Socio-cultural aspects: the key to sustainable WASH behaviors?
- A case study in southwest Uganda

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Key words: Socio-cultural aspects, Hygiene promotion, Uganda, Traditions

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Abstract

Despite investments of $15 billion in the WASH-sector the millennium development goal on sanitation will not be met. This is partially because of lack of sufficient knowledge about the socio-cultural environments of the projects. Socio-cultural aspects have not been investigated sufficiently, if at all, in most project designs, and this leads to behaviour change that is not sustainable.

This present field-study examined a WATSAN-programme in southwest Uganda, and looked at both successful and less successful cases of sanitation- and hygiene-promotion to identify what aspects influence the different behaviours and in which way. Methods used included observations, interviews and focus groups.

The study concludes with five recommendations; first, keeping positive traditional behaviours such as using leaves or ashes for hand washing instead of soap, as many people cannot afford this and now regard their traditional behaviours as primitive and rather use nothing than go back to their traditional ways. Second, tackle poverty to ensure the promoted behaviour is implemented. Third, use social norms to promote a changed behaviour as these are strong motivators. Fourth, use peoples own experiences as examples and to make the change relatable. Fifth, using knowledge from within the community involved in the programme rather than imposing an outside understanding of behaviour improvements needed.

Key words: Socio-cultural aspects, Hygiene promotion, Uganda, Traditions

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Abbreviations

CARE SAFER - Sanitation and Family Education Resource

CLTS - Community led total sanitation

ECOSAN – Ecological Sanitation

GWP – Global Water Partnership

IWRM – Integrated Water Resource Management

KDWSP – Kigezi Diocese Water and Sanitation Programme

LDC – Less Developed Country

NGO - Non Governmental Organisation

PHAST - Participatory Hygiene and Sanitation Transformat

PRA - Participatory Rural Appraisal

SLU – Swedish University of Agricultural Science

USD – US Dollars

WASH – Water, Sanitation and Hygiene

WATSAN – Water and Sanitation

1. Introduction

The Millennium Development goal on sanitation, to halve the proportion of people without access to safe sanitation by 2015, will not be reached if the present trend continues and even after annual investments of around $15 billion; 1.2 billion people are still without access to safe water and 2.6 billion without access to safe sanitation[1] . The question is why this is, why are the interventions insufficient to ensure safe water and sanitation to everyone?

Part of the answer lies with the issue of socio-cultural aspects within this area. These aspects are often considered insufficiently if identified at all and there is inadequate knowledge on the subject to be able to ensure suitable and sustainable WASH- projects throughout the world. As a result this study and the results presented aim to determining the programme's failure or success. Some key influences such as dignity and spiritual beliefs have not been investigated in depth and the interrelationship between the different socio-cultural aspects and how they affect the hygiene and sanitation behaviour is unknown [2].

The lack of understanding of these aspects has a significant impact on the success of projects. Without adapting a project to its environment the project has little or no chance for success or to be sustainable. Looking at the history of WASH-programmes, there is a very high failure rate within the sector, for example there are numerous latrines being used as storage throughout the world as they have been insufficiently implemented and adapted to the users[3].

Using Integrated Water Resource Management (IWRM) approach brings sanitation and hygiene into water management with its holistic view. There is a strong correlation between these as one cannot be sustainable without the others and they cannot and should not be addressed separate from the others. This study was conducted for the

[1] WHO, 2004, *Meeting the MDG drinking water and sanitation target - a mid-term assessment of progress*. World Bank, 2010, *Water supply & Sanitation.*

[2] WHO/UNICEF, 2005, *Water for Life: Making it Happen.*

[3] McConville, J. 2003, *How to Promote the Use of Latrines in Developing Countries*

master courses in IWRM and Community Water and Sanitation which made the strong relationship between water, sanitation and hygiene become even clearer.

1.1 Aim/Objectives

The aim of this study is to understand the central socio-cultural influences that need addressing to secure successful and long-lasting improvements to hygiene and sanitation behaviour in a less developed country (LDC) setting.

This aim will be achieved through the following objectives:

1. Identify the socio-cultural influences of hygiene and sanitation behaviour.

2. Develop framework of understanding of the inter-relationship and hierarchies of these socio-cultural influences.

3. Propose guidelines for appropriate interventions to improve the design and effectiveness of sanitation and hygiene behaviour programmes.

The research question is therefore "What are the central socio-cultural influences and their inter-relationships that need addressing to secure successful, long-lasting improvements to hygiene and sanitation behaviour in a LDC- setting?"

1.2 Delimitations

This study will not be a full analysis of the culture of the people but will rather try to identify how the culture influences the hygiene and sanitation behaviours.

1.3 Plan of the thesis

1. Introduction – In this chapter the problem statement, why the study is carried out is presented as well as aim, objectives and research question. The chapter also holds delimitations and abbreviations

2. Background – This chapter includes a description of the studied area, the partner programme and a literature review of the available data within the studied area.

3. Methodology – In this chapter the methods used within the field study and analysis is presented and discussed.

4. Results and analysis - In this chapter the analysed data is presented and explained.

5. Discussion – In this chapter the data is discussed and put in context of existing data within the subject area.

6. Conclusion – In this chapter the conclusions drawn from the data and discussion are presented as well as recommendations and ideas for future research.

2 Background

2.1 Studied Area

The study was carried out in Kabale in southwest Uganda and its surrounding villages. In Uganda today there is a high level of poverty and they are ranked as nr 157 of 182 in the human development index ranking 2009. Only 56 per cent of population have access to safe water while 41 per cent have access to improved sanitation[4]. The hilly Kabale district of 354 km^2 has a population of 471,730 where most of these are rural and poor[5]. The poverty is among other things due to a high population density and the scarcity of land which this brings, the high population growth of 2.8 % puts increasing pressure on this issue[6]. There are also other issues contributing to the low cash income in the district such as few cash crops or other income generating activity[7]. The most pressing health issues in the district according to the Health Centres records of morbidity and mortality is Malaria with diarrhoeal diseases as the second largest. Also malnutrition from a poor diet is a big problem in the area and makes the population even more vulnerable to health issues as well as other social problems[8].

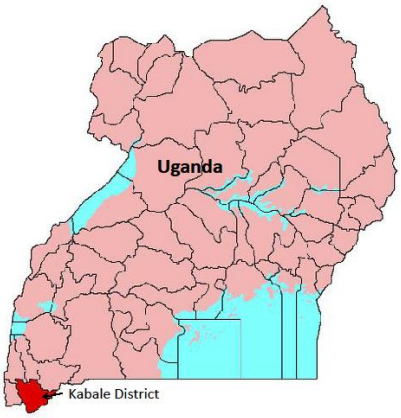

Figure 1. Map over Uganda showing Kabale district

[4] UN, 2005, *Human Development Report 2005*

[5] Agoada, J. 2006, *Community Based & Mobile HIV/AIDS Care – Kabale District. A Kigezi Community project.*

[6] Danert, 2004, *Final Report of the 2004 Evaluation of The Kigezi Diocese Water and Sanitation Programme.*

[7] Ibid

[8] Ibid

In Kabale district women and children spend sometimes as much as three to four hours per day collecting water and they use about four litres per person and day[9]. Those who are collecting rainwater often have access to this relatively safe water source during the rainy season but during the dry season most of them return to their original water source which is of ranging quality. Some people are also using tapstands provided by the Ugandan Government, but this has still reached far from all communities and as poverty is a severe problem here, many are unable to afford the fee of 100 USh (0.04 USD) per 20 litre jerry can. As access to funds and water is two of the most difficult problems facing changed hygiene and sanitation behaviours Kabale district is a suitable place to identify both obstacles with a changed behaviour but also what can be done to overcome these.

