

**ROLE OF ADP SIMBO TOWARDS PROVISION OF SUSTAINABLE
WATER SUPPLY AND MANAGEMENT TO THE COMMUNITY IN SIMBO
WARD IN IGUNGA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF COMMUNITY
ECONOMIC DEVELOPMENT OF THE OPEN UNIVERSITY OF
TANZANIA**

2014

CERTIFICATION

The undersigned certifies that I have read and hereby recommend for the acceptance by the open university of Tanzania (OUT) a project entitled, “**Role of ADP Simbo towards provision of sustainable water supply and management to the community in Simbo Ward in Igunga**” in partial fulfilment of the requirements for the degree of Master of Community Economic Development of the Open University of Tanzania.

.....
Dr. Felician Mutasa

(Supervisor)

.....
Date

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DECLARATION

I, David Ong'ondo Ouko, do hereby declare to the Senate of Open University of Tanzania that this project is my own original work, and that it has not been submitted for the similar degree in any other University.

.....

Signature

.....

Date

DEDICATION

This work is dedicated to my beloved family wife Irene Magotti, daughters Charity, and Comfort and son Calvin Ron.

ACKNOWLEDGEMENTS

This work has been an outcome of several people whom I owe a lot in the form of heartfelt gratitude. The guidance, help and support from my supervisor, help from friends, and support from my family and wife have played a key role in the completion of this work. I would like to express my deepest gratitude to my supervisor, Dr. Felician Mutasa, for his guidance, patience, and encouragement throughout the time of research.

I would like to thank my course work lecturers for their guidance in the preparation for the research. Much gratitude goes to Dr. Deus Ngaruko, Dr. William Pallagyo, and Dr. Chacha Matoka for the role that they played during the time of the course work without which this work would have not been possible. Many thanks go to my employer Mr. Clement Mnkeni who sponsored me for the program and more specifically for the sponsoring of this research and for his inspiration during the course of this work. I would also like to thank my fellow staff members. They were always supporting me and encouraging me with their best wishes.

Finally, I would like to thank my wife, Irene Magotti. She was always there in support, encouragements and prayers for my research. My beloved children Charity, Calvin and Comfort who sacrificed their time to let me off for the studies deserves a lot of gratitude.

ABSTRACT

Community well being requires certain level of services and these services if not available or if available in unsatisfying level becomes a reason of concern to the community. Supply of water is one of the most essential services that the people need for their well being in the society. The availability of this service improves the life of the society members. In response to the need of water in the community living at Umoja Secondary school, the project was designed to ensure that water is made available to the community. The main purpose of this project is to supply reliable and sufficient water to the community through the activities of ADP Simbo. ADP Simbo is a non-governmental organization which operates in Simbo Ward in Igunga District of Tabora region in the United Republic of Tanzania in the areas of water and sanitation, health, nutrition and agriculture. The project began by the identification of the need in the society through the community need assessment which forms the first chapter. The subsequent chapters deal with the planning, implementation, monitoring and evaluation, the conclusion and recommendation.

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LIST OF ABBREVIATIONS

ADB	Africa development Bank
ADP	Area Development Project
AIDS	Acquired Immune Deficiency Syndrome
CBHCP	Community Based health Care Service Providers
CED	Community Economic Development
CEDPA	Centre for Development and Population Activities
CNA	Community Need Assessment
DNA	Do Not Apply
FBO	Faith Based Organization
FPCT	Free Pentecostal Church of Tanzania
HIV	Human Immune Virus
LVWATSAN	Lake Victoria Water and Sanitation
MDGs	Millennium development Goals
NCVO	National Council for Volunteers organization
NGO	Non Governmental Organization
OUT	Open University of Tanzania
PCAT	Pentecostal Churches Association in Tanzania
SEDA	Small Enterprises Development Agency
SIDA	Swedish International Development Agency
UNCED	United Nations Conference in Environment Development
UNDP	United Nations Development Programme
UNHCR	United Nation High Commission for Refugees
URT	United Republic of Tanzania

VGA	Village Government Authority
WDC	Ward Development committee
WFP	World Food Program

CHAPTER ONE

1.0 BACKGROUND INFORMATION

1.1 Introduction

Water supply in Umoja Secondary school plays a very important role in enabling the community to be sustainable socially and economically. The water supply network was laid in 1993 with the main source of water being a bore hole. From the bore hole, the water is pumped through the water pipes into a water tank and from the tank; a network of pipes supplies the water to different points within the school. There is also water harvested from the rain water and stored in the underground tanks which are meant to act as emergency source of water in the dry seasons as well as in case of any problem with the bore hole supply.

Up to the time of the research the source of water for the institution was basically the bore hole which was connected to an elevated water tank for the supply of water in the school. The water that was drawn from the bore hole using an electric water pump at the time of the construction of the school was meant to support the life of an estimate population of 400 which composed of 360 students and the working community estimated to be 40 employees as well as their families (Aronson & Hegg, 1994).

The water at Umoja was also meant to support the livestock such as, cows, pigs and poultry which formed part of the school income generating project. Apart from the Livestock, the other uses that required water in the institution included agriculture (in form of gardening) for the production of fruits and vegetables to the community. Initially the water for the agriculture and livestock was expected to come from the

water harvested from rain and stored in the dams for agriculture and underground water tanks for livestock. This depended heavily on conducive and supporting climatic conditions in the area. Since the time of the construction of the school up to now, there has been a tremendous change in the climatic condition of the area and the harvested water is not sufficient to support the two sectors of livestock and agriculture. This means that the water for the sector must come from the bore hole.

The water requirement for the school at the time of construction was estimated to 3000m³ per year. This was to support the 360 students and 40 teachers and their families. The requirement was calculated on the basis of every person using 25 litres of water per day. For a population of four hundred people the requirement would be twenty five litres multiplied by 30 days giving an estimated figure of 750 litres of water per month for one person and 9000 litres of water per person for one year. Taking the total population of the institution by then, the amount of water which was required for the community was about 9000 multiplied by 400 people giving 36,000,000 litres of water per year (Aronson & Hegg, 1994)

The population of the institution over time has so far grown to 670 (including the form ones who are expected to join the school but not included in the research population) students from 360 and the employees population has grown to 76 employees from initial 40 people, leaving alone their family members including children and other dependants who are estimated to be 130 in total. With these changes, the population of the institution has increased to 879 up from the initial 400 people. With this population increase the demand for water for domestic use has increased tremendously. Taking the initial rate of water requirement of 25 litres per

day per person, the current requirement of water for human use is 8,020,875 litres of water per year for the current number of people in the community. The current water supply from the tank cannot be sufficient to supply this amount of water owing to its capacity.

The underground water tanks which store the water harvested from rain and meant to buffer water supply during the dry season when the level of water supply from the bore hole is down or when there is a problem with water supply system, is no longer serving this necessary function. But instead has become part of normal water supply system leaving the community at the risk of any eventuality of dry season and/or problem with the borehole water supply. Together with the use of water stored in the underground tanks, the requirement of water is still too high as compared to the available water.

The situation above presents a real need to be addressed to improve the life situation of the community at Umoja Secondary school. This forms the problem of the research carried out by the researcher. The situation above prompted the researcher to come up with the idea of sinking another bore hole and lay down the necessary pipe network for the supply of water in the community of Umoja secondary school. Apart from the bore hole, also included in the project is shallow water well for the hand pump for additional water supply. The researcher consulted ADP Simbo a constituent organization of World Vision Tanzania. The organization accepted the proposal and the researcher in collaboration with the organization embarked on the process of the community need assessment with the objective of ascertaining as to whether this is a priority need of the community at the time of the research.

1.2 Community Profile

The term community refer to a group of people sharing certain beliefs, norms and aspirations and may or may not settle in a geographical location but are tied up by some commonalities in their economic, social or / and political life. Community profile involves the demographic characteristics of the community, social setting and economic life of the people. It may also involve the geographical location of the community.

Umoja secondary school community is located in Simbo ward in Igunga district in Tabora region of the United Republic of Tanzania. The school is privately owned by the Free Pentecostal church of Tanzania (FPCT) which was formerly known as Pentecostal Churches Association of Tanzania (PCAT) (Aronson & Hegg, 1994). PCAT realized the need for a secondary school and in 1987 approached the Filadelfia church in Sweden for an assistance to start a secondary school, a request that was granted. In January 1988, PCAT started to run a school at Ussongo village in Igunga district in temporary buildings which were borrowed from the Roman Catholic Church, diocese of Tabora. In 1993 the school migrated to Simbo Ward in Igunga district where the new structures belonging to the PCAT had been constructed from the assistance from Swedish International Development Agency (SIDA) (Aronson & Hegg, 1994)

The institution is a church school managed by the church for the provision of secondary school education in the country through the curriculum provided by the Ministry of Education and Vocational Training. The school admits both boys and girls from all religious backgrounds and all economic classes in the society. The

teachers are hired base on the qualifications from the national educational training colleges. The Umoja school community is made up of the students who form 83.5% of the community and the workers forms 16.5%.

The main economic occupation of the majority of people is the employment for the workers who alongside are engaged in small scale agriculture for the sustenance of their families. The students however engage in no economic activities but depend on their parents for the supply of pocket money and bank saving for those who have such savings. The social characteristics of the people is such that the school admits students and recruits staff from all over Tanzania and as such the community formed here in the school is heterogeneous in terms of social background. The school being a religious institution where religion is emphasized, the community has a very strong attachment to the religious beliefs.

In terms of social services, the community is situated along the Igunga – Tabora route which connects it to the nearby centres such as market centres, administration centres, and makes them to be in access to the two nearby hospitals at Nkinga and Ndala mission hospitals and the health centre which exist in the area. The single road connects the community to the district headquarter to the Northeast and the regional headquarter to the south. The demography of the community is mostly compost of students aged between 12 years and 24 years of age in their secondary school level of education. Apart from the students we have the working group with their families in the community. The working population is basically teachers and the non-teaching staff with their ages ranging from early twenties to late fifties. Sexual composition is rather imbalanced with the male dominating in the community. This is because

among the students the number of boys is 445 forming 67.9% while the number of girls is 225 forming 32.1%. For the working group, the female population is 24 which form 31.6% of the population while the male population is 52 forming 68.4% of the workers.

1.3 Community Needs Assessment (CNA)

1.3.1 Objective of CNA

The overall goal for the CNA is the provision of sustainable water supply and management to the Umoja Secondary School community in Simbo ward of Igunga district. The main objective is to carry out an assessment of the need of the community of Umoja Secondary School with the aim of supplying reliable and sufficient water to the community in Simbo Ward of Igunga district.

1.3.1 Specific Objectives

The specific objective of the Community Need Assessment include ;

- i. To understand the demographic characteristics of the community living in Umoja Secondary School.
- ii. To assess the financial, physical and the social capital of the community
- iii. To assess the needs of the community living in Umoja secondary school.

1.3.2 CNA Questions

The research will be guided by several CNA questions. These questions include

- i. What are the demographic characteristics in the community?
- ii. What are the financial, social and the physical assets that exist within the community of Umoja Secondary School?

- iii. What are the pressing needs in the community of Umoja Secondary school?
- iv. What is the need ranking of the community?

1.3.3. Research Methodology

Research methodology in essence is a broad term that refers to the entire procedure that the researcher will follow in order to execute the research process. It may be simplified as the plan or the framework of how the research work is to be accomplished. It has been observed that research methodology is a way of systematically solving a research problem. It may as well be understood as the science of studying how research is done scientifically (Kothari, 2004). In his view, research methodology involves the study of various steps that are generally adopted by the researcher in comprehending his research problem along with the logics behind the steps. This includes aspects such as developing the indices, how to calculate measures of central tendencies and dispersion, and how to apply the research techniques.

1.3.3.1 The Research Design

Selltiz et al, as cited by Kothari (2004) define research design as the conditions for collecting and analysing data in a manner that aims to combine relevance to the research purpose with economy to the procedures. Commenting on the definition, Kothari explains research design as the conceptual structure within which research is conducted which constitute the guideline for the entire process of stating the hypothesis, collection, measurement and analysis of data (Kothari, 2004). The Open University of Tanzania observes that research design concerns the type of the

research and strategies to be used with three common elements which include research area, the research population and the sampling techniques to be applied after showing the type of research and strategies of research to be followed (OUT, 2010)

1.3.3.1.1 Research Area

The research will be conducted in Simbo Ward and more specifically the Umoja secondary school community. Outside the Umoja community the research will involve an NGO named ADP Simbo under the World Vision International. This organization will form the host organization for the research in this area of its operation. Simbo ward is located in Simbo division of Igunga district in Tabora region in The United Republic of Tanzania.

1.3.3.1.2 Research Population

The population that the research targeted includes the students of FPCT Umoja secondary school about 511 in number excluding the expected form one estimated to be 160. The community also include 76 workers and their family members. The households in the community are estimated to have an average 3.45 adult members each. Apart from the Umoja community members, people from the host organization were interviewed for valued information especially regarding the organization and its operation in the community. The organization has got a population of 13 workers in different levels of organizational structure. Of its workers, 5 are female and eight are male.

Table 1.1: Table Showing the Research Population

S. N	Category	Form	Population		
			Male	Female	Total
1	Students				
		2	97	61	158
		3	113	64	177
		4	97	51	148
		5	04	02	07
		6	13	8	21
2	Employed		52	24	76
3	General members of the community		01	28	29
4	ADP Staff		08	05	13
	Total		385	243	629

Source: Researcher designed (2014)

1.3.3.2 Sampling Techniques

Sampling techniques refers to the procedures that were employed so as to come up with a representative sample for the study of the population. The researcher obtained his sample through a combination of sampling methods. The researcher used stratified sampling method at the initial stage of sampling and at the final stage he used random sampling to obtain the desired sample. The population was stratified into broad categories of students, working staff and the general population within the community.

The students were further stratified as males and females before finally looking into their grades in the school for selection. For the staff they were stratified according to their sex in coming up with the sample representing staff and for the general members of the community consideration was based on the sex of the category. From the final strata for each category the items were picked randomly on a same proportion basis so as to constitute the sample for the study. Table 1.2 shows the sample from each category and strata in the proportion of each stratum to that of the entire population.

Apart from stratified sampling, purposive sampling was also used by the researcher. This was used for the selection of the host organization workers for the interviews. The purpose for this was to gather information about the host organization especially about the organization's operations, culture and structure and some of the information that could only be retrieved from the top leadership of the organization. In this sampling the coordinator, facilitator and assistant development officer of the organization were picked for interviews.

1.3.3.2.1 Sample Size

The sample size was determined by selecting a representative portion of the research population. The final sample was reached through the principle of the same proportion in all the categories except for the purposive sample. In the determination of sample size, a proportion of 15% of the research population was picked according to their categories except for the ADP staff where a purposive sample was used. The study had a sample size of 84 students, 13 workers, the 4 general members of the community and 3 workers of ADP Simbo making a total sample size of 104. The Table 1.2 shows the research population and the sample size selected.

Table 1.2 : Table Showing the Sampling Procedure

S. N	Category	Form	Population			Sample		
			Male	Female	Total	Male	Female	Total
1	Students	2	97	61	158	14	10	24
		3	113	64	177	23	10	33
		4	97	51	148	15	8	23
		5	04	02	07	01	0	01
		6	13	8	21	02	01	03
2	Employed (Staff)		52	24	76	9	4	13
3	General members of the community		01	28	29	00	04	04
4	ADP Staff		08	05	13	02	01	03
Total			385	243	629	65	38	104

Source: The Researcher designed, 2014

1.3 .3.3 Data Collection Methods

Data collection method refers to the tools that the researcher employs in gathering the information. There are several data collection tools that may be used in the collection of research data but in the case of this particular research the researcher adopted descriptive or qualitative data collection methods. The main methods applied by the researcher for the data collection was questionnaire method.

The researcher also employed qualitative data collection methods as secondary methods. These methods included focused group discussion, interview methods and documentary review method. The choice of the method to be used was determined by several factors including, the population to be studied, the nature of information, purpose of the information, the cost that is involved in the use of the data collection tool and the appropriateness of the method.

1.3 .3.3.1 Questionnaire Method

Questionnaire method of data collection was the main tool employed by the researcher in the process of data collection. Questionnaire method refers to the collection of data in which the researcher prepared a set of printed questions in a predetermined way and order and sent them to the respondent who responded to the questions in writing and sent them back to the researcher. The questionnaires in most cases are sent through post, but at times when the researcher can reach the respondent, they can be delivered to the respondent through any other suitable means (Kothari, 2004). In the case of this research the questionnaire were delivered to the respondent by the researcher and this improved the response rate.

In this research, the questionnaires were delivered to the respondents by the researcher in person due to the fact that the researcher lives in the same community and could reach them easily. The questionnaire consisted of a number of questions printed in a definite order to the respondents who were expected to read and understand the question and write down the reply in the space meant for the purpose in the questionnaire itself (Kothari, 2004).

The researcher chose this method because of its ability to collect data for large samples and its cost implication. More so, the community being an educational institution, most of the community members can communicate their thoughts well in a written way. The method was used basically to collect the data about the community demographic information, financial, physical and social assets of the community, livelihood strategy and the community needs.

1.3 .3.3.2 Focused Group Discussions

This is a way of collecting data through the engagement of selected individual who are then made to meet in a small group so as to share and discuss on a selected issue of concern of the researcher. OUT (2010) observes that Focused Group discussion are “...discussions conducted by a researcher with a group of respondents who are considered to be representative for the target population”. The institution further elaborates that these meetings are usually conducted in a rather informal manner. This method was selected for collection of data especially at the beginning of the CNA in an attempt to understand the perception of the community of the services that are offered in the community and those which are not available but forms the need of the community.

The choice of this tool was due to its benefits of cost effectiveness and interactive manner that is able to test the ideas of the members involved in the discussion. The researcher also observed that this method saves time. The method was used to collect information from the population through discussions from homogeneous small groups which were formed by the researcher. The homogeneity was meant to provide space for all the participants to discuss freely. The groups include the students group and the employed group and the discussions were done at different time.

