

***Perceptions towards Water, Sanitation and Hygiene
among Communities***

in Chipinge District, Zimbabwe

By

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A research project submitted for the Master of Public Health Programme

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DECLARATION FORM

The work I have submitted is my own effort. I certify that all the material in this Research project, which is not my own work, has been identified and acknowledged. No materials are included for which a degree has been previously conferred upon me.

Signed

Date 12 June 2017

A handwritten signature in blue ink, appearing to read 'Regis Matimati', written in a cursive style.

Regis Matimati

The Abstract

Background: Chipinge District is one of Zimbabwe's most vulnerable districts. Cyclones, droughts, water and sanitation related diseases outbreaks occur very often and in response, several interventions including public health promotion have been run in Chipinge. However, the vulnerability tag seems stuck on the district. It is against this background that a qualitative study was carried out to ascertain the community perceptions on water, sanitation and hygiene in the most affected area and to assess the impact of public health promotion. This is hoped will inform interventions that should resolve the community vulnerability

Methodology A qualitative study using simple random selection of participants was done. Data were collected using participant interviews, focus group discussions and participant observations. Data were analysed using SPSS and the framework approach.

Results Meaningful community involvement and participation in public health programs increased community's perception of risk. 20% of the community knowledge, attitudes, and behaviour and practices changes relapsed within two years post intervention. Increased knowledge alone did not sustain the community changes as communities wanted more interventions and were dependent on government and donors for handouts. Knowledge need to be coupled with wealth to initiate and sustain health seeking changes.

Conclusion Community water, sanitation and hygiene will not sustainably improve where community involvement and participation is minimal and where community participation is reduced. Communities' perception of risk increases with knowledge. Their ability to sustain the changes depends on their ability to self-supply and not the dependency on free handouts from government and donors.

Index words

Water, Household water treatment, Water safety, Water storage, Behaviour change, General hygiene, sanitation, hygiene, hygiene promotion, health promotion, health seeking behaviour, behaviour change, attitudes, perceptions, Knowledge, attitudes and practices, WASH

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For this opportunity I am truly grateful to all.

Chapter 1: Introduction

Introduction

The study seeks to investigate Perceptions towards Water, Sanitation and Hygiene among Communities in Chipinge District, Zimbabwe. Knowledge of the villagers' perceptions will be used to inform public health interventions planned for the area. The study will also provide an evaluation of health and hygiene promotion interventions deployed in the area. Better understanding of the apparent poor uptake and compromised sustainability of water safety, improved sanitation and hygiene behaviour change interventions in the area will be made. Knowledge generated from this research will also be used to inform public health policy at national level on sustainability of the interventions.

The Chapter will state the background of the study, give the statement of the problem, elaborate the research questions, the significance of the study and delineate the area covered by the study. The chapter will also provide layout of the theoretical framework to be used for the study.

Background of the Study

Zimbabwe experienced a world record breaking cholera outbreak that affected 55 out of 62 districts resulting in 98,592 cholera cases and 4,288 cholera deaths by July 2009 with a crude fatality rate of 4.3% according to the Government of Zimbabwe (2009). Chipinge District was one of the most affected districts and public health promotion interventions by government and development partners which included water safety promotion, improved household and community sanitation and hygiene behaviour change were deployed to mitigate the cholera outbreak in the community. During the same period large investments were also deployed in support of safe water in the form of borehole drilling, water point protection, rehabilitation and repairs of boreholes. Sanitation infrastructure promotion and improvements were also done with government approving the incremental sanitation facility aptly named Upgradable Blair Ventilated Improved Pit toilet. Development agencies subsidised construction materials and following massive hygiene and sanitation promotion it is expected that some households self-supplied their own toilets.

Chipinge has, however, had numerous water and sanitation related disease outbreaks even though the preventive interventions have been deployed therein. On the other hand, Zimbabwe has continued to struggle with public health challenges as a result of natural disasters like floods (IFRC, 2013) that destroy infrastructure in some places, policy inconsistencies. For example, National policy pronounces clearly that the country will use Community Health Clubs for health promotion, yet big organizations do the opposite and experiment with other strategies and methodologies. Poor management of resources in the country has also not helped the situation. In 2011 the government of Zimbabwe adopted a National Sanitation and Hygiene Strategy (Government of Zimbabwe, 2011) and the National Water Policy (Government of Zimbabwe, 2013) and both enshrined in strategy and policy the Community Health Club (CHCs) approach as a means for driving participatory health and hygiene education in order to instil health and hygiene behaviour change in the communities both rural and urban. However, large scale interventions are not compliant to this strategy as enshrined in policy. A case in point is the UNICEF managed rural WASH program that did not take much cues from the National Policy on holistic interventions that address water, sanitation and hygiene but chose to strengthen sanitation using the Zimbabwe Community Approaches to Total Sanitation (ZimCATS) approach that was found wanting by two program evaluations (UNICEF, 2013 ; Anon 2016). The ZimCATS was piloted between 2011 and 2013 yet UNICEF ran a full scale of it from 2012-2016 before it was evaluated. Better compliance to policy could have adopted a tried and tested approach than to scale up a pilot and risking a poor Value for Money score.

The Community Health Clubs (CHCs) addresses the Social Determinants of health (Frieden et al, 2010; Rose et al. 2008) by creating a health seeking culture among communities (Waterkeyn and Waterkeyn, 2013) through creation of demand (Waterkeyn and Cairncross, 2011) for better health, improved hygiene and safe sanitation. Most implementing NGOs in Chipinge have joined government in participatory health and hygiene education and promotion. Some use CHCs methodology but some are still using the traditional public health promotion methods that gives health and hygiene education to community members at coincidental meetings like shopping centres, health institutions and other meeting venues. The proposed study community of the Save Valley have had either the CHC or the traditional health promotion messages. However, community perspectives

towards water, sanitation and personal hygiene have not been researched on therefore this research will provide valuable information needed for planning public health interventions.

The government and development partners have since been running various water, sanitation and hygiene interventions across the country and the Save Valley community of Chipinge District has to date had most of the interventions owing to sporadic disease outbreaks, water shortages, poor sanitation and being a hot low lying area with a perennial but silted large river that serves as a water source for some communities. This has indicated the vulnerability to water and sanitation related diseases. Katsi (2008), states that a targeted investment was made in improving district level coordination, training of women water pump minders, hygiene promotion, repairs of water points and construction of numerous sanitation facilities.

The study will also extend into the African region and across the world to familiarize the researcher with other writings in this regard. The cross-sectional survey will investigate the factors that predispose Chipinge District to vulnerability and to investigate the community perceptions on water, sanitation and hygiene practices. The study findings could help decision makers in planning public health promotion programs, water, sanitation and hygiene interventions in Zimbabwe.

Statement of the Problem

There has been several water, sanitation, health and hygiene promotion interventions in Chipinge and invariably the water and sanitation vulnerability and disease outbreaks and high prevalence (World Food Program, 2014) are always occurring in Chipinge. Chipinge was also found to one of the districts with the highest chronic and acute malnutrition (ZimSTAT, 2013). In 2016 the UN Humanitarian Needs overview (UN, 2016) cites Chipinge as one of the vulnerable districts that need constant monitoring for nutrition and water, sanitation and hygiene. The study seeks to establish the correlation between access to health and hygiene education and change in behaviour. It will also evaluate vulnerability and intervention program uptake by the communities.

Purpose of the Study

The topic proposes to investigate the community perceptions regarding water, sanitation and hygiene. It will also briefly look at interventions for clean water, safe sanitation and sustainable hygiene behaviour change in Chipinge District. Since the cholera outbreak mentioned above, a lot of public health interventions were directed towards this part of the district over the past 8 years hence the need to evaluate the feasibility of the health promotion interventions and the water and sanitation changes that have come resultantly.

To continue any intervention without stopping to assess how it is perceived by the beneficiaries and participants is only a waste of finite resources that could be used profitably elsewhere. If there are no changes as a result of the interventions deployed to date, one would like to find out why there is no change and try to modify the intervention to get maximum benefit. Some interventions are expensive as compared to their outcomes and impacts on the target community yet there are some that are relatively not so expensive but with far reaching outcomes. Information generated on this research will set the tone for continued growth and development of water, sanitation and hygiene programming modalities.

As argued by Merson et al. (2012), health promotion is a matter of social equity and justice, the study is aimed at investigating whether the interventions have been successful in modification of behaviour that results in disease prevention. Adaptations and adjustments will be recommended if the community perceptions reveal a missing link in the interventions used to date.

Walley and Wright (2010) argues that program planning should involve the program participants and beneficiaries as they are the most important stakeholders. The study will interview the program communities to assess their participation in water, sanitation and hygiene programs in their community. Participant Observations will be done to check on the practices. Water, hygiene and sanitation infrastructure that was set up over the 8 years of interventions will be assessed on their sustainability.

It is hoped this investigation will clearly streamline the interventions and the resultant changes that have come on the community. Their sustainability will be assessed

and this will contribute useful information to implementers, policy makers, program funders, and beneficiary communities themselves.

The research aims to identify the perspectives and attitudes towards water safety, sanitation and hygiene behaviour among the villagers of the Save Valley of Chipinge District in Zimbabwe. Knowledge of the perceptions and attitudes will be used to review and inform public health interventions currently on going and/or planned for the area. The study provides an evaluation of health and hygiene promotion interventions deployed in the area. This will provide an understanding to the apparent poor uptake and lack of sustainability of water safety, improved sanitation and hygiene behaviour change interventions. The knowledge generated from this research will also be used to inform public health policy on sustainability and value for money of the interventions.

Objectives

The objectives are the program targets which the study aims to attain. They should be Specific, Measurable, Achievable, Relevant and Time bound.

The study objectives are as follows;

- To identify the community perceptions towards water, sanitation and hygiene
- To identify factors that influence the sustained adoption of safe water and sanitation practices
- To save as baseline information for future water, sanitation and hygiene interventions in the area.
- To inform stakeholders on outcomes and recommendations that should be adopted for future interventions

Research Questions

According to Riva et al. (2012), the use of the PICOT model of developing the research question in order to emphasis the research question. P- stands for target population I- stipulates the *interventions* that will be implemented during the study, C- stands for *comparator* depicting whether the study will compare two or more interventions

of population groups, O- stands for *outcomes* of the study while T- stands for time in which the study will be conducted.

The research paper will explore the following:

What are the community perceptions towards water safety, sanitation and personal hygiene in Save Valley of Chipinge District in Zimbabwe?

Sub questions:

- *What changes have occurred following public health promotion in the area in the past 2 years?*
- *Are the program changes still evident 2 years post intervention?*
- *Do communities feel safe around their current water, sanitation and hygiene practices?*
- *What needs to change in community water, sanitation and hygiene?*

The research targets the population of Save Valley in Chipinge District of Zimbabwe, examining their perceptions towards water sanitation and hygiene. Several public health promotion interventions have been held in the study area even long before the Cholera outbreak of 2008 (WHO, 2008). Health seeking behaviour to health, hygiene, water and sanitation will be assessed during this study. This is an important research topic as water and sanitation related challenges continue to be substantially prevalent in Chipinge District in spite of the public health interventions (ZimVAC, 2016).

Hypothesis

The Study hypothesis is that communities will adopt positive health seeking perspectives to water, sanitation and hygiene if they attend several water, sanitation and hygiene (WASH) promotion sessions. The null hypothesis is that vulnerability remains high in spite of the several WASH promotion sessions attended by communities.

Theoretical Framework

According to Bandura (1986) in the Social Cognitive Theory Model, people are triggered to change their behaviour not by internal forces but by external triggers in a triad

comprising of behaviour, personal factors and environmental factors. He further urges that people will change if there are incentives for the change (Sharma & Romas, 2012). Perry et al. (1990) concurs with Bandura and postulates that the presence of social support and a supportive environment augments behaviour change.

Arjzen (1991) proffers the theory of Planned Behaviour. Armitage & Connor (2001), Grizzell (2005) concur that one needs to have a self-belief that they can change and values the outcome of the changed behaviour. One needs to have the intention to change and perceived control over the resources, opportunities and skills to change.

The Health Belief Model (Nisbet & Gick 2008: 297) is one model that influences change when individuals “...feel personally vulnerable to a health threat, view the possible consequences as severe, and see that taking action is likely to either prevent or reduce the risk at an acceptable cost with few barriers.”

