A study on the sustainability and the aftermaths of the HESAWA project in Tanzania

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Abstract:

The Health through Sanitation and Water project (HESAWA) was first initiated in 1983/84, and was implemented from 1985 to 2002. The project covered three regions in northwestern Tanzania and strived towards improving the health situation in the area through improvements in the water and sanitation sector, as well as by providing health education to the local people.

The aim of this research study is to investigate if the HESAWA project and its implemented structures have been sustainable for the local population in the affected villages in the Geita region in Tanzania. The Sida evaluation manual, *Looking Back, Moving Forward*, has been used as an analytical frame of interpretation to determine if these goals have been fulfilled.

The research was carried out as a field study in two villages in the Geita and Mwanza region, just south of Lake Victoria. In total 42 interviews were conducted among families, Water Committees, focus groups of men and women, dispensaries, health clinics, schools, NGOs, and former HESAWA workers. The questions were centered on water, sanitation, and health issues. The most common diseases included diarrhea, bilharzia, worms, and malaria. Even though these diseases have decreased in the area, they are still present to a large extent.

The conclusion drawn from this study is that the HESAWA project did make a difference in the Geita region. The health standard at large in the villages has increased today compared to during the beginning of the HESAWA project. However, the sustainability of the project was not as good as expected. This is mainly due to an increased population, creating a shortage in water supplies, lack of sanitary conditions including poorly constructed latrines, as well as lack of awareness among the local population in regard to health issues. Financial capital was further a main obstacle towards further development and improvement within the health sector in the villages, wherefore future work within this field is of great necessity.

**Keywords:** HESAWA, water, sanitation, health, sustainability, Tanzania.
Acknowledgements:

First of all I would like to thank Mr. Nsubisi Tummomolele, former HESAWA District Water Technician, who was responsible for the construction of the wells during the HESAWA implementation. Mr. Tummomolele has accompanied me during my whole fieldtrip in Busolwa, Katoro and Geita Town, and has been helpful in explaining the construction of the wells and additional technical issues.

I would also like to dedicate a special thanks to Ms. Hadija Malimusi, who acted as a translator during the whole fieldtrip. I could not have made it without her. Mr. Elita Jomo, Chairman in the Busolwa village, also deserves special thanks for accompanying me during the fieldtrip in Busolwa village. The other chairmen and village officials in both Busolwa and Katoro have further helped me in introducing me and my study in the villages and thereby made this study possible.

Further I would like to thank Ms. Rahel Anthony, District Water Engineer in Geita, and Mr. Rocki Maila, former HESAWA District Promotion Team Leader in Geita, for their help with finding information on the HESAWA project in Geita. I am further very grateful towards the employees at Mauwasa in Mwanza for providing me with further information on HESAWA and for directing me to Ms. Anthony's office in Geita. Mr. Daniel Mkare, former HESAWA operator, has further been of great help when it comes to information on the project as well as translation of relevant documents from Swahili to English.

Additionally I would like to thank Dr. Robert Mhamba, Professor at the University of Dar es Salaam, for being my contact person during my time in Tanzania, for helping me with accommodation and with finding a translator.

I further want to give special thanks to my tutor Jonas Ewald at the Linnaeus University, for his guidance during the whole research process.

Finally I would like to thank Sida for granting me this MFS and thereby making this research study possible.
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List of Interviews:

Maila: Interview with Mr. Rocki Maila, former District Promotion Team Leader of the HESAWA program in Geita. Geita Town, Geita, 2012-12-03.

Tummomolele: Interview with Mr. Nsubisi Tummomolele, former HESAWA District Water Technician. Geita Town, Geita, 2012-12-03.

Plan Tanzania: Interview with Mr. Grayson Freynand, Community Development Facilitator at Plan International Tanzania in Geita. Geita Town, Geita, 2012-12-03.

The following interviews have been encoded in order to protect the privacy of the interviewees:

D1- Dispensary, Busolwa Center sub-village, Busolwa: Male doctor, 40 years old. Dispensary is suppose to cover 15 799 people, and 4 people work here. 2012-11-23.

F1- Family, Kona sub-village, Busolwa: Female, 45 years old, married, 9 people in the household. 2012-11-21.

F2- Family, Kona sub-village, Busolwa: Female and male, both 70 years old, married, 10 people in the household. 2012-11-21.

F3- Family, Ngelela sub-village, Busolwa: Female, 48 years old, widow, 8 people in the household. 2012-11-20.

F4- Family, Ngelela sub-village, Busolwa: Female, 39 years old, married, 9 people in the household. 2012-11-20.

F5- Family, Ngelela sub-village, Busolwa: Female, 40-50 years old, married, 2 people in household. 2012-11-20.

F6- Family, Ngelela sub-village, Busolwa: Male, 70 years old, married, 8 people in the household. 2012-11-20.

F7- Family, Ndewe sub-village, Busolwa: Female, 43 years old, married, 8 people in the household. 2012-11-22.
F8- Family, Ndelwe sub-village, Busolwa: Male, 26 years old, married, 6 people in the household. 2012-11-22.

F9- Family, Katoro Center sub-village, Katoro: Female, 36 years old, married, 10 people in the household. 2012-11-27.

F10- Family, Katoro Center sub-village, Katoro: Female, 23 years old, married, 5 people in the household. 2012-11-27.

F11- Family, Katoro Center sub-village, Katoro: Female, 28 years old, single-mother, 4 people in household. 2012-11-27.

F12- Family, Katoro Center sub-village, Katoro: Female, 89 years old, married, 13 people in the household. 2012-11-27.

F13- Family, Katoro Center sub-village, Katoro: Female, 81 years old, widow, 12 people in the household. 2012-11-27.

F14- Family, Lutozo sub-village, Katoro: Female and male, 21 and 26 years old, 2 people in the household. 2012-11-29.

F15- Family, Lutozo sub-village, Katoro: Female, 35 years old, married, 7 people in the household. 2012-11-29.

F16- Family, Lutozo sub-village, Katoro: Female and female, 18 and 21 years old, sisters, 7 people in the household. 2012-11-29.

F17- Family, Lutozo sub-village, Katoro: Female, 33 years old, married, 6 people in the household. 2012-11-29.

F18- Family, Lutozo sub-village, Katoro: Female and female, 22 and 17 years old, sisters, 6 people in the household. 2012-11-29.


FM3- Focus Group Men, Rugayambelele sub-village, Katoro: 7 male, 30-60 years old. 2012-12-01.
FW1- Focus Group Women, Kona sub-village, Busolwa: 11 female, 30-60 years old. 2012-11-21.

FW2- Focus Group Women, Lutozo sub-village, Katoro: 18 female, 24-45 years old. 2012-11-29.

FW3- Focus Group Women, Rugayambelele sub-village, Katoro: 11 female, 25-50 years old. 2012-12-01.

HC1- Health Clinic, Katoro Center sub-village, Katoro: Male, 35 years old. Is suppose to cover 60 000 people, and 26 people work here. 2012-11-30.

PS1- Primary School, Busolwa Center sub-village, Busolwa: 3 female and 3 male teachers, 30-35 years old. School holds 900 students, 50/50 girls and boys. Students are 7-15 years old. 2012-11-23.

PS2- Primary School, Katoro Center sub-village, Katoro: Male headmaster, 40 years old. School holds 1895 students, 50/50 girls and boys. Students are 7-15 years old. 2012-11-30.

PS3- Primary School, Rugayambelele sub-village, Katoro: Male teacher, 30 years old. School holds 1562 students, 50/50 girls and boys. Students are 7-17 years old. 2012-12-01.

SS1- Secondary School, Busolwa Center sub-village, Busolwa: 2 female and 3 male teachers, between 30-35 years old. School holds 432 students, majority is boys. Students are 14-21 years old. 2012-11-23.

SS2- Secondary School, Katoro Center sub-village, Katoro: Male headmaster, 45 years old. School holds 897 students. Students are 14-21 years old. 2012-11-30.


WC2- Water Committee, Kona sub-village, Busolwa: 4 female and 13 male, 30-60 years old. 2012-11-21.

WC4- Water Committee, Busolwa Center sub-village, Busolwa: 3 female and 7 male, 30-60 years old. 2012-11-23.

WC5- Water Committee, Mwiza sub-village, Busolwa: 1 female and 9 male, 22-50 years old. (Due to a maternal death the day previous to the interviews, no families etc were interviewed in Mwiza). 2012-11-21.

WC6- Water Committee, Katoro Center sub-village, Katoro: 7 female and 12 male, 25-60 years old. 2012-11-27.


WC8- Water Committee, Lutozo sub-village, Katoro: 1 female and 6 male, 30-60 years old. 2012-11-29.
List of Abbreviations:

HESAWA - Health through Sanitation and Water

IGO - International Governmental Organization

IMF - International Monetary Fund

ITWS - Improved Traditional Water Source

MAUWASA - Mwanza Urban Water Supply and Sewerage Authority

MCDWAC - Ministry of Community Development Women Affairs and Children

MDG - Millennium Development Goal

MKUKUTA - Mpango wa Pili wa Kukuza Uchumi na Kuondoa Umaskini Tanzania (NSGRP)

MWAUWASA - Mwanza Urban Water and Sewerage Authority

NGO - Non-Governmental Organization

NSGRP - National Strategy for Growth and Reduction of Poverty

O&M - Operation and Maintenance

SAP - Structural Adjustment Program

SHC - School Health Club

Sida - Swedish International Development Cooperation Agency

SSI - Semi-Structured Interviews

SW - Shallow Well

TANU - Tanganyika African National Union

TDV - Tanzania's Development Vision

Tzs - Tanzanian Shillings
UN - United Nations

USD - US Dollar

UWASA - Urban Water and Sewerage Authority

WUG - Water User Group
1. Introduction:

Water is one of the basic human needs. The access to this resource is and has always been a crucial issue. The lack of water is especially apparent within the African continent. Together with the extended poverty in the region it makes the situation dire. Apart from access to clean drinking water, sanitation and health are two additional issues. Since the 1960s, the Swedish International Development Cooperation Agency (Sida) has supported the water sector in Tanzania. The focus has primarily been on technical support to the water sector to increase public health. Over the years the support has developed and in 1983-84, the Health through Sanitation and Water project (HESAWA) was initiated. The implementation was made in 1985 and lasted until the year of 2002. (Rautanen, et al., 2006)

The HESAWA project was divided into four phases where the focus was differently distributed over the years of implementation. The last phase, which lasted from 1998-2001/02, aimed for consolidation and sustainability of the previous three phases (Rautanen, et al., 2006). The fourth phase is of special interest for this study since sustainability is a major focus throughout this research process.