1.3 .3.3.3 Interview Method

This method of data collection involves the use of verbal questions that are presented to the respondent to which the respondent is to respond verbally. This method is basically conducted through face to face interaction but with the technological development it may also be conducted through phones and video-conferencing. In this research the researcher used personal interviews methods where the researcher interacted with the respondent face to face and asked the respondent the questions in an interactive way. The respondents were also provided with opportunity to asked questions where there were such needs. This method was used by the researcher in collecting the information from the workers of the host organization who were expected to provide in-depth information about the organization, its culture, operation, and their perception of the community that they serve.

1.3 .3.3.4 Documentary Review

The research also involved a documentary review. The main documents consulted

included studies or projects carried out by other people in connection to water and sanitation in the rural areas, the ADP reports, projects write ups and other relevant documents. At the institutional level the review looked at the historical and current water situation within the institution in an attempt to explain the problem and relate it to the project itself.

1.3.3.4. Data Analysis Method

After the collection of data, the researcher embarked on data processing and analysis in order to obtain meaning from the collected data. Data processing involved the editing coding, classification and tabulation of the collected data (Kothari, 2004). This was performed in order to make analysis easy. The collected data has also been tabulated so as to summarize the information obtained. The tables used involve the aspects such as the age, sex structure, occupation, education level, marital status, skills, years of stay in the community, and perceived need among other characteristics of the community of Umoja Secondary school.

In data analysis the researcher mainly used the descriptive data analysis. The frequencies were widely used to analyze the data. The measures of central tendencies especially the mean was used. Measures of variance especially range was also used. Measures of relationship were involved in the analysis of data where cross tabulation was used in the analysis. Simple regression analysis was involved in which case; the relation between variables was looked into. In this analysis the researcher sought to understand the relationship between the age of the population, their level of education and occupation in the community.

1.4 CNA Findings

1.3.1 Community Demographic Characteristics

The Umoja secondary school community demographically may be divided into two broad categories of students and employees, even though there are members of the community who are neither students nor employees. The community of Umoja is composed of 36.9% female and 63.1% male with active age ranging from between 14 – 24 age group composing 86.4%, 25 – 40 age group comprising of 9.7% and 41 – 60 age group comprising of 3.9%. Table 1.3 and figure one below presents this information.

Table 1.3: Table Showing the Respondent's Sex and Age Distribution

Count		Respondent's Age			Total
		14-24	25-40	41-60	
Respondent's Sex	Male	57	6	2	65
	Female	32	4	2	38
Total		89	10	4	103

Source: Researcher (2014)

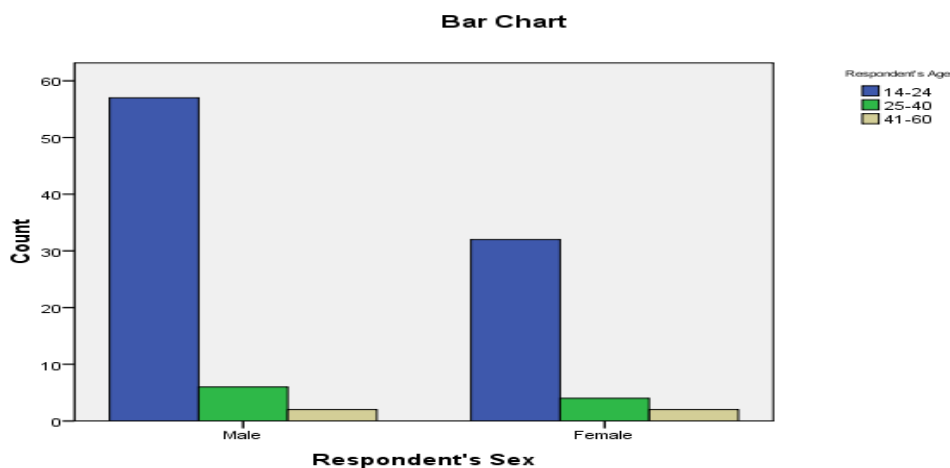


Figure 1.1: Figure Showing the Respondents' Sex by Age

Source: Researcher (2014)

In the community only 11% of the respondents are married while 89.3% are not married. This is in line with the population's occupational trend where only 16.5% are employed while 83.5% are students. Table 1.4 represents respondent's marital and occupational Status.

Table 1.4: Table Showing Respondents' Marital Status and Occupation

Count		Respondent's Occupation		Total
		Employed	Student	
Respondent's Marital Status	Married	11	0	11
	Not Married	6	86	92
Total		17	86	103

Source: Researcher (2014)

In terms of education level in the community, the data collected revealed that the people have got different level of education. The education level ranges from primary level to the first degree in the university education. The average level of education in the community is the secondary school level which is defined in terms of attending between one to four years in a secondary school. 80.6% of the community members hold secondary school education and 2.9% hold primary education while 4.9% have university level of education. Table 7 below shows this information.

The data collected in Figure 1.6 showed that 60.2% of the respondents' poses other skills apart from their basic occupation. Most of the student poses other skills while 18.6% percent of the population poses skills such as carpentry, tailoring, bicycle repair, and driving skills.

Table 1.5: Showing the Respondents' Education Level

Education level	Frequency	Percent
Primary	3	2.9
Secondary	83	80.6
High School	6	5.8
College Certificate	2	1.9
College Diploma	4	3.9
Bachelor's Degree	5	4.9
Total	103	100.0

Source: Researcher (2014)

Table 1.6: Showing the Respondent's Skill in the Community

		Frequency	Percent
Valid	Carpentry	1	1.0
	Tailoring	1	1.0
	Bicycle repair	5	4.9
	Driving	12	11.7
	others	62	60.2
	None	12	11.7
	teacher	10	9.7
	Total	103	100.0

Source: Author (2014)

Table 1.7: Statistics of Mean Adults and Children in Household

		Adults per household	Children per household
N	Valid	103	103
	Missing	0	0
Mean		3.45	1.86

Source: Researcher (2014)

The research also revealed that the mean number of adults per household in the community is 3.45 and the mean number of children per household is 1.86.

Table 1.8: Showing the Number of Adults per Household

		Frequency	Percent
Valid	None	1	1.0
	1-3	21	20.4
	4-6	31	30.1
	7-9	31	30.1
	10+	19	18.4
	Total	103	100.0

Source: Researcher (2014)

The collected data showed that 50.4% of the respondents have stayed in the community for less than three years, 41.7% have stayed for three years while 7.8% have stayed for more than 3 years. This portrays the community as a changing one in which people come and leave. The graph below shows the number of years the respondents have stayed in the community.

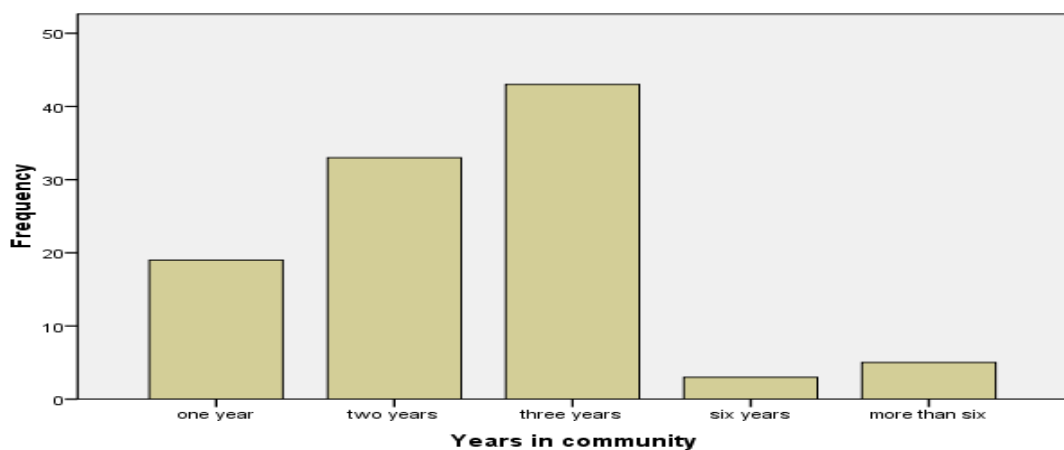


Figure 1.2: Respondents Number of Years in the Community

Source: Researcher (2014)

In terms of settlement, the data revealed that 93.2% of the respondents stay within the school compound in houses provided by the school while 6.8% stay outside the school. This group that stays outside the school is composed of students who are day scholars and workers who have rented houses or have constructed own houses. The Table 1.9 shows the respondents occupation and the settlement trend.

Table 1.9: Showing the Respondents Occupation and Place of Stay

Count		Place of Stay in relation to school		Total
		School	Outside	
Respondent's Occupation	Employed	14	3	17
	Student	82	4	86
Total		96	7	103

Source: Researcher (2014)

1.3.2 Community Financial, Social and Physical Capital

The data collected on the community financial and social asset revealed that 48.5% of the respondents have access to saving at home or in their pockets and 43.7% of the respondents have saving at the bank while 5.5% have no saving or access to financial capital and 1.8% are having livestock. Of all the respondents, males appeared to have more access to financial capital than female respondents. Table 1.10 presents this information precisely.

Regarding the ease of access to the financial capital, it was very easy for 44.7% of the respondent. Within this group 15.5% access saving at bank, 27.2% access saving at home while 1.9% had access to livestock. The ease of access was moderate to

40.8% within which 20.4% accessed cash saving at bank while 19.4% access cash through saving at home. The situation was not easy for 14.6% of the respondents. This information is portrayed in Table 1.11

Table 1.10: Respondent's Sex and Corresponding Access to Financial Capital

Count		Access to financial capital				Total
		None	Cash saving at bank	Cash saving at home	Livestock	
Respondent's Sex	Male	3	30	31	1	65
	Female	3	15	19	1	38
Total		6	45	50	2	103

Source: Researcher (2014)

Table 1.11: Access to Financial Capital * Ease of Access Cross Tabulation

Count		Ease of access			Total
		very easy	Moderate	Not Easy	
Access to financial capital	None	0	1	5	6
	Cash saving at bank	16	21	8	45
	Cash saving at home	28	20	2	50
	Livestock	2	0	0	2
Total		46	42	15	103

Source: Researcher (2014)

Table 1.12: Showing the Water Supply Source in the Community

		Frequency	Percent
Valid	Bore Hole	100	97.1
	Well or Spring	3	2.9
	Total	103	100.0

Source: (Researcher 2014)

In terms of physical capital, 97.1% of the respondents had access to borehole as the source of water while 2.9% had access to well or spring as the source of water. The table 1.12 portrays the situation.

The community uses firewood as the main source of fuel for cooking apart from charcoal and gas. The data showed that 85.4% of the respondents use firewood as source of cooking fuel, 12.6% of the respondents uses charcoal and 1.9% uses gas as fuel. Table 1.13 and Figure 1.3 portray the data more precisely.

Table 1.13 : Showing the Source of Cooking Fuel in the Community

		Frequency	Percent
Valid	Firewood	88	85.4
	Charcoal	13	12.6
	Gas	2	1.9
	Total	103	100.0

Source: Researcher, 2014

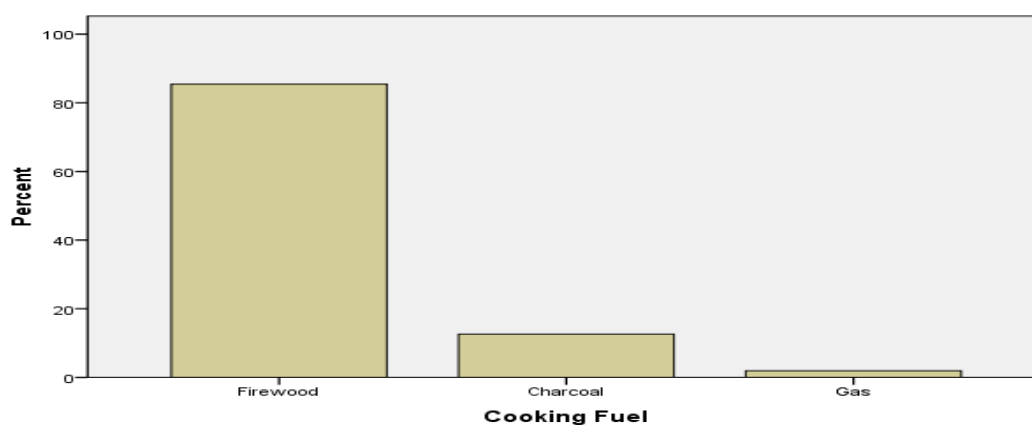


Figure 1.3: Figure Showing the Source of Cooking Fuel in the Community

The community had access to dispensary and health centre. The data shows that 96.1% of the respondents had access to dispensary, 3.9 % had access to health centre. Table 1.14 summarizes this information.

Table 1.14: Showing the health services accessed within the community

		Frequency	Percent
Valid	Dispensary	99	96.1
	Health Centre	4	3.9
	Total	103	100.0

Source: Researcher (2014)

The collected data showed that the community enjoys the facility of feeder roads, inter village roads as well as road to the nearest town or centre. 84.5% are served by roads to the nearest town or market, 8.7% served by feeder roads and 6.8% by inter village roads. Table 1.15 shows the state of roads in the community.

Table 1.15: Showing the Road Services in the Community

	Frequency	Percent
Feeder	9	8.7
Inter-Village	7	6.8
Road to nearest town/centre	87	84.5
Total	103	100.0

Source: Researcher (2014)

The community is well served by educational services. There is a primary school, secondary school and others such as nursery school within the community. 97.1% of the respondents are close to secondary school and 1.9% primary school while 1% are close to nursery school. The Table 1.16 shows the situation of education services in the community.

Table 1.16: Showing the Education Services in the Community

Education Service	Frequency	Percent
primary School	2	1.9
Secondary	100	97.1
Others (Nursery)	1	1.0
Total	103	100.0

Source: Researcher, 2014

Up to 90.3% of the respondents in the community use covered pit latrine and another 5.8% uses uncovered pit latrine while 2.9% uses the bushes around their settlements and 1% uses flash toilets. The information is represented by Table 1.17.

Table 1.17: Showing the Status of Toilets in the Community

		Frequency	Percent
Valid	Pit Latrine covered	93	90.3
	Pit latrine uncovered	6	5.8
	Flash	1	1.0
	Bush	3	2.9
	Total	103	100.0

Source: Author (2014)

Majority of the respondents had no houses of their own and lived in the school provided houses or rented house. Of all the respondents of both sexes 3.9% owned house while only 96.1% owned houses. Socially the respondents belong to several associations at different level. 87.4% of the respondents belong to religious group, 5.8% did not belong to any association, 2.8% belonged to the women associations and 1.9% belonged to the credit and saving associations. On the other hand there were other organizations such as the study group which had 81.6% while others did not have alternative association forming 12.6%, credit and saving group formed 1.9%, religious groups formed 2.9% and youth group formed 1.0%. Table 1.19 portrays the association information of the community.

Table 1.18: Age Association * Associations Cross Tabulation

Count		Associations					Total
		Youth group	Women Group	Credit and Saving group	Religious Group	Not at all	
Age association	Less than 2	1	0	0	56	0	57
	More than 2	1	3	2	34	0	40
	DNA	0	0	0	0	6	6
Total		2	3	2	90	6	103

Source: Researcher (2014)

1.3.3. Community Needs

The community ranked their needs and among the most important needs in the community include library service 83.5%, toilets 91.3%, reliable water 95.1%, road 64.1%, electricity 96.1%, dispensary 88.3% and housing 68%. For needs such as library, toilets, water, electricity and education services the respondents showed a 100% level of importance. For the case of unimportant, market ranked 61.1%, credit service 66.0% capital for business 78.6%, grocery registered 43.6% (the level of unimportance is taken to include both completely unimportant and unimportant). Table 1.19 and the figure 1.4 show the respondents ranking according to the level of importance.