The study seeks to explore the changes or lack thereof in the community following the public health interventions that have run in their communities. If any changes have occurred the study will explore the triggers and make recommendations depending on the needs on the ground. The study will also seek to establish which theoretical model has influenced the communities to have their obtaining attitudes and perceptions among the Health Belief Model, The Social Cognitive Model and the theory of Planned Behaviour models.

Nature of Study

In answering the research question, a qualitative study will be done to collect data using face to face interviews, focus group discussions and participant observations in the communities. White et al. (2016), proffers other methods like free-listing of priorities, water, sanitation and hygiene demonstrations, and pairwise ranking can be done to show the community perceptions. The questionnaires, focus group discussions and participant observations will investigate indicators for changed behaviour and practice specifically looking at household wealth, sanitation use, water coverage, and general hygiene at the household and community in relation to access to health promotion activities in the community.

Research Plan

According to Jacobsen (2014), the research plan can be a step by step process of carrying out the research which starts with choosing the research methodology. Questionnaires and other data collection tools will be developed and used to capture data on the community's perceptions on water, sanitation and personal hygiene. Subsequently this is followed by identifying participant recruitment procedures, selecting methods of collecting data and preparing the ethical review applications.

Selecting the Study Population

The Save Valley community catchment consists of 10 administrative wards laying along the perennial Save River that divides Chipinge from Chiredzi District.

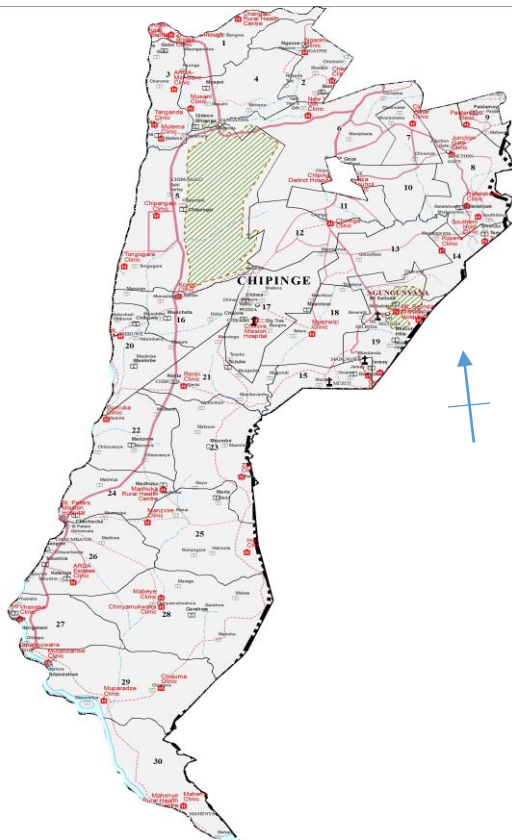


Figure 1 Map of Chipinge showing Save Valley (OCHA 2004)

Any of the nearly 27,000 households in the catchment area are eligible to participate in the study. However, the study respondents have to be 18 years of age (legal age of majority) and above. Any household member will be interviewed but they have to have

stayed in the area over the past 8 years since the cholera outbreak in order to be true representative of the study population in question.

Study Sample

Green (2013), states that the sample size should be a representative of the whole population of interest. The other argument for the sample size is that the aim of the study should determine the size of the sample. Green et al. (2005) propose enrolling 15 people per homogeneous communities. Guest et al. (2006) interviewed 12 participants per community in relatively homogenous communities and drew conclusions just from those. Mason (2010), argues that the sample size is based on saturation; a point at which data collected yields no new data, no new insights and no new properties. Charmaz (2006) concurs. Another determinant factor on sample size is the aim of the study, the resources available for the study, the time available for the study and the ability to analyse all the data that comes in from the sample. There will not be any benefit from collecting data that will not be utilised. Yin, (2011) sums it up stating that in qualitative research there is no set formula to calculate sample size but to use the factors discussed above by other writers. Baker and Edwards (2012) concurs. This is, however, different for quantitative research where scientific formulas to calculate sample sizes are available.

The researcher will do purposive sampling; recruiting interviewees who will provide appropriate data in the form of adult members of households who have lived in the community the past 8 years since the Cholera outbreak and have participated in the health programs. Community health workers and community public health promotion volunteers from the 10 administrative wards along the Save River will not be interviewed as they are too used to giving 'expected' answers as this would bring the 'Gate-keepers' bias where respondents give expected responses which may be different to their actual perspective and attitudes (Yin, 2011) . Triangulation between participant observation, interviews and focus group discussions in order to validate the data. The sample will draw in every nth household individuals from each community. The total sample size will be about 30 samples for ease of processing. 5 FGDs will be done at one per every second ward out of the 10 wards. All the interviewees will be observed for the hygiene indicators namely the availability of a household toilet, the ability of toilets to trap flies, cleanliness of kitchens and

surrounds, hand washing after using the toilet, cleanliness of toilet, refuse management through use of refuse bins in the yard, use of individual water cups, covered water storage containers, water treatment processes (why, when and how), and use of long handled water drawing ladles.

Cross-Sectional Survey Method

Cross sectional studies affords the data collection through participant observation focus group discussions and interviews. Data collection from a population is possible in various ways enabling triangulation to rule out or minimises biases as it ascertains that data collected is double checked for consistency and accuracy.

Another part of the research is systematic according to Jacobsen (2012), who posits that studies can look at reports in journals and other publications. Whaley and Webster, (2011) compared the outcomes of the Community Health Club versus the Community Led Total Sanitation. Whaley and Webster studied ten different communities across three districts which had one of the two methods. In this study the researcher intends to study 10 communities that have received public health promotion programs over the years but are still very vulnerable to water and sanitation related diseases.

Qualitative studies are very suitable for assessing the outcomes and effectiveness on social science interventions and are similar to program evaluation. (Jacobsen, 2012).

According to Jacobsen (2012), “.....a *cross-sectional survey provides a snapshot of the health status of a population at one point in time.....*”

Perceptions are subjective and are best measured through qualitative research design using the cross-sectional study to collect and reflect people’s opinions and beliefs.

Strengths and Weaknesses

According to Fielding (2010), as cited in Green (2013), the field of applied science benefits from qualitative research as case studies and significant change stories influence decision making more than statistical figures from a quantitative research. Qualitative data uses different data sets for validity and reliability demonstrations adding depth and breadth to the analysis. It also benefits from triangulation of data from focus group discussions,

interviews and participant observation and this is an inherent strength in qualitative studies. However, qualitative research lacks the concepts of coverages, rates and ratios. This is where quantitative research methods would complement qualitative studies used as 'mixed methods' according to Green (2013).

Other scientists argue that qualitative research is not scientific and choose to believe in 'realism and empiricism' (Green, 2013). However, recently scientists have opened up to qualitative research as it asks the important 'what, how, why, and when' questions of social science research. Green (2013) argues that qualitative methods enable transferability of results and this is concurred by Cartwright & Munro (2010).

Data Collection

Questionnaires with semi-structured interviews will be used to collect data and will be translated verbatim from the local language to English for coding. Analysis on the study will be done using the Framework analysis approach as proffered by Srivastava and Thomson (2009). The framework analysis helps to collect in-depth detailed data (Creswell, 2003) from the semi-structured interviews (Patton, 2002) which would then be interpreted. Smith and Firth (2011) concur that the Framework approach to qualitative social science research is a useful tool.

Data from the interviews, participant observations and focus group discussions will be collected as field notes, diaries and audio reports and entered onto the data analysis framework for processing. Data from literature review on the perceptions towards water, sanitation and personal hygiene will also be analysed using the framework approach (Balley, et al., 2004).

SPSS will also be used as an option for data collection and analysis

Data Analysis

The framework approach (Ritchie and Lewis 2003) will be used to analyse data. It takes the following stages:

1. Familiarisation- the researcher gets used to the data transcripts, understanding and appreciating the data collected in interviews, observations, group discussions.

2. Identifying thematic area- at this stage, Srivastava and Thomson (2009) posits that the researcher arranges the data according to emerging themes. Data dictates the themes. Data classification is not forced as it can be rearranged and reclassified later.
3. Indexing- further classification of data into themes and allocation of numerical values. Computer based data analysis systems like nVivo are used to record such data.
4. Charting- data is plotted on a chart in themes from original textual state into charts.
5. Mapping and interpretation- thematic charts are analysed for ranges, concepts will be defined and associations made. Perceptions are observed and recommendations are made by the researcher based on emerging information from the maps.

Appropriateness of Data Analysis

The framework analysis is appropriate as it can be repeated for validation. It is a transparent process of data analysis with logical stages that are linked as argued by Pope et al. (2000), Ritchie and Lewis (2003) and Braun & Clark (2006).

The framework is appropriate as it is based on accounts from the participants, it is flexible and it is adjustable during the process, is methodical, allows for methodical data treatment, is comprehensive and uses original data indicating transparency as espoused by School of Nursing and Midwifery, (2002); MORI Social Research Institute, (2003) and concurred by Archer, Maylor, Osgood & Read, (2005).

Presentation Strategies

Jacobsen (2014) states that research findings and reports can be presented as oral presentations in conferences or panels, as power point, posters or abstracts presentation and as write ups for publication in journals. The preparations are done for each type of presentation as the audience and platform determines the form of the dissemination. These platforms can be used to receive reviews and comments which they can use to refine their presentation before they are submitted to journals for publication. In the study community the results will be shared with the various study communities. However, care should be taken to de-individuate (removing participant identifiers) so that participants' privacy and confidentiality revealed.

Challenges in Data Interpretation and Inferences

Where collection and analysis are not done correctly there can be challenges in data interpretation mostly from inception. Yin, (2003) argues that the lack of validation and reliability where only one type of data collection method is used will influence the interpretation. Problems also arise if the research objectives were not clear as wrong interpretations can be made.

Ethical Implications

Green, (2013) states the ethical implications should be considered when dealing with research participants as:

Informed consent: the study participants will be informed about the study, the benefits from their participation, potential adverse effects and are invited to participate. Informed consent can be verbal, written or audio recorded. Participants can withdraw from the study at any time without giving reasons and no coercion should be used should they decide to quit.

Confidentiality: this is ascertaining that the participant information that was shared in the study of a personal nature will not be disclosed to non-relevant parties. Participants' private information from the study is only for the purposes of the study and not for public consumption and hence should be protected. In this study consent forms will be locked away separate from the questionnaires to avoid disclosure through leakages. The questionnaires are coded and no participant names recorded on any data so that it is not likely to be linked with the participant. Data collected in computers and other gadgets are kept under password lock and will only be destroyed after the university grades are out.

Vulnerable groups: there are special approvals that are supposed to be secured if a study is involving minors who cannot consent on their own, or those disabled physically or mentally. In this study, however, no vulnerable participants will be enrolled into the study as clear inclusion exclusion criteria will be listed. Vulnerable groups are protected by the law and only researchers with specialised training are allowed to include them upon securing special

permissions when the Institutional ethics review board ascertains that such a study of the vulnerable groups is absolutely necessary.

Cultural sensitivity: This is the other ethical risk encountered where a researcher intends to conduct a study in a cultural context they are not familiar with. Violations can result unintentionally where the investigator violates cultural sensitivities. Involving an appropriate familiar translator or translating questionnaires will help across the cultural barriers. In this study the researcher is part of the culture of the participants and therefore not barriers exist. However, the study questionnaires will be translated into Shona, the language and dialect of the participants.

The above ethical considerations are garnered from the University of Roehampton (no date)

Practical Considerations and Plan for Completion

Green (2013) and Jacobsen (2014) concur that data collection and analysis can present with potential challenges. Breach of ethical considerations, poorly trained staff, inadequate management of consent process resulting in participant coercion, physical violence, cultural barriers and illness for the researcher and recall bias when participants do not remember what happened in the past can all be challenges encountered by a research. Confidentiality breaches can also happen if participants' individual identifier data is kept together with their responses and information bias when different questions are asked different participants on the same study. To prevent these challenges, the researcher needs to adequately plan and test their research protocols, to submit the proposal for ethics review for guidance and to properly train all research support personnel.

Data interpretation can be a challenge if triangulation is not done to validate and verify the information. Careful data cleaning, management and processing will ensure credibility of the data. Using skilled interpreters is critical as some data can be lost to translation when spoken terms are used inappropriately.

Mitigating against Misinterpretation of data

Data misinterpretation can happen if it is not collected, coded and analysed properly. Missing data can compromise the study at collection point and the researcher must take note and consider that when entering the data as results can be drawn from

incomplete and inconclusive data. Double checking for completeness before data is recorded for analysis is recommended and data cleaning is important.