Earlier evaluations of the HESAWA project have been carried out, although focus has mainly been on larger districts within the Mwanza, Kagera and Mara regions while smaller districts have been neglected (Rautanen, et al., 2006). In order to bring in a new perspective on the HESAWA project and in order to narrow down this study, this fieldstudy is focusing on the Geita region. This region is of special interest because Geita was earlier a district within the Mwanza region. However, in the spring of 2012 the district turned into its own region. (Daily News Reporter , 2012) This creates a challenge since the region now has to manage the water issues along with the financial concerns by itself with no support from the Mwanza region. No specific effort has been put on evaluating the pros and cons of the HESAWA project within the Geita region, wherefore it is of importance to look into and evaluate this region to fill the missing spots in this research gap.
1.1 Research problem and relevance:

Water and sanitation issues are widely debated subjects all over the world. Currently 1 billion people lack access to safe drinking water and 2,4 billion people lack access to improved sanitation facilities. Moreover additional 1,2 billion people do not have access to any sanitation facilities at all. These issues are especially evident within the African continent as there is a shortage in both areas. Poor people, and predominantly women and girls, are in particular vulnerable to the burden of poor water supply and the lack of basic sanitation. Currently 5 000 children all over the world die daily from water and sanitation related diseases. (UNDP, 2013)

It is proven that an increase in access to safe water and basic sanitation improve the livelihoods of people which in turn help to develop societies. If people have these basic needs covered they are more likely to engage in education which strives development further. An educated mother is more likely to deem education important for her own children, which is a potential way out of poverty. This shows that an increase in safe water and basic sanitation contributes to poverty reduction, which is a vital component within the UN agenda as well as among many Non-Governmental Organizations (NGOs) active within the field. (UNDP, 2013)

Access to safe water and sanitation is a human right, as stated by United Nations General Assembly In July 2010, Resolution 64/292 (UN General Assembly, 2010). Hence, it is the duty of all member states of the UN to work to diminish the lack of water and sanitation in the world.

The Millennium Development Goals (MDGs) are another tool in providing safe water and basic sanitation to people and in upholding human rights. Specifically MDG number seven points to the importance of improving water sources and providing access to safe water and basic sanitation. Clean water and sanitation are not only the core in fulfilling goal number seven, but further in fulfilling all eight MDGs. These two issues are vital in reducing child mortality and improving maternal health, as well as in improving conditions for people with HIV/AIDS. (UN, 2013)
MDG number seven states that the proportion of people in the world with no access to safe drinking water and basic sanitation should be reduced by half by 2015. If it continues to follow the same pattern, the safe drinking water target is likely to be reached by 2015. Most progress in regard to safe water is made within the rural areas while the situation in urban areas is almost unchanged. This further resulted in narrowing down the gap between rural and urban areas. Despite this positive outcome, many people are still lacking access to safe water.

(UN, 2010, pp. 58-59) The sanitation aspect is lacking in many areas, which is further contributing to spreading of diseases and resulting in decreased livelihoods. A number as high as 69 percent of the population in Sub-Saharan Africa lack basic sanitation, and globally half of the population in developing regions experience a shortage in this important matter. According to the UN, 2.6 billion people were living without any access to sanitation facilities in 2008 and if this continues the number will grow to affect 2.7 billion people in 2015. The MDG sanitation target is thereby far from achievable. (UN, 2010, p. 61)

Sub-Saharan Africa is an important focus area for safe water and sanitation. Ten countries within this region are home to two thirds of the population worldwide without an improved drinking water source, whereas Tanzania is one of them (UNICEF & WHO, 2012, p. 9). An improvement is of vital importance in the water and sanitation sector in Tanzania since the coverage is less than 50 percent in the rural areas (UNICEF & WHO, 2012, pp. 13,24). Hence, the HESAWA project was implemented in the northwestern parts of Tanzania. The cooperation between Tanzania and Sweden dates many years back, which likely was an important factor in deciding to help Tanzania in improving the water and sanitation situation within the state. The HESAWA project was not only trying to achieve clean water for the Tanzanian population, but further to put focus on health education, sanitary conditions and to create a sustainable future for the local people in the villages in the Lake Victoria region. (Rautanen, et al., 2006) Although the northern part holds Lake Victoria, the lake cannot be used as drinking water due to that bilharzia is present in the water. This creates a need for another safe water source. (CTTM, 2013)

Evaluations and studies on the HESAWA project have been carried out earlier. The last study was made in 2006 (Rautanen, et al., 2006) which is four years after the project ending. This indicates a too short time span in deciding if HESAWA has been successful in terms of
sustainability. A study now, ten years after the program ending, is more relevant since the long-term conditions are more accurate. The focus on the Geita region is relevant since an intense study on the HESAWA has not been done there before, which opens up for potential new research results and conclusions. Studies such as this one can hopefully be of importance since the information obtained in this study could contribute to a better understanding of the long term effects and be used to decide if future similar projects, such as the HESAWA, should be carried out and managed in the same way in other countries and regions.

1.2 Objective:

The objective of this study is to investigate if the HESAWA project and its aftermaths, after its completion, have been sustainable for the local population in the affected villages in the Geita region. The Sida evaluation manual, *Looking Back, Moving Forward*, will be used as an analytical framework for this study to determine if the HESAWA project created a sustainable change along the lines of its purpose and goals.

1.3 Research Questions:

- Have the HESAWA project and its implemented structures been sustainable in the matter of improving health standard and sanitation in the Geita region?
- Has the HESAWA project fulfilled its purpose, seen through the four criteria assessments for development and interventions, used in the Sida evaluation manual *Looking Back, Moving Forward*?

1.4 Methodological Design:

This is a field study which has been carried out in the Geita region in the northwestern part of Tanzania. Busolwa village and Katoro village in the Geita region were selected as case studies. Interviews have been conducted both in the mentioned villages and in Geita Town as well as in Mwanza City, Mwanza region, thus the study is of qualitative nature drawing conclusions based on observations from interviews (Creswell, 2009, p. 12). A bottom-up approach has applied throughout this study, focusing on the local population's point of view within the water- and health sector (Chambers, 1995, p. 184). In order to receive a complete
picture of the HESAWA project and its effects, local government authorities and NGOs have been consulted and interviewed.

Complementing the qualitative method is an ethnographic approach applicable since interviews have been conducted in the daily environment of the local population in the Geita region. This in order to get a greater understanding of the accurate situation existing in the villages and the effects of the HESAWA project at site. (Aspers, 2007) An abductive mode of inference has further accompanied the ethnographic approach. By using an abductive approach a different angle on the issue at hand is visible due to the use of a framework. An abductive approach does not give the absolute truth about a studied issue, but provides the researcher with a potential view of the studied subject, creating new ways of understandings. (Danermark, et al., 2002, pp. 89-90)

1.5 Analytical Framework:

The criteria described in the Sida evaluation manual *Looking Back, Moving Forward* are being used as an analytical framework within this field study. The criteria are five in number, however only four are being used in this study. These four criteria include *effectiveness*, focusing on if the development intervention has reached its objectives; *impact*, the total effects of a development intervention; *relevance*, if the intervention has been relevant towards the target group; and *sustainability*, if the benefits from the intervention has continued in fulfilling its purposes. The fifth criterion called *efficiency* is however not being used in this study due to the fact that the criterion states the costs of an intervention and if it can be justified by its results. (Molund & Schill, 2007, p. 29) Due to lack of sources, this study does not have the possibility to attain all information needed in order to establish if the fifth criterion is met within the HESAWA study or not. This research's main focus is on health, water and sanitation issues and therefore the fifth criterion has been left out. The criteria at large are seen as important assessments in development and interventions, and because of the evaluative nature of this study, the mentioned criteria will serve the purpose well. (Molund & Schill, 2007, p. 27)
1.6 Disposition:

The first chapter of this study is an introduction to the HESAWA project. The second chapter explains the methodological tools used throughout the study while the third chapter states the analytical framework used during the research process. Chapter four gives background information to the HESAWA project as well as to water and sanitation issues in regard to the developing world. Chapter five presents the results and findings of the HESAWA project in the Geita region, while they are being analyzed in chapter six. The conclusion of the study is thereafter to be found in chapter seven, and finally a bibliography of the references used throughout the study is put at the end of this research paper.

1.7. Limitations and delimitations:

Due to time and financial limitations this study has been focusing on a smaller area within the HESAWA project site. The whole project, originally covering the Mwanza, Kagera and Mara regions, has not been included in this research and therefore a full picture evaluation has not been manageable. These limitations have however not only been seen as obstacles towards the project. On the contrary, it has contributed in creating an in-depth study with focus on a specific area within the project site, namely the Geita region.