Table 1.19: Showing Membership in other Association

Membership	Frequency	Percent
Youth group	1	1.0
Credit and Saving group	2	1.9
Religious Group	3	2.9
Study Group	84	81.6
Not at all	13	12.6
Total	103	100.0

Source: Author (2014)

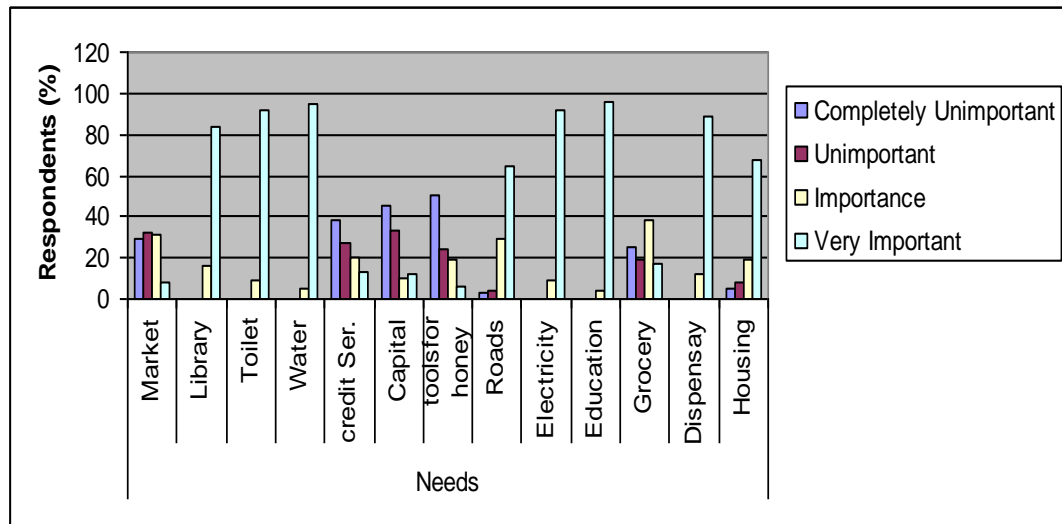


Figure 1.4: Ranking of Needs According to the Perceived Level of Importance

Source: Author (2014)

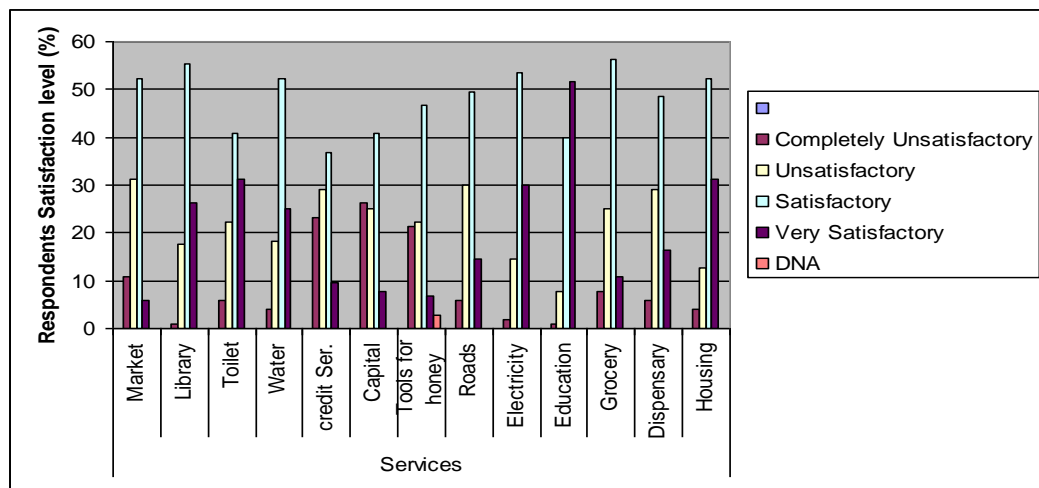


Figure 1.5: Figure showing the needs according to their level of satisfaction

Source: Author (2014)

Table 1.20: Showing the Ranking of the Needs in Importance in Percentages

Level of Importance	Needs (%)												
	Market	Library	Toilet	Water	credit Ser.	Capital	Tools for honey	Roads	Electricity	Education	Grocery	Dispensary services	Housing
Completely Unimportant	29.1	0	0	0	38.8	45.6	50.5	2.9	0	0	25.2	0	4.9
Unimportant	32	0	0	0	27.2	33	24.3	3.9	0	0	19.4	0	7.8
Important	31.1	16.5	8.7	4.9	20.4	9.7	19.4	29.1	8.7	3.9	37.9	11.7	19.4
Very Important	7.8	83.5	91.3	95.1	13.6	11.7	5.8	64.1	91.3	96.1	17.5	88.3	68

Source: Researcher (2014)

Table 1.21: Showing the Respondents Ranking of the Services

Level of Satisfaction	Services												
	Market	Library	Toietl.	Water	credit Ser.	Capital	Tools for honey	Roads	Electri.	Educati.	Grocery .	Dispen. Service.	Housin g.
Completely Unsatisfactory	10.7	1	5.8	3.9	23.3	26.2	21.4	5.8	1.9	1	7.8	5.8	3.9
Unsatisfactory	31.1	17.5	22.3	18.4	29.1	25.2	22.3	30.1	14.6	7.8	25.2	29.1	12.6
Satisfactory	52.4	55.3	40.8	52.4	36.9	40.8	46.6	49.5	53.4	39.8	56.3	48.5	52.4
Very Satisfactory	5.8	26.2	31.1	25.2	9.7	7.8	6.8	14.6	30.1	51.5	10.7	16.5	31.1
DNA	0	0	0	0	0	0	2.9	0	0	0	0	0	0

Source: Researcher (2014)

Table 1.22: Showing the Need Ranking as Important and Satisfactory

Need	Importance (%)	Unsatisfied (%)
Market	38.9	40.8
Library	100	18.5
Toilet Service	100	28.1
Reliable Water	100	22.3
Credit Services	34	52.4
Capital for Business	21.4	51.4
Tools for honey	25.2	43.7
Roads	90.2	35.9
Electricity	100	16.5
Education	100	8.8
Grocery	55.4	33
Dispensary Services	100	34.9
Housing	87.4	16.5

Source: Researcher (2014)

1.3.4 Community Needs prioritization

The prioritization procedure used in the CNA is to group the needs that were indicated by the respondents to be very important and important together as important and the ones indicated as completely unsatisfactory and unsatisfactory were also grouped together as unsatisfactory. After the grouping the two aspects of important and unsatisfactory were compared and the need which appeared to be highly important and at the same time appears to be most unsatisfactory was ranked the need number one and the one that appeared to be important but unsatisfactory to fewer respondents was ranked the least needed service in the community. Table 1.23 and Figure 1.6 shows the ranking of the needs according perceived need and level of satisfaction.

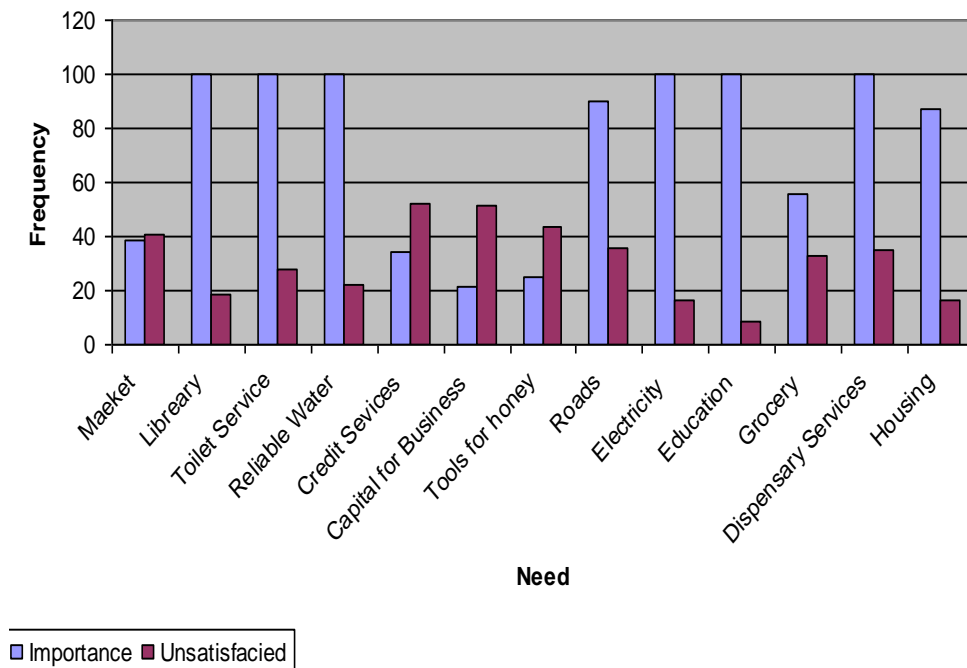


Figure 1.6: Figure Showing the need Importance and Level of Satisfaction

From the above Table 1.22 and as depicted in the graph, the most important needs are library 100%, toilet services 100%, reliable water 100% electricity 100%, education services 100% and dispensary services 100%. The group above is followed by roads 90.2% housing 87.4% and grocery 55.4%. On the other hand the level of satisfaction, of the needs that was 100% important, dispensary service was the one with the highest level of dissatisfaction at 34.9% followed by toilet service at a dissatisfaction level of 28.1%, reliable water was third at a dissatisfaction level of 22.3%, electricity and housing were ranked fourth at a level of 16.5%. Roads followed in the line of importance at the level of 90.2% with a dissatisfaction level of 35.9%. From the above trend the prioritization of the needs was as shown in the Table 1.23.

Table 1.23: Showing Needs Prioritization

S. No	Needs according to priority	Ranking
1	Dispensary Services	1
2	Toilet Services	2
3	Reliable water	3
4	Electricity	4
5	Housing	5
6	Roads	6
7	Education Services	7
8	Grocery	8
9	Market	9
10	Credit services	10
11	Tools for honey	11
12	Capital for business	12

Source: Researcher (2014)

1.3.5. Conclusion of the Need Assessment

From the foregone investigation, it has come out that the community enjoys a good deal of financial, social and physical asserts. This is because a good percentage of the respondents have indicated that they have saving and are in access to most of the social and physical amenities necessary for the community. It is also clear that there is a need for improvement of certain services in the community as the data reveals.

It is clear from the need assessment that the community has several needs most of which are targeted at improving the level of the existing services in the community. Of the needs that exist, the community needs above all the needs the improvement of the dispensary services, toilets, reliable water supply, electricity, housing and roads in the order of priority to be improved for the community to enjoy a well being of

life where they are satisfied with the services required in the community. Since reliable water is not the top priority of the community but the third in the list of priorities and since the host organization is dealing with water provision at the moment, the community accepted to adjust their priority and the supply of water is taken as the current priority.

The agreement of the community to deal with the problem of water in the community led to the initiation of in the community so as to resolve the problem of unreliable and insufficient water in the community. The succeeding chapters of the report will therefore deal with the project for the supply of reliable and sufficient water in the community.

CHAPTER TWO

2.0 PROBLEM IDENTIFICATION

2.1 Background to Research Problem

This chapter highlights on the problem that exist in the community that attracted the attention of the researcher. It includes a brief description of the project, the target community and the varied stakeholders and their roles in the project. The chapter further point out the project goals and a description of the host Organization profile. On the host organization the profile will include vision statement, mission statement, activities of the organization, the organizational structure, SWOT analysis and its role in the project.

2.2 Problem Statement

The necessity of the presence of reliable and sufficient water within any community may not be overemphasized. The need assessment conducted at Umoja indicated that there is a great need to improve the level of the availability and reliability of water for the community use. The CNA conducted revealed that although there is a considerable level of water supply, there is need to expand the provision of the resource as the amount available cannot sufficiently sustain the community. There is therefore a need to construct water well and a second bore hole and network infrastructure for the supply of water in the community to ensure that the community is well served with water to the level of satisfaction as opposed to now where some do lack the required supply. In the past, attempts have been made to address this situation by the institution and even the local village government through its Ward Development Committee (WDC). The institution attempted to sink hand dug wells

at three different sites in the compound. These hand dug wells provided water for a short period of time and so far some of them have dried up.

The local village government in the past also attempted to alleviate the water supply problem at Umoja. The village development authority (VGA) constructed a water pipe line to connect the school and the village water supply and the authority constructed a water house in the school compound, but so far this has not worked since its construction two years ago. This leaves the problem of water supply to be chronic in the community. The main purpose for this project is to alias with a local none governmental organization known as ADP Simbo so as to construct a water supply system for the community in with a view of alleviating the water supply and reliability problem in the community for the improvement of the life of the community members.

2.3 Project Description

The project undertaken is to assess the role of ADP Simbo, a nongovernmental organizations towards supply of sustainable water provision to the community in Simbo Ward of Igunga district in Tabora region.

2.3.1 Target Community

The target community of the project are the people living within the compound of Umoja secondary school. Umoja Secondary School is located in Simbo Ward in Igunga District of Tabora region. The institution is about 100km from the regional headquarters at Tabora and 120 km from Igunga district headquarter. The institution comprises of a population of 830 people. The male population form 75% of the

population while the female population form 25%. The community is also comprised of students totalling to 670 while the remaining 130 are the workers. Of the students' population, 225 are girls forming 32% of the students' population and the boys are 475 students forming 68% of the total number of students. The target is also composed of the working staff and their family. The institutions has 78 workers of which 20 are female forming 25.6% and male are 58 in number forming 74.4%. There are total of 25 households with an average house hold size of 4 members per each house hold.

2.3.2 Stakeholders

The project has brought together several stakeholders at different capacity but sharing the same goal of provision of reliable and sustainable water to the community at Umoja. The stake holder in the project include

2.3.2.1 Free Pentecostal Church of Tanzania

The main stake holders of the project is The Free Pentecostal Church of Tanzania (FPCT) which is the owner of the school and hence has the responsibility of ensuring the community is supplied with sufficient and reliable water. The main task of FPCT is to collaborate with other actors as well as creating an enabling environment for the implementation of the project. FPCT is also responsible for raising part of the funds that is required for the implementation of the project.

2.3.2.2 ADP Simbo

This is none governmental organization operating in the area where the institution exists. This is the host organization which is executing the project in the community

to ensure that there is improved water supply at Umoja Secondary School. The host is responsible for paying the larger sum of the finances that are required for the project execution as well as coordinate the other actors in the project.

2.3.2.3 District Council of Igunga

The district council of Igunga is also another stakeholder in this project. A part from the fact that the council is responsible for ensuring that the people within the district has reliable water supply, the district council played the part of carrying out the project engineering consultancy. It was the council through its water department which carried out the survey for the water pipes network and the construction requirement of the pump house. The council also offered consultancy services as it provided technical advice to the institution on the most appropriate way to construct the water pump house.

2.3.2.4 Tanzania Electric Supply Company (TANESCO)

Tanzania electrical supply company (TANESCO) is another stakeholder in the project. On its part, it was responsible supply of electricity for the water pump machine. They have so far carried out the survey for the line and come up with the quotation for the cost for electricity supply to the pump house. But the work is yet to be accomplished.

2.3.2.5 Community Members

The community at Umoja Secondary School are to benefit from the project which is meant to supply the water to the community. The community has contributed in kind to the initiation, planning and the implementation of the project The community is

also to ensure the sustainability of the project after being capacitated through the seminars and to ensure the maintenance of the entire water system after its completion.

2.3.2.6 Village Government Authority

The village government is also another stakeholder in the project due to their role in ensuring the security of the water pump house and the infrastructures of the water project in the village.

2.3.3. Project Goals in CED

The observed situation in the community is the insufficiency and unreliable water supply which has been a drawback in the life of the community members enjoying a well being and this situation is not healthy and if not controlled will continue to interfere with the life of the community members. The aim of the project is therefore to ensure the supply of sustainable, reliable and sufficient water to the community through the activities of ADP Simbo.

2.3.3.1 Project Objectives

The project was guided by several objectives in its execution. The objectives that guided the project included:-

- i. To identify the pressing needs of the community through the community Need assessment.
- ii. To provide reliable and sufficient water for the community in Umoja and enhance its sustainability.
- iii. Educate the community on the sustainable water resource management.

2.4 Host Organization Profile

The host organization of the project was the ADP Simbo, a constituent of the World Vision which is an international organization operating in the country. The organization offices are situated in Simbo Ward where the community is located. The organization is involved in a number of crosscutting issues in the community which include water and sanitation, health, food and nutrition, education, sponsorship to children living in hardship environment and entrepreneurship capacity building to the groups in the community at Simbo division where the Simbo Ward is located.

2.4.1 Overview of the ADP Simbo

2.4.2 Historical Background of the Organization

World Vision Tanzania is a Christian relief, development and advocacy non-governmental organisation (NGO) which started in 1981 as part of World Vision International Kenya. The idea originated from the pastors' conference in Dodoma in 1970. The Dodoma meeting was followed up by other meetings which saw the start of the World Vision Tanzania in 1981 (World Vision Tanzania, 2012). World Vision Tanzania is operating in twelve regions in Tanzania which are grouped together to form Zones. There are five zones in the entire country serving designated regions as shown in the Table 2.1 (World Vision Tanzania, 2012)

Every zone is in charge of several Area Development Programmes (ADPs), clustered together to form administrative Cluster. The ADPs are managed by programme

coordinators; currently World Vision is operating in 62 ADPs and serving more than 4.5 million people in Tanzania (World Vision Tanzania, 2012).

Table 2.1: Zones Served by World Vision Tanzania

S. No	Zones	Regions Grouping
1	Northern Zone	Kilimanjaro, Manyara, and Arusha
2	Eastern Zone	Tanga, Morogoro, and Dar es Salaam
3	Central Zone	Dodoma and Singida
4	Lake Zone	Mwanza, Shinyanga, Tabora and Simiyu
5	Kagera Zone	Kagera

Source: World Vision

2.4.3 Area of Operation of ADP Simbo

ADP Simbo is operating in Simbo division of Igunga district in Tabora region serving five wards of the division namely Simbo, Sungwizi, Busomeke, Chapela, and Uswaya. The division is composed of seventeen villages in total. Of these villages, Simbo ward has three of them namely Simbo, Tambalale and Mpogoro. Figure 2.1 shows the area that is being served by ADP Simbo.

2.4.4 Vision Statement of ADP Simbo

World vision in his operation is guided by its vision which the organization puts in these words “We look forward to a world where every child experiences Jesus’ promise of life in all its fullness. Where they are protected, cared for and given the opportunities to become all God meant them to be. Where they grow strong in communities free of need and full of promise. Where families are valued, creation preserved and the most vulnerable live in security and confidence. Where they become responsible citizens of well-led nations. Where peace and justice reign and

all have the right to contribute. Where they flourish in a world where the treasure of our hearts and the measure of our wealth is the happiness and well-being of all children. In such a world, we all taste the joy of the Kingdom of Heaven” (World Vision Tanzania, 2001)



Figure 2.1: The area served by ADP Simbo

Source: ADP Simbo Notice Board

2.4.5 Mission Statement of ADP Simbo

World Vision is an international partnership of Christians whose mission is to follow the Lord and Saviour Jesus Christ in working with the poor and the oppressed to promote human transformation, seek justice and bear witness to the good news of the kingdom of God (World Vision Tanzania, 2012).

2.4.6 Activities of the Host Organization

World vision Tanzania is engaged in multidimensional activities in different areas of human life. However, the main focus of all the activities of the organization is the child. This makes the organization to orientate its operations in a way that they fulfil their main goal of ensuring that every child enjoys good health and is provided with an opportunity to develop to his/her full potentials. As such, the activities of the organization include the following:-

2.4.6.1 Livelihood Improvement

In this area the organization involves itself in agricultural and livestock development through increasing food security and surplus. In this area, World Vision encourages and facilitates the utilization of better farming methods. To achieve this, the organization distributes agricultural inputs to the farmers and livestock keeping groups alongside training of the groups so as to bring behaviour change. Further to this the organization carries out initiatives that aim at alleviating the effects of drought in its area of operation. World Vision Tanzania is also involved in areas of microfinance services provision.