Definitions

The Independent variable- The variable that is stable and unaffected by the other variables being measured. It is the condition of an experiment that is systematically manipulated by the researcher and is presumed the cause of the change that is seen. In this study it is the health and hygiene promotion program which the community will need to describe during the interviews

Dependent variable- According to the USC Library Research Guides (no date) a **Dependent Variable is one that** depends on other factors that are measured. One that changes as a result of an experimental manipulation of the independent variable or variables to become the effect of the independent variable. In the study the dependent variable is the learnt health seeking practices, the behaviour that has been changed.

Hygiene Promotion- a planned approach of activities which encourages people to adopt safe hygiene practices and behaviours (World Bank no date)

Village Health Worker- a trained community public health volunteer

Assumptions

The study will proceed with the following assumptions:

- i. It is assumed the government and local community stakeholders will prioritize public health research. The community is often inundated with civil society organizations that give handouts and the moment they do not see the study as bringing immediate gains they may not support it. The researcher will do all possible to advocate for the role of research in community work as it generates information and new knowledge that will be used to improve current and future programs.
- ii. Responses given by respondents are a true reflection of the local people's view. It is also hoped that the respondents will offer truthful answers (Simoon, 2011) to the questionnaires and discussions during the focus groups. Participants often are not truthful if their privacy is threatened. The researcher will carefully explain and assure

participants of their confidentiality and anonymity so that they offer truthful responses.

- iii. It is also assumed that the sample of respondents selected was representative of the target population from which it was drawn.
- iv. The other assumption is that the sampling procedures used enabled respondents to have an equal chance of being selected to the sample.

Scope and Delimitations

The study will focus on investigating the perceptions of the people of the Save Valley of Chipinge District towards safe water, sanitation and personal hygiene. The respondents will be purposively selected to involve only adult household heads who have stayed in the community in the past ten years who have had encounter with public health promotion interventions following the cholera outbreak of 2008. Focus group discussions will involve opinion leaders, community leaders and other key informants who have lived in the community for over ten years as well. This affords to get a true representation of the opinions. Other issues that can emerge from the discussions apart from public health issues like water, sanitation, general hygiene, nutrition, and health and hygiene promotion will not be discussed in this paper (Leedy & Ormrod, 2010).

Significance of the Study

Understanding community attitudes and perceptions towards water safety, sanitation and hygiene will helping planning appropriate health and hygiene promotion as well and safe water and sanitation provision in the Save Valley and other places where the same could be applied. It helps gain local support for programs as communities will cooperate when they see that their needs are known and are being addressed. Continuous deployment of resources year in year out without significant changes is a waste of resources. Information generated can help in mitigating the negative attitudes and perceptions held towards the water, sanitation and hygiene programs. Public expenditure will hopefully be reduced when there is value for money programming. Findings of the study

will facilitate the academic thesis which would be referred to by students, scholars and researchers with interests in similar or related studies.

Summary of the Study

The qualitative study will interview key informants, hold focus group discussions with stakeholders and program beneficiaries as well as conduct participant observations in the delaminated area. The questions asked and observations noted by the study will highlight the community perspectives towards water safety, sanitation and personal hygiene among the Save Valley community who have in recent years have had repeated outbreaks of water and sanitation related diseases and resultantly a lot of public health interventions have been deployed in that community by both government and development partners.

Chapter 2: Literature Review

Introduction

Chipinge District has had several water, sanitation, health and hygiene promotion interventions over the past ten years but the district continues to be highly prone to water and sanitation related disease outbreaks. The water borne and water washed diseases are always in high prevalence (World Food Program, 2014) in the district. According to ZimSTAT (2013), Chipinge is one of the districts with the highest chronic and acute malnutrition. In 2016 the UN Humanitarian Needs overview (UN, 2016) cited Chipinge as one of the priority districts that need constant monitoring for nutrition and water, sanitation and hygiene. This is an important research topic as water and sanitation related challenges continue to be prevalent in Chipinge District even though several public health interventions have been run in the area (ZimVAC, 2016).

The study seeks to establish the correlation between access to health and hygiene education and change in behaviour. It will also evaluate vulnerability and intervention program uptake by the communities. The study will also assess the impact of health and hygiene promotion in the district.

This chapter will review literature from studies done elsewhere on community perceptions towards water, sanitation and hygiene. It will try to understand other studies related to the study of the variables; knowledge, attitudes and practices towards water, sanitation and hygiene in other parts of the world and try to learn from them on the outputs, outcomes and impacts of water, sanitation and hygiene interventions. The literature review will also look at how the literature reviews were done on the other studies. The chapter will also look at the conceptual and theoretical frameworks that guide the studies. The review will also price out the strengths and weakness inherent in the literature review.

Library Databases and Search Engines

The search was conducted in February 2017 looking at online databases: Medline, Global Health and Embase (through Ovid SP), Web of Knowledge, Africa Wide Information ResearchGate, Medline, PLoS medicine and PubMed Central. Also included are

bibliographies and peer reviewed journals of recent reviews hand-searched for additional references.

Key Search Terms

The key search terms are;

- water,
- Household water treatment
- Water safety
- Water storage
- Behaviour change
- General hygiene
- sanitation,
- hygiene,
- hygiene promotion
- health promotion,
- health seeking behaviour
- behaviour change,
- attitudes
- perceptions
- Knowledge, attitudes and practices
- WASH

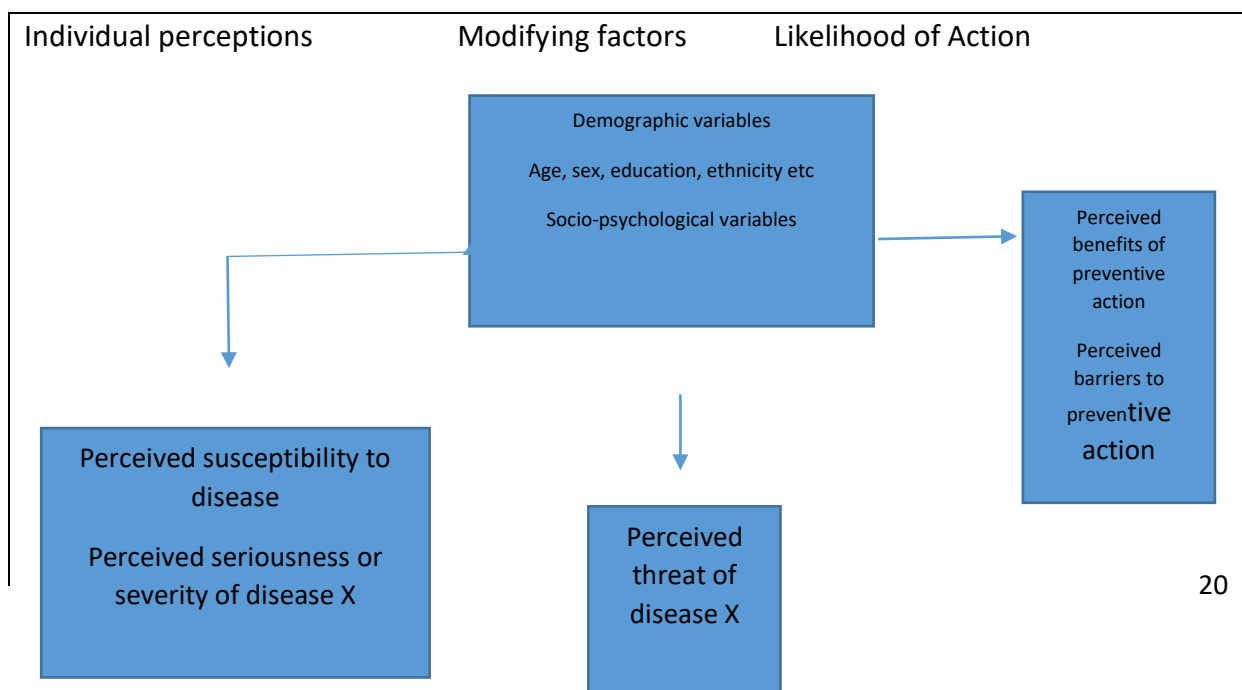
Scope of Literature Review

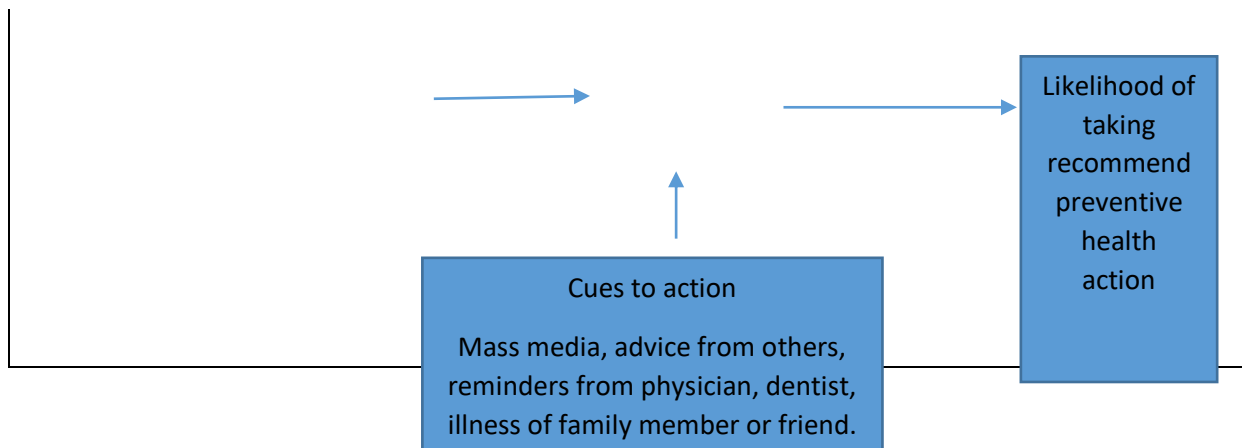
The literature reviewed in this article is mainly peer reviewed articles, published academic researches, action researches, presentations at conferences and seminars from 2012-2016. The literature covers work related to hygiene behaviour change, studies on knowledge, attitudes and practices related to water, sanitation and hygiene behaviour change. While there is not much recent literature covering the subject on Zimbabwe, efforts were made to review literature related to the subject from across the world.

Theoretical Foundation

According to Gelaw et al. (2013), the theoretical foundation in the Health Belief Model (HBM) integrates people’s knowledge, perceptions, attitude and practices to a disease in establishing trends of infection. It argues that people’s perceptions influence their health behaviour. Jones et al. (2015) concur and posits that messages will achieve optimal behaviour change if they successfully target perceived barriers, benefits, self-efficacy, and threat. The research target communities have had several encounters with public health promotion and have also experienced several public health disease outbreaks. Where communities see the threats in poor sanitation practices, in unsafe water and poor personal hygiene they should be able to change by adopting health seeking practices. Where they do not change the reasons could be around their perceptions of risk or the barriers that inhibit the change. The study seeks to find the relationship between the public health promotion that has happened over the years in the target community and the outcomes and impacts on the community. Personal knowledge and perceptions towards water safety, sanitation and hygiene will be assessed based on the existing or perceived barriers to positive and health seeking behaviour change in Chipinge. The behaviour change inhibiting barriers will be explored and identified. According to Orji et al. (2012) the original goal of the Health Belief Model was to focus the effort of researchers aiming to improve public health by understanding why people do not take preventive measures to health promotion.

Table 1. The Health Belief Model Diagram





Basic elements of the Health Belief Model

Image From: http://currentnursing.com/nursing_theory/health_belief_model.html

Rationale of the Theory

The rationale of the theory is that knowledge informs practices and repeated practices become habit. Behaviour change is influenced by personal beliefs and the four constructs; perceived seriousness of disease, perceived susceptibility, perceived benefits of behaviour change, and perceived barriers to behaviour adoption inform the level of change. The research is assessing the community attitudes to water, sanitation and hygiene and the best model to look at is the health belief model on this case.

Strengths of the Health Belief Model

Community participation is a strong asset of this health belief model study. It has an advantage too that asking the questions and participation in the focus group discussion will act as a preventive health action cue to action (Jones et al. 2015) thereby reducing diseases as it serves to remind communities of the correct practices.