An obstacle within the research process has been to determine which impact origins from the HESAWA project and which ones developed due to additional background factors. Since no major published written research has been made on HESAWA in the Geita region before, it has been challenging to discover what surrounding aspects might have influenced the region. Interviews with elderly in the villages have been made in order to get a greater general view of the history of the HESAWA project and its development. Further different studies without any relation to the HESAWA project have been carried out in the Geita region earlier, hence clarifying the history of Geita (Ewald, 2011). Old documents on the HESAWA and the surrounding area have further been attained, although holding a problem since most documents have been written in Swahili. This has been solved since Mr. Daniel Mkare, former HESAWA operator, has helped in translating relevant documents.
Further the development of gold mines and other water and health projects in the area have contributed to development in the region. These aspects have been taken into consideration and have been included in interviews in order to obtain further information and knowledge within this field. NGOs such as Plan International Tanzania has helped in providing information about what has been done in the region in the matter of water, sanitation and health issues, both by different NGOs and the Tanzanian Government. This has contributed to create a clearer picture over the development in the area.

1.8 Ethical Considerations:

When conducting a field study, ethical considerations ought to be present throughout the whole process. Since the researcher has a different background, culture and nationality than the interviewees, respect towards the culture and habits of the interviewees have been considered. When living in the villages traditional clothing have been worn in order to show respect and to show solidarity. Encoding of interviews has been done in order to protect the identity of the participants in the interviews. Other aspects such as religion and gender structures have been considered as well throughout interviews and in the everyday life in the villages. It has also been important to show that the study is carried out in order to learn from the local people and not the other way around.

1.9. Notes to the reader:

The reader need to be aware of the fact that Tanzanian shillings (Tzs) will be used throughout the research paper, and that 1 USD equals 1634 Tzs. Buckets of water will be referred to and one bucket of water equals 20 liters. The concept 'Geita Town' has been used in order to distinguish between Geita as a region and as a town. The region is therefore addressed either as 'Geita' or 'Geita region'. Furthermore, as in accordance with the Harvard style guide, interviews will be referred to as footnotes when used as sources.

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1 Plan Tanzania, 2012.
2. Methodological Framework:

This chapter will explain the methodological tools used throughout the research process in order to attain a fair and valuable result. The study has been conducted as a field study in the Geita and Mwanza region in Tanzania. It was carried out among the local populations in the Busolwa and Katoro villages, and in Geita Town, in the Geita region as well as among local authorities in Mwanza City, Mwanza region. The primary data sources used are interviews conducted with the local population in the mentioned areas. Secondary sources include earlier written material on the HESAWA project, mainly from Sida, and written material on water, sanitation, and health issues by different NGOs and other relevant organizations. This has been further declared in section 2.5 Criticism of References and in Bibliography.

2.1 Qualitative Study:

A qualitative approach will be used within this research since it focuses on interviews and observations made in the natural environment of the interviewees. This method has an in-depth understanding and strives to answer the question 'why?' (Creswell, 2009, pp. 175,201). Instead a quantitative method focuses on analyzing statistical data through the use of surveys or experimental studies (Creswell, 2009, pp. 145-146,169). However, that is not what this study wants to accomplish, wherefore this method will not be used. A qualitative study is further followed by an ethnographic approach which fits well into this research (Creswell, 2009, pp. 175,201). Ethnography is further explained under section 2.3.

Interviews carried out in the villages in the Geita region have adopted a bottom-up approach, where the local population's point of view and ideas act as main focus (Chambers, 1995, p. 184). Viewpoints of local authorities have further been taken into consideration to get a full overview of the effects of the HESAWA project. Another reason for using a qualitative approach, and therefore using interviews and not surveys, is because the intention is not to limit the participation level to illiteracy issues. In order to attain relevant information it has been necessary to complement the interviews with relevant background information, provided by Sida on the HESAWA project.
2.2 Abductive Inference:

There are three main modes of inference applicable to research methodology, including deduction, induction, and abduction. Deduction includes testing an already existing theory in reality and drawing conclusion upon it to determine its credibility. This approach is mainly used within quantitative studies. Induction and abduction on the other hand are foremost applicable on qualitative studies. When using induction, one looks upon and investigates reality. Based on what is found, conclusions are drawn leading to the creation of a new theory. Abduction is instead looking upon reality by using a frame of interpretation, creating a new insight on reality. This means that abduction gives an image of how something might be, while e.g. deduction states that something must be in a certain way. (Danermark, et al., 2002, pp. 80-81) Abduction is the mode of inference which is best suited for this study, since a frame of interpretation is to be used in order to determine the success of the HESAWA project.

The findings in this study have been analyzed through an analytical framework consisting of the four criteria described in the Sida manual Looking Back, Moving Forward (Molund & Schill, 2007, p. 27). This framework will be further explained in chapter three. By using an abductive approach, a different viewpoint within the study can be obtained, contributing to a different and deeper understanding of the material analyzed. As is stated by Danermark, Ekström, Jakobsen, and Karlsson, social scientists do rarely discover new events that were not known before, but rather discover relations and connections leading to explanations of already known issues but in new ways. (Danermark, et al., 2002, p. 91)

2.3 Ethnographic Approach:

To get a greater understanding of the situation in the villages visited during this fieldstudy, an ethnographic approach has been applicable. According to John W. Creswell ethnography focuses on the researcher's data collection within the natural environment of the affected people within a study during a prolonged period of time (Creswell, 2009, p. 13). Interviews and observations are the main data used within ethnography, followed by semi-structured interviews (SSI). Both types have been used throughout the whole research process. The
questions of SSI are open-ended, which opens up for follow-up questions to unexpected but still relevant answers from the respondents. (Mikkelsen, 2005, p. 89) This might contribute to a deeper and more thorough discussion, guiding the research to a broader understanding of the matter at hand. Observations in the field contribute in creating a full image over the situation in the villages. Body language is an important aspect to consider during interviews, since sometimes it tells half of the story. Observations on the way of living and cultural matters can play an important part in the collection of material. (Mikkelsen, 2005) Therefore this study has been thorough in using the ethnographic method in the research process. The research has been conducted while living among the local people in the villages, conducting interviews in their daily environment. This creates a deeper understanding for the effects of the HESAWA project in the region.

2.4 Conducting the Research:

In total 42 interviews were conducted in Busolwa and Katoro consisting of nine sub-villages in total. Interviews with government officials, water technicians, and NGOs were made in Geita Town and Mwanza City. Encoding of the names of the persons participating in the interviews has been made in order to protect their identity. All interviews are listed under the section named List of Interviews. When conducting the interviews, a translator was needed to fully understand each other. Due to cultural differences a female translator was chosen in order to ensure that both men and women were equally heard during the interviews. A female translator was meant to create a sense of safety for the female participants and by that hopefully contribute to an increased participation in the discussions. The translator used was not originating from the Geita or Mwanza region. This in order to minimize the risk of a biased research result due to potential self-interest in the matters discussed. All interviews conducted were mainly carried out in Swahili. However, the local tongue Sukuma was at times used as a few elderly persons did not speak Swahili very well. During these rare occasions other local persons helped out by interpreting since the translator did not speak Sukuma. The risk of attaining a potential biased result within these interviews has been considered. However, due to the great amount of people involved in the interviews, the risk is minor. The same applies for communication and misunderstanding ventures within the interview process at large. The translator was however of vital importance due to the
interviewer's lack of knowledge in Swahili. This translator has previously been working for other researchers, wherefore she was considered to be reliable.

The content of the interviews were similar, holding minor differences depending on its focus. Water, sanitation and health issues were a common theme throughout all interviews. Apart from that, the family interviews were containing questions concerning number of persons living in the household, educational background of both elderly and children, and the domestic use of water within the household. Health education and sanitation issues were brought up, as well as questions regarding the existence of a potential Water Committee and their role within the village. The average households asked consisted of 7-8 family members. Interviews with Water Committees had similar questions, although an additional part concerning technical issues and maintenance of the water sources was included. Focus groups of only men and only women additionally included questions concerning the role of women's and men's responsibilities in regards to water, sanitation and health issues within the family and the society. This in order to investigate if there existed any gender related differences within the field. Some interviewees were only elderly, who mainly were asked to describe the pre-HESAWA situation in the villages. This to attain greater knowledge about the health situation in the area prior to the HESAWA project, in order to easier estimate the effects of HESAWA in the Geita region. Interviews with Plan International Tanzania and government officials have further helped in determining a likely picture of the situation. Plan International Tanzania has also contributed with additional information about what other NGOs have done in the Geita area within the water and health sector.²

Staff at primary and secondary schools was interviewed, questions mainly focusing on water use, latrines, and health among the students. Further, interviews were conducted with doctors at dispensaries and health clinics where the general health of the population was put in focus. Water-related diseases were one of the major health concerns discussed in these interviews. Also the availability to medicines and other medical necessities were of importance. All interviews conducted brought up water-related diseases in order to find out if they had decreased or increased over time. Diseases included: diarrhea, bilharzia, eye and skin infections, malaria, worms, dysentery, typhoid, and cholera. These diseases were chosen as

² Plan Tanzania, 2012.
they are water-related and that they have struck many people in developing countries (UNICEF & WHO, 2012).

Both the interviews with families and focus groups were chosen with the help of the village chair person or the members of the Water Committee. This to get an even distribution as to gender, wealth and age.

2.4.1 Choice of Regions and Villages:

Busolwa and Katoro were chosen as case studies in this research. Mr. Nsubisi Tummomolele, former HESAWA District Water Technician, and Ms. Rahel Anthony, District Water Engineer in Geita, were consulted in order to determine what villages to choose for this research. Mr. Tummomolele was one of the people responsible for the construction of the wells in Geita within the HESAWA project during its active years, wherefore he has knowledge about the HESAWA villages in the Geita region. He and Ms. Anthony proposed that Busolwa and Katoro ought to be visited due to their differences in development. Busolwa is a very rural and poor village compared to Katoro which is more developed, containing small stores and market places. Katoro has further received more Government support, contributing to its development. Both villages were located further away from Geita Town, which was considered an important criterion in order to avoid possible influence from Geita Town. Potential bias in the selection process of villages and interviewees has been reflected upon. However, throughout the interviews different persons and opinions have been expressed wherefore potential bias has been kept to the minimum. Further in order to receive diversity among the villages and the interviewees, assistance from people who knew the area and the local people were needed in order to achieve this important goal.