2.2 Kigezi Diocese Water and Sanitation Programme

The Kigezi Diocese Water and Sanitation Programme (KDWSP) is a part of the Anglican church of Uganda, formed in 1986 with the overall aim of the programme is to improve health and reduce poverty in Kabale district which has the same boundaries as the Kigezi Diocese[10]. They work with communities where access to safe water and sanitation is limited and their objective is to provide safe water and sanitation facilities in communities. Where they do health and hygiene education, training of community members to ensure that the facilities are maintained also access to clean water and HIV education is conducted within the programme.[11] They use self help and providing improved access to water, safe excreta disposal, and improved hygiene but still there is a problem of poverty in the district and hygiene and sanitation is not the top priority for everyone and even the commitment fee for the water facilities is difficult for some to rise[12.] Then the programme also address other needs such as poverty, food security either directly or through other programmes within the diocese or from outside[13] The program focuses on three aspects in hygiene and sanitation; increased water

[9] Webster, J. 2005, *Culture's Influence - Towards Understanding Stakeholder Interactions in Rural Water, Sanitation and Hygiene Promotion Projects.*

[10] Webster, J. 2005, *Culture's Influence - Towards Understanding Stakeholder Interactions in Rural Water, Sanitation and Hygiene Promotion Projects.*

[11] Tearfund, *Uganda - water and sanitation programme*

[12] Carter, R. et al. 2006, Kigezi *Diocese Water and Sanitation Programme Mid Term Review and Danert, 2004 Final Report of the 2004 Evaluation of The Kigezi Diocese Water and Sanitation Programme.*

[13] Danert, K. 2004, *Final Report of the 2004 Evaluation of The Kigezi Diocese Water and Sanitation Programme.*

consumption, safe excreta disposal and hand washing[14]. They use methods like home visits, monitoring teams and model homes and they do not discriminate but bring together people who usually do not meet to jointly address their common problems[15].

The KDSWP have more than 20 year of experience in hygiene promotion and has been awarded best performing WATSAN NGO in Uganda by the government in 2006 with the justification that *'it sets an example to the rest of Uganda in its willingness to experiment, innovate and learn'*[16]. The programme has so far reached about 200,000 people in 1000 communities and continues to add another 15 communities or 20-25,000 people annually[17]. According to Carter and Rwamwanja[18], projects that were put in place up to 16 years ago were still functioning both technically and institutionally, which is not so common in this area.

2.3 Literature review

2.3.1 Hygiene – What is it?

According to Curtis[19] hygiene is mainly seen as cleanliness, keeping people and the house clean. Tidy and ordered things are considered as hygienic while untidy, dirty things are considered unhygienic; these are things that contain faeces or food waste and that smells bad and could spread disease. Hygiene is supposed to protect and fight bacteria in the toilet and kitchen and involve some personal effort.

'Hygiene is the practice of keeping yourself and your surroundings clean, especially in order to prevent illness or the spread of diseases.' [20]

[14] Carter, R. et al. 2006, *Kigezi Diocese Water and Sanitation Programme Mid Term Review*

[15] Ibid

[16] Webster, J. 2005, *Culture's Influence - Towards Understanding Stakeholder Interactions in Rural Water, Sanitation and Hygiene Promotion Projects.*

[17] Carter, R. and Rwamwanja, R. 2006. *Functional sustainability in community water and sanitation - A case study from South-West Uganda.*Webster, J. 2005. *Culture's Influence - Towards Understanding Stakeholder Interactions in Rural Water, Sanitation and Hygiene Promotion Projects.*

[18] Carter and Rwamwanja, 2006. *Functional sustainability in community water and sanitation - A case study from South-West Uganda.*

[19] Curtis, V. 2003. *Hygiene in the home: relating bugs and behaviour*

[20] Reverso, 2010. *Hygiene*

2.3.2 The correlation between water, sanitation and hygiene

Global Water Partnership (GWP)[21]s definition of IWRM is '*a process which promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital eco-systems'.*

Niguesse[22] states in his work that water and sanitation no longer can be seen as two different areas and thereby not be approached as such. He goes on to say that improving hygiene, sanitation or water on their own without the others there would have no effect. Niguesse discusses the fact that water and sanitation affect each other in more ways. For example water is often used to flush human excreta, which includes a high consumption of water. In the cases where pit latrines are used, there is the treat that they will contaminate the groundwater.

2.3.3 Socio-cultural aspects – What are they?

Roberts, A.[23] discusses the fact that it is difficult to separate the social and cultural aspects from each other as they are intertwined and together impact the health behaviour of a certain population. She goes on to discuss that social factors are socially constructed, such as norms and interpersonal interactions and cultural factors are the beliefs and values of a population. According to Roberts, socio-cultural aspects include norms and status as well as beliefs, ideals and values.

Webster, J.[24] discusses the importance and difference of socio-cultural aspects and their place in water, sanitation and hygiene behaviors. He primarily discuss culture and the different ways in which it can be defined, many of which are including customs, knowledge and beliefs as well as moral. This also takes in the social part as these are seen as features of a group or a society and includes their social behavior. This way it is difficult to separate the culture from the social and they can be seen as joined, socio-cultural aspects.

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[21] Global Water Partnership, 201. Integrated Water Resource Management

[22] Niguesse, B. 2009. *Water Supply and Sanitation at Kisnyi Slum, Uganda: A Study on Institutional and Stakeholder Perspectives on the Major Issues*

[23] Roberts, A. 2005. *Exploring the social and cultural context of sexual health for young people in Mongolia: implications for health promotion.*

[24] Webster, J. 2005, *Culture's Influence - Towards Understanding Stakeholder Interactions in Rural Water, Sanitation and Hygiene Promotion Projects.*

2.3.4 What influences the uptake of sanitation and hygiene behaviours?

Curtis [25] states that mothers may follow hygiene advice from health education without believing in the bio-medical theories of disease transmission and do it to improve their social status and to be modern.

Curtis[26] discusses that the key factors that motivate hygiene were identified to be the desire to give a good impression to others. The most frequent reason for cleaning their house was to save embarrassment if getting a visitor and to remove bad smells and bacteria.

Porzig - Drummond[27] discusses disgust as a factor enabling hand hygiene, where faces and mucus are seen as disgust elicitors as they can make things look soiled. As these sources often are rich of pathogens disgust can thereby protect people from disease. The emotion of disgust can work on both visibly soiled hands but also on invisible soiled object, for example food that has been in contact with an insect.

Avvannavar[28] discusses in his article that when designing eco-sanitation (ECOSAN) in Pakistan observations were made that the population preferred to squat in north-south direction to make sure not to face or turn their back on Mecca but should have their left or right side turned to Mecca. Also other religions such as Christianity and Hinduism mention specific hygiene and sanitation behaviours both as rituals after defecating but also before prayer. There are still beliefs that disease or death is the will of God and many people feel like they have no power to influence this in any way.

Avvannavar's article continues to discuss that the culture regarding hygiene and sanitation behaviour has changed over time all over the globe. It was for example acceptable for the Vikings to squat everywhere and in the 19th century in the countryside of America it was natural to live in a dirty environment. The use of chamber pots that was then emptied out onto the street from the window in England in the late19th century is another illustration of how the culture surrounding hygiene and

[25] Curtis, V. 1995. *Potties, pits and pipes: explaining hygiene Behaviour in Burkina Faso*

[26] Curtis, V. 2003. *Hygiene in the home: relating bugs and behaviour*

[27] Porzig - Drummond R. et al. 2009. *Can the emotion of disgust be harnessed to promote hand hygiene? Experimental and field-based tests.*

[28] Avvannavar M. S. and Mani M. 2008. *A conceptual model of people's approach to sanitation*

sanitation changes over time, what was once acceptable is not anymore. In every society there are unwritten rules and taboo regarding sanitation behaviour. Defecating has often had a low priority and this can be because of the lack of usefulness and sense of disgust of the excrement. Another reason for its taboo can be traced back to the fact that the organs of defecation is positioned close to the genitals and those who have dared to write about sanitation behaviour has often been seen as vulgar.