Weaknesses of the Health Belief Model

The study will look at a long period of preventive programming hence risking the recall bias. Mubarak et al (2016) cites reverse causation as another weakness where households adopt health seeking practices due to an illness in the family and not through

health promotion. Such a practice change can falsely be attributed to health promotion. The study using the Health Belief Model can also give anecdotal evidence as there is not going to be any water quality testing. Sometimes the environment may be not conducive to health behaviour adoption like in resource constrained communities. Reported illnesses will not have anything to do with knowledge, attitudes and perceptions but related to the socio economic factors like the availability of water treatment technologies and sanitation technologies.

Literature Review

Dreibelbis et al. (2013), in a systematic review of several literature found out that promotion of low-cost water, sanitation, and hygiene technologies at the individual, household, or community-level combined with hygiene promotion is a key strategy for reducing diarrhoeal diseases in resource poor settings and significantly contributed to global health. The study recommended an Integrated Behavioural Model that combined behaviour change and low cost water, sanitation and hygiene technologies as a way of sustaining the learnt practices. The model looked at individual, household, community and societal levels of behaviour change factors. For each of the levels the model also looks at the context, the psychological and technological factors that promote or inhibit behaviour change. However, the contention has been on sustainability of the health promotion.

Table 2. The IBM for water, Sanitation and Hygiene

Levels	Contextual factors	Psychosocial factors	Technology factors
Societal/Structural	Policy and regulations,	Leadership/advocacy,	Manufacturing, financing, and
Community	Access to markets, access to resources,	Shared values, collective efficacy,	Location, access, availability,
Interpersonal/Household	Roles and responsibilities,	Injunctive norms, descriptive norms,	Sharing of access to product,
Individual	Wealth, age, education,	Self-efficacy, knowledge,	Perceived cost, value,

Habitual	Favorable environment for	Existing water and sanitation habits,	Ease/Effectiveness of routine
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Source: Dreibelbis et al. (2013)

In a related publication, Dreibelbis et al. (2016) experimented with erecting hand wash facilities in two rural Bangladesh schools with 734 pupils where at baseline only 4% of the children washed their hands after toilet use. Upon adding cues to action 68% of the children using the toilets were observed washing their hands. With addition cues at 6 weeks 74% of the children using the toilet were observed washing their hands. This shows that sustained efforts at giving nudges or cues to action brought about the health seeking behaviour. This is concurred by Florez (2013) who postulated that behaviour change results from protracted messaging and the availability of enabling infrastructure.

Approaches to Health and Hygiene Promotion

The United Nations Decade for Water (2005-2015) (United Nations Department of Economic and Social Affairs- UNDESA, 2016) has recently been replaced by the Sustainable Development Goals (SDGs). Goal number 6 of the SDGs is a dedicated water and sanitation improvement goal showing how critical safe water and proper sanitation are in communities the world over. Centres for Disease Control (CDC) (2014) has come up with a list of minimum hygiene practices to be followed and requirements to be observed to minimise the spread of disease in acknowledgement of the critical role of hygiene in disease prevention and control. Safe water use, adequate sanitation and correct hand washing are the key critical factors in ascertaining and sustenance of personal hygiene and health.

The Zimbabwe Demographic and Health Survey (Zimbabwe National Statistics Agency, 2011) states that 70% of the population in rural Zimbabwe have access to safe water. However, the access to safe water is an assessment of water point safety and not point of use safety. The study will seek to establish community understanding of the water safety chain from the water source to the point of use. Owa (2013) states that water can be contaminated by animal waste, mining, herbicide, pesticide and fertilizer contamination among a host of other potential contaminants and human handling. These, according to

Owa, will result in human and animal diseases (Owa, 2013). Water safety perceptions among the study population will be evaluated through the questionnaires and focus group discussions. The research will only look at community perspectives towards water safety but will not be able to test the water for micro-biological and chemical quality tests as this is outside the scope of this qualitative research.

Community Health Clubs versus Community Led Total Sanitation

In a study in Zimbabwe that compared two hygiene promotion Community Health Clubs versus Community Led Total Sanitation in Zimbabwe, Whaley and Webster (2011) found out that knowledge about disease alone was not enough, behaviour change required other motivational factors like the ability to construct toilets. A number of challenges to sustainability were identified, with the capacity of a community to move up the sanitation ladder, and the need to periodically reinforce the sanitation messages and motivate good practices over a period of time proving especially important. Whaley and Webster found out that public health promotion through the Community Health Clubs achieved important goals as compared to Community Led Total Sanitation that offered a brief change that could not be sustained over a period of time. Hygiene behaviour practices of hand washing was only evident in the Community Health Club communities whereas in the Community Led Total Sanitation the emphasis was on sanitation infrastructure construction that was not accompanied by hygiene practices change on hygienic use of the infrastructure, hand washing and the permanency of infrastructure as communities ended up building low cost makeshift toilets that collapsed with the next rain season. Community led total sanitation missed the important points raised in Integrated Behaviour model (Dreibelbis et al. 2013) that brought together hygiene promotion messaging and health and hygiene enabling infrastructure construction . This therefore shows that each intervention model has its own strengths and weaknesses that influence community perceptions. The study (Whaley & Webster, 2011) clearly indicated that latrine construction is closely correlated with disposable income and therefore programs should incorporate the two together to sustain the community water and sanitation programs.

The Community Health Club model is a Health Belief Model that promotes holistic community development initiatives as it covers a wide array of public health topics like safe

sanitation, safe water chain, safe food chain, dietary diversity and healthy and hygienic homes and public health diseases like malaria, bilharzia, skin diseases and respiratory tract infections which are equally important in Zimbabwe. Community Health Clubs cover broader public health issues as compared to other health promotion methodologies as it addresses the individual, the household, the community and the society as a whole and does not just cover water, sanitation and hygiene. The study will investigate community perceptions towards water, sanitation and hygiene as influenced by Community Health Clubs and several other methods of health promotion like the traditional participatory health and hygiene education. The Sanitation, Hygiene, Infant Nutrition Efficacy (SHINE) project (Humphrey, 2015) shows that the biggest challenge facing children under the age of 5 years in Zimbabwe is sanitation related and not nutrition related as commonly previously believed. The study is showing that environmental enteropathy causes stunting. This is concurred by Cairncross (2013) and Prendergast et al. (2014), Dangour et al., (2013) and Spears, (2013) who also found the intricate relationship between nutrition and water, sanitation and hygiene. The research will inform policy as sanitation perceptions are predetermining the children's future as stunting is irreversible once it sets in according to Ngunjiri et al. (2014) and Mbuya et al. (2016). In studies recently conducted in Zimbabwe, malnutrition was found to be pre-disposed by lack of proper sanitation and general hygiene. Based on the findings of the SHINE project, it can be extrapolated that negative perceptions, and practices towards water safety, sanitation and hygiene (Hulland et al. 2015) in Chipinge are responsible for the continued vulnerability of the community to compromised nutrition where 41% (Duncalf, 2015) of the children in Chipinge under the age of 5 years are stunted; the worst in Zimbabwe where the national figure is 28.2% (ZimVAC, 2016).

Similar studies done elsewhere agree that malnutrition is as a result of poor access to safe water, sanitation and hygiene (Cumming & Cairncross, 2016). This shows the importance of safe water, sanitation and improved hygiene to communities as perceptions inform practices. Rosenfeld et al. (2013) postulates that improved hygiene becomes a household safety net against water and sanitation related diseases. Where household hygiene index was higher there was a significant reduction of communicable diseases through the improved management of waste, general cleanliness of households, and hand washing.

Other studies

According to Rabbi and Dey (2013) there is a notable difference between self-reported practices knowledge. In a Bangladesh study, overall 95% respondents reported that hand washing is essential before taking food whereas 8% of them washed their hands with soap in baseline which increased in midline to 20% and in end-line to 22%. The Chipinge study would like to check for this anomaly as well. A similar study in Bangladesh, however, showed a difference in that knowledge increased practices and practices into habit (Akter and Mehrab, 2014). In Nigeria, Asekun-Olarinmoye et al. (2014) found that hand washing practices improved with age and education.

Summary and Conclusion

This cross sectional study will use the Health Belief Model and the Integrated Behaviour Model to look at individual, household, community and societal variables namely knowledge, attitudes and practices towards water, sanitation and hygiene in Chipinge community. Several studies before it have shown contrasting findings; sometimes showing that knowledge improves practices and at times showing that in spite of the community knowledge, practices remain low or slightly improved. While behaviour change is expected to sustain after exposure to knowledge, it is not clear why there is remission. The study seeks to identify the causes of regression in learnt behaviour. It also seek to identify the triggers or regression as well as propose the pillars of reinforcement of learnt practices that inform people's attitude towards safe water, safe sanitation and positive attitude and behaviour.

Chapter 3: Research Methodology

Introduction

The chapter will focus on clarifying the research design and the rationale of the research. It will re-state the research questions, outline the research plan, the study population and the study sampling. Ethical procedures are outlined as well as data

collection, analysis and management. The study variables that will be cross analysed and the threats to validity will be discussed. An exit pan and study constraints will also be mentioned.

Research Design and Rationale

A qualitative, analytical, cross sectional study (Green 2013) will be carried out using simple random selection of respondents from 10 wards of the study area. Questionnaires, focus group discussions and participant observations will be done on the respondents and data will be collected and inputted into SPSS for analysis. The Framework analysis approach as postulated by Ritchie (2013) will be used to analyse the data. The study aims to assess the various factors that might influence adoption of health and hygiene practices, the mediating variables that inform knowledge, attitudes and practice of water safety, sound sanitation and general hygiene among the people of Chipinge. The knowledge generated seeks to influence the practice of health and hygiene promotion in Zimbabwe and to influence health and hygiene policy so as to target the scarce public health resources more effectively.

Methodology

To answer the research question a qualitative study will be carried out to collect data using semi structured interviews, focus group discussions and participant observations of the communities. According to White et al. (2016), other methods like free-listing of priorities, ranking and water, sanitation and hygiene demonstrations can be done to show the community perceptions and attitudes.

Research Plan

According to Jacobsen (2014), the research plan can be a step by step process of carrying out the research which starts with choosing the research methodology. Questionnaires and other data collection tools will be developed and used to capture data on the community's perceptions on water, sanitation and personal hygiene. Subsequently this is followed by identifying participant recruitment procedures, selecting methods of collecting data and preparing the ethical review applications.

Selecting the Study Population

The Save Valley catchment area consists of 10 administrative wards that lie along the perennial Save River that divides Chipinge from Chiredzi District.

Any of the households in the catchment area are eligible to participate in the study.

However, the respondents have to be over 18 years of age (legal age of majority), any adult household member will be interviewed but they have to have stayed in the area over the past 8 years since the cholera outbreak in order to be true representative of the study population and to have had an opportunity and exposure to health and hygiene promotion activities in the area.

Study Sample

The study will use a Systematic Random Sampling. From the village registers available with the 10 Village Health Workers in the area that have average of 2500 households who participated in public health promotion activities during the previous years, the researcher will select 30 households. To get the representative sample the researcher will aim to interview 3 participants per village ($3 \times 10 = 30$). The researcher will divide the number of households by 3 to get the replication (k). For each ward the researcher will generate a random number from the first household to the nth household and then pick 3 households after every (k) replications. This makes it possible to pick 3 households per village. This, according to Green (2013), will be a representative of the whole population of interest as it makes it possible to reach saturation of responses in a qualitative study.

The study will triangulate between participant observation, interviews and focus group discussions in order to validate the data. 10 FGDs (one per ward) will be held. Household questionnaires will be administered on 30 respondents. All the interviewees will be observed for the hygiene index indicators namely the availability of a household toilet, hand washing after using the toilet, cleanliness of toilet, the ability of toilets to trap flies, cleanliness of kitchens and surrounds, refuse management through use of refuse bins in the yard, use of individual water cups, use of long handled water drawing ladles, covered water storage containers, water treatment processes (why, when and how).

Informed Consent

Sensitization meetings will be held with the community gate keepers and opinion leaders to get their buy-in. Respondents and participants will be given a consent form that explains the research and their participation will be asked for. The researcher will explain the study and the benefits of participation. Once they agree they will be asked to sign the consent form. Non consenters will not be enrolled into the study and they will not be coerced or forced to justify their refusal. Participants can withdraw from the study at any time without explaining or justifying their reasons.