The organization through its affiliation with Small Enterprises Development Agency (SEDA), promote accessibility to affordable and appropriate financial services and product to the target. SEDA is a microfinance institution affiliated to World Vision. Through this initiative the organization is encouraging entrepreneurship through small groups so as to generate income that will improve the family income and thus impact on the life of the children within those families.

2.4.6.2 Health and Nutrition

The World Vision is also involved in activities aimed at improving the health and the nutrition of the community. The organization trains the communities on the control and proper use of insecticide, and treated mosquito nets. The training also involves the training of Community Based Health Care Service Providers (CBHCSP) on the management of malaria cases. Apart from the group above, the organization trains the youth and children on the ways to prevent the transmission of HIV.

In this area health and nutrition, the organization also promotes initiatives that reduce the spread and impact of HIV and AIDS. This is mainly accomplished through awareness meetings to the youth and children, in collaboration with churches, Faith Based Organizations (FBOs), and other NGOs to ensure that HIV and AIDS advocacy, prevention, care and support (World Vision Tanzania, 2012). The health sector programmes went alongside with special campaigns which focused on improving nutrition and reduction of incidence of diarrhoea.

2.4.6.3 Water, Sanitation and Hygiene

World Vision sees water, sanitation and hygiene to be a challenge in most of the primary and even secondary school in the country and as such the organization is involved in provision of water with the aim of improving the water supply in the schools. With this the organization hopes to impact on the education by improving the learning and teaching environment in primary and secondary school. The organization carries out this activity through construction of water supply points in the institutions and at the same time they offer training on the best ways of managing water resources to ensure its sustainability in the community.

2.4.6.4 Children Education

World Vision is involved in the education especially of children where they strive to improve access to quality of primary education and selectively secondary education. The strategies involved in this area are the construction of schools and renovation of schools, and community sensitization on the importance of girl child education and timely enrolment of children. The organization is also engaged in the distribution of food to primary school especially in those areas where there are difficult environments

This distribution is aimed at making the children attend the schools and also to improve the learning process of the children through the school feeding programme. “World Vision Tanzania in collaboration with UNCHR and World Food Program (WFP), distributed 12, 789 Metric tonnes of food to 62,785 refugees in Mtabila and Nyarugusu camps. In the camp, 21,000 children aged five to 13 years attended school” (World Vision Tanzania, 2012). In the area of education, the organization is also involved in support and sponsorship of children whose parents are not able to provide for their school requirements both at primary and secondary schools through the provision of learning materials such as exercise books, text books, and uniform” (World Vision Tanzania, 2012).

2.4.7 Organizational Structure

The organization structure of the organization flows from the National office down to the community level. At the national level the organization is led by the National project coordinator. Below the national office there is the Zone office which oversees several clusters. The responsibility of the zone office is to support the

clusters and to facilitate the flow of information and services between the clusters and the national office through the zonal office. The zone is lead by the zone coordinator supported by other staff such as the accountant and development officer. Below the zone office in the ladder is the Cluster. The cluster is led by the team leader and the main roles of the cluster are to oversee the projects at the ADPs level and offer the required support to the ADPs. The cluster also coordinates all the ADP projects and is responsible for the purchases and procurement of the requirements of the ADP.

ADPs are led by the programme development coordinator supported by other staff. The ADP leadership coordinates the planning, implementation, monitoring and the evaluation of the projects within the project area. At this level of the organization structure there is a committee known as ADP committee formed by bringing together the chairmen of the villages, women, disabled persons and the children's' representatives. The responsibilities of the committee are community mobilization, identifying the needs of the community in collaboration with the community members, planning, implementation, and monitoring of the projects within the area.

The program assistant is responsible for the financial administration. The development facilitator is responsible in working within the ADP committees and with the community in the training and capacity building of the committees and the community members. The development officer is assisted by the development assistants. The development assistants are responsible for linking the organization and the community. They also work in the community to identify the needy children

and assist the development officer in monitoring the children’s sponsorship and the other programs that are carried out within the community.

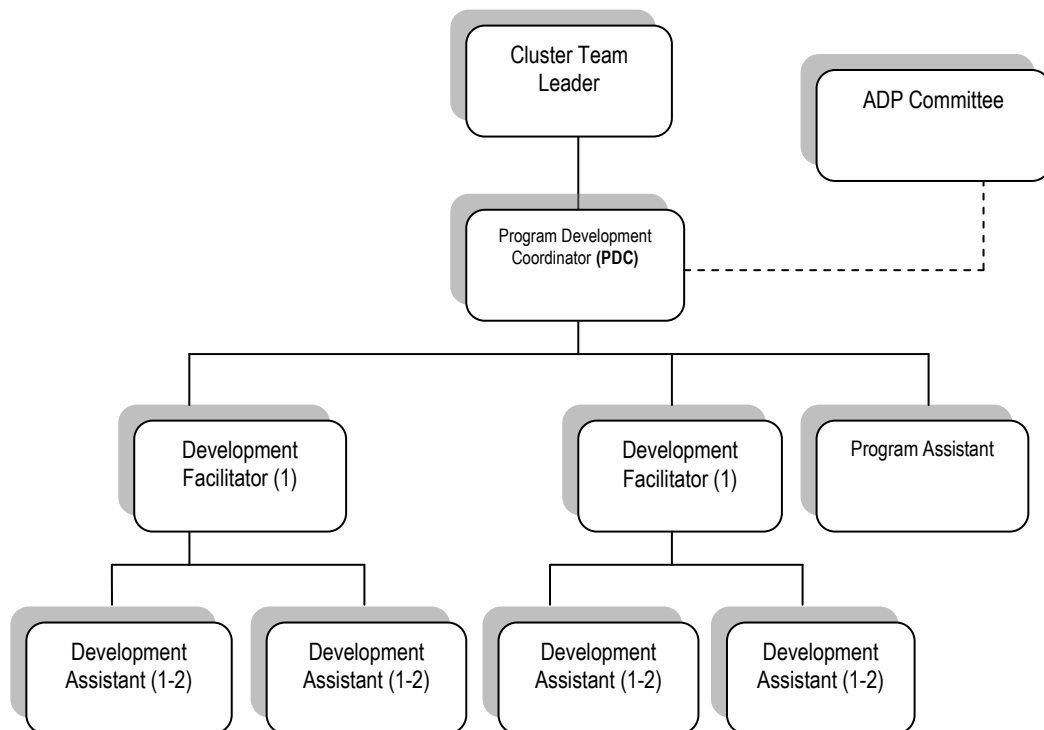


Figure 2.2: World Vision Organizational Structure

2.4.8 Organizational Core Values

World Vision core values include their confession to Christianity as expressed in their words “We are Christian. We acknowledge one God; Father, Son and Holy Spirit. In Jesus Christ the love, mercy and grace of God are made known to us and all people. The other values include commitment to the cause of the poor, through this core value, World Vision serves the neediest people of the earth in their endeavour to relieve their suffering and to promote the transformation of their condition of life, their value to people, believe in being stewards, partnership with others and being responsive.

Table 2.2: Showing ADP Simbo's Organization SWOT Analysis

Strengths	<p>World vision has reliable funds from the donors</p> <p>Well staffed with people having the required skills for the job</p> <p>Works with people of diverse background</p> <p>Good working relations with other organizations both governmental and non-governmental.</p> <p>The community development approach which actively involve the community being served.</p>
Weakness	<p>As a Christian organization, people who do not share the same belief are sceptical of the intention of the organization.</p> <p>The organization is a dynamic organization that changes its operations, models and approaches anytime.</p> <p>As a Christian organization, their employment is discriminative as it employs only Christians.</p>
Opportunities	<p>Trust with the donors</p> <p>Assured source and availability of funds</p> <p>Community that accepts the operation of the organization i.e. cooperative community members.</p> <p>Good relation with the other actors within the communities such as the government, nongovernmental organizations and CBO.</p>
Threats	<p>Some people consider the organization as agents of spreading the Christian faith rather than developmental based organization,</p> <p>The differences in the approaches by different actors in the community which conflict with the organizations approach.</p> <p>The negative ideology about the organization and its operations in the community.</p>

Source: Researcher, 2014

2.4.8 SWOT Analysis of the host Organization

SWOT analysis is a tool that is used in the examination of an organization in order to understand the factors which work well for the organization i.e. the strength and opportunity as well as the factors which work against the organization i.e. weakness

and the threats. The analysis which was carried by the staff of the organization with the assistance of the MCED student revealed the strength, weakness, opportunities and the threats of the organization. The strengths and the opportunities are operating to the advantage of the organization while the weakness and threats are working against the organization. The situation of ADP Simbo through SWOT analysis is as outlined in Table 2.2.

CHAPTER THREE

3.0 LITERATURE REVIEW

3.1 Introduction

This chapter reviews the selected literature on water and sanitation in the rural communities especially the role of the non-governmental organizations or community based organization in alleviating the problem of lack or insufficiency supply of water in the community. The literature that was reviewed include books, journals, national policy on water and sanitation, text from the web and the documents from the host organization experiences with the community in the area of water and sanitation. The review was divided into several sections including the theoretical literature, empirical literature, policy review and the literature summary.

The situation of water provision in Tanzania was observed to be average at the national level in 2010 where it was estimated that 50% of the total population in Tanzania was accessing safe water supply. Africa Development Bank (ADB) reported that one out of every two persons in Tanzania has no access to safe water (Africa Development Bank, 2010). The report observes that the water supply in Tanzania remains to be a major problem as it acknowledges that many people living in Tanzania especially in the rural areas have to travel long distances to fetch water (Africa Development Bank, 2010).

The situation as observed by the ADB calls for efforts contributed by all stake holders in the provision of safe water supply to the communities in Tanzania and these stakeholders include the central and local government authorities, national and international agencies and organizations, Non-governmental Organizations (NGOs),

Community Based organizations (CBOs) and the community involvement. This makes it needful to assess the role of the different stakeholders in the provision of water to the population in Tanzania and in this case the researcher looks into the role of the NGOs in the provision of water to the rural community.

3.1 Theoretical Review

3.1.1 Resource Scarcity is not a Necessity

Resource scarcity has been an economic base to explain why there will always be human need as far as resources are concerned. “Economic theory assumes resource scarcity as an important premise, and there is a general consensus that scarce resources are best allocated by means of a market” This theory on this basis of scarcity contend that there will never be enough resources for all the people at all time and as such assumes that “there will never be enough food, water, cars, money etc. to satisfy people's wants” This means that inequalities, conflict and poverty are inevitable parts of society (Daoud, 2011).

This theory is important as one contemplates on the issues of water supply within the village communities. It gives two sides of the same coin and these are the possibility of viewing the scarcity of water through a different standpoint, such as seeing the scarcity of water as a social phenomenon and which will lead to social mobilization to deal with the problem of water resource scarcity. Alternatively one may look at it through the resource scarcity perspective, a notion that simply sees scarcity as inevitable. The outcome of the second perspective is that little or no efforts will be put in place to resolve the situation. On the other hand the first perspective may provide a social action towards eliminating the scarcity of water in the society.

3.1.2 Water Scarcity a Reality and Constructed

This theory was developed by Mehta in his article entitled contextual and construction of water scarcity (Mehta, 2003). The theory contends that access and control of water is both “real” and “constructed”. In the analysis, the author looked at both the reality and constructed (occasioned) aspects of water scarcity drawing his example from India. In the analysis, the real aspect of water scarcity stems from the dwindling ground water aquifer and increased salinity while the constructed or manufactured stems from the political policies, processes and programmes. In the process of manufacturing the scarcity, the state portrays the scarcity as natural rather than human induced and as chronic rather than cyclical (Mehta, 2003).

Deviating from the common notion of scarcity, Mehta (2003) identifies four dimensions of water scarcity. The first dimension is that water except the ground water which is less renewable, is a renewable resource as opposed to many other resources. Water depends very much on the hydrological cycle and is renewed seasonally. Second dimension to water as a resource identified was temporal and cyclical dimension. In this dimension the author argues that even the people living in the arid and semi arid areas experiences alternative periods of abundance and scarcity of the resource. The third dimension is the distributional and rational scarcity of water. In this dimension the author point out that scarcity of water is not felt universally in the same country or even different ones.

Gleick (1993: 375), points out that “in water scarce western India, irrigation pumps water 24 hours a day, while poor women finds their drinking wells run dry. In arid parts of the world, people consume 10 litres of water per day (Mehta forth coming)

while an average American by contrast uses 700 litres a day” (Gleick 1993:375). The fourth and the last dimension of water scarcity is anthropogenic dimension. Here the author contends that there have been attempts to naturalize the scarcity of water while the anthropogenic dimension is whitewashed. Man’s activities have contributed much to the state of water scarcity. Activities cited include the silting and the mismanagement of the resources and amenities through the failure to create strong institutions (Mehta, 2003)

In the light of the theory of real and constructed water scarcity, the phenomenon at any place can be perceived as both natural and constructed as both contribute significantly to the scarcity of the resource. As much as water scarcity at Simbo can be explained away by the “real” causes as the usual trend is, it is also better to look at it as a human induced problem. This is a more clear way of looking at the problem of water scarcity in the community that will propel the people to look for appropriate and sustainable ways to deal with the problem of water scarcity. In the local community language, the word Simbo refers to a place with natural wells and springs of water. The Ward therefore derived its name from the fact that there were several natural springs and wells in the area. To show that water scarcity is constructed, or human induced, the presence of wells and springs has remained to be historical in the area due to the tremendous changes caused by anthropogenic factors.

3.1.3 Water+ Theory of Change

Closely related to the theory of scarcity as both real and constructed is the Care’s water+ theory of change. In this theory, Care hopes to create profound change in people’s lives by increasing the benefits of water in multiple spheres. In this theory

Care International uses the term water+ to refer to “an approach that encompasses traditional work with drinking water provision, sanitation and hygiene along with productive uses of water (such as irrigation) and ecologically sustainable water resource management” (Care, 2011). Through this theory Care carries out a multi sector programme centred on the provision of water that includes health, education, environment and climate change and livelihood and food security. The organization has developed a conceptual framework for the goal. Figure 9 below shows the framework of water+ theory.

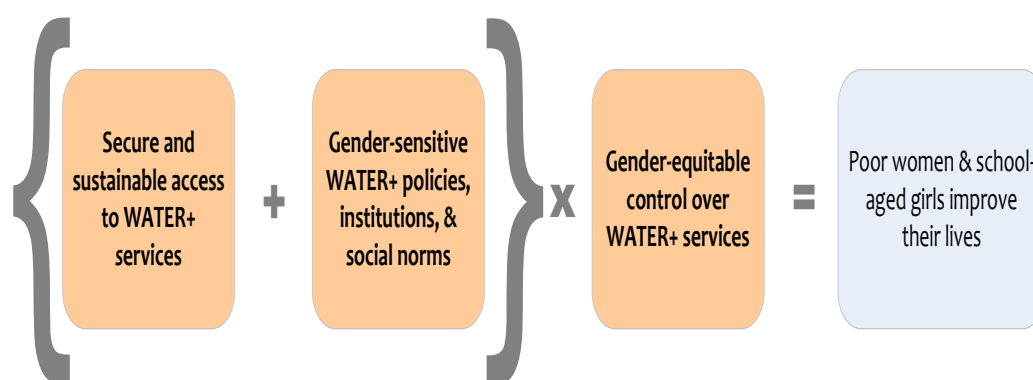


Figure 3.1: Conceptual Framework of Water+ Theory

Catalyst	Enabler	Driver	Goal
Access provides immediate health benefits, improves livelihoods and security, saves time, builds cooperation, and provides opportunities for people to stretch their capabilities and challenge their thinking.	Changes in decision-making bodies, laws and norms create new expectations around behavioural changes needed to expand and secure the gains made through improved access. The equal rights of women to water as a productive resource are upheld.	Women find that since the business of water and sanitation is relegated to them, they have considerable scope within water+ interventions to create changes at household and community level. It becomes clear that their participation is vital for change. Girls are no longer handicapped by poor wash services at school and they are able to participate in their education with increased confidence.	Women and girls gain—hours saved trekking for water, more time at school and better health for the whole family. But also, they gain a belief in themselves and their abilities that transcends any one water+ intervention.

Source: Adopted from Care 2011

The water+ theory of change depicts a situation where the provision of water both in the institution of learning and to the communities that surround the institution will trigger better performance of the pupils and students creating an enabling environment for them to pursue their educational and developmental programmes in the society. This when applied in the situation of Umoja will improve the performance of all the students especially the girls who are the main target of the theory and the boys who will be the secondary beneficiaries. The provision of water to the community through this theory will enhance the multi sphere development of the community at both personal and environmental levels thus enhancing the achievement of the institutional goal.

3.1.4 Community Water Resource and Theory of Development – Neoclassical Economic Growth Theory

Neoclassical Growth Theory is a theory used in economics that identifies the factors necessary for the growth of an economy. It emphasizes the three factors that influence the growth of an economy, which includes capital, availability of labour and technology. The theory rests on a temporary equilibrium that can be achieved when capital size, labour and technology is appropriately adjusted (Investopedia, 2014).

In the neoclassical economics, the theory of growth is based on a concept of decline of the return from subsequent addition of one factors of production as the other factor is fixed, a concept normally known as the law of diminishing returns or the law of variable factor Proportion. Livingstone and Ord (1980), explains that as successive units of a variables factor are added to a given quantity of a fixed factor

after a certain stage, additional unit will increase output by successively smaller amount (Livingstone & Ord, 1980).