In Avvannavar's article he goes on to discuss that Cameroonian communities did not want to adopt latrines at all. As, which is true in a lot of countries, this would alter with their traditional defecation practices and would taint the purity of the home if placed in or in attachment to the house. It is also sometimes believed that high hygiene standards can be indicated by the absence of faeces in the toilet.

Avvannavar also discusses that in Kenya for example there is a big superstition about throwing children's faeces into the latrine as this is believed to be used for witchcraft. So the children's faeces are supposed to be hid away so it cannot be picked up by ill-willed people. There are also beliefs that if people with power and wealth leave their faeces unprotected from their enemies they can risk personal harm. Looking at the caste system in India where the lower caste is used for the dirty work in the community, such as collecting the human faeces. Even though it is now illegal the Dhalits are still looked upon with disgust by the other castes. The issue of status is discussed as an important consideration along with issues regarding social relations when adopting hygiene practices. Even today people are not willing to use toilets that smell of faeces, this is not mainly because of disgust but because they do not want others to believe that they are responsible for the smell. Studies conducted in slums across the world show that the people prioritize sanitation lower than lifestyle investments such as cell phones and TV's making open defecation still a common practice.

2.3.5 Hygiene and Sanitation promotion designs

According to Waterkeyn J. and Cairncross S.[29] the Participatory Hygiene and Sanitation Transformation (PHAST) approach, though well known failed to be put into well supported programmes. Despite material being distributed and staff being familiar with

[29] Waterkeyn J. and Cairncross S. 2005. *Creating demand for sanitation and hygiene through Community Health Clubs: A cost-effective intervention in two districts in Zimbabwe.*

the participatory approach it failed because it was not used in the day to day work. The activities were seen as too labour intense and time consuming and not enough funding was set aside for this also the fact that the conventional methods was set firm in the minds of the staffs minds made it more difficult.

Hygiene clubs build on the traditional values of the community and also on the history of women's groups that have been developed throughout the colonial period. The clubs were designed to develop a culture of health and create a demand for improved hygiene and sanitation practices. The clubs are voluntary organization open to everyone free of charge. The approach is meant to change the norms and beliefs within the group as these factors are recognized as controlling the behaviours. The club first tried to form a common unity within the target population and then apply knowledge to the day to day activities to ensure good hygiene, safe water supplies and improved sanitation.

Community led total sanitation (CLTS) is another approach that wants to '*ignite a sense of disgust and shame among the community (and) mobilise them into initiating collective action to improve the sanitation situation*'[30]. This approach was successful in Bangladesh but in other contexts this approach has had less success, Bongartz[31] identifies reasons for the limited impact such as social divisions and where social norms are used as restrictions.

Ahmed, R.[32] reports several different approaches for hygiene and sanitation promotion tried out in Bangladesh such as CLTS and CARE SAFER (Sanitation and Family Education Resource) which used two models for hygiene behaviour change, the single channel and the multi channel model. The first model used primary recipients of the hygiene promotion such as the caretakers of the wells for example while the other model used more diverse populations like children and men. SAFER consists of three sections, sanitation and hygiene, safe water and diarrhoea prevention and management. For each section a few simple messages were used. The people are themselves actively involved so that the messages are in their own words, this also minimises the time the

[30] Kar, K. 2005. *Practical Guide to Triggering Community-Led Total Sanitation (CLTS).*

[31] Bongartz, P. 2009. *Favourable and Unfavourable Conditions for Community Led Total Sanitation.*

[32] Ahmed, R. 2010. *Journey towards changing behaviour: Evolution of hygiene education in Bangladesh.*

experts spend lecturing. SAFER is using Participatory Rural Appraisal (PRA) tools as well as interviews, group discussions and observations.

Ahmed's conclusion is that in Bangladesh they do not want to adopt any one approach and just implement it as it is. Instead he writes that the approach in Bangladesh now is to identify parts from all the different approaches that might work in Bangladesh. This way they can cherry pick the parts of each approach that best suits them and make an approach more suitable for Bangladesh.

To conclude this review, it can be states that the common feature of studies covered was that they all argued the fact that there was no guarantee that each approach though suitable and effective in the specific situation, would work anywhere and everywhere else.

3. Methodology

The methodology adapted as the study went on and lessons could be drawn from experiences, and literature. For example the phrasing of the questions in the interviews adapted during the process to ensure that they were understood as they were supposed to.

3.1 Field study

The field study consisted of Focus groups with the WATSAN-committees in the communities as an initial contact to ensure a first dialogue from where further interviews could be built. Semi structured interviews was conducted with community members (*see figure 3*) as well as staff from KDWSP. This was in order to get a more in depth understanding of the hygiene and sanitation behaviours and how different socio-cultural aspects influence them. Observations in the communities were conducted during and in connection to the interviews providing an understanding of the behaviours and life in the community. Transcripts from the focus groups and interviews are available on request. Each of the methods and tools are explained below.

3.1.1 Stakeholder analysis

Before deciding who to interview and have in the focus groups an informal stakeholder analysis was done, identifying who has an 'interest' in the issue. A stakeholder is a person or a group that affects or are affected by the project. This analysis was done based on KDWSP analysis and adapted to this study, this was then justified by the WATSAN-committees. A stakeholder analysis should be done in collaboration with the stakeholders and thereby develop through the process, this was not done in this case due to the frames of the study.

The stakeholder analysis shows that those with interest and influence in the issue of socio-cultural aspects of hygiene and sanitation behaviour are the KDWSP staff and the WATSAN-committee. Other identified stakeholders include the community itself; women, men and children. The identified stakeholders as well as their interest and influence are presented in *figure 2* below.

INFLUENCE		INTEREST	
		LOW	HIGH
	HIGH	**Stakeholders of low interest but high influence – Keep satisfied**	**Stakeholders of high interest & high influence – Key stakeholder** WATSAN-committee KDWSP – staff
	LOW	**Stakeholders with low interest & low influence – Minimal effort**	**Stakeholders of low influence & high interest – Keep informed** Practicioners -Man -Women -Children -Youth -Elderly -Disabled

Figure 2. Stakeholder analysis

The interviews took place in five communities, Kagarama, Nangara, Keeru, Kasooni and Nyamiyaga. The reason for choosing these five communities was to get two communities where the hygiene and sanitation promotion had been successful, two where it had been less successful and one community where the programme had not done any work so far to get a 'control' community. KDWSP presented these communities as suitable communities that fulfilled the criteria. Within these communities respondents were selected for interviews and the selection criteria for one of the communities is shown in *figure 3* below and was identified with help from KDWSP. A full list of interviewees can be found in *Appendix A*.

Respondents	Critical criteria
2 Men	1 young man, 30-40 years old 1 old man, 50-60 years old Men that we meet that are willing to participate Preferably one with rainwater tank and one without
2 Women	1 young women, 30-40 years old 1 old women, 50-60 years old Women that we meet that are willing to participate Preferably one with rainwater tank and one without
3-5 Children	5-10 years old Children we meet who are willing to participate

Figure 3. Table of interviewees with their criteria

3.1.2 Focus groups

Focus groups were held with the WATSAN-committee in the four communities where KDWSP has worked before as a way to introduce the study and get an initial understanding of the community. Focus groups were held with children in each of the five communities to capture their view. A focus group was held with KDWSP in the beginning of the study to get an overall view of the situation in the entire district. As the focus groups were held on different levels, this was another step to triangulate and validate the collected data from observations and interviews.