Data Collection

Questionnaires with semi-structured interviews will be used to collect data and will be translated verbatim from the local language to English for coding. Analysis on the study will be done using the Framework analysis approach as proffered by Srivastava and Thomson (2009). The framework analysis helps to collect in-depth detailed data (Creswell, 2003) from the semi-structured interviews (Patton, 2002) which would then be interpreted. Smith and Firth (2011) concur that the Framework approach to qualitative social science research is a useful tool.

Data from the interviews, participant observations and focus group discussions will be collected as field notes, diaries and audio reports and entered onto the data analysis framework for processing. Data from literature review on the perceptions towards water, sanitation and personal hygiene will also be analysed using the framework approach (Balley, et al., 2004).

SPSS will also be used as an option for data collection and analysis

Data Analysis

The framework approach (Ritchie and Lewis 2003) will be used to analyse data. It takes the following stages:

6. Familiarisation- the researcher gets used to the data transcripts, understanding and appreciating the data collected in interviews, observations, group discussions.

7. Identifying thematic area- at this stage, Srivastava and Thomson (2009) posits that the researcher arranges the data according to emerging themes. Data dictates the themes. Data classification is not forced as it can be rearranged and reclassified later.
8. Indexing- further classification of data into themes and allocation of numerical values. Computer based data analysis systems like nVivo are used to record such data.
9. Charting- data is plotted on a chart in themes from original textual state into charts.
10. Mapping and interpretation- thematic charts are analysed for ranges, concepts will be defined and associations made. Perceptions are observed and recommendations are made by the researcher based on emerging information from the maps.

Even when data have been collected using well defined procedures and standardized tools, they need to be checked for any inaccurate or missing data. This is known as data cleaning (Peersman, 2014), and it also involves finding and dealing with any errors that occur during the writing, reading, storage, transmission or processing of computerized data.

Data will be kept confidential under password lock and hard copies locked away from the identifier data like consent forms. Should there be adverse events related to the study the aggrieved parties will approach the researcher using the telephone contacts provided or the local public health department of the researcher is not available. Adverse events will be investigated and corrective management instituted. However, in this no invasive study, no adverse events are anticipated. Data will be kept in confidence by the researcher for the duration of the study and will be destroyed soon after the research is marked by the University.

Research Variables

According to Regoniel (2012), variables are those simplified portions of complex phenomena that can one intends to study which change in amount, volume, number, form, type and nature. These variables can be measured through counting or to being subjected to a scale. This breaking down of complex phenomena to small manageable characteristics makes research possible. In this study that seeks to understand the community attitudes

and perspectives to safe water, sanitation and general hygiene, the variables that can be used to study are as follows and will be coded:

- Water Sources
 - protected/unprotected
- Water treatment (if source is not protected)
 - No treatment
 - sieving
 - Treatment –boiling, chemicals,
- Water transportation (container/vessel)
 - water carried in a wide open mouthed container without a lid
 - water carried in a narrow mouthed container without a lid
 - water carried in a covered / closed container
- Water storage
 - water stored in an open wide container/without lid
 - water stored in an open-narrow mouthed container without lid
 - water stored in a container with a lid
- observed container cleanliness
- use of individual water drinking cups
- presence of water drawing ladle
- kitchen hygiene
- leftover food exposed to flies
- presence of chicken poop in the kitchen floor
- refuse pits
- pot racks
- presence of latrine
- cleanliness of latrine
- presence of faecal matter in the environment
- number of hand washing stations
- presence of detergent for hand washing
- litter free environment

- general household hygiene
- general personal hygiene
- episodes of diarrhoeal diseases in the past six months
- household wealth
- household head level of education
- religion
- belonging to social groupings
- benefiting from WASH handouts
- duration of stay in neighbourhood
- sources of health information

The study will analyse the variables comparing access to health and hygiene education to the outcome variables above. Communities' perception of risk to water and sanitation related diseases will be assessed as evidenced by their uptake of the changes that are expected following public health promotion.

Independent and Dependent Variables - Independent variables are those that cause a change in the dependent variables. For instance, the independent variable (number of health promotion sessions held) is likely to affect the dependent variable (number of diarrhoeal episodes per year). In this study, the independent variable (exposure to health and hygiene promotion) should be evident in the adoption of health seeking behaviour like clean households, practice of safe water and safe sanitation (dependent variables).

The Study variables are as follows:

Independent Variables- Participation in health and hygiene promotion activities

Dependent variables -The outcome practices, knowledge and attitudes that result from the increase health and hygiene knowledge as evidenced by;

- Adoption of safe practices like drawing water from safe sources,
- practicing household water treatment,
- construction and safe use of sanitation facilities
- Practice of improved general hygiene

Mediating variables- A variable that explains a relation or provides a causal link between other variables. Levels of education can influence levels of understanding of hygiene promotion. In this case the study will try and identify the relationship between the respondents' knowledge, attitudes and perceptions of health and their level of education. The study will also try to figure out the relationship between wealth and the practice of erecting toilets as the poor might find it difficult to construct sanitation facilities as compared to the affluent.

Threats to Validity

The threats to internal validity include testing instrumentation (Mohammed Ali Bapir, 2017). To address this issue the testing tool will be designed in a way that maximize validity and reliability of the instrument. The study will also select respondents that are above the age of 18 to address the issue of maturation. The study may conclude that there is no association between knowledge and practice and to address this threat systematic random sampling will be used to select respondents and the instrument used for data collection will be reliable and valid.

Exit Procedures

Upon completion of data collection, respondents will be asked if they have any questions related to the study to which answers will be provided. Benefits of participating in the study will be highlighted once more as a contribution to knowledge that would be used to improve programming. Participants will be thanked for their participation. Should there be particular water, sanitation and hygiene related enquires the participants will be referred to the local public health professionals. Assurance for confidentiality and privacy of their information will be reassured.

Study Resources Constraints

As an academic study by a working student, time will be a constraint. However, the student proposes to take time off work for the duration of the action research in the field. Enough travel and other expenses have been set aside to cover the field work. The student is comfortable with the study community language and ethos and that works better in lessening the communication barriers and mobilising for participation in the research.

Summary

The study will select a sample of 30 participants from the 10 communities using simple random sampling. Focus Group Discussions will be held with key informants, 30 Individual household questionnaires will be administered to adult household respondents at the homes. Households and participants will be observed for the health and hygiene indicators. Data will be collected and entered into SPSS for analysis.

Chapter 4: Findings, analysis and evaluation

Introduction

The study aims at identifying the community perspectives towards water safety, sanitation and hygiene behaviour among the villagers of the Save Valley of Chipinge District in Zimbabwe. The study question is: What are the community perceptions towards water safety, sanitation and personal hygiene in Save Valley of Chipinge District in Zimbabwe?

The Sub questions are:

- What changes have occurred following public health promotion in the area in the past 2 years?
- Are the program changes still evident 2 years post intervention?
- Do communities feel safe around their current water, sanitation and hygiene practices?
- What needs to change in community water, sanitation and hygiene?

The Study hypothesis is that communities will adopt positive health seeking perspectives to water, sanitation and hygiene if they attend several water, sanitation and hygiene (WASH) promotion sessions. The null hypothesis is that vulnerability remains high in spite of the several WASH promotion sessions attended by communities. The study will use the Pearson Chi-Square test to test the hypothesis. The Chapter will present how the data was collected, the results including the hypothesis tests and a summary of the findings. The rest of the analysis will be attached in the Annex section at the end.

Data Collection

Data were collected through 30 individual household questionnaires, 5 Focus Group Discussions and 30 household participant observations across the 10 communities. Data were collected over a period of two weeks and this included notification of local leadership, participant recruitment, data collection (questionnaires, participant observation and Focus Group Discussions) Data were also entered daily on SPSS at the end of every day until all cases were uploaded. There was an eligible respondent at all the 30 households and that made questionnaire administration easier. A total of 50 respondents were invited for FGDs but only 43 attended the 5 FGDs. However this did

not affect the sample size as each of the 5 had average of 7 participants which is a good number for FGDs. Observations were done at the same households where questionnaires were administered. Random probability sampling was used to enroll 3 respondent households from about 100 eligible households in each of the 10 communities. This ensured saturation in a qualitative study as espoused by Green (2013).

Descriptive and Demographic Characteristics of the Sample

	N	Minimum	Maximum	Mean	Std. Deviation
Age	30	29	69	46.27	10.024
How many cattle do you have?	30	0	6	2.43	1.888
How many goats do you have?	30	0	14	5.67	2.796
How many chickens do you have?	30	7	38	19.80	9.000
How many health promotion sessions did they attend	30	1	20	11.63	8.194
How many people are in your household?	30	2	7	4.33	1.348
NET	30	104	657	391.73	172.225
Valid N (list wise)	30				

Table 3: Descriptive statistics of the data collected.

Basic Analyses of the Variables

1. Question: Are there changes that have occurred following public health promotion in the area in the past 2 years?

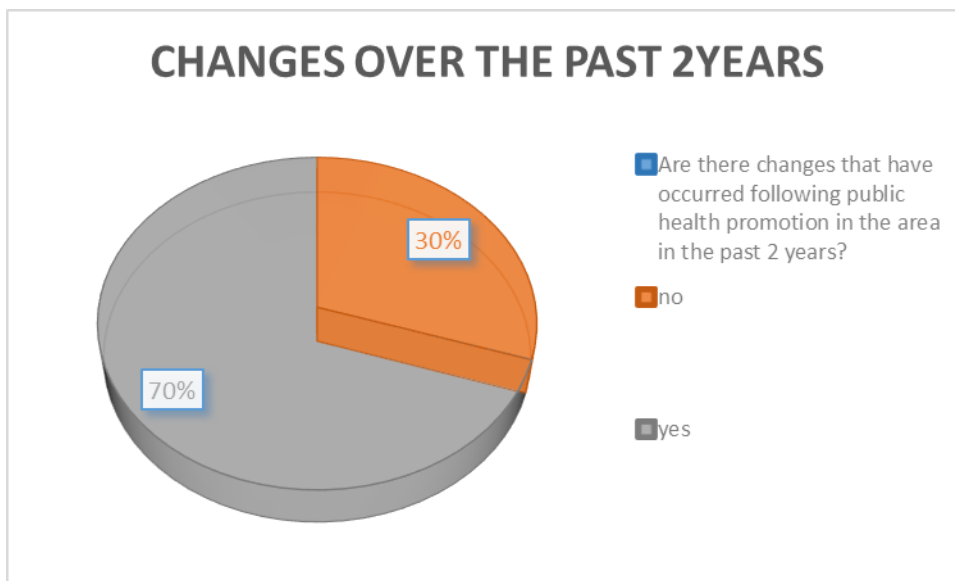


Figure 2: Community reported Changes following hygiene promotion

Figure1 shows the response to changes over the past 2years 70% have seen a change following public health promotion.

2. Are the changes still evident 2 years post intervention?

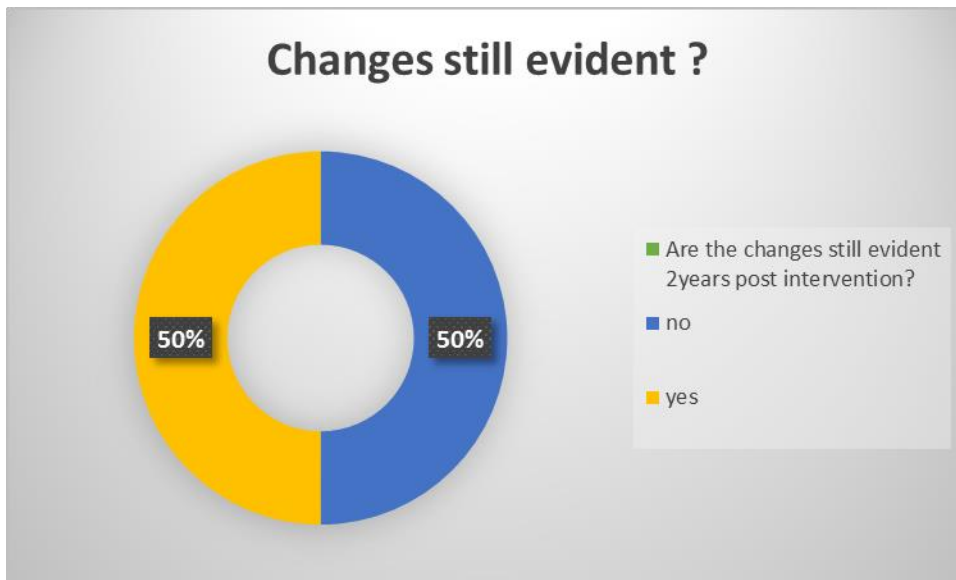


Figure 3: Sustainability of Changes over a 2 year period

Figure 2 shows the response to changes that are still evident 2 years post intervention. 50% still see evident changes 2 years post the intervention.

