecating Washing hands after cleaning babies' bottoms Washing kitchen utensils Washing cloths bathing	☐ ☐ ☐ ☐ ☐ ☐
When you used soap today or yesterday, what did you use it for? (DO NOT READ THE ANSWERS, ASK TO BE SPECIFIC, ENCOURAGE "WHAT ELSE" UNTIL NOTHING FURTHER IS MENTIONED AND CHECK ALL THAT APPLY)	*washing cloths* *washing cooking pots or dishes* *washing my body* *washing my children* *washing child's bottoms* *washing my children's hands* *washing hands after defecating* *washing hands after cleaning child* *washing hands before feeding child* *washing hands before preparing food* *washing hands before eating* *Other (specify)……* *don't remember*	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
When is it important to wash your hands? (DO NOT READ THE ANSWERS, ENCOURAGE BY ASKING IF THERE IS ANYTHING ELSE UNTIL S/HE SAYS THERE IS NOTHING ELSE AND CHECK ALL MENTIONED)	*before preparing food or cooking* *before eating* *before feeding children* *after cleaning/changing baby* *after defecating* *after eating* *Other (specify)……..* *don't know* ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐

Thank You

Appendix two:

OBSERVATION GUIDE

Place the following observations at the end of the questionnaire. To avoid disrupting the flow of the interview do these observations after all questions have been asked.

TOILET FACILITY OBSERVATION: IF ANY TYPE OF PIT LATRINE

a) Are the holes covered?
Yes ☐ *No* ☐ *Not a pit latrine* ☐

b) Is there a place for hand washing in the toilet facility or within 10 meters?
Yes ☐ *No* ☐

c) The following items are present at the place for hand washing (Observe and check all that apply)

i.	*Water from tap or container*	☐
ii.	*Soap or detergent*	☐
iii.	*Ash*	☐
iv.	*Towel or cloth*	☐
v.	*Basin*	☐
vi.	*None of the above*	☐

d) Is there water?

INTERVIEWER: *check container and note if water is present*

Yes ☐ *No* ☐

BATHING FACILITY OBSERVATION: ANY TYPE OF BATHING SHELTER

a) Does the bathing shelter have a soak pit?
Yes ☐ *No* ☐

b) Is the inside clean and well leveled with aggregates or cement?
Yes ☐ *No* ☐

c) Is there a place for placing water container like a basin?
Yes ☐ *No* ☐

d) Is there a place for putting soap?
Yes ☐ *No* ☐

e) Does the facility have a door?
Yes ☐ *No* ☐

f) What is the general state of the shelter?
Well maintained ☐ *moderately maintained* ☐ *poorly maintained* ☐

PLATE DRYING RACK OBSERVATION:

i. Is it raised at least one meter above the ground?
Yes ☐ *No* ☐

ii. Are there any signs of being used regularly?
Yes ☐ *No* ☐

iii. What is the general status of the drying rack?

Well maintained ☐ *moderately maintained* ☐ *poorly maintained* ☐

RUBBISH PIT OBSERVATION

a) Does the household have a rubbish pit?

Yes ☐ *No* ☐

b) If yes, how far is it located from the house hold?

Less than 5 meters ☐ *5 meters* ☐ *10 meters* ☐ *more than 10 meters* ☐

c) How full is the rubbish pit?

Empty ☐ *Half full* ☐ *very full* ☐

End of observations and interview

Appendix Three:

INTERVIEW GUIDE

UGANDA MANAGEMENT INSTITUTE

Dear Sir/Madam,
This study is being conducted by a student of Uganda Management Institute, Kampala, towards the award of a Masters in management science degree in Higher Education Studies (project planning and management). The study concerns *"factors affecting sustainability of hygiene projects in rural communities".* Your views, ideas, observations, opinions and experiences as participant, beneficiary and stakeholder are therefore useful in this study. Please be assured that the data you will provide will be held confidentially.

Thank you

Date: ……

Interview Guide number: ……..

Sub county: …… parish: ……..

Name of enumerator: …… Start time: ……

End Time: ……

Name of Respondent: …….

Questions:

Beneficiary participation in technical trainings and sustainability of good hygiene practices

1) Have you ever participated in any hygiene trainings in the community?
2) If yes in what capacity?
3) Does participation by project beneficiaries in technical trainings have any benefits? And how beneficial is it?
4) In your own view, how does beneficiary participation in technical trainings lead to knowledge transfer, retention and ownership of promoted hygiene practices?

5) Do farmer exchange visits and group self-evaluation have any contributing effect on sustainability of promoted hygiene practices? And how?

Cultural practices and beliefs and sustainability of good hygiene practices

1. What are the common practices in this community concerning hygiene and sanitation?

    i. Of the practices mentioned which one of them promotes adoption of good hygiene and sanitation practices?

    ii. And of these mentioned which ones do not promote adoption of good hygiene and sanitation practices?

2. What are some of the cultural practices and beliefs that do promote adoption of good hygiene and sanitation practices and behaviour?
3. Which of these cultural practices and beliefs do not promote adoption of good hygiene and sanitation practices?
4. Which of these cultural practices and beliefs do we still practice in this community?
5. How have they impacted on hygiene and sanitation in our homes?

Household income and sustainability of good hygiene practices

1. Which economic factors can motivate people to adopt safe hygienic practices?

2. How has availability of household income influenced your ability to adopt good hygiene practices?

3. Which sanitation and hygiene products are easily accessible to you in your area? (Name them).

4. How has the current change in prices of these hygiene products affected your ability to purchase and use them?

Access to water and sustainability of good hygiene practices

1) In this community how easy is it to access water?
2) What are the major sources of water?
3) How safe are the water sources?
4) Which hygiene activities are most hampered in your household by lack of water?
5) To what extent has lack of water affected the following hygiene practices?

Washing hands before eating, Washing hands after eating, Washing hands after defecating, Washing hands after cleaning babies' bottoms, Washing kitchen utensils, Washing cloths and bathing

6) How has access to water affected adoption and sustainability of good hygiene practices in this community?
7) Which hygiene facilities do you have?

8) What encouraged you to construct them?
9) What are some of the factors hindering the adoption of good personal hygiene practices in this community?