2.5 Criticism of References:

The use of correct and adequate references is essential within a research study, wherefore great focus has been put on this matter. According to Creswell, credibility, trustworthiness, and authenticity are three important parts in a qualitative research process as to references (Creswell, 2009, p. 191). Therefore, these have been of special focus when choosing sources. The secondary data emerge primarily from well-recognized international organizations and
NGOs, which all have been working actively with development issues, including water, sanitation and health subjects. A wide diversity of sources is needed in order to receive as trustworthy results as possible. Britha Mikkelsen points to the concept of triangulation, which means to look upon things from different angles, which is especially useful when collecting material and making observations within fieldwork. (Mikkelsen, 2005, p. 96)

The interviews from the fieldwork, conducted in Busolwa, Katoro, and Geita Town are seen as primary data. This information is further the most relevant to answer whether the objective of this study has been achieved. However, if to criticize interviews as a method, one potential angle is whether interviewees can be seen as unbiased. Further, the respondents sometimes gave answers based on what they thought the interviewer wanted to hear. Due to the translator's experience of interpreting and based on revealing signs in the body language, this could be discovered. A conversation could thereafter be carried out, frankly leading to honest answers. Nevertheless, the interviewer cannot be quite unbiased due to a different background and culture. This has been considered throughout the whole research process. An ethnographic approach has most likely helped by creating an in-depth understanding for the culture and habits of the local people interviewed, further helping in attaining a credible research result. This contributed to a mutual understanding and respect for both parties involved in the interviews, improving the research result at large. (Creswell, 2009, pp. 191-192) The use of SSIs has helped in obtaining an authentic result due to open-ended questions. It opens up for discussions where an unexpected but still relevant answer from an interviewee can easily be followed up by further questions. This method is especially useful when questioning key persons or focus groups, which have been frequently used in this study. (Mikkelsen, 2005, p. 89)

In order to attain a full picture of the situation in Geita, people from all levels of society need to be addressed in the interviews since they possess different knowledge within the prominent issue. The population in the villages knows more about how the HESAWA-wells actually worked in reality, while people on government level had more knowledge about the technical and financial parts of the project. Therefore the different respondents in the interviews were equally important but for different reasons. By obtaining the viewpoints from all these
different persons, a good overview was obtained creating a trustworthy result of the outcome of the HESAWA project in the Geita region.
3. Analytical Framework:

The criteria in the Sida evaluation manual *Looking Back, Moving Forward* by Stefan Molund and Göran Schill have been used as an analytical framework within this study. The criteria are five in number, including *Effectiveness*, *Impact*, *Relevance*, *Sustainability*, and *Efficiency*. The criteria are designed by Sida to be good tools in evaluating development interventions. Due to the objectives and evaluative nature of this study, these criteria are seen as eligible as a frame of interpretation within this research study. Although all criteria are important and relevant for evaluation and research work, Sida states that not all criteria might be of relevance in all studies. (Molund & Schill, 2007, p. 27) Within this study only the first four criteria will be used. The reason for excluding the fifth criterion will be explained below.

3.1 Effectiveness:

The first criterion is referring to the degree to which the objectives of a project have been fulfilled. Effectiveness can be measured on two levels: a) output and b) outcome and impact. The output level is focusing on to what degree the goals of the project have been achieved in the matter of production of goods and services. The outcome and impact level on the other hand focus on what further effects the results provided by the output level have achieved. The first level is more suitable for quantitative research since it is easier to measure, while the second level fits better into the criteria for qualitative research since these effects of the result are more difficult to determine. The Effectiveness criterion further points out the importance of remembering that changes in the project area might have happened despite the project enforcement. (Molund & Schill, 2007, pp. 30-31)

3.2 Impact:

The second criterion is called Impact and refers to the effects of a project as a whole. Impact can be used in two terms, firstly together with outcome stating the long-term effects of an intervention, and secondly by itself indicating the total effects of a project. When focusing on long-term effects one mainly means effects on a greater arena such as within societies, communities or systems. This criterion deals with both positive and negative effects of projects, including unforeseen outcome, longer term effects, and effects that affect people
outside the target group. Impact is a very important criterion when looking upon development interventions, since if left out, focus could shift from the target group to only involve the intentions of the project planners. The target groups are the ones that have to live with both the positive and negative effects of a project intervention wherefore their opinion is of importance. (Molund & Schill, 2007, pp. 32-34)

3.3 Relevance:

The third criterion simply means the same as its name. It investigates if a project is relevant towards the target group. If so, it is suppose to match the needs and priorities of that group, as well as to fulfill the requirements put forward by partner and donor countries and organizations. If an intervention is not seen as relevant for its target group, it will most likely not achieve its objectives which make it irrelevant in solving the problem facing that group. Therefore relevance is an important criterion to consider through all phases of an intervention planning in order to make it successful. (Molund & Schill, 2007, pp. 36-37)

3.4 Sustainability:

This criterion focuses on the forth run of a project after its ending and after all donor support has been withdrawn. Sustainability is a part of the impact criterion, but since sustainability is such an important part of development work, it has been turn into its own criterion by Sida. It moreover refers to the results of projects and not the interventions as such. (Molund & Schill, 2007, pp. 37-38) Sustainability is also a major focus within this study, making it an important part when analyzing the collected material. Examples of sustainability within the HESAWA project are e.g. if the wells are still operating, if Water Committees are still existing, and if the health situation has improved over the years.

3.5 Efficiency:

The fifth criterion will not be taken into account within this study, since efficiency is the relation between the costs of the results of a project and the costs of the resources used to make them (Molund & Schill, 2007, p. 39). It is focusing on cost efficiency, which is not of relevance within this study due to a different focus, namely that of water, sanitation and
health. This research does however not have the possibility to obtain all the information needed to establish if the efficiency criterion is met within the HESAWA project due to lack of sources in the matter. It is however not said that this criterion is less important in research studies, but for this study it is not of importance for achieving the objectives.
4. Background:

This chapter will provide background information on the Geita and Mwanza region as well as on Tanzania at large. Further it will go deeper into water and sanitation and their connection to health issues within developing countries. More thorough background information on the HESAWA project will also be presented within this section.

4.1 Tanzania:

Tanzania is located in East Africa, and is together with Kenya and Uganda surrounding Lake Victoria, which is the second-largest fresh water lake in the world. Tanzania is a union of the mainland Tanganyika and the island Zanzibar and its archipelago (UN Tanzania, 2013). The state has a population of approximately 46 million people (WDI, 2011).

(TGoogle Maps, 2013

Tanzania is a pre-colonial country. The mainland, Tanganyika, became a German colony during the late 1800s while Zanzibar became British protectorate. However, following World War I, Tanganyika was made a UN mandate managed by Great Britain. The state gained its
independence from the British in 1961, due to a couple of years of struggle lead by the Tanganyika African National Union party (TANU) and its leader Julius K Nyerere. He later became the first President of Tanzania. Zanzibar and its surrounding archipelago became independent three years later. While the independence of Tanganyika was rather peaceful, Zanzibar on the contrary had a more violent history. The USA feared Zanzibar to end up as Cuba, wherefore the island was pressured to unite with either Tanganyika or Kenya. Zanzibar and Tanganyika thereafter united under the common name of the United Republic of Tanzania in 1964. (UN Tanzania, 2013)

Tanzania was after its independence built on pre-colonial structures with a predominant agricultural base. TANU and President Nyerere put effort in uniting the country by development from primarily agriculture to instituting more government owned companies and by a change in social and economic structures. This societal structural change was from a socialistically Western perspective seen as a corner stone in development within the African continent. This in turn contributed to provide Tanzania with financial aid from the societal states in the Western world, Sweden being one of them. All these factors have benefitted the Tanzanian economy, contributing to its development. (Freedom House, 1999) (Freedom House, 2012) (Ewald, 2011, pp. 96-97)

However, this positive trend decreased during the 1970s. Contributing factors can be identified as military intervention in Uganda, major drought, and too fast change in societal structures. The new structures, which replaced the agricultural built society, did not work as well as ought to. Above that corruption started to spread within the state. In an attempt to improve the situation, Tanzania applied for help at the International Monetary Fund (IMF). (UN Tanzania, 2013) Help was granted, but shortly thereafter an argument between the Tanzanian Government and the IMF emerged in regards to which process were to be followed. To pressure Tanzania into accepting the rules and regulations of the IMF, donor countries and the IMF itself carried through cutbacks of financial aid. This resulted in an economic crisis during the 1980s, subjecting Tanzania as a state in debt crisis. Following the resignation of President Nyerere, a new agreement could be reached in 1986. As a part of the rules of IMF, structural adjustment programs (SAPs) were now implemented. At the same time, donor countries once again supplied Tanzania with financial aid. (Ewald, 2011, p. 106)
Although the SAPs and financial aid were supposed to help Tanzania fighting its way out of poverty, the state had a negative per capita growth between the years of 1974-1999 (WDI, 2011). Even today Tanzania is one of the poorest countries in the world, still seen as an aid dependant state (Ewald, 2011, pp. 95,106).