3. What needs to change in community water, sanitation and hygiene?

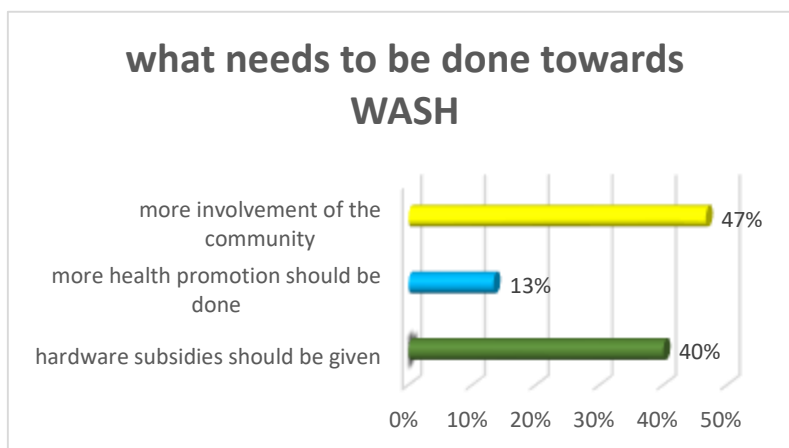


Figure 4: Graph representation of what needs to change

Table 1

Responses		Frequency	Percent
1	hardware subsidies should be given	12	40.0
2	more health promotion should be done	4	13.3
3	more involvement of the community	14	46.7
	Total	30	100.0

Table 4. Community perspective on what should be changed

Table 1 show responses on what respondents think should change in community water, sanitation and hygiene programs in their communities?

Hypotheses Testing

The Study hypothesis is that communities will adopt positive health seeking perspectives to water, sanitation and hygiene if they attend several water, sanitation and hygiene (WASH) promotion sessions. The null hypothesis is that vulnerability remains high in spite of the several WASH promotion sessions attended by communities

Hypothesis 1

Null Hypothesis: There is no association between the number of sessions attended and positive health seeking perspectives to water

Alternative Hypothesis: There is an association between the number of sessions attended and positive health seeking perspectives to water

Test statistics

Pearson Chi-Square P-value

Sessions attended * Do you treat your drinking water? Cross tabulation

Count

		Do you treat your drinking water?		Total
		No	Yes	
sessions attended	light health promotion	14	1	15
	standard health promotion	1	14	15
Total		15	15	30

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22.533 ^a	1	.000	.000	.000
Continuity Correction ^b	19.200	1	.000		
Likelihood Ratio	26.893	1	.000		
Fisher's Exact Test					
Linear-by-Linear Association	21.782	1	.000		
N of Valid Cases	30				

Decision Rule

Reject the null hypothesis if the p-value is less than 0.05.

Conclusion

Since the Pearson Chi-Square P-value is 0.00 is less than 0.05, there is enough evidence to reject the null hypothesis and conclude that there is an association between the number of sessions attended and positive health seeking perspectives to water.

Hypothesis 2

Null Hypothesis: There is no association between the number of sessions attended and positive health seeking perspectives to sanitation.

Alternative Hypothesis: There is an association between the number of sessions attended and positive health seeking perspectives to sanitation.

Test statistics

Pearson Chi-Square P-value

Sessions attended * Is the toilet floor clean (free of rubbish, faeces & urine)?

Cross tabulation

Count

		Is the toilet floor clean (free of rubbish, faeces & urine)?		Total
		No	Yes	
sessions attended	light health promotion	12	3	15
	standard health promotion	3	12	15
Total		15	15	30

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.800 ^a	1	.001		
Continuity Correction ^b	8.533	1	.003		
Likelihood Ratio	11.565	1	.001		
Fisher's Exact Test				.003	.001

Linear-by-Linear Association	10.440	1	.001		
N of Valid Cases	30				

Decision Rule

Reject the null hypothesis if the p-value is less than 0.05.

Conclusion

Since the Pearson Chi-Square P-value is 0.001 is less than 0.05, there is enough evidence to reject the null hypothesis and conclude there is an association between the number of sessions attended and positive health seeking perspectives to sanitation.

Hypothesis 3

Null Hypothesis: There is no association between the number of sessions attended and positive health seeking perspectives to hygiene.

Alternative Hypothesis: There is an association between the number of sessions attended and positive health seeking perspectives to hygiene.

Test statistics

Pearson Chi-Square P-value

Sessions attended * Did you use soap to wash your hands? Cross tabulation

Count

		Did you use soap to wash your hands?		Total
		No	Yes	
sessions attended	light health promotion	15	0	15
	standard health promotion	0	15	15
Total		15	15	30

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	30.000 ^a	1	.000		
Continuity Correction ^b	26.133	1	.000		
Likelihood Ratio	41.589	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	29.000	1	.000		
N of Valid Cases	30				

Decision Rule

Reject the null hypothesis if the p-value is less than 0.05.

Conclusion

Since the Pearson Chi-Square P-value is 0.000 is less than 0.05, there is enough evidence to reject the null hypothesis and conclude there is an association between the number of sessions attended and positive health seeking perspectives to hygiene.

Mediating variables

In this case the study will try and identify the relationship between the respondents' knowledge, attitudes and perceptions of health and their level of education.

This can be tested by the following Pearson Chi-Square test

Null Hypothesis: There is no association between level of education and knowledge, attitude and perceptions of health

Alternative Hypothesis: There is an association between level of education and knowledge, attitude and perceptions of health

Level of significance 5%

Test statistics

P-value

SPSS Cross tabulation

What was the last grade/standard achieved? * Did you use soap to wash your hands? Cross-tabulation

Count

		Did you use soap to wash your hands?		Total
		No	Yes	
What was the last grade/standard achieved?	Grade 7	1	1	2
	O Level	5	6	11
	A Level	4	4	8
	Tertiary Level	5	4	9
Total		15	15	30

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.202 ^a	3	.977

Likelihood Ratio	.202	3	.977
Linear-by-Linear Association	.144	1	.704
N of Valid Cases	30		

Decision Rule

Reject the null hypothesis if the p-value is less than 0.05

Conclusion

Since the Pearson Chi-Square P-value is 0.977 is greater than 0.05, there is not enough evidence to reject Hypothesis and we conclude: There is no association between level of education and knowledge, attitude and perceptions of health

The study will also try to figure out the relationship between wealth and the practice of erecting toilets as the poor might find it difficult to construct sanitation facilities as compared to the affluent.

This can be verified by the following Pearson Chi-Square test

Null Hypothesis: There is no relationship between wealth and practise of erecting toilets

Alternative Hypothesis: There is a relationship between wealth and practise of erecting toilets

Level of significance 5%

Test statistics

P-value

Wealth Class * What toilet does this household use? Cross tabulation

Count

		What toilet does this household use?			Total
		Bush Toilet	Pit Latrine	Ventilated Pit Latrine	
Wealth Class	POOR	7	13	4	24
	RICH	3	2	1	6
Total		10	15	5	30

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.042 ^a	2	.594
Likelihood Ratio	1.023	2	.600
Linear-by-Linear Association	.426	1	.514
N of Valid Cases	30		

Decision Rule

Reject the null hypothesis if the p-value is less than 0.05

Conclusion

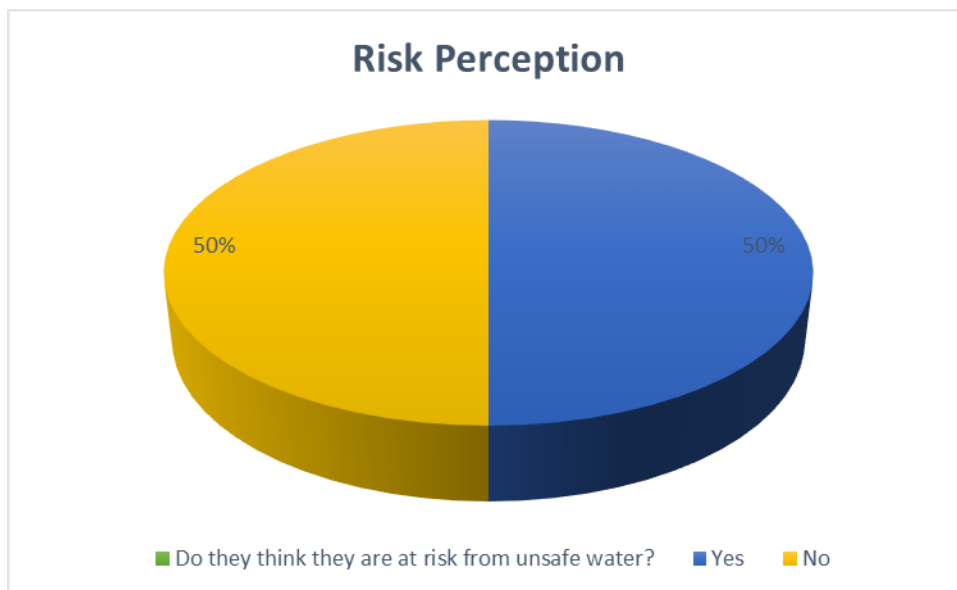
Since the Pearson Chi-Square value is 0.594 is greater than 0.05, there is no enough evidence to reject null hypothesis and we conclude, there is no relationship between wealth and practise of erecting toilets. Even some wealthier respondents had no toilets.

Do they think they are at risk from unsafe water?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	15	50.0	50.0	50.0
Yes	15	50.0	50.0	100.0
Total	30	100.0	100.0	

Table 2

Table 38 shows risk views towards unsafe water.50% think that they are at risk of unsafe of water.



Do they think they can do something to reduce the risk?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	15	50.0	100.0	100.0
Missing System	15	50.0		
Total	30	100.0		

Table 3

Table 39 shows views on reducing risk.50% think they can reduce the risk.

Focus Group Discussion Summary

1. Describe the water, sanitation and hygiene programs that have run in your community over the years.

Answers

- “when there was the cholera outbreak, NGOs came and did hygiene promotion together with EHTs, VHWs and Volunteers”
- “EHTs have not motor bikes so they are not visible much of the timewe see them when we go to the clinic or community gatherings...”
- Some toilets were supported with cement and were constructed

(summary from field notes)

2. What has changed as a result of the programs in your community?

Answers- our people are now more knowledgeable about disease and prevention.

.....adopting the behaviour change needs continued hygiene promotion

Hand washing tippy taps are temporal and collapse in the sun after the emergency

Some people built toilets on their own but others were supported. What, in your community has not changed in spite of the programs?

“Change is happening but temporal toilets soon collapsed with the cyclone and we went back to zero..... We went back to the bush for sanitation”

1. How have you been involved in the WASH programs?

We participated by inviting people to group meetings organized by NGOs and government staff.

2. Do the programs self-sustain? Why and why not?

People changed when neighbours were dying of the cholera but soon after the disease was contained it became business as usual.....emergency infrastructure should be strong so that it will not fail in a short while.

3. If you were responsible for planning WASH programs in your area, what would you include? What would you leave out?

“.....- more volunteers training, volunteer incentives like visibility materials...t-shirts with health messages, sun hats, uniforms for volunteers”

Summary

- 70% of the respondents saw changes following WASH programs
- 50% reported that the changes were sustained over the following 2 years post health promotion. This means that 20% of the respondents were saying the results of the health promotion were not sustained over 2 years
- 40% of the respondents suggested that communities should be given subsidies in future programs as the change they desired to see.
- 13% would like to see more hygiene promotion activities going forward
- 37% reported that they would like to see communities more involved in all the water, sanitation activities
- On perceived safety around the current water, sanitation and hygiene practices, it was seen that the less sessions attended (light health promotion) one attended the less they knew about the risks. This means that ignorance made the respondents fail to see the risk. The more one attended the health promotion the more they

identified the health risks and the more they would take preventive action like household water treatment for drinking water and hand washing with soap.

Chapter 5: Conclusion and Recommendations.

Introduction

The study was conducted to investigate the community perspectives to water, sanitation and hygiene in the Save Valley of Chipinge District in Zimbabwe. It sought to identify the public health promotion interventions that had happened, what changes had come as result of the interventions, whether the interventions were sustainable, whether the communities felt safe around their water sanitation and hygiene practices as well as to find out how the community wished to see in future public health program roll-out.