A focus group worked fine as this was not the time where their individual hygiene and sanitation behaviour were discussed but it was rather discussed in a more general term. It was regarding what their everyday life is like and what the hygiene and sanitation situation in the community as a whole looks like[33].

3.1.3 Semi structured interviews

Interviews were used to collect data regarding the community's hygiene and sanitation behaviour. The respondents were based on the stakeholder analysis; community members, both women and men and their willingness to participate. Twenty interviews were held with representatives from these groups. The reason for this relatively small number was because the focus was to collect qualitative not quantitative data. However this small number might mean that the collected data is not representative for the entire community. A full list of respondents can be found in *Appendix A.*

The interview type conducted was semi structured interviews, which means that it is a mix of open and structured questions or that the questions are somewhat steered but that it is open to change.[34] The interviews started with open ended questions which became more structured and to the point with follow up questions following Kvale's[35] recommendations. An initial open question could be something like *'Can you tell me what a day looks like for you here in the village*?' An initial interview guide was developed with identified areas of interest for the study. However the guide changed

[33] Thomsson, H.2002. *Reflexiva intervjuer*

[34] Kylén, J-A. 2004. *Att få svar - intervju enkät observation*

[35] Kvale S. 2008. *Interviews. Learning the Craft of Qualitative Research Interviewing*

and adapted as the data was collected and new questions arose. The interview guide also adapted to who was being interviewed.

3.1.4 Observations

Observations were conducted, in order to get an idea what the life is like in the community and to understand the people's behaviours and their understanding of the questions. The observations provided a way to triangulate the data collected through interviews and focus groups as recommended in Almedom.[36]

The observations took place during all time spent in the village but was more focused during interviews, walks through the village and inspections of sanitation and hygiene facilities. The focus of the observations was the sanitation and hygiene behaviours and facilities in the village and also observations regarding any related socio-cultural aspect linked to this. During the observations notes were kept to better remember and organise the observations. It was important to be aware of that the observations are affected by the observer's values and interpretations[37]. For example the chosen location and time being observed, affected the observations made and the interpretations of what is observed and the analysis of it was influenced by the observer's previous experiences. The observer's presence also affected the observations as the observer was not seen as a natural part of the village. As the community members felt observed they therefore acted as they knew they should which might not have been their day to day behaviour. Bias is discussed further below.

3.1.5 Translator

A translator was needed as English was not sufficient with all respondents during the study. The translator should preferably be someone with good knowledge about the surroundings[38], the people and their culture as well as knowledge about the local language and English to avoid misunderstandings. All of these issues are important to ensure a feeling of trust and security between interviewer, the translator and the respondent.

[36] Almedom, A.M. et al. 1997. *Hygiene Evaluation Procedures – Approaches and methods for assessing water –and sanitation related hygiene practices.*

[37] Hammersley and Atkinson, 2003. *Ethnography.*

[38] Dahlkwist, M. 2004. *Kommunikation*

KDWSP assisted with the translation and as they had a connection with the village and villagers which was helpful when discussing a relatively delicate issue. Even though the translator had the local and cultural understanding as well as the language, the objective of the study, the questions as well as the ethical considerations was discussed with the translator before the interviews started, to ensure that the translator understood what the interviewer wanted from the interviews. The differences between interpretation and translation were discussed. Even with all this done, using a translator created a second boundary or step in the connection between interviewer and respondent. Using a translator from KDWSP did not affect the bias of the study as it is not an evaluation of their work, rather a way to get an understanding for why their approach works in some cases and in some cases not, but it might have made the respondents more likely to answer what they thought was the correct answer. By using a male translator some women might have felt like they could not say everything that they wanted, however as the questions were not regarding menstrual hygiene for example this is not expected to have made a huge impact.

3.1.6 Triangulation and bias

One of the reasons for using the different tools such as observations, interviews and focus groups was to triangulate the data, to ensure that the data was as perceived. The data was triangulated by using these different tools but also by using them on different levels. Focus groups was held with the KDWSP getting a district wide picture of the situation, focus groups were held with the WATSAN-Committee in the communities getting a community wide picture, then getting down to individual level for the interviews. This way the data collected is triangulated in several different ways.

Using triangulation minimizes the influence of the bias of the interviewer. However there will always be a bias and the data will be effected by the researcher's views and prejudice. The data is affected in many ways by the researcher, from the choice of study location and respondents to the questions asked, tone of voice and body language and also in the analyze process of the collected material[39]. Meaning that the researcher is not and cannot be separated from the data, they influence each other. The role of the researcher is thereby not just as an outsider but as a part of the data collection process.

[39] Alvesson M. and Sköldberg, K. 2000. *Reflexive Methodology. New Vistas for Qualitative Research.*

However as several different tools was used the influence of this was minimized and the main thing was to be aware of this potential bias during the analysis.

3.2 Analysis of the data

The data was analysed throughout the process to ensure that if something new of interest came up it was investigated further. Once all data was collected it was analysed using the literature study outcomes, the data was then discussed and conclusions of the study were made.

The first step in the analysis was to identify the relevant data from the field notes and transcripts as recommended by Dalen[40]. As a translator was used in this study some of the raw material was lost as the use of certain words or phrases and also the tone used got lost. However, the age, gender and general impression of the respondent was taken into account when the data was analyzed to analyse how truthful the data was, for example if they said they washed their hands with soap after latrine use but did not have water and soap available after latrine use, then that would indicate that they did just answer what they assumed to be correct. When the relevant data was identified it was organized into frameworks through using diagramming tools such as rich picture, force field analysis and multiple cause diagrams. This way the data was organized and the 'story line' of the data was found and the full story was produced[41].

3.2.1 Analysis tools

The tools used were rich picture, multiple cause analysis and force field diagram. These tools are a good way to show the socio-cultural aspects influencing of hygiene and sanitation behaviour.

3.2.1.1 Rich picture

Rich picture is a way to show all the collected data, to show all the different aspects and paint a picture of the studied area. It is a way to organise the perspective of the situation of one or more individuals. It helps to structure the messy thoughts into themes which are easier to understand and interpret. Sharing the rich picture with the KDWSP was a

[40] Dalen, M. 2007. *Intervju som metod*

[41] Guvå G. et al. 2003. *Grundad teori – ett teorigenererande forskningsperspektiv* and Glaser, *B.*1998. *Doing Grounded Theory: Issues and Discussions.*

good way to find out if there is anything that was perceived differently by them, the interpretation of the situation then got more holistic.[42]

3.2.1.2 Multiple cause analysis

The multiple cause diagram show why a situation is like it is, the causes of a specific situation. In this case it shows the different aspects influencing hygiene behaviours. This allows the viewer a picture to understand why a situation occurs and where it is most suitable for intervention depending on position and aim with the diagram. It also provides a holistic view of the situation and it was possible to identify effects even outside the own sector.[43]

3.2.1.3 Force field analysis

The force field analysis shows the opposing forces that enable or disable certain situation or as in this case a behaviour or behaviour change. The diagram shows the forces which are supportive of the change and those who are likely to be resistant to it. The diagram is a good tool to identify the restraining forces as it is important to be aware of these to be able to handle them.[44]

3.3 Sources of error

Below are the identified sources of error presented and their potential influence of the results discussed as well as how they were addressed.