Currently, Tanzania is seen as a peaceful and political stable state, although it holds a widespread poverty. According to the UNDP, Tanzania was ranked as number 152 out of 187 countries on terms of development on the Multidimensional Poverty Index in 2011, indicating low human development. In 2011, 43,7 percent of the Tanzanian population was estimated to live in severe poverty. The access to clean water was at a rate of 47,3 percent while the rate of improved sanitation, not including shared latrines or latrines opened to the public, was at 64,1 percent of the Tanzanian population. (UNDP, 2011) One ought to remember that most people living in poverty in rural areas of Tanzania will not comply with this sanitation number due to a public or common share of latrines.

Although the water and sanitation situation is problematic, it constitutes an important focus area in Tanzanian politics. Poverty reduction strategies are one of the government ventures used in improving the water, sanitation and health within the state. MKUKUTA I (2005/06-2009/10) and MKUKUTA II (2010/11-2014/15) are the Kiswahili name for the first and second National Strategy for Growth and Reduction of Poverty (NSGRP). It works as a mechanism for achieving Tanzania's Development Vision 2025 (TDV 2025) and the MDGs. The government put further effort on water and sanitation matters through the creation of Urban Water and Sewerage Authorities serving as official water ministries within the state. (IMF, 2011, pp. 15-16) As shown, efforts have been made to improve access to water and sanitation within Tanzania. However, mostly due to financial concerns, many people are still lacking in these vital areas. Therefore projects within the field, such as HESAWA, are more than welcome in order to improve the situation in the country.

4.1.1 Geita and Mwanza region:

Mwanza City is the second largest city in Tanzania after Dar es Salaam. It is located in the northern part of the country just south of Lake Victoria. Employments in the city and region are mainly within the industrial and agricultural sector. Fishing provides for another mean of
income because of Lake Victoria. However, the lake is highly contaminated, holding many water-borne diseases whereof bilharzia is the major one. The population in these areas can therefore not rely on Lake Victoria as a fresh water source. Instead rainwater and wells of different kinds have to be used, which create problems during the dry season. (The Planning Comission Dar es Salaam/Regional Commissioner's Office Mwanza, 1999)

The Geita region, former a part of the Mwanza region, consists of five districts, namely Bukombe, Chato, Geita, Mbongwe, and Nyanghwale (Daily News Reporter, 2012). Geita is rich in minerals, which apart from agriculture, are one of the main sources of income in the region. Many foreign gold mining companies have been investing in the area. (The Planning Comission Dar es Salaam/Regional Commissioner's Office Mwanza, 1999, pp. 98-100) (Ewald, et al., 2004) Some people state that these companies have created new job opportunities for the people in the region while others say that their generated incomes does not gain the domestic market, but rather the foreign companies and their home countries.³ The Geita region suffers from similar problems as the Mwanza region in regards to the water sector. The situation is especially dire in the rural areas within the region, where people, especially during the dry season, have to walk long ways in order to find drinking water.⁴

4.2 Water:

Water is of vital importance for survival of every living creature on earth. Developing countries are especially vulnerable since lack of clean and safe water is a common issue among them. A number of 884 million people worldwide lack access to clean and safe water sources, and 8 out of 10 persons among these live in rural areas (UN, 2010). The African continent, and especially sub-Saharan Africa, is especially vulnerable due to its severe shortage of this vital resource. The UN put focus on improving drinking water sources in rural areas since the need is evident there. An increase in clean drinking water from 49 percent to 60 percent has been made in sub-Saharan Africa, stretching from 1990 to 2008. (UN, 2010, p. 58) Although many improvements have been made within this area, clean and safe water are still far from achieved worldwide.
In the work towards reaching this goal, many other goals might be fulfilled at the same time, e.g. those of increased health and education, poverty reduction, and women empowerment (UN, 2010). By granting someone access to safe and clean water, one can decrease water-related diseases and thereby improve the health standard and the livelihood of that person. By doing so, one may increase the workforce and the welfare within that household and thereby open up the opportunity for further engagement in education, also for women, which in the long run may lead to women empowerment. This further creates an improved living standard and along with this an increase in welfare, which both strives development. At the end we achieve poverty reduction, which is a common goal among the UN and other IGOs and NGOs. These factors can further be found within the MDG target (UN, 2010).

Numerous areas already have different kinds of water sources. However, several are so called natural or open water sources lacking covers or other protection, making them subject to contamination. Other water sources, including rivers or dams, are sometimes shared with cattle, resulting in further contamination and spreading of water-related diseases. These water sources are mainly present in rural areas while urban areas usually have a higher degree of piped water schemes. The coverage of piped water in sub-Saharan Africa in rural areas is 47 percent, compared to 83 percent in urban areas in the same region. (UN, 2010)

The water situation in Tanzania is concise with the situation at large in sub-Saharan Africa. The state is among the top countries in terms of population. Despite this, Tanzania belongs to the bottom level regarding safe water coverage within the rural areas, having water coverage of less than 50 percent. The same number in the urban areas applies to 76 to 90 percent. (UNICEF & WHO, 2012)

4.3 Sanitation:

Sanitation is another important issue within the health sector. It is included in MDG number 7 along with access to clean water. However, the MDG sanitation target is far from being met by 2015. In 2010, 2,5 million people worldwide were still lacking improved sanitation facilities. It is calculated that if continued in the current pace the sanitation target will reach 67 percent in 2015, although a percentage of 75 is needed in order to meet the MDG
sanitation target. This indicates that the MDG target cannot be met until the year of 2026. (UNICEF & WHO, 2012)

Sub-Saharan Africa is one of the most exposed regions in the matter of having shortage of sanitation coverage, where 69 percent of the population was lacking this asset in 2008. Many persons, especially in rural areas, use shared or public latrines, which contribute to spreading diseases due to lack of cleanliness. Open defecation is further a problem in rural areas, indicating defecation in open places such as fields, bushes and waterways. This is a major threat towards people's health, since the risk of facial and oral transmission of diseases thereby increases. It can even have lethal consequences for children and infants since they are particularly at risk. By reducing open defecation one can decrease child mortality enormously, mainly by creating a reduction in diarrheal diseases. (UN, 2010) This will together with an improved access to safe and clean water sources contribute to reach the other MDGs, and create an increased livelihood and poverty reduction in these regions. Unfortunately, sub-Saharan Africa has not reduced the open defecation as much as desired. In fact it has only been reduced by 11 percent since 1990, which makes sub-Saharan Africa the region with the highest number of people using unimproved sanitation facilities. (UNICEF & WHO, 2012)

Tanzania does not differ from the majority of sub-Saharan states regarding the sanitation issue. The state is not on track in reaching the sanitation target, due to the fact that the proportion of people using an improved sanitation facility is below 50 percent. Out of the total of 2.5 billion people that lack improved sanitation, 40 million live in Tanzania. Open defecation in both the rural and urban areas of Tanzania is below 50 percent. It is however more common to use open defecation in rural areas due to a more widespread poverty and a decreased development compared to the urban areas. (UNICEF & WHO, 2012)

Both water and sanitation issues are, as mentioned, vital in reducing poverty and improving the livelihood of people. By combining these issues with health education one can create a greater understanding for spreading of diseases and thereby also constrain the contamination. Health education such as washing hands before and after eating and/or using the latrine, as well as boiling water before drinking it, can make a huge difference in reducing water-borne diseases. (UNICEF & WHO, 2012) Teaching health education at an early stage e.g. in
schools, might result in children bringing the information home, hopefully creating a habit of sanitary practice within the household.

4.4 HESAWA:

The HESAWA project was an integrated water, sanitation and health education program, active in the northern parts of Tanzania in the Mwanza, Mara and Kagera regions. The project was a cooperation between the Swedish and the Tanzanian government. It was funded by Sida and carried out through Sida and the Ministry of Community Development Women Affairs and Children (MCDWAC) on behalf of the Tanzanian government. (RHMO , 2002) HESAWA was firstly initiated in 1983-84, and thereafter implemented in 1985, lasting until the year of 2002. The project was divided into four different phases stretching throughout the active years. The first phase (1985-1990) was called an experimental phase, characterized by mainly external consultation with a small degree of local participation and financing. This phase mostly focused on reconstruction and rehabilitation of already existing water schemes. Phase number two (1990/91-1993/94) was named Decentralization to District Authorities, and put a focus on using Tanzanian human resources rather than using foreign consultants, giving the District Authorities a greater responsibility. Phase number three (1994/95-1997/98) further developed the former phase by now witness full decentralization within the HESAWA program implementation as among administrative issues. Water User Groups (WUGs) were introduced during this phase, further explained in section 4.4.1 Technological Terms. Finally phase four (1998-2001/02) was introduced, focusing on consolidation and sustainability of the previous phases and their achievements. Focus was put on further involving local people and consultants in the process, as well as increasing local funding. (Rautanen, et al., 2006)

Common throughout the implementation of all phases in HESAWA is community participation. As the sustainability goal indicates, it was meant for the HESAWA project to continue its work after the donor funding was over. In order to do so an increase in local funding was suggested, and a sense of ownership over the different water sources was given to the local people. Boreholes, SWs, and ITWS were constructed or improved through HESAWA. These concepts will be further explained in 4.4.1 Technological Terms. (RHMO , 2002) School Health Clubs (SHCs) were implemented in order to raise the health status
among the local population, constituting an important part of the provided health education. Health education was a significant building block in reducing water-borne diseases and by that increase the livelihood of people. The SHCs were structured in a way that a group of older students together with teachers were educated in important health issues, such as washing hands before and after eating and using latrines, as well as boiling water before drinking it. The older students were supposed to pass the information on to the younger students. All students were told to bring the information home, and to apply it within their household. Health education was further given to parents through parent meetings and to village leaders in order to spread the knowledge to the rest of the village members. (Makerere, 1998)

4.4.1 Technological Terms:

Some terms used within the HESAWA project might be hard to understand for non-engaged individuals, wherefore frequently used terms will be explained below.