Jon Rynn (2001) observes that the only way to sustain is through technological progress. “There is only one way of sustaining growth in this model: technological progress. In order to have continuous growth, at every point on the $s(K/L)$ curve, the Y/L , or output per worker-hour, would have to be greater. The same amount of machinery per worker would have to yield more output per worker than before, and therefore labor productivity would increase, if technology improved. This will come about because better machinery has been developed, or the means of production have been organized more efficiently, both of which are considered to be technological progress, and more properly within the realm of the engineer than the economist. If the investment rate stays the same, and the engineers maintain the rate of technological progress (that is, increasing the amount of output per worker), the economy will grow continuously” (Rynn, 2001).

Rynn (2001) explains that technology has a determining role in the continued benefit in the returns of the investment of capital and labour. The equilibrium which would have otherwise been interrupted leading to the diminishing of the return is established by the change in technology. Whenever the three factors remain unchanged then the return from the investment will come to a point where it begins to diminish regardless of the continued investment. However the Rynn holds that when the technology is changed the returns will continue to increase. Taking water supply as an area of investment in which the benefits are supposed to be experienced for an unforeseeable future, the pumping of capital and labour into the water supply

in the village areas according to the theory is expected to benefit the communities for sometime after which the benefits will begin to diminish. The only way to ensure that the benefits are continually reaped and do not diminish is to change the technology from time to time. This calls for appropriate technology and changes in the strategies for the provision and sustenance of the water resource in the rural areas. The technologies and the strategies in the provision should take into consideration the environmental situation in the areas of operation such that the rural community may perceive the technology to be relevant and meeting their needs.

The adopted strategy also calls for capital and labour for the investment in the water supply in the rural areas and the sustainability of the benefits to unforeseeable future. This is to say that the strategy must ensure that the returns of the investment do not diminish with time. The capital as a factor through which returns is gained include real capital financial capital. Real capital refers to the stock of physical assets that is capable of supplying services. This includes machines, houses, stock of consumer goods or raw materials (Livingstone & Ord, 1980). The financial include the money or the loan capital that is involved in the production. This is required for the payment of the different costs that go along with the process of the provision of water to the community such as sinking and construction of the water points for the supply. The capital required may be provided by the private institutions, the governments and/or the NGOs involved in the provision of water to the rural communities.

Other factor of obtaining of the returns according to the theory is labour. The labour for the provision of water to the community may be in the form of skilled and

unskilled labour. This labour may be obtained from the community for which the water is being supplied in the form of hired labour or voluntary labour. In the process of the water provision the community participation is paramount. This participation may involve the voluntary or paid labour supply in the process of water supply and maintenance. Where the water supply is provided by a private supplier, the labour may be provided by the employed personnel who may come from within the community.

3.2 Empirical Literature

In this section the paper will look at the literature on the projects or the studies which have been carried in the area of the project study.

3.2.1 Water as a Renewable Resource

Just as indicated in the theoretical section, water is one of the few renewable natural resources available to humankind. The renewable dimension of water stems from the cyclical nature of water and is explained in the concept of water cycle. The cycle begins from fresh water that is provided by nature in the form of rain that then infiltrates into the soil as well as surface run off and collects in the rivers, lakes seas and oceans. From the infiltrated water, the trees draw in water through their roots and after extracting the required minerals, releases the water into the atmosphere through their leaves in the form of vapour through the process of transpiration. Animals drink the water from the streams, rivers, dam's lakes and through excretion, the water passes back to the ground and the vapour they breathe out puts the water back into the atmospheric circulation (Ramsden & Lee, 1990)

The domestic and industrial uses water and discharge the used water into the sewages systems which finally find their way into the rivers, seas and lakes. Through the heating of the sun, water evaporates from the surface into the atmosphere. The water vapour in the atmosphere passes upwards until it reaches the cooling point to form the clouds of tiny droplets which when the clouds cool releases water as rain. Ramsden and Lee observe that “water is used and reused over and over again but it is never used up. Every glass of water that you drink contains molecules of water that have been used countless times before” (Ramsden & Lee, 1990).



Figure 3.2: Water Cycle

Source: Enchanted Learning, 2014

The idea of water cycle confirms the earlier notion that water is a renewable resource and its availability is dependent on the way human kind relates to different variable involved in the whole process. Environment is a vital aspect in the sustenance of the water cycle and consequently the availability of water itself to the community. To ensure the continued availability the communities should be sensitized on the

requirement of maintaining a suitable environment as well as making the water available. These are some of the activities of ADP Simbo under its program of water and sanitation in the village. The organization is involved in community awareness raising on the importance of maintaining a balanced environment as a step to ensuring the sustainability of the water resource. This goes along with the process of establishing tree nursery to facilitate planting of trees in the environment.

3.2.2 Methods of Provision of Water in the Community

In many circumstance, varied methods are used for the provision of water to the communities both in the rural areas and the urban areas. In most communities where there are water bodies such as river, lakes and even shallow dams, surface water supply is usually the method of water supply to the communities even though this way of water supply exposes the communities to the risk of water born and infectious diseases such as diarrhea, bilharzias and typhoid for these sources of water are susceptible to contamination or rather pollution (United Republic of Tanzania, 2011). In areas where surface water is not readily available as in most parts of the country of Tanzania, the most commonly used methods are the construction of shallow wells, deep wells and bore holes.

According to the World Book Encyclopaedia, well is a hole on the earth from which fluids is withdrawn and water wells are the most common types from which people draw water for domestic uses (Chleq & Hague, 1988). According to the encyclopaedia, a well may be dug, driven, bored or drilled into the earth. Hand dug well can be constructed with hands tools or powered tools. They measure up to 15 meters deep and have the greatest diameter of any water well. Driven wells consist

of a series of pipes with points at one end. The point is driven into the ground to a depth of 15 meters. The other type is the bore well (hole). These are constructed with tools called augers and may be up to 100 meter under the ground. These are wells constructed with special well drilling equipments measuring up to 300 meters deep (Chleq & Hague, 1988). Figure 11 below shows the type of wells according to their construction mode.

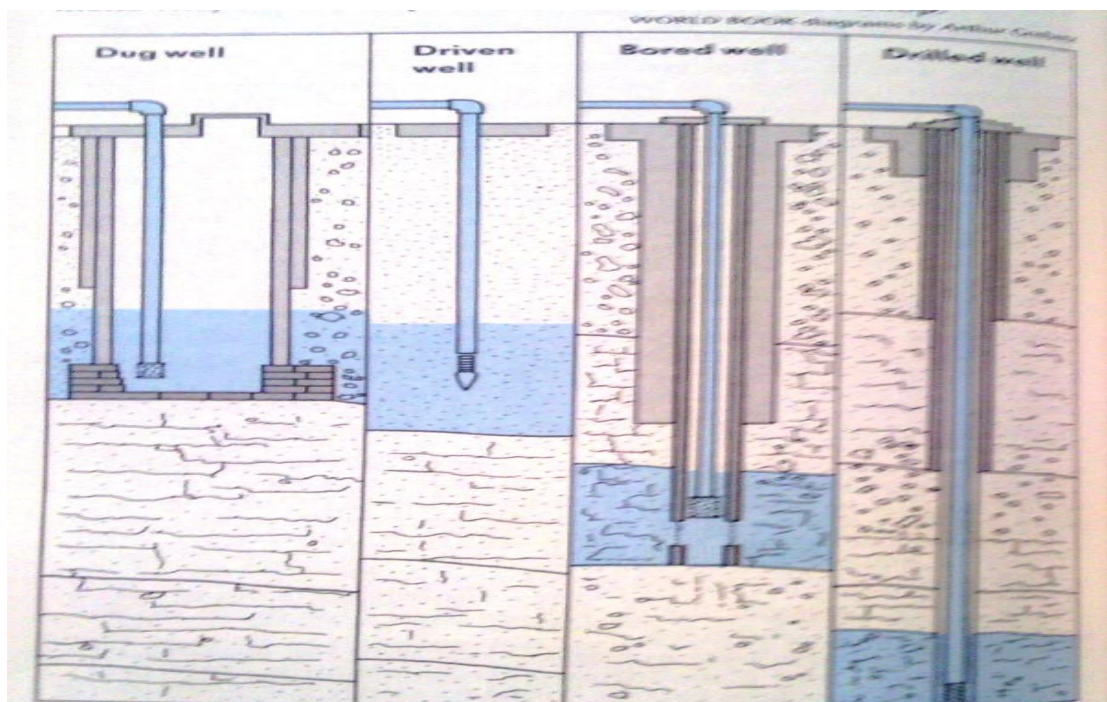


Figure 3.3: Types of Wells According to how they are Constructed

Source: Chleq & Hague, 1988

ADP Simbo uses the hand dug well and the bored well to supply water to the community in the designated area. For both the types, the organization hires the services of other organizations which deal with water engineering services to meet this goal. In the experience of the organization, the dug well is usually suited for areas where the water table is relatively nearer to the surface and the amount of water that is required is not that much. The drilled wells are used where the water

table is relatively far from the surface and the amount of water required is high such as institutional consumption. Within the community at Umoja, both the methods were employed where the dug well was made in order to supplement the water from the bore hole. So far the process of constructing the hand dug well is complete and a hand pump has been constructed and the facility is in use to date.

3.2. 3. Provision of Water and Sanitation and Poverty Alleviation

The institute of Engineers Tanzania designed an initiative known as the Lake Victoria Water and sanitation initiative (LVWATSAN) in response to the requirements of the Millennium Development Goals (MDGs) in the East African countries of Kenya Uganda and Tanzania sharing the water resource of Lake Victoria basin. The initiative was designed to meet the MDGs for water and sanitation in the secondary towns within the basin. It was observed that the achievement of the MDGs target for water and sanitation in the area could form an important entry point in addressing other MDGs related to poverty alleviation and integrated water resource management.

3.2.3.1 Community Involvement to Reach the Poor

Community participation and involvement is very vital for the success and sustainability of the community oriented programs. This important aspect is often disregarded in many programs forming a major reason for minimal performance of such programmes The LVWATSAN in their assessment revealed that “the ongoing reforms in the region has not included the poor community in the decision making due to lack of a governance structure which incorporate the poor communities in

decision making process” (Institute of Engineers Tanzania, 2007). The Initiative therefore proposed that a partnership is to be promoted between all the levels of civil society, market and government and that the communities are involved in planning and implementing various phases and components of the initiative. This will ensure that accountability and transparency is built in the program and that investment is targeted to the poor community (Institute of Engineers Tanzania, 2007).

Intervention in the community should prioritize on the participation and involvement of the community through facilitating the formation of association of small scale service providers, providing access to the finances, supporting development entrepreneurship skills, regulating prices and monitoring quality of water supplied to the consumers (Institute of Engineers Tanzania, 2007). Hand in hand with the community involvement is the question of programme sustainability. The initiative observed that for the initiated programs to be sustainable, it is imperative that promotion of ownership at the local level coupled with building adequate capacity for sustainable management and operation of the improved services. The capacity building among other things should be based on the needs assessment and basically to include business plan, development by the local service providers and progressive tariff setting (Institute of Engineers Tanzania, 2007).

The other strategies proposed for the better operations of the rural water supply should involve the development of sustainable structure at the local level. This should focus on the generation of funds to cater for maintenance and operation of the facilities. This will work well in the communities when the entire process is

linked with the ongoing sector reforms and aligning it with the national development priorities. This will enhance the management of the local environment and the lives of the poor in the community

Accordingly, the community involvement in itself is not the entire issue, but the institution observes that there are key aspects of the community that must be emphasized so as to realize the success of the program. These are key characteristics of the community such as gender, age, community ownership and the aspect of integrated approach, that views the community as a whole and not segments thus addressing most of the cross cutting issues in the community.

According to Lockwood and Smits (2011), the issue of community involvement and participation is vital for the success of the programs which are meant to serve the communities. In advocating for participation they have looked into the management of the project within the community. The duo observed that several forms of management of the water projects in the communities are formalized in many developing countries in regard to the water supply. Such approaches include public sector management in which the project is managed by the state through the municipal utilities or local government providers, management through the involvement of small private operator arrangements which are usually through delegation and contracting of these entities through the Private Public sector Partnerships (PPPs) and the self-supply which is understood as the investment in and management of household facilities by the same households (Lockwood & Smits, 2011)

3.2.3.2 Community Based Management (CBM)

Community based Management of water supply in the concerned communities is a system where by the beneficiaries of the project organize themselves or are organized into a community based organization (CBO) and oversee the functionality and sustainability of the project. Lockwood and Smits observe that this approach “relies on voluntary water committees to carryout basic day-to-day Organization and Management (O&M) and administrative tasks to keep the system going and to address minor repairs” (Lockwood & Smits, 2011).

CBNRM in Southern Africa is therefore an approach to conservation and development that recognises the rights of local people to manage and benefit from natural resources, ultimately to the conservation of those resources. Marais observes that this approach at the community level necessitates building the technical, organisational and institutional capacity of CBOs to enable them to assume management responsibilities (MARAIS, 2014).

The principles for the operation of CBM are derived from the principles of the Community Based Management of Natural Resource. These principles include first the determination as to whether the benefits of managing a resource exceed the costs and this call for the resource to have a measurable value to the community. Second principle is that the communities living with the resource must receive higher benefits than those who do not. The third principle in the CBM is the smaller the groups the better the management of the resources than larger groups. And finally, the community or group that lives with the resource should also be the same as the group that makes the decisions over the resource and the same as the group (Bond,

Davis, Nott, Nott, & Stuart-Hill, 2006)

Community Based Management has a number of benefits among being its ability to enhance capacity for the implementation of projects at the local and regional levels and macroeconomics policy instruments (MARAI, 2014). Marais further observes that the direct benefit from the management of the natural resources will motivate communities to protect and use the resources in a sustainable manner, ultimately leading to the conservation of those resources. The approach will contribute to sustainable management of natural resources and the region's biodiversity will also be conserved while producer communities' livelihoods will improve significantly. This is because CBNRM supports biodiversity conservation and poverty reduction strategies through CBO capacity building, natural resource management training and policy development and implementation. (MARAI, 2014)

With the much stress that has been placed on the viability of the community management, Koestler (2009) has a view that community management together with its perceived benefits has not shown much expected output in terms of sustainability. He therefore proposes a model that involves the private sectors in the management of the water resource. He observes that "Community management has for a long time dominated the scene of rural water supplies in developing countries. However, it has failed to produce the desired results in terms of sustainability and functionality" (Koestler, 2009).

The role played by the private sector has been observed to be vital in the provision, sustainability and management of water in both rural and urban places in Tanzania.

The provision, sustainability and management of water have been observed to be more efficient and the service provided tends to be reliable. In his study, Sam Moon in Water Aid Tanzania (2009) points out that the private operators have improved the service except in few areas where they have not done well. This has been seen in the water points manned by the private operators are in service for most parts of the year with maintenance being dealt with more efficiently (Water Aid Tanzania, 2009). Among the reasons observed for the efficiency of the private sector is the ability to recover the cost of the construction of the water point facilities which is as a result of efficiency in revenue collection. The efficient revenue collection has made the private operators able to generate a profit and increase their efficiency in O&M (WaterAid Tanzania, 2009)

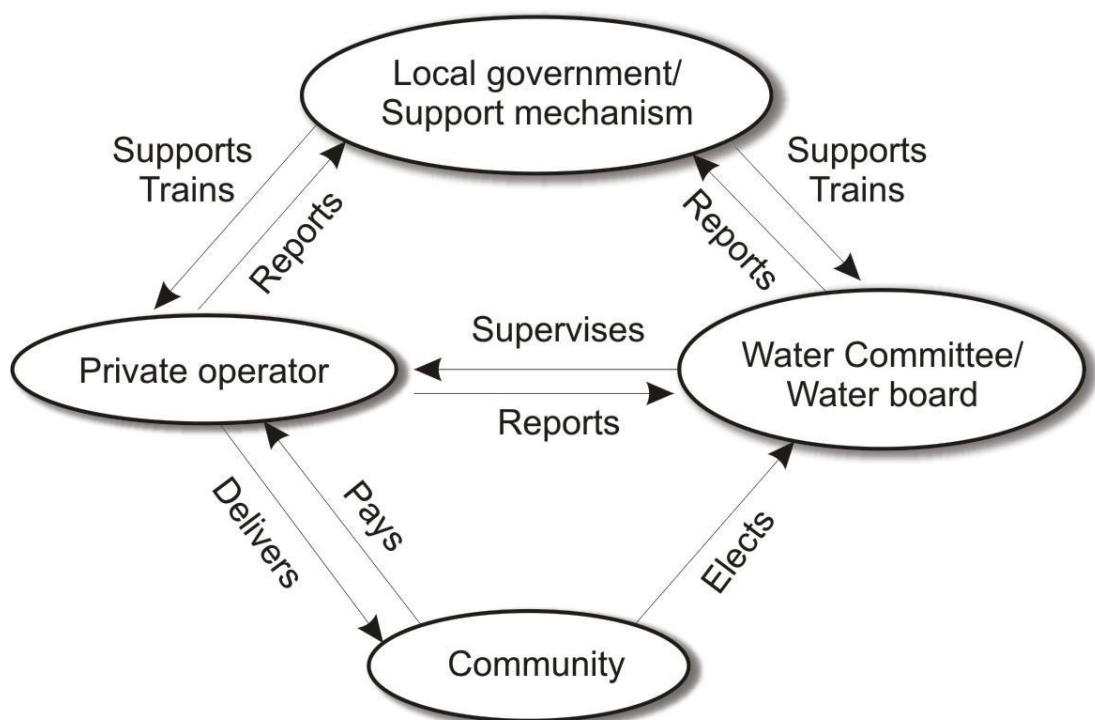


Figure 3.4: Koestler Management Model for Rural Water Supplies

Source: Koestler (2009)

Koestler also supports this view of the private sector offers possibilities in terms of increased motivation and efficiency. However, he acknowledges that the private sector is not suitable in all the communities especially the poorer communities (Koestler, 2009). He therefore comes up with a management model that adapts the private sector management to local conditions and needs of the community. In his model, both the community and the private sector are involved in the management of water resource in the community by at with different roles. This is summarized in the Figure 12 below.