A source of error was the translation process, as using a translator creates another obstacle between the interviewer and the respondent. It is not possible to give back exactly what was said as the different languages have words that do not have an equivalent word in the other language. There is also a difference between the concepts of translation and interpretation which is sometimes difficult to capture meaning that some aspects of the interviews will have been lost. This has been taken into consideration during the analysing the data.

Also, the respondents will in some extent say what they think that the interviewer wants to hear, what they think or know is the correct answer. What they are supposed to do

[42] Open University, 2010. *A rich picture about rich pictures*

[43] Open University 2, 2010. *What are multiple cause diagrams?*

[44] Learning space, 2010. *Diagramic presentation – force field diagram*

instead of what they actually do. This has been addressed through asking questions like why they are doing things and through observations.

4 Results and analysis

Below the analysed results of the study is presented in different diagrams showing the different socio-cultural aspects influence on hygiene behaviour as a whole, for three selected behaviours, another diagram is showing whether the aspects are enabling or disabling the behaviour and lastly the different aspects influence or relationship to one another is presented. In this section the analysed data will be presented and the findings will then be discussed further in the next section.

4.1 Rich picture

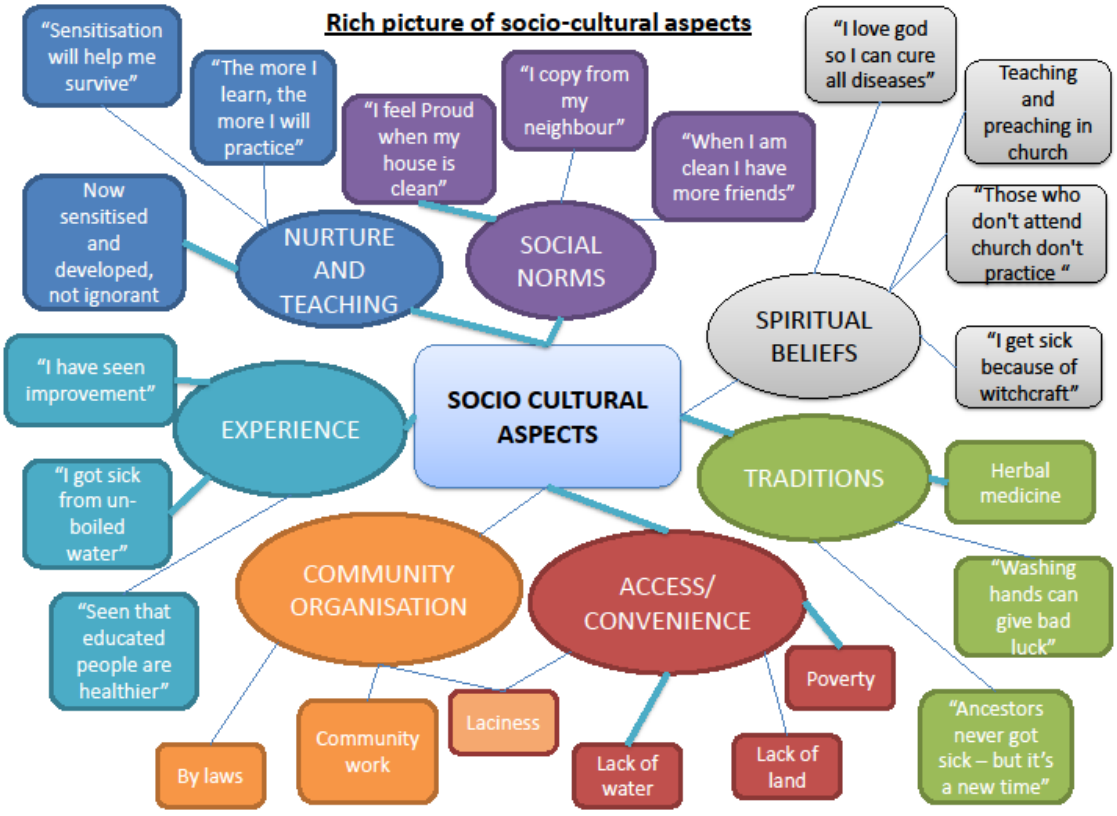

Figure 4. Rich picture showing the different socio-cultural aspect influencing hygiene and sanitation behaviour

The identified socio-cultural aspects influencing the hygiene and sanitation behaviour are Social norms, spiritual beliefs, traditions, access/convenience, community organisation, experience and nurture and teaching as shown above in *Figure 4*. The aspects influence the behaviour in different ways and are shown in the way the respondents refer to their previous and present hygiene and sanitation behaviour. The

diagram is showing the different aspects and in which way the respondents refer to it either through quotes from the respondents or what was read between the lines. This way it is possible to get a picture of what aspects are important to take into consideration when designing WASH projects. The thickness of the lines represent if the aspect was mentioned once or several times, the thicker the line the more significant it is perceived. In this study the rich picture was used as a way to put together all the data and to be able to get an overarching image of the situation instead of using it with all the stakeholders as is done originally when using a rich picture.

Nurture and teaching is the concept that was brought up most in the interviews and includes both parental nurturing but also teaching in schools, preaching in churches and sensitisation from KDWSP or the government. They referred to the sensitisation as a form of transformation from undeveloped and primitive to developed and modern. However this transformation is not just because of the hygiene and sanitation behaviour but also do to other development projects in the area. The communities have had interference from outside organisations before KDWSP and have been changing towards this so called modern behaviour. Several of the respondents gave sensitisation as the reason for practicing the new behaviours; they now knew that their old ways were not safe for example.

Access convenience was the most common given reason for not practicing the behaviours. It was largely because of lack of money to purchase soap or pay the commitment fee for the rainwater tanks, but lack of water to ensure sufficient washing, bathing and cleaning was another issue. Then access to land for building the latrine, drying rack was also mentioned as a problem.

Social norms were mentioned as a motivator for cleaning both themselves and their houses with statements like *'Healthy behaviour gives more friends'*[45] and *'when my house is clean, because when a stranger comes to my house at least I am proud of it.*[46]'. There were also statements regarding how they were copying from their neighbour, which is used in KDWSPs approach with site visits and the use of example houses.

[45] Interview id; 14, Ms Ninsima, Kasooni

[46] Interview id; 20, Mr Aggrey, Kagarama

Experiences was addressed as many of the respondents had themselves seen the impacts of the programme, the changes and had personal experiences of getting sick from un-boiled water or getting sick from being bitten by mosquitoes after sleeping without a mosquito net.

Their traditions came up when discussing their behaviours before they were sensitised and often revolved around the herbal medicine they used for their health. Most of the respondents stated that they had now left this behaviour behind to instead use the new health clinics and hygiene behaviours. A couple of the respondents confessed that they still might use the herbs for treating their children but not themselves, so the knowledge is still available but is looked upon as primitive and undeveloped.

Spiritual beliefs seems to be an important part of the change in hygiene and sanitation behaviour as at least for the KDWSP, much of the sensitisation is done through the church and the church groups. But there are also obstacles that come with the beliefs, for example the belief that God will protect you and it is not in your own power to avoid disease. Also beliefs that diseases are caused by witchcraft can make a change in behaviour difficult as the relationship between hygiene and health is not clear.

Community organisation was mentioned as a limiting factor as people did not engage in community work. For example people did not volunteer to help build the rainwater tanks and thereby did not get any and when the protected spring needed to be maintained there was just a few community members that helped out. Drunkenness was also mentioned as a problem in some communities.

4.2 Multiple cause diagram

The multiple cause diagram below (*Figure 5*) is showing three of the aspects that the KDWSP focuses on; hand washing, increased water consumption and safe excreta disposal. The causes of the different behaviours are identified and the arrows represent which aspects influence which behaviour.