One of these terms relate to Water User Group (WUG), which is a group of people set together in each HESAWA village in order to handle the operation and maintenance (O&M) of the wells. The WUGs will however in this study be addressed as Water Committees since this is the designation used in the villages visited in this study. According to village leaders and former HESAWA operators a WUG was the actual persons using the wells, meaning everyone living in the village. (RHMO , 2002)

The Water Committees consisted of a group of 12 persons, divided into three sub-committees of four members each. These sub-committees were appointed Technical, Finance, and Security Committees. The remaining three persons of the Committee were assigned the roles of chairperson, secretary, and treasurer. The purpose of creating Water Committees was not only to keep them responsible for the O&M, but to further create a sense of ownership among the village members. One needed to show the local people that they themselves were the owners of the wells set up by HESAWA to ensure a sustainable future. (RHMO , 2002)
The HESAWA project involved a couple of different water sources, including boreholes. They are 50-70 meters deep and a generator is used to extract water from the wells. The most common wells used within the HESAWA project are however the Shallow Wells (SWs). These wells are driven by a hand pump and are usually 7-10 meters deep. The wells contain a cover protecting them from potential contamination. Improved Traditional Water Sources (ITWS) were also used within the project. These wells were however not entirely new constructions, but rather, as the name indicates, improved wells. Contrary to the SWs, the ITWS were so called open wells, which were making them a potential subject to contamination. Since the wells are lacking cover and pumps, a bucket is used to fetch the water. Rainwater harvesting tanks were built, which showed to be very useful during the rain season. The importance of cleaning the tanks collecting rain water, where taught by health education to the local people. HESAWA further worked with piped water schemes, however these were mainly used within the cities and are therefore not of great relevance in this study. (Rautanen, et al., 2006)

HESAWA contributed in building latrines during its implementation, e.g. institutional- and household latrines. An institutional latrine exists within schools and health clinics and has a capacity of serving a larger number of people, while household latrines were fit to serve the need of a household. The latter were therefore constructed in a simpler manner, usually consisting of a dunged pit beneath the latrine and some sort of cover, representing walls. (RHMO , 2002)

4.4.2 HESAWA in Geita:

During the implementation of the HESAWA project the Geita region was, as mentioned, a part of the Mwanza region, where 70 percent of the villages were covered in the HESAWA project. This translates into 489 villages, whereof 74 were located in the Geita region. It covers 31,402 households, involving 235,948 persons in total. In total a number of 175 shallow wells, 44 boreholes, and 17 ITWS were completed in Geita. Moreover 235 Water Committees existed during this time. Even after the ending of the project in 2002, the Water Committees in the region received training. Ten Committees in the Geita region were educated between the years 2002/03-2007, and 70 follow-ups on Water Committees were made in order to establish if they were well-functioning. Furthermore 12 new wells were built
in the Geita region in the same years. Many villages were able to continue the work of building new wells and educating people even after the end of the project due to local funds and capital savings. This capital had been collected as entry fees when opening wells or as regular payment when fetching water at the wells. (RHMO, 2002)

4.5 Development Policies:

Development policies have shifted over the years. Focus shifting from long-term solutions to short-term solutions, where result oriented policies now are the main focus. The long-term solutions usually included a mutual discussion between the donor countries and the developing country in order to find the best development strategy for that specific country. The developing countries and their needs were put in focus; through this reformation there is a risk of shifting the focus away from the target groups and their needs. (Sveriges Radio, 2012) This new approach will be further discussed and analyzed in relation to the HESAWA project in section 6.3 Relevance.
5. Presentation of Research Result:

In this chapter I will present the results found during the field study made in the villages of Busolwa and Katoro as well as in Geita Town.

5.1 Busolwa - Nyanghwa District, Geita region:

The first week of fieldwork was conducted in Busolwa village, hosting 16 000 people. It is a 75 minute drive from Geita Town, and interviews were carried out in five of Busolwa's sub-villages. The interviews included families, Water Committees, focus groups, dispensaries and schools. Busolwa is a very rural village with sub-villages scattered around its center. All of them were located between 15-30 minutes from Busolwa Center. The sub-villages were reached by foot, or by using cars or bicycles. A translator and an engineer from the Geita Water Office, former HESAWA water technician, were accompanying the research team throughout the entire week spent in the village. The chairman of the Busolwa village further helped in escorting the team to each sub-village.

Each day usually started with a meeting and an interview with the Water Committee in each sub-village, followed by interviews of men and women focus groups, and ending with interviews of different families. In each sub-village visited, a HESAWA Water Committee still existed, including its focus areas such as technical, cleanliness, and security. According to the interviewees the purpose of the Water Committee was to be responsible for the O&M of the wells, which was seen as fulfilled in all sub-committees. The majority of the wells in Busolwa were HESAWA wells, although some were accompanied with natural wells. Most wells were SWs, 7-10 meters deep, but a borehole, 60 meters deep, and ITWS, 6-7 meters deep, were also present in Busolwa. The borehole which had the best water quality was located in Busolwa center and was driven by a generator, which at the time was broken. Three out of five Water Committees pointed out a problem with accessing spare parts for the wells. The problem was primarily economical since financial capital was both needed in order to buy new spare parts and to finance transport to Sengerema, located between Geita Town

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5 WC1-WC5, 2012.
6 F2, F4-F7, 2012.
7 WC4, 2012.
and Mwanza City, where most spare parts were to be found. The majority of the sub-villages either had an entry fee (5 000-10 000 Tzs) when starting to use the HESAWA wells or were charged a cost every time people were extracting water from the wells (200-500 Tzs). Most interviewees deemed these costs to be reasonable, however elderly or disabled persons were not being charged. This money was put into a village fund, which when necessary was used to pay for reparations of the HESAWA wells. The fund further worked as a bank, where money could be borrowed to an interest rate.

The average Busolwa household consisted of 7-8 persons, and used an average of 6-7 buckets per day (one bucket = 20 liters). The women were main responsible for attaining water at the wells, with an average distance of 20-30 minutes to the wells. This indicates a 40-60 minute walk in total. One should bear in mind that the women usually made a couple of these walks every day since they could not bring 6-7 buckets of water with them at once. According to the WHO, the collecting time should not proceed 30 minutes and the water source should not be located further away than 1 000 meters from the household (UNICEF & WHO, 2012). These requirements are not being met in Busolwa.

Observations and conducted interviews showed that the water quality in the natural wells and the ITWS were neither clean nor safe. Further 7 out of 8 households asked considered the water of the HESAWA borehole and SWs to be clean but not safe. There were problems with the amount of water in the wells according to the population. The population in the village has increased since the implementation of the HESAWA, but the number of wells has not, thus creating a shortage in water resources. The Water Committee in Ngelela sub-village states that in the beginning of HESAWA there were 20 households sharing one well, however today there are 320 households sharing the same well. There are further problems with the wells during the dry season, since they tend to dry out, and for that reason people in Busolwa require deeper and additional wells. This is, according to Mr. Tummomolele, hard to accomplish since it is not possible to dig deeper than 7-10 meters due to the rocky ground in

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8 WC1-WC5, 2012.
10 F1-F8, 2012.
11 F1-F8, 2012.
12 WC1, 2012.
13 WC1-WC5, 2012.
the area. In order to create deeper wells one would need to drill through the rock, requiring more financial capital.\textsuperscript{14} Despite these problems, water-related diseases have decreased in the region. Diarrhea, malaria, worms, bilharzia and typhoid are diseases which represent the greatest alteration in the area. Eye and skin infections, dysentery and cholera are quite equal to before the HESAWA project was implemented in the region. The former diseases are still present; however they have decreased in number compared to the era before HESAWA.\textsuperscript{15} The Water Committees claim health education to be a contributing factor towards this improvement. According to Mr. Rocki Maila, former District Promotion Team Leader of the HESAWA program, the HESAWA project taught health education in both the primary and secondary schools. They started School Health Clubs (SHCs), which were a group of students organized by one teacher. The student group was supposed to inform the other students in the school about health issues and water usage. Health education was provided to the Water Committees, including how to use the wells, repairing of pumps, the importance of boiling water before drinking it, prevention of different diseases, and how to make and use latrines in households and institutions.\textsuperscript{16} However, 75 percent of the families interviewed and 50 percent of the focus groups in Busolwa claimed that the health education did not reach the people in the sub-villages, but stayed with the Water Committees.\textsuperscript{17} When asked if the people boiled the water before drinking it, the majority failed to do so. The most common explanations included ignorance, lack of time, lack of firewood or charcoal, and sickness after drinking boiled water. Yet it was revealed that people had not been boiling the water enough for the bacteria to die, wherefore some had experienced illness.\textsuperscript{18} Another threat towards the health in the village has been lack in cleanliness when handling and using latrines. The majority in Busolwa had access to latrines, while the remaining part did share latrines with their neighbors or committed in open defecation. The latter created a problem, especially during the rain season since feces close to the wells contaminated the rain

\textsuperscript{14} Tummomolele, 2012.
\textsuperscript{15} D1, 2012.
\textsuperscript{16} Maila, 2012.
\textsuperscript{17} F1-F8, 2012. FW1, 2012. FM1, 2012.
water which in turn spilled into the wells.\textsuperscript{19} This indicates a need for an increase in protection around the wells and a need for additional health education. HESAWA did contribute in helping building latrines by educating people in improvement of latrines and by providing covers, used to protect the latrines. The local people were supposed to dig a hole for their latrine and then HESAWA contributed with covers. Many people did not dig a hole, and for that reason did not received a cover. The reason for not participating in this activity differs among the people, but the main argument according to the interviewees is lack of time.\textsuperscript{20} Nonetheless, HESAWA did build institutional latrines in the schools in the village. These were more advanced, made of concrete, compared to the existing household latrines, which consisted of a dunged pit and some kind of cover mainly made of either sand bricks or branches.\textsuperscript{21} An improvement within this field is necessary in order to further constrain the contamination of water-related diseases and by that create an improvement in the health and livelihood of the local people in Busolwa.