This chapter will present the interpretation of the findings, the recommendations and the conclusions of the study.

Interpretation of Findings

It was identified that health promotion activities had been run in the community but the recurrent shocks like the repeated disease outbreaks, recurrent cyclones and poor community participation and reduced meaningful participation of community members militated against sustainability of the changed practices and behaviors. Change was evident but was not sustained. Communities suggested they should be given subsidies in future programs as the change they desired to see. This showed a self-perceived vulnerability. Other wanted more hygiene promotion activities indicating that not all had this vulnerability and dependency syndrome. Communities would like to be meaningfully engaged and not to have NGOs and government doing what they themselves should do.

On perceived safety around the current water, sanitation and hygiene practices, it was seen that the less sessions attended (light health promotion) one attended the less they knew about the risks. This means that ignorance made the respondents fail to see the risk. The more one attended the health promotion the more they identified the health risks and the more they would take preventive action like household water treatment for drinking water and hand washing with soap.

Limitations of the Study

Time was a big constraint for the student researcher who was juggling between work and studies. The student also had a small budget hence data was collected very quickly and this did not allow much probing into the emerging issues during the data collection. Even though, a lot of data was collected but could not be processed due to time and scope of the study. As in most qualitative studies, causation was not established as only correlations were noted.

Recommendations

Blanket coverage of the health promotion program should be done so as to afford access to as many people as possible

Community Unity -Efforts should be made to create more community common unity to ensure learning among community members following positive peer pressure, social solidarity and role modelling.

Economics- vulnerable communities should not just get health and hygiene promotion without training on income generation. Knowledge coupled with economic ability to build latrines will result in sustained improvements.

Community participation- communities should be more meaningfully involved in program design, monitoring and evaluation to instill ownership. Respondents felt like outsiders of the programs that ran in their communities.

Equity- some respondents felt they did not get enough support from the programs and were sighting differences between the communities.

Leadership- programs should work with traditional local leadership, community champions and natural leaders as this ensures sustainability. 20% of the changes were lost within 2 years as they were led by NGOs and government officials who are outsiders.

Conclusion

The study found out that community perspectives to water, sanitation and hygiene are formed by how much one is exposed to the behaviour change programs. Respondents with more health promotion sessions had more changes, more sustainability of program outcomes while the ones with less health promotion sessions felt more secure in risky environments owing to lack of knowledge and a reduced perception of risk. However, knowledge alone without the necessary enabling environment like the economy will not sustain positive knowledge, attitudes and practices. Continued programing and meaningful community involvement and community participation are critical elements to sustain the water, sanitation and hygiene gains of any public health promotion program. Without these, community perspectives and the changes attained following programs will regress.

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Appendices

1. Further Cases Analysis



**Matimati Ethics
Approval Form 03-1'**

2. Ethics Approval

3. Questionnaire

Individual Questionnaire Face to Face Focused Interview		
Ward _____ Date _____ District _____ Village _____		
Participant Number _____		
Question	Record	Notes
Personal		
2. Date		
3. Gender		1 = Male 2 =Female
4. Age		
5. Marital status		1=Married , 2=Single , 3 =Widow
6. How many people are in your household?		
7. What was the last grade/standard achieved?		1=Grade 7, 2= O Level , 3= A Level ,4=Tertiary Level
8. What religious group do you belong to?		
9. (a) What type of job do you have?		
9 (b) How many cattle do you have?		
9 (c) How many goats do you have?		
9 (d) How many chickens do you have?		
9 (e) Do you have a radio?		1= No, 2=Yes
9 (f) Do you have a TV		1= No, 2=Yes
10. Do you do any unpaid, voluntary work?		1= No, 2=Yes
11. What social groups do you belong to?		
12. Have you recently received any help from NGOs towards building the toilet?		1= No, 2=Yes
13. In the last 6 months, has anyone in your household had diarrhoea		1= No, 2=Yes
14. Where do you dispose of solid wastes?		1=Refuse Pit, 2= Latrine, 3 =Drainage 4=Others ,Please specify _____
15. How far is the nearest drinking water source?		1=Less than 0.5km, 2=0,5 to 1km 3=1.1 to 2km 4=More than 2km
16. How long have you lived in this neighborhood/village (years)?		
16. (b) What is your sources of health information?	Radio	1= Radio
	TV	2= TV
	Health Club	3= Health Club
	Neighbors	4= Neighbours
	Traditional Health Education	5=Traditional Health Education
Water		

17. From what source does this household obtain its drinking water?		0 =Unprotected 1=Protected
18. Do you treat your drinking water?		1=No, 2=Yes
Observation		
19. Do they use safe water storage containers (properly sealed and/or narrow neck?)		1=No, 2=Yes
20. Does the household use a ladle/pitcher to take drinking water?		1=No, 2=Yes
21. Do all household members have their own drinking cup?		1=No, 2=Yes
22. Is there any leftover food exposed to flies (not covered or stored in a cupboard?)		1=No, 2=Yes
23 Does the house have a beautified kitchen?		1=No, 2=Yes
24 Is there any chicken poop on the kitchen floor?		1=No, 2=Yes
Sanitation		
25. What toilet does this household use?		1=Bush Toilet, 2= Pit Toilet, 3=Latrine
26a) When was this toilet constructed?		
26b) What did they use before that?		
27. Is the toilet floor clean (free of rubbish, feces & urine)?		1=No, 2=Yes
28. Does the toilet have a functional vent pipe		1=No, 2=Yes
29. Are there human feces on the ground within 10 meters of the household?		1=No, 2=Yes
30. Does the house have a refuse pit?		1=No, 2=Yes
31. Is there loose rubbish within 10 meters of the house?		1=No, 2=Yes
32 Is there standing water within 10 meters of the house?		1=No, 2=Yes
Health		
33. Do they know how to make Salt and Sugar Solution?		1=No, 2=Yes

34. Have all children been immunized?		1=No, 2=Yes
35. Are household members free of visible skin diseases		1=No, 2=Yes
Hygiene promotion		
36. when was the last time they participated in hygiene promotion session		1=Less than 6 months, 2=6 to 12months 3=less than 2years but more than a year, 4=Others ,Specify_____
37. Who facilitated the hygiene promotion session		1=Volunteer, 2=Village Health Worker, 3= EHT
38. How many health promotion sessions did they attend		
39. Does the house have a pot rack?		1=No, 2=Yes
40. How did you wash your hands?		
41. Did you use soap to wash your hands?		1=No, 2=Yes
42. Do they have a bathroom?		1=No, 2=Yes
43. Do they use a mosquito net?		1=No, 2=Yes
44. Are there changes that have occurred following public health promotion in the area in the past 2 years?		1=No, 2=Yes
45. Are the changes still evident 2years post intervention?		1=No, 2=Yes
46. Do they think they are at risk from unsafe water?		1=No, 2=Yes
47. Do they think they can do something to reduce the risk?		1=No, 2=Yes
48. Do they think their sanitation is adequate?		1=No, 2=Yes
49. Can they change it?		1=No, 2=Yes
50. Do they think their hygiene is adequate?		1=No, 2=Yes
52. What do they need to change?		1= hardware subsidies should be given 2= more health promotion should be done 3= more involvement of the community 4= Others
53. If anything should be changed in their community regarding water, sanitation and hygiene what would that be?		

THANK YOU

Reliability Statistics

Cronbach's Alpha	N of Items
.720	59

4. Information Sheet For Individual Household interview

Title of Research Project:

Perceptions towards Water Safety, Sanitation and Personal Hygiene among the Save Valley Communities in Chipinge District, Zimbabwe.

Brief description of research study, and what participation involves:

The researcher would like to investigate the community perceptions and attitudes towards water safety, sanitation and personal hygiene in the Save Valley community of Chipinge District in Zimbabwe. To this effect the research is asking for the participation of individuals and communities in answering some questions in interviews, focus group discussions and observations of health promotion activities and outputs of the activities in the households and community. Data will be collected through audio recordings, written questionnaires and face to face discussions. Responses will be recorded, analysed and reported in a research document.

Participation involves attending group discussion sessions when called to, answering questions, participating in activities and showing the program outputs to the researcher. Participations is voluntary and participants are free to withdraw from the research anytime without giving reasons to the researcher if they feel like withdrawing. Information will be held in confidence and will not be publicly disclosed to anyone.

Participation is important as it generates new knowledge for the development of better programs for the community

Researcher name and contact details:

Regis Matimati, 0773 038 700, regis.matimati@roehampton-online.ac.uk

3081 Chizaka Way, Unit C, Seke, Chitungwiza

5. Individual Consent Statement:

1. I freely agree to take part in this research.
2. I have read and received a copy of this consent form and have been given the opportunity to ask questions. You have given me: (a) an explanation of the procedures to be followed in the study and (b) answers to any questions I have asked.
3. I understand that there may be no direct benefit to me from my participation in the study described above.
4. I understand that my participation will not cost me anything other than the time and effort involved.
5. I understand that this study is entirely anonymous. My identity will not be recorded or passed on to anyone not involved in this study, and will be protected in the writing up of the findings. The researcher involved in the study will be unaware of any links between my identity and the data collected, and accordingly no individual feedback will be given.
6. I understand that the information I provide will be treated in confidence by the researcher, that my identity will be protected in the publication of any findings and that all data will be collected and processed in accordance with the UK's Data Protection Act 1998 and with the University's Data Protection Policy.
7. I am aware that I am free to withdraw at any point without giving a reason, although if I do so I understand that my data might still be used in a collated form but this will not be identifiable to me as an individual.
8. I confirm that I have read and understood the above and have been given adequate time to consider my participation and agree to comply with the instructions and any restrictions of the study.

Signature:

Name:

Date:

Please note: if you have a concern about any aspect of your participation or any other queries, please raise this with the researcher. If the researcher is a student, you may wish to contact the Academic Manager, Research:

Academic Manager, Research contact details:

Name: Dr. Toby Yak

Email: toby.yak@roehampton-online.ac.uk

However, if you would like to contact an independent party, you can contact the Academic Director for the University of Roehampton Online programmes.

Academic Director contact details:

Tolu Andrea Osoba, PhD

Programme Director Health & Life Sciences University of Roehampton London Online

Email: tolu.osoba@roehampton-online.ac.uk

6. Consent for FGD discussion

Invitation Form/ Recruitment Flyer

Dear _____,

You are invited to participate in an organized focus group discussion. We would like to hear your ideas and opinions about water safety, sanitation and hygiene in the community. You will participate with 6 to 10 other stakeholders for about an hour. Your responses to the questions will be kept anonymous. Your ideas and those of others will help improve and strengthen water, sanitation and hygiene in your community.

Looking forward to seeing you

Yours faithfully

Regis Matimati 0773 038 700 regis.matimati@roehampton-online.ac.uk

7. Consent Form

I have been invited to participate in a focus group discussion sponsored by Regis Matimati a student at Roehampton University-London. The purpose of the group discussion is to understand the perceptions of people towards water safety, sanitation and personal hygiene in the community. Information learned from the focus groups will be used to design public health interventions. I can choose whether or not to participate in the focus group and stop at any time. The focus group discussion will be tape recorded but my responses will remain anonymous and no names will be mentioned in the report.

I understand this information and agree to participate fully under the conditions stated above:

Signed: _____ Date: _____

8. Consent Form in Shona (local language)

Gwaro Remvumo Yekupinda Muhurukuro

Ini ndakokwa kuhurukuro naRegis Matimati mudzidzi veRoehampton University- London. Chinangwa the hurukuro ndechekuda kunzwisisa maonero nemafungiro evanhu takanangana ne mvura yekachena, utsanana, pamwe nekushambidzika munharaunda yedu. Ruziwo ruchaonekwa pahurukuro iyi runobatsira pakuronga basa reutano. Hurukuro iyi icha tapwa ne recorder asi mazita evanhu vakurukurwa nawo haaobuditswi muzvinyorwa izvi

Ndinonwisisa nyaya iyi uye ndabvuma kupinda mutsvakurudzo maererano nezviripamusoro apo

Runyoro: _____ Zuva: _____

9. Focus Group Discussion Guide

Questions for a Focus Group on perceptions towards water safety, sanitation and personal hygiene.