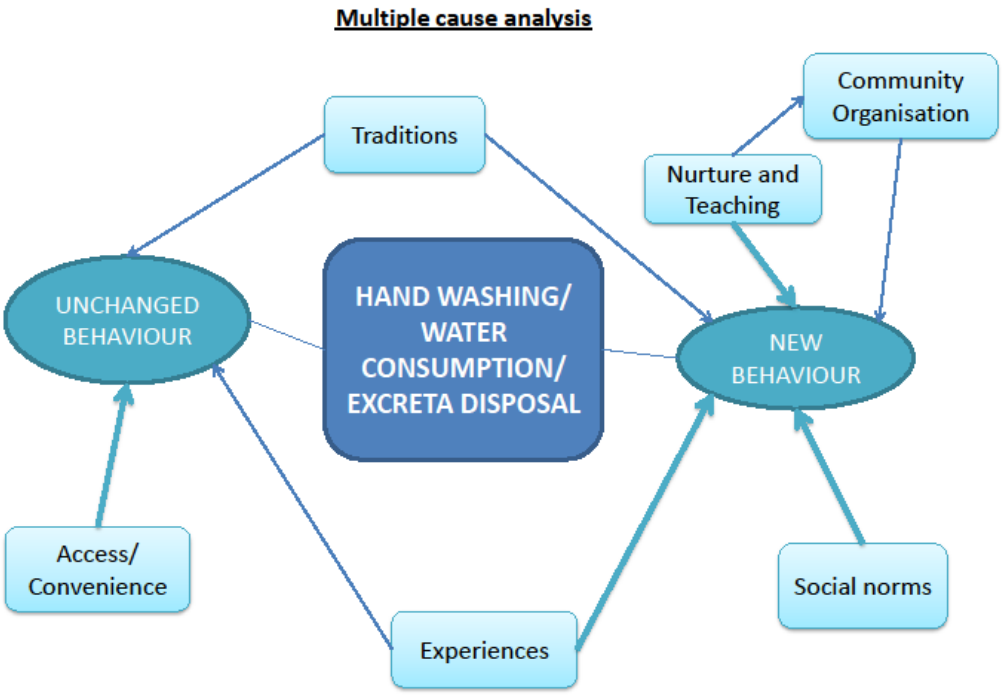

Figure 5. Multiple cause diagram showing the different causes of hand washing, water consumption and excreta disposal.

The diagram above shows hand washing, water consumption and excreta disposal and identifies the causes of the different behaviours. These represent the focuses of KDWSP, the three aspects that the programme chooses to focus on within their programme. The arrows represents in which way the behaviours are influenced by the different aspects and the thickness of the arrows show the significance of the cause.

Traditions and experiences can contribute to unchanged behaviours but should also be used when promoting new ones. This is because depending on the experience these can be getting sick from un-boiled water or that the san-plat was too heavy for the latrine structure and falls down the pit.

Social norms regarding cleanliness can be used as a motivator to improve hygiene behaviour as people in the communities expressed that they want to be perceived as modern and developed. Feeling proud of their clean and modern house is a strong motivation and will also spread as the community member's then copy from each other.

Also nurture and teaching can help motivate change and community organisation can help motivate both the teaching and the improved behaviour direct.

Access and convenience is the strongest hindering factor as most people mentioned lack of water, money and land as the reasons for them to not practice what they knew as healthy behaviour. Also comments that even though there was a tapstand available with safe water some still walked for over an hour to collect stagnant water from the swamp because they could not afford the cost of 100 USh of the water supplied from the government. However this might also be the easiest answer and the answer that might give them additional access to further projects and further investments.

4.3 Force field analysis

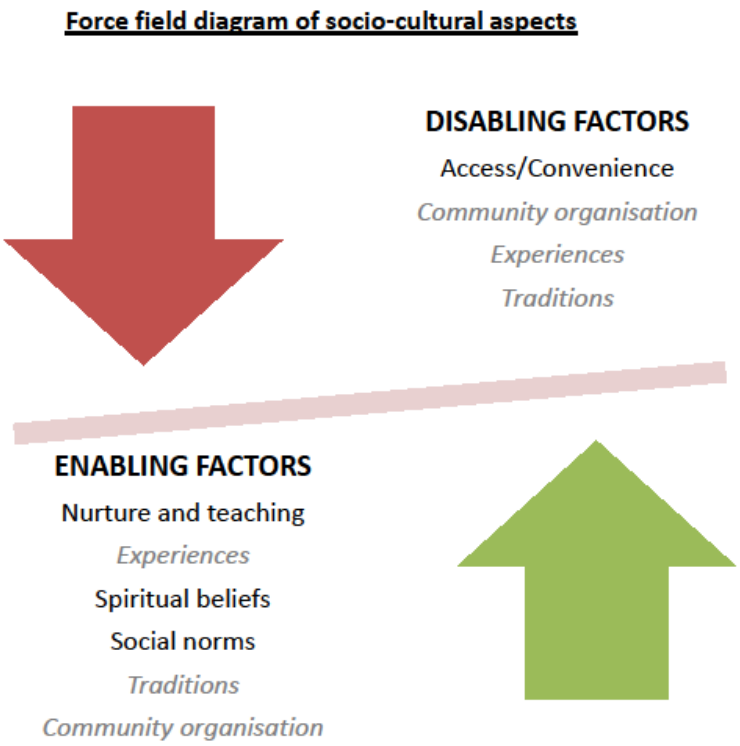

Figure 6. Force field diagram showing the enabling and disabling factors in changing hygiene and sanitation behaviour.

The aspects have in the diagram above (*Figure 6*) diagram been divided into enabling and disabling factors to envision what aspects can be used as an asset for the program and which aspects needs to be addressed as they might create an obstacle for the

programme, either for its adoption or for its sustainability. The aspects are presented in a hierarchy of which aspect is seen as the most important one with highest significance. The aspects in italic show those who can both have a disabling and enabling influence.

The enabling factors represent the aspects that should be used within the tools for the hygiene and sanitation promotion. For example tools like creating a model home so that the community members can copy from their neighbour and using competitions as a tool to get the communities to improve their community organisation and work together to improve their hygiene and sanitation situation in order to win the competition.

The disabling factors need to be addressed when choosing the tools used as more focus might need to be on creating good community organisation to ensure sustainability of the project, maybe there is an underlying problem of drunkenness for example creating divisions within the community that needs to be addressed before being able to create a successful project.