5.2 Katoro, Geita district, Geita region:

Katoro was the second village visited in this field study. It is located 40 minutes outside Geita Town and has 60 000 inhabitants. Katoro is compared to Busolwa not as rural, and development has reach further here in terms of small shops, food stores, and an improved construction of both schools and households. Interviews were conducted in four sub-villages, located 10-15 minutes away from Katoro Center. The sub-villages were not scattered as in Busolwa, but rather connected, where one sub-village ended the other one started. They were reached by foot or by car. HESAWA was however not as active in Katoro as in Busolwa. Instead government help in the water and sanitation sector was to a larger extent present in Katoro. Two wells in Katoro are HESAWA wells while other wells used are either government owned or private owned wells. The Tanzanian government has further developed the water sector in Katoro by implementing water schemes running from a borehole to different taps placed throughout Katoro Center.\textsuperscript{22}

\textsuperscript{19} FW1, 2012. FM1, 2012.
\textsuperscript{20} F1-F8, 2012. WC1-WC5, 2012.
\textsuperscript{21} PS1, 2012. SS1, 2012.
\textsuperscript{22} WC6, 2012.
Only one of the two HESAWA wells present in Katoro is operating correctly. This well is 9 meters deep and is fenced for its protection, while the other well, 7 meters deep, is under construction. However, the same problem with lack in water sources exists in Katoro as it does in Busolwa. The population has increased over the years and the lack of water is especially evident during the dry season because of too shallow wells. The average family in Katoro consists of 7 persons who fetch an average of 6 buckets of water each day. The average distance to the wells are 16 minutes both ways, which is a big difference compared to Busolwa. Mainly women are responsible for fetching water although the cleaning responsibility of the wells is shared between the sexes. The water coverage is however greater in Katoro due to the quite large number of private wells. Although the HESAWA well had a cost of 50 Tzs per bucket, many people did use the private wells instead even though it was more expensive with an average of 140 Tzs per bucket. The women participating in the focus discussion in Lutozo sub-village further stated that people chose these wells due to lack of water and a shorter walking distance. According to the HESAWA Water Committee in Katoro Center the capital earned at the HESAWA well was as in Busolwa saved in a village fund, used for potential reparations of the wells. The Committee has withdrawn money from it in order to build a new well. At present time the well is 5 meters deep and is expected to be completed in June 2013. The final depth of the well will depend on where water is found.

Water-related diseases are a problem in Katoro, where diarrhea and malaria are common diseases in the village. These diseases have decreased the most if compared to the situation before HESAWA. Moreover, typhoid and worms have decreased in number, while eye and skin infections, cholera, dysentery and bilharzia have not reached any significant change. The health situation at large in Katoro and Busolwa differ, involving a better health in general in Katoro. This is most likely due to an increased development following improved and larger health clinics and dispensaries, an increased health education, and improved latrines. 

\[23\] WC6, 2012.
\[24\] F10, F12, 2012.
\[25\] F9-F18, 2012.
\[26\] F9-F18, 2012.
\[27\] FW2, 2012.
\[28\] WC6, 2012.
instead other NGOs such as Plan International Tanzania has taught important health education to the individuals of Katoro.\(^{30}\)

Plan International Tanzania works after a five-year plan centered on a need-based approach. Investigations are made in the villages to determine what is needed in each area. The current focus in Katoro and Geita is sanitation, where health education about using soap when washing hands, building and using latrines, and building latrines using already possessed material are included. Community owned projects and sustainability are important aspects in their work, which are equal to the components of the HESAWA project. Another common ground is school health education. Primary schools are the primary recipient of health education, where 'child to child health' is taught. This implies training the pupils in hygiene practices, including a school competition where the winning school receives new schoolbooks as a price.\(^{31}\)

Although there was a lack in health education from HESAWA according to the interviewees, HESAWA did build institutional latrines in a primary school in the village.\(^{32}\) The overall standard of both household- and institutional latrines in Katoro was developed compared to the latrines seen in Busolwa. The latrines consisted of walls, roofs, and doors and were sometimes located inside the homes. The majority of the people in Katoro had access to improved latrines, while a small minority did not have access to latrines at all, resulting in sharing latrines with neighbors.\(^{33}\) These improved latrines thereby resulted in a diminished spread of water-related diseases, improving the health standard in the village. The fact that the HESAWA wells were fenced further contributed to improve the water quality in the wells, reducing the risk of contamination. According to the Water Committee in Katoro Center, water purification pills were applied directly in the HESAWA wells, further decreasing the risk of spreading water-related diseases.\(^{34}\) The pills were one of the explanations among the local people who did not boil their drinking water. All in all, the rate for boiling water versus the rate for not boiling was 50/50 in Katoro.\(^{35}\)


\(^{31}\) Plan Tanzania, 2012.

\(^{32}\) WC6, 2012.

\(^{33}\) F9-F18, 2012.

\(^{34}\) WC6, 2012.

5.3 External Factors:

The overall consequence of external factors influencing the situation in Geita varies among the interviewees. Some interview participants claim the gold mining industry to have affected the situation in the area. Gold mining companies have contributed with employment opportunities and have helped in building roads and improving schools, thus contributing to an increased population in the area.\textsuperscript{36} Despite this positive result the women focus group in Rugayambelele sub-village, Katoro, pointed out that most companies active in the gold mining industry in Geita are foreign companies. They do not invest in Tanzania but rather gain the foreign states and markets. Further, people trespassing the mining area have been shot, creating tensions towards the mining companies.\textsuperscript{37}

It can be hard to decide what effects rise from the HESAWA project and what rise from other external factors such as the discussed gold mines. Although people in the villages visited in this field study do not recognize certain external factors as contributors to their situation, does not mean one can entirely exclude them. According to many interviewees no government assistance was offered in the villages.\textsuperscript{38} However, dispensaries and schools were mainly government built.\textsuperscript{39} Nevertheless increased government participation is needed in Geita at large with regard to the water and health sector, in order to achieve improvements.

\textsuperscript{36} F7, F8, 2012.
\textsuperscript{37} FW3, 2012.
\textsuperscript{38} F9-F18, 2012.
6. Analysis:

This section will analyze the collected material from the perspective of Effectiveness, Impact, Relevance, and Sustainability as seen in the Sida Evaluation Manual Looking Back, Moving Forward. This in order to establish if the objectives of the HESAWA program have been achieved.

6.1 Effectiveness:

Community participation was a cornerstone in the HESAWA project, which worked quite well within the Geita region. Pointing to Water Committees still existing in every sub-village visited in Busolwa and Katoro\(^{40}\), indicates that they compose a vital component within the project and especially within its sustainability. Although sustainability is a part of the Effectiveness criteria (Molund & Schill, 2007, pp. 30-32), this will be further discussed under section 6.4 Sustainability. Even though Water Committees point to a success in terms of community participation, water users at large in the villages are not to be forgotten. According to the majority of the interviewees the participation in the HESAWA project was limited to the people involved in the Water Committee, wherefore the community participation varies among the village members.\(^{41}\)

Ownership over the wells, alongside community participation is an important aspect in the work of HESAWA. This criterion was fulfilled within all areas visited because the Water Committees and thereby the community were responsible over the wells and attained its ownership. Boreholes, SWs, and ITWS were all found in the villages visited, consenting to the objectives of HESAWA.\(^{42}\) On the contrary, the sanitation goal cannot be seen as fulfilled. HESAWA did build some institutional latrines within a few schools in the area. However, these were too few to cover all students at each school, even during its construction, and even more today.\(^{43}\) Although HESAWA did not build household latrines, they did open up for improvement in the sector by providing covers and education in the construction of latrines. Nevertheless, the problem among the local people of not constructing latrines remains.

\(^{40}\) WC1-WC5, 2012.
\(^{42}\) WC4, 2012.
\(^{43}\) WC6, 2012.
indicating a slight failure within this area.\textsuperscript{44} Therefore other ways of implementation might be more effective. One way is by involving local businesses, responsible for making the dunged pits. However, financial capital will not be provided by regular payments, but rather through a firsthand hiring contract when constructing buildings by the government in the area. This would additionally gain both the government and local people in the villages since improved latrines contribute to better sanitary conditions and therefore a reduction in water-related diseases. An improved health situation further indicates more and better work, contributing to an increased economical development within the country at large.

Alongside improved sanitary conditions, additional health education can contribute to a further reduction in water-related diseases. As stated in chapter five, schools did not have SHCs, even though Mr. Maila pointed out that all schools in the Geita region received training in health education through the implementation of SHCs.\textsuperscript{45} Neither the schools in Busolwa nor Katoro did have any SHCs. The schools in Busolwa rarely received any health education at all, only some basic education from the teachers were provided\textsuperscript{46}, while schools in Katoro sometimes had seminars focusing on health education, and further received education from Plan International Tanzania.\textsuperscript{47} This indicates that HESAWA did not fulfill its objectives within the field of health education in Geita. Consequently one needs to improve and increase the level of health education in the villages, especially in the most rural areas. Health education should further be provided to school pupils and adults in the villages, in order to attain the best result possible. However, one has to keep in mind that a different result might have been attained if other villages had been chosen as a part of the study. Nevertheless, these findings are of importance since it indicates a fault in the structure of the HESAWA program, pointing to improvement of the program within these fields.