The model proposed by Koestler serves two main purposes in the sense that it motivates both the community and the private sector and secondly it ensures that both the benefits derived from the community management as well as the private management are reaped by the project. In the model, the private sector basically runs the project but is responsible to the water board elected by the community which supervises the activities of the private sector on behalf of the community. The community pays for the services provided by the private sector. The model also brings in the local government whose main task is to offer support in the form of training and receives the report from both the private sector and the water board representing the community.

3.3 Role Played by NGO in the Provision of Water to the Communities

Apart from the government and the private sector, NGOs have been a critical stake holder in water and sanitation in the country. The role of NGOs in provision of water to the community is important and affecting the communities in different levels such

as individual, household and communal as well as the institutional level in the developing world Tanzania included. In other parts of the world NGOs have been active in the provision of water and sanitation services. The operation of NGOs applies several approaches but in the recent past the approach is emphasizing programme support rather than project support. In a program support approach, a holistic management of water resources is emphasized (Fletcher, 2002).

In the program support approach not only water is focused as a resource but other issues or resources that contribute to the well being of the individuals within the community are also integrated in the program. Such issues include environmental issues, agriculture, education, entrepreneurship and small scale community grouping for improved livelihood of the community members. This approach recognizes water as both social and economic commodity for the population and adopts a framework that takes in to consideration the impact of water use on all aspects of social and economic development.

World Vision Tanzania is an international NGO operating in Tanzania through program supported approach. The organization is working in 13 regions in Tanzania namely Arusha, Shinyanga Tabora, Singida, Mpanda, Mbeya, Iringa, Morogoro, Tanga, Dar es Salaam, Kigoma, Kagera and Zanzibar. In these regions under its arrangements of ADP, the organization is providing communities with safe drinking water through construction of water wells both shallow and deep wells. Community participation and ownership are on the top of the agenda for the sustainability of the water facilities and supply. In these regions the organization offer services in the areas of health, nutrition and livelihood to the community.

The situation in Simbo is not different. The most active organization in the provision of water and sanitation services is an NGO named ADP Simbo. The organization is involved actively in the provision of water and sanitation to the rural communities in Simbo Ward. In its endeavours, the organization has provided water in twenty six Villages in the community comprising of both within the schools and the general community. Not to forget that this project in itself is hosted and mainly funded by the ADP Simbo for the supply of water and sanitation in the Umoja community.

3.4 Policy Review

The policy review section looks at the different policy formulated at chosen levels to address the issue of water and sanitation as a whole and more especially the rural areas, and the contents of these policies framework and structures through which the water resource and management is to be undertaken. Policies are broad statements that are given by the government or organizations to guide the planning, designing, implementation and accomplishment of a desired goal in the society. The National Council for Volunteers Organizations (NCVO) defines policy as a set of ideas and proposals for action, which culminates in a government decision (The National Council for Volunteers Organizations).

Policies relating to water resources management have been formulated at different levels attracting the attention of national and international organizations. At the national level in Tanzania, the government has formulated the National Policy on Water Development and Management. At the international level, Dublin Statement on water and Sustainable development of 1992, the United Nations Conference in Environment and Development (UNCED) and the famous Millennium Development

Goals (MDGs) are some of the International statements on water resource Management.

3.4.1 National Policy on Water Development and Management

The national policy acknowledges the pivotal role of water as a basic natural resource for socio economic development in all the other sectors of the economy in the country. However, it also considers the issue of sustainability and states that “Sustainable water development and use implies that the actions of the present generation to develop and use water resources are taken in such a way as to ensure that the present and future generations enjoy the benefits of this vital resource” (URT 2002). The policy in acknowledging the pivotal role of water in the social and economic life of the community in essence echoes the concern of the rural population for the access and control of water resources as this will enable them above all things to take part in the socio-economic activities in the society. This concern can be achieved through a diversified stakeholder’s involvement in the society such as the NGOs and the CBO

3.4.2 Community Participation

The policy recognizes the important role of the community participation in water resource management. The policy provides that the community will participate in the divers’ stages and components such as decision making, planning, implementation and management. In this participation, the policy takes into consideration the gender and age differences and provides that both men and women should be involved and the youth and children should also be involved (URT 2002). This stance was seen to be necessary so as to cater for the differential needs of the different groups of people

within the community and will also reduce if not eliminate differential group conflict.

The policy here falls short of one very important aspect of the community involvement in that the level of involvement and the roles of the community are not very clear. This sets the ground for the abuse of this provision in the villages. Further to this the question of the capability of the different community members to effectively plan, implement and manage the resources is not clearly addressed in the policy. The policy talks of the staff to be recruited and not the capacity building programs for the communities especially the women, the youth and the children. For full attainment of this objective there is need for raising the community awareness and understanding of their roles and how this will affect them individually and as a community. ADP Simbo in its activities emphasizes the community participation in the planning, implementation and the monitoring of the projects including water and sanitation. The organization also sets the strategies for the equipment and building the capacity of the community and sensitization is an approach that works well in ensuring that the community members participate well in the projects.

3.4.3 Participation of Private Sector, NGOs and CBOs

The policy acknowledges that water resource services, and delivery levels will be enhanced through the private sector participation in the rural water supply and sanitation services. The policy states that “Involvement of the private sector in the delivery of water supply services will improve efficiency and effectiveness and enhance development and sustainability of service delivery” (URT 2002). The private sector has played a very important role in enhancing the provision of water in

both the urban and the rural areas in the mainland Tanzania. According to government of Tanzania, there are 14 private consultation companies which offer technical services to the district councils in water services supply. The document also reports that there are 23 private companies providing well drilling services and other registered companies providing bottled drinking water (United Republic of Tanzania, 2011).

Together with the strategies that the policy has stipulated to ensure the participation of the private sector, a close look will reveal that the policy has ignored the role of the Non-governmental Organizations, either national or international, CBOs and even FBOs. It may be argued that “private sector” also includes the NGOs, the CBOs and the FBOs, but in the strict sense the category does not constitute private sector but rather societal organization. The government in reporting on the participation of the private sector in the provision and supply of water in its report on the Fifty Years of Independence of the Mainland Tanzania apparently confined the terminology to the registered private companies (United Republic of Tanzania, 2011, p. 204).

3.4.4 Literature Review Summary

From the literature review conducted it is evident that the issue of supply of water and management is a real concern of the government and its institutions, national and international organizations both private companies and civil societies. These institutions have come up with strategies to address the situation and these strategies are to a great extent combating the shortage of water within the communities. It is evident from the literature review that there are several theories that relate to the

supply of water and its management. The highlighted theories point to the fact that the problem of water supply and management can be resolved through appropriate, focused and well managed perspective and strategies.

The community involvement from the very onset of the projects aimed at alleviating water supply and management process is crucial in the achievement of the goals. This creates a sense of ownership and responsibility in the community which is very critical for the sustenance and management of the water resource. It has also come out that the government alone and the community may not find it easy to fulfil this task in their own, but there is need to involve other actors in this process. The actors or the stakeholders that may be involved include the private sector comprising of privately registered companies which engage themselves in water supply and management activities. The engagement of these actors will expand and fasten the process of water supply to the communities especially in the villages.

Water supply and management should go alongside the capacity building of the community members on the best ways of making the resource sustainable so as to ensure that the community does not exhaust the resource. The areas for the capacity building include the environmental management and proper use of water as a step to alleviate many problems such as diseases, famine and lack of safe water for human beings in the community. The proper management of water resource will also play a pivotal role in alleviating poverty of the people in the community through enabling income generating activities such as water sale, agricultural productions for the supply of community food and sale from the surplus. The level of the education of the primary and secondary school will also be greatly improved for the pupils and

students will have a safe and secure environment to study.

In the literature review, non-governmental organizations have featured as actors in the field of provision and management of water resources especially Care which came up with the theory of water+. However, the Tanzanian government policy that guides the supply and management of water resource in the country have not given attention to the role of the NGO, CBO, and FBOs both local and national. The policy leaves a question that needs to be addressed as to whether the NGOs and the CBOs are contributing to the water supply and sanitation management in the country with special regard to the rural community. The answer appears to be yes, and this makes the paper to assess the role of NGOs and in this case ADP Simbo in the supply of water and sanitation and management in the rural community of Simbo ward in Igunga District.

CHAPTER FOUR

4.0 PROJECT IMPLEMENTATION

4.1 Introduction

Project implementation stage is very essential in any project as it translates the entire plan into a tangible activity that will bring the desired impact in the life of the community. It refers to the actual execution of the project in which the resources are put into use so as to produce outcomes in the community. This chapter will deal with the process of the execution of the project outlining the different stages and activities that were involved. The project implementation follows the concerns or the need that was identified from the community need assessment and is basically meant to arrest the situation of water supply to the community.

The project is meant to supply reliable and sufficient water to the Umoja secondary school community. Umoja secondary school community has been using water drawn from bore hole but so far the water is insufficient and unreliable since at the time of construction the targeted population was only 480 people which included the students and the workers families. Today the population has inflated to an estimate of over 800 people which is almost twice as much as the targeted population. This increase in the number of users of water in the community has occasioned the need for the expansion of water supply in the community.

4.2 Project Products and Output

The project implementation required several inputs that will lead to several products and outputs. It is expected that at completion, the project shall have realized the following outputs.

4.2.1 Out puts

Hydrological survey for the identification of water points within the institution. One borehole for water supply to the community Shallow water well to be drawn by hand pump in the institutions compound. Construction of the water well and installation of hand pump for drawing of water Pump house for the electric water pump. Laid network in the school to transportation the water to the tank for gravitational supply within the school. Proper management of water resource and the infrastructure in Umoja Secondary school.

4.2.2 Products

The product for the project is reliable and sufficient water for the community.

4.3 Project Planning

Table 4.1: Project Planning Log Frame

Needs	Inputs	Activities and process	Out Put	Outcome
Provision of reliable, sufficient and sustainable supply of water at Umoja.	Project staff (Project coordinator, accountant, facilitators.) Contractors Training to the community members	Identification of water points within the institution. Drilling One borehole for water supply to the community Sinking of Shallow water well to be drawn by hand pump in the institutions compound. Construction of the water well and installation of hand pump for drawing of water Pump house for the electric water pump. Laid network in the school to transportation the water to the tank for gravitational supply within the school. Proper management of water resource and the infrastructure in Umoja Secondary school.	Water sites Borehole Functioning shallow well Functioning pump house 20 members trained	Sufficient, reliable and sustainable water supply at Umoja Secondary School.

Source: Author

4.3.1 Project Implementation

Project planning was carried out in a participatory manner where the different stakeholders were involved in the designing, and planning of the project. The implementation involved the community members working hand in hand with the host organization to ensure the smooth implementation of the project. In the process of the implementation, the roles of each partner were delineated and the time for the implementation was set out.

The project implementation was carried out in stages with defined time frame to ensure that the overall implementation met the set time. The project was expected to take duration of two years for its completion from its inception and the activities were set to end within the stipulated time. The implementation started with the hydrological survey for the identification of water points within the institution which started in November 2011 and was ended in January 2012. This was followed by drilling of one borehole for water supply to the community. This started in February 2012 and ended in March the same year. The sinking of the shallow well followed in the series of activities. This was done in the months of April and May 2012. The next implementation stage was the construction of the water well and installation of hand pump, the stage started in June and ended in July the same year and ended in July 2012.

The construction work of the electric pump house and the installation of the pump were to start August 2012 and were earmarked to end in the month of October 2012. The next stage was to lay down the water pipe network for the transportation of the water to the existing tank for supply within the school. The stage was to take two

months for completion and was to start in November and end in January 2013. The final stage was to educate the community of Umoja on the management of water and sustainability of the water resources. This was to start in February 2013 and to end in March the same year.

These series of the activities have been completed in different portions. Some of them have been fully completed while others have not been completed as per the time of compilation of the report. The table 26 below shows the detailed implementation plan.

Table 4.2: Showing the Project Implementation Plan

Activities	Duration	Responsible Person	Delivery Time	Resource Required
Hydrological survey for the identification of water points.	3 month	ADP Simbo	January 2011	Human Resource Finances
Sink of one borehole for water supply	2 Month	ADP Simbo Contractor	March 2012	Human resource Equipments
Sinking water well to be drawn by hand pump	2 Month	ADP Simbo Contractor	May 2012	Human Resource Finances Equipments
Construction of the water well and installation of hand pump	2 Months	ADP Simbo Contractor	July 2012	Human Resource Finances Equipments
Construction of pump house for the electric water pump and installation of the Pump.	3 Months	ADP Simbo Umoja School Contractor	October 2012	Human Resource Finances Equipments
Laying of pipe network in the school to transport the water to the tank for gravitational supply.	3 Months	Umoja Sec. School	January 2013	Human Resource Finances Equipments Materials
Educating the community of Umoja on the best ways to manage and sustain the water resources.	2 Month	ADP Simbo Umoja Sec. School	March 2013	Trainers Finances

Source: Author

4.3.2 Implementation Plan

The project implementation was carried by the different stakeholders carrying out different responsibilities but in cooperation. The ADP Simbo paid for the bulk of the cost that was involved in the project, Umoja Secondary school facilitated the process and at the same time paid for part of the cost of the project. The district council of Igunga provided technical support and the survey of the network of the pipes as well estimating the cost of the construction of the pump house and the water pipe network. The total cost of the project was Tshs. 65,251,172.00 and the time frame required for completion of the project was two years. Out of this amount the host organization was to provide an amount of Tshs. 35,393,572.00 and the Umoja secondary school was to contribute the remaining amount of Tshs. 29,857,600.00

The resource requirement for the project implementation included human resource, finances, and machineries basically for drilling the bore hole. Other requirements include materials for the construction of the power house, water pipes, joineries, and water pump and electricity installation. Table 28 below represents the implementation plan for the project

Table 4.4: Showing Implementation Plan

Activities	Project Period (Months)																		Resources Required	Person Responsible
	2011		2012												2013					
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M			
Hydrological survey for the identification of water points.	X	X	X															Human Resource Finances	Coordinator Lake Tanganyika Basin Institute	
Sink of one borehole for water supply.				X	X													Human Finances Equipment	Coordinator Facilitator Contractor	
Sinking water well to be drawn by hand pump.						X	X											Human Finances Equipment	Coordinator Facilitator Contractor	
Construction of the water well and installation of hand pump.								X	X									Human Finances Equipment	Coordinator Facilitator Contractor	
Construction of pump house for the electric water pump.										X	X	X						Human Finances Equipment	Coordinator Facilitator Contractor DW Engineer	
Laying of pipe network in the school to transport the water to the tank.													X	X	X			Human Finances Equipment	Coordinator Contractor Umoja Secondary	
Educating the community of Umoja on the best ways to manage and sustain the water resources.																X	X	Human Resource Funds Educational materials	ADP Simbo	

Source: Author

4.3.3 Inputs

The input refers to the resources pumped into the project so as to realize the desired outcome. In the projects the inputs are usually translated into outputs and eventually into outcomes. For the realization of the project the following inputs were used;

Human Resources. The human resources used for the project include the staff from the host organization who executed the project. Also necessary is the construction personnel be contracted to carry out the hydrological survey, drilling the bore hole and constructing the well and the pump house. The staff from the district council carried out the survey and the quotation for the pipes network for the transportation of water. The MCED student was also present coordinating the different stake holders for the implementation of the project.

Finances. The finances were used for the payment of the staff allowances as well as for buying the materials required for the project. The finances were used for the purpose of paying the drilling and the construction of the bore hole and the well. Finances were also used to purchase the materials for the construction of the well such as water pump.

Machineries. These were required for the drilling and sinking of the bore hole and water well respectively. They were also necessary for making the culverts for well construction.

Building materials. These were necessary for the construction of the water well and the bore hole. Required resources included cement, sand and stone gravels, water, and wire mesh

4.2.4 Staffing Pattern

The project was carried out through cooperation of actors from different organization, the host organization taking the bulk of the responsibilities. Therefore the staff of the project were drawn from the actors organization and were paid by their organization, the project as a program basically paid the allowances to the staff. Table 4.5 outlines the distribution of responsibilities of the different persons involved.

Table 4.5: Showing the Staffing Pattern

S. N	Position	Organization	Job Description
1	Project Coordinator	ADP Simbo	Oversee and Coordination the entire process of the project.
2	Project Facilitator	ADP Simbo	Facilitate the project Activities
	Accountant	ADP Simbo	Make all the payments and recording of the project Finances
	Engineer	District Council of Igunga.	Survey the pump house construction site and the pipes laying infrastructure
	Construction Personnel	Construction firm	Digging and drilling the water well and the bore hole as well as the construction and installation of the pumps.

Source: Author

4.3 Project Budget

The project was planned and implemented by the ADP Simbo as the host organization in collaboration with the target community. All the same, several stake holders were collaborated in the project and played different roles in the process of the implementation of the project. The budget for the project did not actually involve the salaries payment to the staff. Just as indicated above the salaries for the staff were paid by the stake holder associations / organization. However, the cost was mainly paid by the host organization and the target community.

The cost of the project mainly include human resource cost which included the allowances for the field work, material cost for the different materials which were required for the construction of components such as the bore hole, water well pump house and the pumps. Other costs involves the payments for the contractor who was to drill the bore hole and sink the water well, the purchase of water pumps for both the hand pump and the electric pumps and their installation. The laying of the network of the pipes for the supply of water in the institution attracted further cost. This included the pipes for the purpose and the construction cost.

From the inception to the completion of the project, it is estimated that it will cost a total of Tshs. 65,251,172.00 for all the activities that were involved in the process. This amount was used in different proportion in the activities and was raised from the contributions from the host organization as well as the institution of Umoja Secondary school. Table 4.6 is an outlined of the budget and the detailed budget is attached as appendix 2 and 3.