4.4 Relationships between socio-cultural aspects

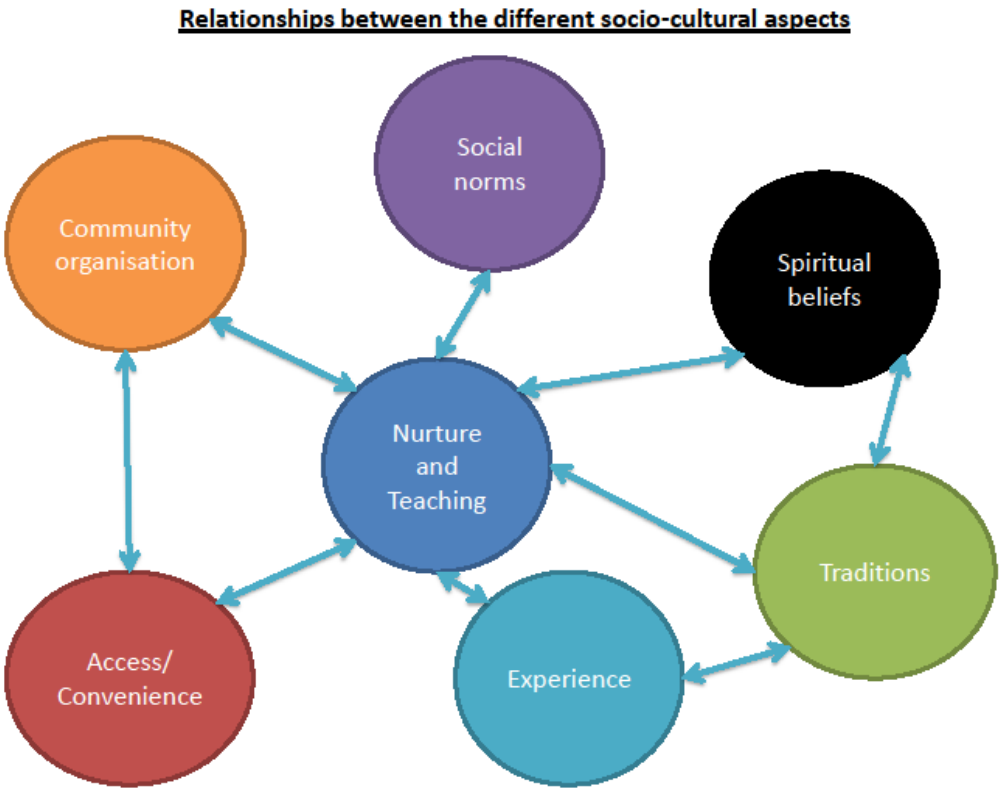

Figure 7. Diagram showing the relationship between the different socio-cultural aspects.

The aspects all influence each other in some way but mostly they all influence nurture and teaching as shown above in *figure 7*. As nurture teaching is what is done with hygiene and sanitation promotion, all of these aspects need to be considered. There are also other factors that relate to each other and not just to nurture and teaching, these relationships are explained further below.

Access/convenience affect teaching as the promoted behaviour needs to be appropriate and accessible for the targeted community. Experience affects the teaching as experiences can both help motivate the promoted behaviour and be used as a tool. Community organisation is in some way an underlying requirement to ensure both an initial change and sustainable improvements and also connects with access/convenience as community organisation affects the sustainability of the projects and thereby its access to water for example. Social norms again can be used as a tool for change and is also a part of the nurturing as the social norms will be what parents will teach their

children. Spiritual beliefs are used in many ways for the teaching as the church is often used both through preaching but also through using the church for meetings and its groups as ways for spread the word. Traditions influence the teaching as it needs to be taken into consideration when designing the project as the traditional behaviours can be used to base the new ones on. Traditions and spiritual beliefs relate to each other as some traditional superstition relates to traditional beliefs of witchcraft. Experience also relates to traditional beliefs as these experiences will be part of forming the traditions as for example the experiences of how a person was brought us will influence their traditions.

5 Discussion

There are many things influencing the hygiene and sanitation behaviours of a community. One of the influences is the socio-cultural aspects: Social norms, spiritual beliefs, traditions, access/convenience, community organisation, experience and nurture and teaching. The names of these aspects are not set and they overlap in some areas, in related literature these same aspects might have other names, for example social acceptance and dignity instead of social norms, and their relationships to the hygiene and sanitation behaviour as well as each other might be interpreted differently. However the same concepts are found in other literature and its importance is clear even though most literature simply states its importance but do not attempt to make any further analysis.

5.1 The socio-cultural influences of hygiene and sanitation behaviour

The socio-cultural aspects are discussed below and presented in order of significance, meaning that the top ones are considered most important to take into consideration when designing a WASH-programme.

5.1.1 Traditions

Traditions are another aspect that influences the behaviour of the people, for example a lot of the traditional behaviours include herbal medicine. The people in the communities used the herbs that were locally available for most health issues. However as more and more health centres have come and the people have been sensitised this traditional medicine has been overlooked and many people now regard this as an undeveloped way of treating diseases. Statements like this show that the community now look down at their traditional behaviours *'Now the new culture has exchanged the old culture and I do no longer want the old culture*'[47]. However this kind of thoughts are not because of single program's such as the KDWSP, but do to the entire thought behind development aid and the contact with the western world. The behaviors from the west are perceived as inferior to others and this is what is then passed on to LDC's. The herbal medicine was also used for hygienic practices, for example a leaf with antiseptic properties was used instead of soap for hand washing, but also these practices has stopped as it is

[47] Interview id; 21, Ms Rukyeba, Kagarama

primitive. As many people cannot afford soap these behaviours would be more appropriate, to continue using ashes or the leaves for hand washing instead of nothing.

5.1.2 Access and convenience

Access and convenience is the one thing that most respondents mentioned as the reason of why they did not practice the behaviours that they knew was healthy. Access is both regarding access to water, enough water, safe water and the distance to water. There were still families of six to seven sharing one jerry can of 20 litres per day, because of the long distance they had to walk to fetch the water. Access to money was the thing after water that was mentioned as the biggest obstacle. In most of the communities there was no income generating activity. Some could grow a bit of Soghum and sell but mostly they just grew what they needed to survive. Many of the communities were poor and could not afford to buy the soap or to get the commitment fee for the rainwater tanks or san-plats, in some communities they had problems even getting food for the day and could then not prioritise paying for other things than food. There was also a few of the respondents who lived very close to a tapstand provided by the government, but as they there had to pay for the water, 100USh per jerry can of 20 litres. But also other aspects of access such as sufficient land to build the latrine, bath shelter and drying racks for example on the compound.

5.1.3 Social norms

Social status and wanting to feel proud of their house was mentioned several times as a reason for frequently sweeping their compounds and houses. The fact that social status and norms is a strong motivator for improved behaviours is also indicated by Curtis[48] which discusses the fact that mothers often follow the hygiene advice given as they want to be seen as modern and be social accepted, not because they necessary believe in the bio-medical theories. The respondents stated things like *'Healthy behaviour gives more friends'*[49] or that *'When I'm clean I have more courage and am always prepared'*[50]. This shows that social norms are an important enabling factor. That can help to motivate people to improve their personal and domestic hygiene and can thereby be used in the design of the project.

[48] Curtis, V. 1995. *Potties, pits and pipes: explaining hygiene Behaviour in Burkina Faso*

[49] Interview id; 14, Ms Ninsima, Kasooni

[50] Interview id; 12, Mr Rwasa, Kasooni

5.1.4 Experience

The experiences of the community is a strong aspect and influence the hygiene and sanitation behaviour. People's experiences can be used as a driving force for changed behaviour as they can testify that they got sick from un-boiled water for example or eating from the same saucepan without washing their hands. Experiences like these would most likely work better for promotion than bio-medical theories. This is since stories of their neighbours getting sick are things that they can relate to and maybe even remember. This way the information given is validated and the trust is built and they will believe what is being said.

5.1.5 Nurture and teaching

Nurture and teaching is the most expressed reason for changed or improved behaviours. Nurture and teaching is both the nurture from parents, teaching in schools, church and also the teaching that is done from the KDWSP or government. Many of the respondents see this as the reason that they are now developed and no longer primitive, shown with statements like '*The more I learn the more I will try to practice*[51]' and '*Sensitisation will help me survive*[52]'. Even though the approach is meant to be participatory it still seems like a lot of the teaching is done top down through preaching in church or teaching in schools, also the approach of the sensitisation seems to be more top down than bottom up.