The Effectiveness criterion further points out the possibility of recorded changes to have occurred even without the accurate intervention (Molund & Schill, 2007, p. 31). Therefore, as been discussed under section 5.3, the reduction in diseases in the area can rely on other factors than the HESAWA as well. This is an important aspect to consider. The Geita region has

\textsuperscript{44} F1-F8, 2012. WC1-WC5, 2012.
\textsuperscript{45} Maila, 2012.
developed remarkably during the years since the project’s ending in 2002. The mining in the area has contributed to new and improved roads, making transportation to dispensaries and hospitals faster and easier. The Government has further contributed in improving and building new dispensaries, establishing new wells, contributing with water purification pills, improving schools among others. Considering all these aspects one cannot state that the HESAWA project by itself is responsible for all the improvements within the water sector in Geita. However, one can neither deny the importance of the implementation of HESAWA in the area, contributing to the progress of health, water and sanitation situation at site.

6.2 Impact:

The impact criterion is focusing on both positive and negative effects, including intended and unintended effects (Molund & Schill, 2007, pp. 32-33). The HESAWA project represent a little of each. In regard to the water sources, HESAWA has managed to mainly keep the effects positive due to an increase in wells followed by an improved water quality. Although the water quality has improved, it is still not regarded as safe water so it is important to boil the water before drinking it. This was not the case in most households, since many deemed the water to be safe due to originating from a HESAWA well. Although a positive outcome of enhanced wells in the region, negative factors have followed during the dry season when a number of wells tend to have dried out. Mainly SWs are affected but as mentioned the rocky ground in the area is an obstacle towards further digging. A lack of financial resources prevents drilling of additional boreholes and obtaining spare parts when the wells or the generators break down, creating further problems. The sense of ownership implemented through the Water Committees has however contributed in restoring and maintaining the wells in the area. Although they are working properly in most cases, the increased population has created lack of water in general. In order to cover the water usage in the area, more wells are needed thus requiring increased financial resources.

In regards to the sanitation issue, both negative and positive aspects are present. HESAWA did indeed contribute to improve the sanitation in the area through offering covers to the household latrines if the people dug the pits themselves. However, an unintended aspect followed where only few people participated in digging the pits, wherefore only these received improved latrines.\(^{33}\) This has continued in affecting the health situation in the villages, since many diseases spread easily through unsanitary latrines. Open defecation is still a problem in the most rural areas of Geita, which during the rain season has been a major factor to the contamination of the wells\(^ {34}\), indicating more effort should have been put on health education and protection of the wells.

### 6.3 Relevance:

As can be concluded after this research, the HESAWA intervention was of great relevance in the Geita region since the demand for improved water, sanitation and health was urgent. As earlier been stated, the situation at large in Africa is dire, and the same goes for Tanzania as one of the poorest countries within the African continent. Improving this sector is still a priority in Tanzania and specifically Geita, due to the increased population in the area. The need for a development intervention is not solely a factor within the relevance criterion, but further if the policies and priorities of the target groups are being met, as well as if the project is technically adequate for the problem in focus (Molund & Schill, 2007, p. 36). These aspects are well fulfilled in terms of the HESAWA project, since community participation in the beginning of HESAWA contributed to determine the needs and priorities of the project intervention. According to Molund and Schill (2007) a project is further of relevance if the situation at site may have changed over the years, demanding a need for a new investigation in the area to discover potential new project outcomes creating new or different needs for the target group (Molund & Schill, 2007, p. 37). These criteria fit well with the HESAWA project. Since its closing in 2002, the project region has changed remarkably, creating a need for a new research in the area in order to further investigate potential change in the region with regard to water, sanitation and health. As can be seen through the research results, further resources on water and health issues are of need in the region, mostly due to an increased population in the area, lack in health education, poor sanitation, as well as problems...

\(^{33}\) F1-F8, 2012. WC1-WC5, 2012.

\(^{34}\) FW1, 2012. FM1, 2012.
with too shallow wells. All these matters have been determined due to the fact that a new research in the area was carried out, further fulfilling the relevance criterion.

In order to address the criteria of being technically adequate, a well functioning solution to the issues at hand is of importance. HESAWA consisted of a good project plan focusing on the actual issues and providing a good solution to the water and health problems. The project created an enormous change in the regions where it was implemented, improving the livelihoods at large. An additional criteria applicable in the matter of relevance, is that of a partner country ownership (Molund & Schill, 2007, p. 36). Sida was as mentioned funding the HESAWA project in Tanzania, wherefore the interests of the Swedish Government ought to be taken into consideration as well throughout the research process. However, HESAWA was a joint collaboration between the Swedish and the Tanzanian Governments, where both Swedish and Tanzanian consultants were involved in the project. Together with community participation in the early stages of HESAWA, it creates a deeper understanding for the needs and priorities of the target group.

It can be discussed if the HESAWA project as such was the most relevant means of implementation for contributing to improvement in the area or if the same or an even better result could have been achieved through e.g. local government implementation or through NGOs. Currently, most project implementations are carried out through NGOs, providing a different focus than during the HESAWA project. The focus of HESAWA was to create sustainability through long-term solutions, while currently projects have more short-term solutions. The HESAWA project was such a big project, and therefore local government implementation alone or through NGOs could have been hard. Further, donor countries want to be aware of and have a certain control over a project. This might be easier if e.g. Sida and the Tanzanian Government together are responsible for the project implementation.

**6.4 Sustainability:**

The criterion of sustainability originally fits under the Effectiveness criterion. However, since sustainability is of great significance to the HESAWA project and to this study, a further and more throughout analysis is needed. The HESAWA project has been well-sustained in most
of its areas. Focusing on the Water Committees; they were still present in every village and sub-village visited during the fieldstudy.\textsuperscript{55} This indicates a well transferred sense of ownership over the HESAWA wells to the local people in the villages. Creating a sense of ownership over the wells was an important aspect within the sustainability criterion in HESAWA. By doing so one would better secure the future of the wells, since local ownership indicates a greater responsibility for the people themselves, contributing to improved maintenance. Most of the wells visited are still operating, although most of the SWs dry out during the dry season, creating a shortage of water.\textsuperscript{56} As mentioned earlier, the rocky ground in the Geita region was an obstacle towards further digging, thus making boreholes a better solution. However, in order to do so, an increase in financial capital is needed, which further will need additional donor support.\textsuperscript{57} HESAWA did drill one borehole in Busolwa, but the generator extracting the water broke down and the lack of financial capital was an obstacle towards replacing it. Spare parts to the different wells were usually a big problem in the villages and thereby a problem towards the sustainability. The main problem was that the seal of the pumps needed replacement, and due to the increased population more people used the wells which further contributed to abrasion and desiccation.\textsuperscript{58}

In the matter of health and sanitation the sustainability differs within the villages. HESAWA was said to provide health education to the schools including SHCs, but as seen from the research result the SHCs did not exist in any villages.\textsuperscript{59} The health education did not seem to have made the impact that it intended to do in the first place. The health standard in Busolwa village was in great need of improvement since the water-related diseases along with the poor sanitary conditions were most spread in that region. Open defecation and poorly built latrines were a major factor towards water contamination and an increase in water-related diseases compared to the situation in Katoro village.\textsuperscript{60} Although, HESAWA did try to improve the latrines in the villages, the people did not respond well to digging the holes for the latrines when provided covers.\textsuperscript{61} This approach turned out to be not as effective as was hoped for, thus

\begin{thebibliography}{99}
\bibitem{55} WC1-WC5, 2012.
\bibitem{56} WC1-WC5, 2012.
\bibitem{57} Tummomolele, 2012.
\bibitem{58} WC1-WC5, 2012.
\bibitem{59} F1-F8, 2012. WC1-WC5, 2012.
\bibitem{60} FW1, 2012. FM1, 2012.
\bibitem{61} F1-F8, 2012. WC1-WC5, 2012.
\end{thebibliography}
an alternative approach towards this problem would be necessary, such as the one explained in section 6.1.

Follow-ups are of great importance in development cooperation interventions, and more effort should have been put on discovering these flaws in the program earlier. In doing so, an opportunity for improving the methods and in turn improving the situation in general within the health and sanitation area could have been made. These aspects are important to keep in mind for future studies in order to ensure successful sustainability for the affected people at site.
7. Conclusion:

The HESAWA project has been an important building block in improving the water, sanitation and health standard in the villages in the Geita region. It has contributed to improved livelihoods through the construction of new wells, building of new latrines, and through providing health education to the local people in the villages. All these factors have additionally helped in decreasing the water-related diseases in the region, and by that improving the health level among the people.

Despite these positive outcomes, the HESAWA project has not fulfilled all its goals and purposes and all of its structures have not been sustainable in accordance with health, water and sanitation issues. Problems includes too shallow wells; an increased population; open defecation and contamination of water sources; and undermined sanitary conditions where both household latrines and institutional latrines are too few in numbers and where the standard is unacceptable. Further, all diseases asked for in the interviews are still present in both villages. Diarrhea, worms, malaria, bilharzia, and typhoid have decreased the most compared to before the implementation of the HESAWA project. The other diseases are at a similar level as before the implementation. The health education through SHCs has not been sustainable in accordance with the goal of the HESAWA program in the Geita region. SHCs did not exist in any of the schools interviewed in Geita, so this issue is in need of improvement.

However, it is important to point out that even though HESAWA did not fulfill all of the goals in the matter of sustainability, the project was still of great significance to the local people in Geita. The situation in the area has improved tremendously, and due to HESAWA we are one step closer to diminish water-related diseases in the region. Different NGOs, such as Plan International Tanzania, together with the Tanzanian government have continued the work of HESAWA which in the long run hopefully will create a region with clean and safe water, and good sanitary conditions. Future work within the field in the Geita region is of great importance. Sustainable goals within all areas are needed, leading way towards fulfilling MDG targets. Achieving these goals can prevent families from being troubled with health issues, creating an improved and lasting livelihood for all.
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