Table 4.6: Summary of the Project Budget

S. N	Activity	Cost
1	Planning stage	200,000.00
2	Hydrological survey	661,200.00
3	Sinking, construction and installation of pump on the shallow water well.	4,670,772.00
4	Drilling of the bore hole	27,488,800.00
5	Construction of the pump house	14,468,500.00
6	Installation of the pump	2,132,800.00
7	Construction of the water pipes network	15,389,100.00
8	Education to the community of Umoja on sustainable water resources management	240,000.00
Total Project Cost		65,251,172.00

Source: Researcher (2014)

4.3.1 Project Implementation Report

The project implementation was carried out in stages from the beginning. The implementation was carried out in the following ways.

Specific objective one: Hydrological survey to identify the water sites

The hydrological survey was conducted for the identification of the water sites for both the well and the bore hole. The survey was successful and the site for both the well and the bore hole were identified. This set the ground for the other activities that followed the identification of the water sites. The hydrological survey was accomplished in January 2013 at a cost of Tsh. 661,200.00.

Specific objective two: Sinking of water well, construction and installation of the pump; The successful survey gave room to the sinking of the water well and the drilling of the bore hole. The sinking of the well was accomplished after the survey. The next activity was the construction of the well and the installation of the hand pump for the water supply. These activities were accomplished successfully in the month of July 2012 and the total cost for the sinking, construction and installation of the pump was 4,670,772.00. At the time of the report, the water well was being used by the community of Umoja Secondary school as can be seen from the picture represented in Figure 4.1 and 4.2. The use of the water well has reduced to considerable extent the problem of water in the community especially to the students' cleanliness more specifically to the girls who were adversely affected by the unreliability of water.



Figure 4.1: Newly constructed shallow well at Umoja Secondary School



Figure 4.2: Students Drawing Water from newly Constructed Hand Pump Well

Specific objective four: Drilling of the bore hole; the drilling of the bore hole was the next stage in the series of activities that followed. For the drilling of the bore hole, the activity was carried for the first time in the identified point to completion. However, after the expected depth was attained it was realized that the quantity of

water available was minimal and could not serve the purpose of the supply of water for a considerable period. This led to a second round of survey within the compound for identification of another point for drilling the bore hole. An alternative site was identified and the bore hole was successfully drilled and the work was complete as at the time of the reporting of this implementation. The total cost for the drilling of the bore hole was Tshs 27, 488,800.00. Figure 4.3 shows the drilling of the bore hole.



Figure 4.3: The ADP Project Coordinator at a Borehole Drilling Site

Source: ADP Simbo (2013)

Specific objectives five: Construction of the pump house; the other specific objectives were the construction of pump house for the electric water pump, and laying of pipe network in the school to transport the water to the tank for gravitational supply within the school. These objectives have not been accomplished but are expected to be accomplished by the end of the year. The expected budget for the works is 16,299,700.00

Specific objective six: Education of the community Umoja; the objective of educating the community of Umoja secondary school on the best ways to manage and sustain the water resources was the other specific objective. This objective has not been carried out so far up to the time of reporting but is earmarked for finishing at the end of this year 2013. The cost for this component is Tshs. 240,000.00

4.3.2 Project Implementation

Table 4.7: Showing the Project Implementation

S. No	Activity	Status	Cost
1	Planning stage	Completed	200,000.00
2	Hydrological survey	Completed	661,200.00
3	Sinking, and construction of water well and Installation hand water Pump	Completed	4,670,772.00
4	Drilling of the bore hole	Completed	27,488,800.00
5	Construction of the pump house and	Incomplete	14,468,500.00
6	Installation of the pump	Incomplete	2,132,800.00
7	Construction of the water pipes network	Incomplete	15,389,100.00
8	Education to the community of Umoja on sustainable water resources management	Incomplete	240,000.00
	Total cost.		65,251,172.00

Source: Researcher (2014)

CHAPTER FIVE

5.0 PROJECT PARTICIPATORY MONITOR, EVALUATION AND SUSTAINABILITY

5.1 Introduction

Project as a process is composed of many stages and activities that are to be carried out within a specified time and involve resources which are meant to produce a desired output and eventually outcome or impact. It is therefore necessary throughout the life of the projects that the trend of the activities are subjected to scrutiny to ensure that it is progressing in the right direction that has been intended in terms of its inputs and the results or the outputs. This activity of “having an eye” on the progress of a project, program with the aim of revealing the efficiency and the effectiveness of the project or program is referred to as monitoring and evaluation

In this chapter, the report is to present the monitoring information system where the methods which were used to monitor the project are discussed. It will also present the nature of evaluation of the project its methods, indicators and the summary of evaluation process. Finally the chapter is going to report on the sustainability of the project.

5.2 Participatory Monitoring

Participatory monitoring serves one main purpose of providing feedback to the implementing body and the stakeholders. The feedback is generated through measuring to what extent does the project progress towards the achievement of the goal or does not progress towards the achievement of the goal. The United Nations

Development Programme observes that monitoring is a continuing function that aims primarily to provide the management and main stakeholders of an ongoing intervention with early indication of progress, or lack thereof, in the achievement of results” (UNDP, 2002).

During the planning of the project, monitoring strategy was set up to ensure that the project reaches its goal within the time specified. The monitoring indicators were identified in order to assist with the work of monitoring. Just as the planning stage of the project involved the community, monitoring of the project also was planned to involve the community members.

5.2.1 Monitoring Information System

For the purpose of monitoring the project, a monitoring information system was set up. The main function of the system was to collect and report information on the project and its activities on a daily basis to enable the implementing organization in collaboration with the partners to plan and monitor the operations and performance of the project (CEDPA, 1994). The monitoring system collected information on the activity of the project in the areas of the resources that are used, the timing of the activity, people involvement, budget and the expenditure of the project. For this to function efficiently the personnel responsible for this system was the facilitating officer from the host organization in conjunction with the other stakeholder. The planned monitoring of the project during the planning process was as shown in table 5.1.

Table 5.1: Project Monitoring Plan

Category of information	Areas	Record	Responsible person	User of the information	Use of information	Decision made
Work plan Activities	Timing of the activities. Availability of personnel.	Periodically Work schedule	Project Coordinator Project facilitator MCED student	Project coordinator Stakeholders Community	Ensure that staff and contractors are operating within time frame	Reschedule the activities Resources deployment
Cost and Expenditures	Budgeted amount. Balance in budget by approved cost.	Ledger of expenditures Receipts Reports to stakeholders	Project Accountant	Project Coordinator Community Program officer	Ensure availability of funds Ensure that the activities are carried out within the stipulated budget.	Revising the budget Determine needs for other funds
Staff and supervision	Knowledge attitude of staff Skills of staff Job performance	Performance review Job description	Project Coordinator Project Facilitator	Project Coordinator Programme officer	Ensure that the required knowledge and skill are present. Efficiency and effectiveness assurance.	Placement Disciplinary actions
Results	Activities accomplished	Field workers report	Project Facilitator MCED student	Project Coordinator Facilitator MCED student	Ensure the objectives are realized Asses the quality of the achievement	Revise strategies and approach

Source: Modified from CEDPA (1994)

5.2.2 Participatory Monitoring Methods

During the life of the project, monitoring was done on a periodical basis owing to the nature of the project itself. The coordinator, the facilitator and the MCED student collected the data from the community and the staff in the areas that had been determined during the planning stage. The methods which were involved were participatory in nature and ensured that the community, the staff and the other stake holders were actively involved in the monitoring of the project. The methods which were used include the following:

5.2.2.1 Interviews

During the project progress, monitoring was done through interviews with the members of the community both students and staff regarding the progress of the project. The interview was designed to trail the progress of the project in the perception of the community as well as to reveal the community's attitude as to the whole process such as the timing, output of the stages that had been done and their enthusiasm with the project completion. The interview also gathered information from the other stake holders of the project as to the cost effectiveness, timing and their view of the general implementation of the project.

5.2.2.2 Focused Group Discussions

This method of monitoring was used whereby the selected community members and the administration of the institution convened in different small groups to discuss and generate information about the progress of the project and general view of the administration of the institution on the advancement of the project activities. The information gathered from the method includes the timing of the activities, the

availability of the personnel and the results of each accomplished stage of the series of the activities.

5.2.2.3 Observation

Observation was used by the project coordinator, the facilitator and the MCED student to monitor the projects activities. This involved the team observing the project activities as they are carried and examining the output of the activities. The aspects of the project that were observed included the material quality, the use of the right quantity of material and the level of work accomplished in relation to time frame. This provided an accurate information to compliment the information which had been gathered since it offers a firsthand information from the site.

5.2.2.4 Participatory Monitoring Results

The participatory monitoring process generated vital information which was used productively during the project process. The monitoring showed that some aspects of the activities were carried out within the planned time such as the hydrological survey for the identification of water points and the activities were carried out within the estimated budget. The results also revealed that the sinking of the shallow well and the installation of the hand pump were accomplished within the stipulated time and budget.

However the monitoring showed that other activities delayed and took more money than was expected due to technical problems. Such activity include the drilling of the bore hole which was delayed due to the first identified site for the bore hole not having sufficient water as was expected during the hydrological survey. This forced

a second hydrological survey to be conducted and a new site identified. After the identification, the drilling was done again which produced a better quantity of water even though was not the same as the expected amount of water.

5.3 Participatory Evaluation

Evaluation is vital to the project for it is through this process that we are able to judge the performance of the project. Progressive evaluation measures the performance of different stages against the predefined indicator and the final evaluation of the project determines whether the project has achieved the objectives for which it was started. As such it is very important that this practice is made part and parcel of the project during the planning.

The evaluation during the life of the project (progressive) was basically meant generate information that will assist in early correction of areas which are not productive and redirect the program to the intended course and objectives. In the words of UNDP, “evaluation is a selective exercise that attempts to systematically and objectively assess progress towards and the achievement of an outcome. Evaluation is not a one-time event, but an exercise involving assessments of differing scope and depth carried out at several points in time in response to evolving needs for evaluative knowledge and learning during the effort to achieve an outcome” (UNDP, 2002)

5.3.1 Performance Indicators

Performance indicators are benchmark to show that success has been achieved or has not been achieved in a particular project or a program. CEDPA defines indicators as

the quantitative or qualitative criteria for success that enables one to measure or assess the achievement of project objectives. The project planning stage determined the project performance indicators which are to form the benchmarks for measuring the achievement of the objectives. The predetermined performance indicators were as shown in Table 5.2.

Table 5.2: Showing the Project Performance Indicators

Objectives	Indicators	Person Responsible	Method/ tools
Conduct a community Need Assessment	Report of the CAN available	MCED Advisor	Interviews Questionnaire Focussed Group discussions
Availing reliable and sufficient water to the Umoja community	A functioning shallow well dug and constructed for the supply of water. A functioning bore holes drilled and constructed for the supply of water.	Project Coordinator Project facilitator MCED advisor	Field Visits Observation Interview Focussed group discussions
Educate the community on the best ways of sustainable water management	20 members of the community trained on sustainable water and sanitation management.	Project Coordinator Project facilitator MCED advisor	Interviews

The indicators of the achievement of the project objectives include;

- i. Report of the CNA available
- ii. A functioning shallow well dug and constructed for the supply of water.
- iii. A functioning bore holes drilled and constructed for the supply of water
- iv. 20 members of the community trained on sustainable water and sanitation management.

5.3.2 Participatory Evaluation Methods

In the evaluation of the project objectives the implementers adopted the Participatory Rural Appraisal (PRA) to ensure the community participation and involvement in the evaluation which has been carried so far. In defining PRA, Chambers states that “the term Participatory Rural Appraisal (PRA) describes a growing family of approaches and methods to enable local people to share, enhance and analyze their knowledge of life and conditions, to plan and to act” (Chambers, 1992). The progressive evaluation was conducted in the middle of the project period to ascertain whether the objectives which were anticipated to be completed by this time were actually completed. It was also preformed to provide information to show that the project is achieving or not achieving the intended goal. This approach and methods include the following methods which were used to evaluate the project progress.

5.3.2.1 Interviews

Progressive evaluation was done through interviews with the members of the community both students and staff regarding the progress of the project. The interview was designed to obtain information regarding the achievement of the already accomplished objectives of the project. The information gathered also includes the efficiency and how far the accomplishment addressed the need identified.

5.3.2.2 Focused Group Discussions

Focused group discussion was used where by the community members and the administration of the institution were grouped differently in a guided discussion in order to generate information about what the project has achieved so far. The

information gathered from the method includes the efficiency of the accomplishment and how far the accomplishment address the problem the project intended to solve.

5.3.2.3 Observation

Observation was used by the project coordinator, the facilitator and the MCED student to evaluate the project objectives. This involved the team observing the accomplished project objectives as they assessed as to how far this is effective and efficient. This provided a accurate information to compliment the information which had been gathered from other sources since it offered a firsthand information from the site. Since the project has not come to its completion, the final evaluation is yet to be carried out towards the end of this year 2013 when it is expected that the project shall have been accomplished.

5.3.3 Project Evaluation Summary

The progressive project evaluation conducted revealed that the project had fully achieved some objectives which were intended while other objectives have been partially achieved. The objective of conducting a community need assessment was fully achieved within the stipulated time as was indicated by the presence of the CNA report at the time of evaluation.

The objective of supplying reliable and sufficient water to the community had been partially achieved in the sinking, construction and installation of the hand pump on the shallow water well. Further this objective has witnessed the drilling of a borehole which at the time of reporting was fully achieved but the construction and the water pump fixing are yet to be achieved. The evaluation also revealed that this objective

has not been fully realized since the network of the transporting water to the central water tank has not been laid at the time of the evaluation and reporting. The objective for the education of the community of Umoja on the best way of sustainable water management had not been achieved and it is assumed that this shall be accomplished at the end of this year and the entire goal shall be achieved. The final evaluation which is expected to be taken at the end of this year is expected to report on full implementation of the project objectives.

5.3.3.1. Basic Expectation of the Outcome of the Final Evaluation

Basically it is expected that at the end of the project, all the project goal and objectives shall have been fully realized. The components of the objectives that are expected to be realized include the following:-

The remaining component of the objective of supplying reliable and sufficient water to the community shall be realized. This includes the construction of the pump house and laying of the network of pipes for the water supply.

The education of the community on the best ways of sustainable water management.

5.4 Project Sustainability

Project sustainability is a vital component in the life of any project. This term has been used variably in different context depending on the purpose. It has been applied in certain context to refer to the process of ensuring that the project is kept effective throughout its life right from its inception. This perspective calls for strategy to ensure that the project is planned, implemented and maintained in such a way that the benefits continue to be felt in the unforeseeable future. In other contexts, the concept is used to refer to process of ensuring that the project is continued after the

prescribed period of the current project activities or life span.

Table 5.3 shows the achievements of the project goals.

Table 5.3: Showing the Achievement of the Project Goals

Goal	Objectives	Performance indicators	Expected outcomes	Actual Outcome
To improve the livelihood of the community in Umoja Secondary school through supply of water and sanitation.	Conducting a CNA of the Umoja Community	CNA Report	Identification of the social, economic, demographic characteristics of the community. Identification of the need within the community.	The social, economic and demographic characteristics of the community identified. The need of the water in the community was identified
	Availing reliable and sufficient water to the Umoja community through a shallow Well	A functioning shallow well dug and constructed for the supply of water. A functioning bore holes drilled and constructed for the supply of water	Reliable and sufficient water available in the community.	The amount of water in the community has been increased by the functioning shallow well. The bore hole is yet to increase the available water upon its completion
	Educate the community on the best ways of sustainable water management	20 members of the community trained on sustainable water and sanitation management.	Proper and sustainable management of water resource	The objective is not yet achieved.

Source: The Author of the report

Tadesse, Bosona, & Gebresenbet, (2013) in trying to define sustainability observe that the concept has its root in the definition of the United Nations of sustainable development. The United Nations in its document entitled “Our Common Future” (1987) defined sustainable development to refer to a type of development that meets

the needs of the present generations without compromising the ability of future generations to meet their own needs. (Tadesse, Bosona, & Gebresenbet, Rural Water Supply Management and Sustainability: The Case of Adama Area, Ethiopia, 2013). In the same way they acknowledged that there are several variables that determine the sustainability of rural water supply. Among the factors that they view to determine the sustainability of water supply include the technical or physical attributes of the system, the financial, organisational support functions and managerial capacities of the service provider.

Based on the above factors, several conceptual frameworks have been produced to help in explaining the concept of water supply sustainability. However, many researchers have shared the framework that is has five components namely organizational or institutional, social, environmental, technical, and financial. These components of the framework emphasize the operation of a combination of community participation, external collaboration and technical support to bring about meaningful water supply sustainability (Tadesse, Bosona, & Gebresenbet, Rural Water Supply Management and Sustainability: The Case of Adama Area, Ethiopia, 2013).

The sustainability of water supply and management is crucial and for this to be achieved, plans and strategies must be put in place to ensure that the project benefits are experienced both today and in the future after the life span of the current funding by the key stakeholders. As has been indicated above, the project is yet to be completed; the first and foremost sustainability is to ensure that the remaining components of the project are accomplished in the near future. To ensure this,

negotiations have so far been completed with the implementing CBO (ADP Simbo) to include the project in this year's financial budget for continued support. This is expected to ensure that the Pump house is constructed and the electric pump installed. This strategy will raise the funds required to complete the remaining section.

The implementing organization has also committed itself to carry out the education component where in it will raise the resources both financial and human resources for the educating the community in collaboration with the institution which will contribute financial and infrastructural requirements for this purpose. The project sustainability during the life time of the project will be ensured through offering the sustainable water use and management education to the community of Umoja Secondary School. The education provided to the community members will be continued through the multiplier program through continued education to the community members who will be received in the institution from time to time. This is a sure way of ensuring that the water resources together with the structures that support it are utilized in a way to ensure the continued existence and uncompromised services and benefits.