5.1.6 Spiritual beliefs

An important aspect are spiritual beliefs, these can both be used for motivating people to change and to promote or enlighten people about certain issues. This can be done in many different ways, through preaching in the church or teaching in the many different church groups. However spiritual beliefs can also be a factor to overcome, some of the respondents expressed that they did not fear getting ill as they believe in God and he will protect them and make sure that they can overcome any problem. There were also people expressing beliefs that they get sick because they get bewitched. There is also the risk of leaving some people out when using the church as the main entry as then, as

[51] Interview id; 14, Ms Ninsima, Kasooni

[52] Interview id; 12, Mr Rwasa, Kasooni

some of the respondents mentioned, the ones who do not attend church do not practice the new behaviour.

5.1.7 Community Organisation

Community organisation is an important aspect to make sure that the interventions are maintained and established in the community. For example the members of the community themselves build the water tanks and maintain the springs and handle the monitoring and thereby the ongoing sensitisation. The responsibility of the programme is more or less handed over to the WATSAN-committee to ensure that the community members themselves are able to handle the water and sanitation situation in the community.

5.2 Most appropriate WASH design

There is no such thing as a perfect WASH design, a perfect programme and tools that will work anywhere and with anyone. Instead the most important thing is to take the time to identify what the situation is where the project is being implemented. There are a lot of different factors that need to be considered when designing a WASH project. Socio-cultural aspects that are discussed in this study are one such factor and which aspects will have the largest influence will differ from location to location and from situation to situation. There is no ultimate approach that will always work.

However there are certain pointers or things that need to be addressed more or less wherever a WASH project is being implemented. The project needs to be suitable for the people who are being targeted in the project. This means it has to suit their economic situation as well as their social and cultural one. It also needs to suit their environment and their access to water and land for example. So in order for the programme to work it needs to be appropriate. As Carter[53] states that there is a need to address people's basic poverty, to ensure that they have disposable income to free them to prioritise their water, sanitation and hygiene situation.

Ahmed[54] discusses the need to not get stuck with one specific WASH approach but to chose the parts of the approach that is suitable for the specific situation. Even if an

[53] Carter et al. 2006. *Kigezi Diocese Water and Sanitation Programme Mid Term Review*

[54] Ahmed, R. 2010. *Journey towards changing behaviour: Evolution of hygiene education in Bangladesh.*

approach is working very well in one situation, there is no guarantee that it will work as well or at all in another situation. As WASH issues are quite sensitive there is a greater need to make sure that the approach is acceptable and appropriate for the given situation.

Waterkeyn J. and Cairncross S. [55] approach of health clubs is a success in Zimbabwe as it is common there to have groups of this sort and also the competitions, which are conducted are accepted which might not be the case under other circumstances.

As stated before hygiene and sanitation is an important part of IWRM. Water, sanitation and hygiene cannot be separated and all need to be considered when a program is designed. The fact that the main disabling factor found in this study is access/convenience show the importance of taking this holistic view ensuring the promoted hygiene and sanitation behaviour are feasible and appropriate to the local circumstances. For example there need to have water available ensuring that the hygiene behaviours are practiced. There is also a need to have safe sanitation in order to be able to ensure safe water. These are just a couple of the many correlations between water, sanitation and hygiene. By using IWRM other issues are also tackled that affect the uptake of the hygiene and sanitation behaviours giving the approach a more holistic view of the situation of water, sanitation and hygiene in the community.

[55] Waterkeyn J. and Cairncross S. 2005. *Creating demand for sanitation and hygiene through Community Health Clubs: A cost-effective intervention in two districts in Zimbabwe.*

6 Conclusions

Below the conclusions drawn from this study are presented in priority order.

- There are both positive and negative **Traditional Behaviours.**
- **Poverty** is seen as the mayor underlying problem.
- **Social Norms** is a strong motivator for hygiene and sanitation behaviour change.
- There are a lot of **Experiences** among the community members related to hygiene and sanitation behaviours.
- **Nurture and Teaching** is often done top down
- IWRM would with its **Holistic approach** take water, sanitation and hygiene into consideration.

6.1 Recommendations

These recommendations should be taken into account when designing hygiene and sanitation promotion programmes in the future.

By capturing good traditional behaviours and integrate these with new improved behaviours they are more likely to be sustainable. For example using traditional behaviour such as plants or ashes instead of soap where people cannot afford soap is a way to base the intervention on the traditional behaviours, start from the people's own practices.

In order to ensure people are able to adopt the water, sanitation and hygiene practices, the issue of poverty need to be tackled. For example through setting up self help groups in the communities, creating income generating activity. This should be done either from inside the programme or with outside help.

Feeling proud over their clean house or the feeling like when they are clean they can do anything are strong motivations for improvements and are good tools to use for hygiene

and sanitation promotion. So social norms can be used through methods like model homes and visiting communities where a specific behaviour is practiced to see the change and copy it back home.

Identify what experiences are available in the community to use these when discussing old and new behaviour to ensure the people can relate to what is said, for example people getting sick from un-boiled water.

This should be the underlying idea of any WASH-programme as without taking local circumstances into consideration a sustainable change will not occur. This will also ensure an appropriate approach and not the values from outside that are implemented in every community.

6.2 Future research

This study is not complete and there is need for further research within the area of socio-cultural aspects and their influence in WASH-behaviours. This study was conducted during a short period in southwest Uganda, and a more extensive study is needed which also looks at other areas where the socio-cultural situation is different.

There is a need to capture the local knowledge of herbal medicine and find out which and how herbs should be used and how effective they are. In this study there was some mentioning that the government of Uganda is bringing in traditional herbs into the western medicine, so there is a need to identify what herbs are effective to ensure people are not at risk. There is also a need to identify if the plant previously used for hand washing sufficiently removes faecal contamination to ensure that it is a safe choice to soap.

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8 Appendices

Appendix A. Complete list of respondents

Focus groups

Interview id:	Gender:	Age:	Community	Other:
1	1 man 3 women	22-55		KDWSP-staff
2	2 boys, 1 girl	8,10,12	Kasooni	Children
3	2 women 1 man	50, 30, 30	Nyamiyaga	WATSAN-Committee
4	2 boys 1 girl	7, 9, 6	Nyamiyaga	Children
5	4 women	40,40,50,50	Kagarama	WATSAN-Committee
6	5 girls, 2 boys	5,11,13,14,17,8,10	Kagarama	Children
7	4 women, 2 men	40,50,60,60,40,40	Nangara	WATSAN-Committee
8	3 girls 1 boy	10,14,14,12	Nangara	Children
9	2 women 2 men	50,50,50,60	Keeru	WATSAN-Committee
10	2 girls, 1 boy	9,9,9	Keeru	Children

Interviews

Interview id:	Name	Gender:	Age:	Community	Other:
11	Mr Biryabarema	Man	42	Kasooni	UN-volonteer
12	Mr Rwasa	Man	52	Kasooni	
13	Ms Turyagumanawe	Women	60	Kasooni	
14	Ms Ninsima	Women	31	Kasooni	
15	Mr Byamukama	Man	30	Nyamiyaga	
16	Mr Nkuruzinza	Man	60	Nyamiyaga	
17	Ms Sebuhinja	Women	60-70	Nyamiyaga	
18	Ms Tuaume	Women	30	Nyamiyaga	
19	Mr Kihamramagara	Man	60	Kagarama	
20	Mr Aggrey	Man	30	Kagarama	
21	Ms Rukyeba	Women	60	Kagarama	
22	Ms Topista	Women	30	Kagarama	
23	Mr Barugahari	Man	60	Nangara	
24	Mr Amaret	Man	30	Nangara	
25	Ms Rwakanyemere	Women	60	Nangara	
26	Ms Independence	Women	30	Nangara	
27	Mr Rutenapora	Man	40	Keeru	
28	Mr Kafuruka	Man	93	Keeru	
29	Ms Muhiire	Women	80	Keeru	
30	Ms Alinetwe	Women	30	Keeru	