1. Describe the water, sanitation and hygiene programs that have run in your community over the years.
2. What has changed as a result of the programs in your community?
 - Water...is it safe/ does it need improvement/ what improvements?
 - Sanitation.. is it safe/ optimum?
 - Hygiene... what do people do about this?
 - Water and sanitation related illnesses.. are any ill of water and sanitation diseases in the past months?
3. What, in your community has not changed in spite of the programs?
4. What aspects of the programs have you liked most? Why?
5. What aspects of the programs have you liked the least? Why?
6. Who has supported the programs?
7. How have you been involved in the WASH programs?
8. Do the programs self-sustain? Why and why not?
9. If you were responsible for planning WASH programs in your area, what would you include? What would you leave out?
10. Is there anything else you would like to say about the water, sanitation and hygiene programs in your area?

ANNEX

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	21	70.0	70.0	70.0
	Female	9	30.0	30.0	100.0
Total		30	100.0	100.0	

Table 4

Table 1 shows gender of the respondents .30% were females.

		What was the last grade/standard achieved?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Grade 7	2	6.7	6.7	6.7
	O Level	11	36.7	36.7	43.3
	A Level	8	26.7	26.7	70.0
	Tertiary Level	9	30.0	30.0	100.0
	Total	30	100.0	100.0	

Table 5

Table 2 shows educational levels achieved .Majority of the respondents have at least O Level.

		What type of job do you have?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Formally employed	5	16.7	16.7	16.7
	Self Employed	25	83.3	83.3	100.0
	Total	30	100.0	100.0	

Table 6

Table 3 shows respondent type of job.83.3% are self-employed.

		Have you recently received any help from NGOs towards building the toilet?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	28	93.3	93.3	93.3
	Yes	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

Table 7

Table 4 shows respondents that have recently have received handouts from NGOs. Majority of the respondents did not receive any handouts.

In the last 6 months, has anyone in your household had diarrhoea

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	26	86.7	86.7	86.7
	Yes	4	13.3	13.3	100.0
	Total	30	100.0	100.0	

Table 8

Table 5 show cases of diarrhoea in the past 6months.13.3% had diarrhoea in the past 6months.

Where do you dispose of solid wastes?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Refuse Pit	27	90.0	90.0	90.0
	Latrine	1	3.3	3.3	93.3
	Drainage	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

Table 9

Table 6 shows solid waste disposal. Majority dispose their solid waste in refuse pit.

How far is the nearest drinking water source?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 0.5km	3	10.0	10.0	10.0
	0,5 to 1km	25	83.3	83.3	93.3
	1.1 to 2km	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

Table 10

Table 7 shows distance from the nearest water source. Majority are within 0.5 to 1km from the water source.

What is your sources of health information?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Health Club	28	93.3	93.3	93.3
	Neighbours	1	3.3	3.3	96.7
	Traditional Health Education	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

Table 11

Table 8 shows sources of health information. Majority get their information from health clubs.

How long have you lived in this neighbourhood/village (years)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10	1	3.3	3.3	3.3
	12	1	3.3	3.3	6.7
	13	1	3.3	3.3	10.0
	15	4	13.3	13.3	23.3
	16	1	3.3	3.3	26.7
	18	1	3.3	3.3	30.0
	20	4	13.3	13.3	43.3
	23	3	10.0	10.0	53.3
	25	1	3.3	3.3	56.7
	28	1	3.3	3.3	60.0
	30	3	10.0	10.0	70.0
	31	1	3.3	3.3	73.3
	32	1	3.3	3.3	76.7
	33	1	3.3	3.3	80.0
	34	1	3.3	3.3	83.3
	39	1	3.3	3.3	86.7
	40	1	3.3	3.3	90.0
	42	1	3.3	3.3	93.3
	44	1	3.3	3.3	96.7
	60	1	3.3	3.3	100.0

Total	30	100.0	100.0
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Table 12

Table 9 show the time the respondents have been in that area. 10 years and 60 years are the minimum and maximum time respectively.

From what source does this household obtain its drinking water?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Unprotected	8	26.7	26.7	26.7
Protected	22	73.3	73.3	100.0
Total	30	100.0	100.0	

Table 13

Table 10 shows drinking water source.73.3% use protected water sources.

Do you treat your drinking water?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	15	50.0	50.0	50.0
Yes	15	50.0	50.0	100.0
Total	30	100.0	100.0	

Table 14

Table 11 shows drinking water treatment.50% does not treat its water.

Do they use safe water storage containers (properly sealed and/or narrow neck)?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	17	56.7	56.7	56.7
Yes	13	43.3	43.3	100.0
Total	30	100.0	100.0	

Table 15

Table 12 shows water storage containers use. 43.3% use properly sealed storage containers.

Does the household use a ladle/pitcher to take drinking water?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	15	50.0	50.0	50.0
	Yes	15	50.0	50.0	100.0
	Total	30	100.0	100.0	

Table 16

Table 13 shows the use of ladle.50% use ladle to take drinking water.

Do all household members have their own drinking cup?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	14	46.7	46.7	46.7
	Yes	16	53.3	53.3	100.0
	Total	30	100.0	100.0	

Table 17

Table 14 shows personalised cup use.53.3% have personalised cups.

Is there any leftover food exposed to flies (not covered or stored in a cupboard)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	14	46.7	46.7	46.7
	Yes	16	53.3	53.3	100.0
	Total	30	100.0	100.0	

Table 18

Table 15 shows if there are any exposed left over food.46.7% have no exposed left over food.

Does the house have a beautified kitchen?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	14	46.7	46.7	46.7
	Yes	16	53.3	53.3	100.0
	Total	30	100.0	100.0	

Table 19

Table 16 show distribution of beautified kitchens. 53.3% have beautified kitchens.

Is there any chicken poop on the kitchen floor?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	28	93.3	93.3	93.3
	Yes	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

Table 20

Table 17 shows cleanness of the kitchen floor. 6.7% floors are not clean.

What toilet does this household use?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bush Toilet	10	33.3	33.3	33.3
	Pit Latrine	15	50.0	50.0	83.3
	Ventilated Pit Latrine	5	16.7	16.7	100.0
	Total	30	100.0	100.0	

Table 21

Table 18 shows type of toilet that is used. Majority use pit latrine.

When was this toilet constructed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	16.7	16.7	16.7
	2	7	23.3	23.3	40.0
	3	6	20.0	20.0	60.0
	4	4	13.3	13.3	73.3
	5	4	13.3	13.3	86.7
	6	2	6.7	6.7	93.3

8	1	3.3	3.3	96.7
9	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Table 22

Table 19 show time in years the toilet was constructed. Majority of the toilets are 1 to 3 years old.

What did they use before that?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bush Toilet	14	46.7	46.7	46.7
	Pit Latrine	16	53.3	53.3	100.0
	Total	30	100.0	100.0	

Table 23

Table 20 shows the toilet was previously used.46.7% used bush toilet.

Is the toilet floor clean (free of rubbish, faeces & urine)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	15	50.0	50.0	50.0
	Yes	15	50.0	50.0	100.0
	Total	30	100.0	100.0	

Table 24

Table 21 show cleanliness of the toilet floor.50% of the floors are clean.

Does the toilet have a functional vent pipe

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	19	63.3	63.3	63.3
	Yes	11	36.7	36.7	100.0
	Total	30	100.0	100.0	

Table 25

Table 22 shows functionality of the vent pipe. Majority of the toilets do not have functional vent pipes.

Are there human faeces on the ground within 10 meters of the household?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	17	56.7	56.7	56.7
	Yes	13	43.3	43.3	100.0
	Total	30	100.0	100.0	

Table 26

Table 23 shows cleanliness of the household yard.43.3 yards are not clean.

Does the house have a refuse pit?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	3	10	10	10
	Yes	27	90	90	100
	Total	30	100.0	100.0	

Table 27

Table 24 shows the presence of refuse pits. Majority have refuse pits.

Is there loose rubbish within 10 meters of the house?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	15	50.0	50.0	50.0
	Yes	15	50.0	50.0	100.0
	Total	30	100.0	100.0	

Table 28

Table 25 shows presence of loose rubbish .50% of the households have rubbish within 10metres of the house

Is there standing water within 10 meters of the house?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	15	50.0	50.0	50.0
	Yes	15	50.0	50.0	100.0

Total	30	100.0	100.0
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Table 29

Table 26 shows the presence of standing water.50% of the households have standing water within 10 metres of the household.

Do they know how to make Salt and Sugar Solution?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	9	30.0	30.0	30.0
Yes	21	70.0	70.0	100.0
Total	30	100.0	100.0	

Table 30

Table 27 shows salt and sugar solution preparation .70% are able to prepare salt and sugar solution.

Have all children been immunized?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	14	46.7	46.7	46.7
Yes	16	53.3	53.3	100.0
Total	30	100.0	100.0	

Table 31

Table 28 shows child immunisation. Majority of the children are immunised.

Are household members free of visible skin diseases

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	2	6.7	6.7	6.7
Yes	28	93.3	93.3	100.0
Total	30	100.0	100.0	

Table 32

Table 29 shows presence of skin disease. Majority of household members have no visible skin disease.

when was the last time they participated in hygiene promotion session

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 6 months	13	43.3	43.3	43.3
6 to 12months	9	30.0	30.0	73.3
less than 2years but more than a year	8	26.7	26.7	100.0
Total	30	100.0	100.0	

Table 33

Table 30 show last time respondents attended hygiene promotion session. Majority have attended hygiene promotion session.

Who facilitated the hygiene promotion session

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Volunteer	14	46.7	46.7	46.7
Village Health Worker	7	23.3	23.3	70.0
EHT	9	30.0	30.0	100.0
Total	30	100.0	100.0	

Table 34

Table 31 shows who conducted the hygiene promotion.46.7% were conducted by volunteers.

Does the house have a pot rack?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	15	50.0	50.0	50.0
Yes	15	50.0	50.0	100.0
Total	30	100.0	100.0	

Table 35

Table 32 shows presence of pot racks.50% of the households have pottracks.

Did you use soap to wash your hands?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	15	50.0	50.0	50.0
Yes	15	50.0	50.0	100.0

Total	30	100.0	100.0
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Table 36

Table 33 show handwashing practises.50% wash their hands with soap.

Do they have a bathroom?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	8	26.7	26.7	26.7
Yes	22	73.3	73.3	100.0
Total	30	100.0	100.0	

Table 37

Table 34 show presence of a bathroom. Majority of the households have a bathroom.

Are there changes that have occurred following public health promotion in the area in the past 2 years?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	9	30.0	30.0	30.0
Yes	21	70.0	70.0	100.0
Total	30	100.0	100.0	

Table 38

Table 35 shows changes that have occurred over the past 2 years following public health promotion. Majority have seen changes following public health promotion.

Are the changes still evident 2years post intervention?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	15	50.0	50.0	50.0
Yes	15	50.0	50.0	100.0
Total	30	100.0	100.0	

Table 39

Table 36 shows sustainability of intervaentions.50% of the interventions were said to be sustainable.

Do they use a mosquito net?

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	No	8	26.7	26.7	26.7
	Yes	22	73.3	73.3	100.0
	Total	30	100.0	100.0	

Table 40

Table 37 show use of a mosquito net .Majority use mosquito net.

Do they think they are at risk from unsafe water?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	15	50.0	50.0	50.0
	Yes	15	50.0	50.0	100.0
	Total	30	100.0	100.0	

Table 41

Table 38 shows risk views towards unsafe water.50% think that they are at risk of unsafe of water.

Do they think they can do something to reduce the risk?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	15	50.0	100.0	100.0
Missing	System	15	50.0		
	Total	30	100.0		

Table 42

Table 39 shows views on reducing risk.50% think they can reduce the risk.

Do they think their sanitation is adequate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	25	83.3	83.3	83.3
	Yes	5	16.7	16.7	100.0
	Total	30	100.0	100.0	

Table 43

Table 40 shows adequacy of sanitation. Majority of the respondents think their sanitation is adequate.

Can they change it?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	15	50.0	60.0	60.0
	Yes	10	33.3	40.0	100.0

Total	25	83.3	100.0
Missing System	5	16.7	
Total	30	100.0	

Table 44

Table 41 shows view towards changing their sanitation.60% cannot change their sanitation status.

What do they need to change?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid hardware subsidies should be given	12	40.0	40.0	40.0
more health promotion should be done	4	13.3	13.3	53.3
more involvement of the community	14	46.7	46.7	100.0
Total	30	100.0	100.0	

Table 45

Table 42 show what respondents think needs to be changed. Majority think hardware subsidies should be given and they should be more involved.