The other strategy for the sustainability of the project was the ensured active participation of the community in the entire process of identification, planning, implementation, monitoring and evaluation of the project. The active participation of the community who also are the main beneficiary in the initiation and management of the project has and will continually cause an appropriate environment for sustainability of the project. This approach of community active participation at all

stages of the project life cycle has been understood to be one of the most effective ways of motivating the community members to own and care for the projects that are implemented within the communities.

After the life span of the current funding by the implementing organization (ADP Simbo), the project will be sustained through setting up a technical section for the maintenance of the infrastructure for the water supply. The section will be responsible for the proactive infrastructural maintenance to ensure that the project remains active in the future. It is believed that this section will provide the technical component for the sustainability of the project. The institution has committed itself for the establishment of this section and to hire qualified and competent personnel to man this section and also to ensure that the required resources for the maintenance are available.

For the case of financial sustainability, institution through its various organs such management team, executive committee and the board of governors has introduced a special budget item in their annual budget to cater for the future needs of the project. This set budget will ensure that the project continues to have funds for the expansion strategies such as construction of more water tanks and servicing the existing infrastructure and to run the office of the department of water supply and management.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

6.1 Introduction

In the whole process of the project, a number of conclusions were reached and these conclusions lead to several recommendations. This chapter give a brief summary of the conclusions made from this project as to what was learned and what should be the consideration in this project and future projects like this one. The summary is provided under the sub headings of conclusions and the recommendation.

6.2 Conclusion

The Community Need Assessment (CNA) that was carried out revealed that the community needed water supply which is reliable for their well being and this made the project a necessary undertaking. However, the study also showed that reliable water supply was not the only need of the community but was one of the various needs in the community. Apart from reliable supply of water, the other high ranking needs in the community in the order of preference were dispensary services, toilet services and electricity. Even though reliable water supply was not the most pressing need of the community as revealed from the study, the community decided to collaborate with the host organization for the implementation of the project for reliable water supply.

The concern of the community at Umoja was echoed in the literature review that was conducted. The literature review showed that issues of reliable water supply are a concern of many institutions at local, national and international levels. The institutions include the government and its institutions, national and international

organizations and private companies. It is also a vital conclusion from the study that the varied theories relating to the supply of water in the community pointed to the fact that the problem of water supply and management can be solved through appropriate, focussed and well coordinated perspective and strategies.

For the success of any community water supply project, the community participation in all the stages of the project is paramount. The participation among other things ensures the sustainability of the project and inputs from the community itself. The involvement of the community should go along with the capacity building of the community members. The capacity building should focus on areas such as environmental management, proper management of water resource, disease control and famine in the community. The role of the nongovernmental in the supply of water to the communities has featured with the Care and World Vision with specific reference to the ADP Simbo. However, the government in the water policy has given less attention to the non-governmental organizations.

The project of reliable and sufficient water to the community of Umoja secondary school was successful to up to 75% for at the moment the community is accessing an increased supply of water. The specific objective of bore hole is partially fulfilled and strategies have been made to see it fully accomplished. The objective of educating the community has not been concluded at as the time of reporting of the project. From the project it can be concluded that ADP Simbo is playing a very important role in the supply of water to the community. In the project, ADP played the role of coordinating the different stakeholders and paying the bulk of the cost of the project. This is justified by the fact that from its operations several villages in the

ward have been served with water apart from the targeted community in this particular project.

From the execution of the project it is obvious that the participation of the community in the project is vital. The participation of the community helped the project to achieve the already achieved objectives and it is evident that this participation will ensure the accomplishment of the remaining components of the project. This participation ensured the commitment of the community members to the course of the project.

6.3 Recommendation

From the experience learnt from the implementation of the project it is recommended that the government policy on water and sanitation in the future need to be clear about the role and position of the NGOs in the delivery of water and sanitation in the country and more strategies to support them should be put in place as they touch the life of many in the country.

From the lesson learnt from the project, it is recommended that the community should form the thrust of the future projects which target the community for this is a valuable asset in the realization of the output, outcome and the impact of the projects. The idea here is to ensure that the project meets the actual and not assumed needs of the community as well as ensuring that the project is accepted by the community. Meeting the actual needs and the acceptance of the project by the community will further guarantee the sustainability of the project as the community will have an attitude of ownership of the project.

The study has also highlighted that the role of the private sector in ensuring the sustainability of the community projects is important as was observed in the literature review section. The management of water supply project of the rural areas should have a blend of the community based management and the private sector management. This will ensure that the motivation from both the sides of management component plays its role to ensure that the infrastructure are maintained and serviced from this compelling cooperation.

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APPENDICES

Appendix 1: Questionnaire for CNA English version

1: Community Demographic characteristics

Please circle the appropriate/suitable response in the following; where necessary you can circle more than one response

Sex	Age	Marital status	Occupation	Your education level	Your skills
1= male 2= female	1= 14-24 2= 25 – 40 3= 41 – 60 4= 61+	1= Married 2= not married	1= Livestock 2= Business 3= Peasant 4= Employed 5=Student	1= Primary Education 2= Secondary Education 3= High School Education 4= College Certificate 5=College Diploma 6=Bachelor’s Degree 7=Post Graduate Degree	1= carpentry 2= tailoring 3= bicycle repair 4=motorcy cle repair 5= driving 6= Others (specify)...
Number of adults living in household:.....					
Number of children living in household:.....					
How many years have you lived in this community?.....					
Are you staying in the school ? (Circle the number next to appropriate answer)					
1=Yes		2=No			
What is the category of the housing you are living? 1= Rented 2=Provided by School 3=Own House					

2: Financial assets/capital

Please indicate the type (s) of your financial asset/capital and rank them in order of importance; write the number of the correct response.

Financial assets/capital	Do you have access to such a financial capital? 1= Yes 2= No	Rank your portfolio financial capital in relation to easiness to access and spend	
		Access: 1= Very easy 2= Moderate 3= Not easy	Easiness to spend: 1= Very easy 2= Moderate 3= Not easy
Cash saving at bank			
Cash saving at home/pocket			
Credit			
Own bicycle			
Own a motorcycle			
Livestock			
Poultry			
Others (Specify)...			

3: Physical assets/capital

Please indicate the physical infrastructure you have access to; circle the number corresponding to the suitable response

Physical capital	Codes for responses
Water supply	1= borehole 2= well/spring water 3= river 4= dam 5= others (specify).....
Cooking fuel	1= firewood 2= charcoal 3= Gas 4= Electricity 5=others (specify)
Health services	1= Not at all 2=dispensary 3= health centre 4= Hospital
Roads	1= feeder roads 2= inter-village road 3= road to the nearest town/market
Education services	1= Not at all 2= Primary school 3= Secondary school 4=Others (specify).....
Toilet facility	1= Pit latrine covered 2= Pit latrine uncovered 3=Flash toilets 4= bush
Own a house	1= YES 2= NO

4: Social asset/capital

If you belong to any local association/group, please provide the following information; circle the number corresponding to the appropriate response:

Association/Group.	For how long?
1= Youth group 2= women group 3= Credit and Savings Group 4= Religious group 5= Study Groups 6=not at all	1=Less than 2 years 2=More than 2 years

5: Livelihoods strategies and outcomes

Please provide information on your income sources and its stability. Circle the number corresponding to the correct response

Income source	Any family member involved	Average amount of sales per month	Average amount per month (Tshs)	How stable is this source of income?		
				1= Unstable	2=Moderately stable	3Stable
Grocery	1= Yes 2= No	1= 1 2= >1	1= < 800,000 2= >800,000	1	2	3
Selling of milk	1= Yes 2= No	1= 500 litres 2= > 500 litres	1= < 250,000 2= >250,000	1	2	3
Agricultural products	1= Yes 2= No	1= 1sack 2= >1sack	1= <30,000 2= >30,000	1	2	3
Selling Water (liters)	1= Yes 2= No	1= 20 – 100 litres 2= 120- 1000 litres 3=1020 – 2000 litres 4= above 2000 litres	1= 1,000 - 300,000 2=300,000 - 500000 3.= 500,000 – 600000 4= above 600000	1	2	3
Employment	1= Yes 2= No		1= Below 170,000 2= 171000 – 250,000 3=251,000 – 450,000 4= 451,000 – 550,000 5=551,000 – 650,000 6=Above 650,000	1	2	3
Transport services	1= Yes 2= No		1= below 170,000 2= above 170,000	1	2	3
Carpentry	1= Yes 2= No		1= below 170,000 2= above 170,000	1	2	3
Tailoring	1= Yes 2= No		1= below 170,000 2= above 170,000	1	2	3

6: Alternative sustainable livelihood activities (Put an X before the activities you can do, you may choose more than one)

Which of the following activities can you do apart from your normal activities?	Put X on the activities that you can do.
Agriculture	
Poultry	
Bee keeping	
Carpentry	
Tailoring	
Petty trade including selling food stuffs, milk, honey products	
Handicrafts including curving, weaving/knitting, mat and basket making	
Transport service including “boda boda” (motor cycle) and bicycles	
Others (specify)	

7: Community needs

Which of the following is the most important need to you and how satisfied are you with the existing level of services? Please circle the number corresponding to most appropriate response; you can circle more than one

Please circle the appropriate score using the following scale.

- | | |
|-------------------------------|----------------------------|
| 1. =Completely not important. | 1. =Completely Unsatisfied |
| 2. = Unimportant | 2. = Unsatisfied |
| 3. =Important | 3. =Satisfied |
| 4. =Very Important | 4. =Very Satisfied |

Needs	How important is this to you?				How satisfied are you with.....			
Market for livestock and milk	1	2	3	4	1	2	3	4
Library Services	1	2	3	4	1	2	3	4
Toilet facility	1	2	3	4	1	2	3	4
Reliable Water Supply	1	2	3	4	1	2	3	4
Credit service	1	2	3	4	1	2	3	4
Capital for business	1	2	3	4	1	2	3	4
Tools for honey production	1	2	3	4	1	2	3	4
Roads	1	2	3	4	1	2	3	4
Electricity	1	2	3	4	1	2	3	4
Education Services	1	2	3	4	1	2	3	4
Grocery Services	1	2	3	4	1	2	3	4
Dispensary	1	2	3	4	1	2	3	4
Housing	1	2	3	4	1	2	3	4
Others (Specify).....	1	2	3	4	1	2	3	4

Appendix ii Budget for Construction of a Shallow Well

S/No	Description of activities	UNIT	Qty	RATES (Tshs)	AMOUNT (Tshs)
1.0	Community Consultation at village level				
1.1	Planning and preparations	NO	1	40,000.00	40,000.00
1.2	Community awareness	NO	1	40,000.00	40,000.00
1.3	Community investigation	NO	1	40,000.00	40,000.00
1.4	Community mobilization	NO	1	40,000.00	40,000.00
1.5	Follow-up visits	NO	1	40,000.00	40,000.00
1.6	Establishment of WUG	NO	1	40,000.00	40,000.00
	Sub Total Consultation				240,000.00
2.0	Well Construction				
2.1	Labor for pit digging (Average depth of 10m), Designing, setting out, regular supervision including installation and proper user of equipment.	NO	1	160,000.00	160,000.00
2.2	Labor for lowering of rings and Filter packs +charges for hiring of hoisting tools for two days.	NO	1	100,000.00	100,000.00
2.3	Superstructure (cost of all construction materials, labour and supervision)	NO	1	80,000.00	80,000.00
	Sub Total Well construction				340,000.00
3.0	Prefabrication of Concrete works				
3.1	Casting of concrete rings (A total of 23 rings for a depth of 10m)	NO	1	1,610,000.00	1,610,000.00
3.2	Casting of concrete covers	NO	1	90,000.00	90,000.00
	Sub- Total prefabrication of concrete works				1,700,000.00
4.0	Disinfection and water chemical analysis				-
4.1	Chemical analysis				
	PH	NO	1	5,000.00	5,000.00
	EC	NO	1	5,000.00	5,000.00
	Nitrite nitrogen	NO	1	10,000.00	10,000.00
	Nitrite nitrogen	NO	1	10,000.00	10,000.00
	Chloride	NO	1	10,000.00	10,000.00
	Fluoride	NO	1	10,000.00	10,000.00
	Sulphate	NO	1	10,000.00	10,000.00
4.2	Bacteriological analysis				
	Total coliform	NO	1	10,000.00	10,000.00
	Faecal coliform	NO	1	10,000.00	10,000.00
	Water sampling	NO	1	10,000.00	10,000.00
	Laboratory Technician	NO	1	35,000.00	35,000.00

S/No	Description of activities	UNIT	Qty	RATES (Tshs)	AMOUNT (Tshs)
	Transport	NO	1	45,000.00	45,000.00
4.3	Purchase and apply chemicals for disinfections of the completed well (chlorine powder)	NO	1	4,850.00	4,850.00
	Sub Total Disinfection and water chemicals				174,850.00
5.0	Legal framework				
5.1	Consultation	NO	1	40,000.00	40,000.00
5.2	Meeting with WUG members and land owners	NO	1	40,000.00	40,000.00
5.3	Follow-up visits to WUG	NO	1	80,000.00	80,000.00
5.4	Land demarcation	NO	1	40,000.00	40,000.00
5.5	Right of occupancy	NO	1	40,000.00	40,000.00
5.6	Transport to DLaDO/Surveyor/CDO	NO	1	45,000.00	45,000.00
	Sub Total Legal frame work				285,000.00
6A	Purchase and installation of TANIRA pumps				
6.1	Pump body complete with cast-in-pedestal	NO	1	362,000.00	362,000.00
6.2	Cylinder with diameter 63mm and length of 1.5m	NO	1	224,900.00	224,900.00
6.3	Installation manual book and tools (TANIRA)	NO	1	36,000.00	36,000.00
6.4	Riser/Rod of L = 2m (Three pieces)	NO	3	167,540.00	502,620.00
6.5	Riser/Rod of L = 1.5m (One piece)	NO	1	158,800.00	158,800.00
6.6	Riser/Rod of L = 0.75m (One piece)	NO	1	93,450.00	93,450.00
6.8	Pump procurement costs and administration	NO	1	50,000.00	50,000.00
6.9	Pump installation and orientation to ULOM	NO	1	40,000.00	40,000.00
					1,467,770.00
7.0	Supervision and reporting				
7.1	Monthly reports	NO	1	6,000.00	6,000.00
7.2	WADATA	NO	1	5,000.00	5,000.00
7.3	Supervisory charge and administrative costs	NO	1	300,000.00	300,000.00
	Sub-Total				311,000.00
8.0	SUB-TOTAL (1 - 7)				4,518,620.00
9.0	ADD 18% of (8) for VAT				813,351.60
10.0	Gross total (8.0+9.0)				5,331,971.60

Appendix 3: Budget for Laying of Pipes and Construction of Pump House

S. N	Discription	Unit	Qty	Rates (Tshs)	Amount
1.0	Construction of Electrical pump house and fencing as per typical				
1.2	Setting Out				
1.2.1	Setting out Pump house	PCS	1	30,000	30,000
1.3	Foundation				
1.3.1	Excavation of foundation trenches starting from ground level for depth not exceeding 1.5m	m3	13	6,000	78,000
1.3.2	Backfilling and making up levels	m3	10	8,000	80,000
1.3.3.	Disposal of surplus excavated material	m3	5	5,000	25,000
1.4	Concrete				
1.4.2	Concrete 230mm thick grade 25 for foundation footing	m3	2.5	200,000	500,000
1.4.2	Form work to vertical faces of footing	m3	5	10,000	50,000
1.5	Foundation blocks				
1.5.1	230mm thick solid blocks in foundation jointed with cement and sand mortar (1:4) ratio.	m2	6	40,000	240,000
1.6	Hard core				
1.6.1	150mm thick hard core bed consolidated and blinded with sand	m2	7.5	200,000	1,500,000
1.7	Floor Slab				
1.7.1	100mm thick concrete floor slab in grade 25 including path and entrance ramp	m3	1.5	200,000	300,000
1.7.2	25mm thick floor finish with cement and sand mortar (1:3) ration	m2	10	20,000	200,000
1.7.3	Timber formwork to floor slab	m2	5	10,000	50,000
1.8	Walls				
1.8.1	Supply and fix 150mm thick soils blocks jointed with cement and sand mortar (1:4) ratio.	m2	32	32,000	1,024,000
1.8.2	supply and fix timber formwork to each face of lintel	m2	3.25	10,000	32,500
1.8.3	Supply concrete 200mm thick grade 25 for lintel	m3	0.25	200,000	50,000
1.8.4	Supply and fix steel grade 250 - R8 reinforcement to lintel	kg	6	2,500	15,000
1.8.5	Supply and fix high yield grade 460 -y12 reinforced to lintel	kg	20	3,100	62,000
1.8.6	Apply two coasts of plaster, steel to welled to smooth finish 15mm thick 1:4 cement -sand mortal	m2	31	8,000	248,000
1.8.7	Apply one coat emulsion paint thinned with water stop following by two finishing coats of oil paint.	m2	31	10,000	310,000
1.8.8	Apply cement -sand Tyrolean finish of normal cement texture to external walls.	m2	31	4,000	124,000

S. N	Discription	Unit	Qty	Rates (Tshs)	Amount
1.9	Windows				
	Supply and fix hardwood window frames and shutter (each with 2 panells) complete with approved appropriate fittings(Locks and Hinges)				
1.9.1	Supply and fix hardwood window frame 40mm thick x 1200mm, 1200mm wide x 1200mm	PCS	1	30,000	30,000
1.9.2	Supply and fix hardwood windpw shutter 40mm thick x 1120mm wide, 1200mmx	PCS	1	30,000	30,000
1.9.3	Supply and fix hardwood Window shuter 40mm thick x 720mm wide, 800mm x 1200mm	PCS	1	30,000	30,000
1.9.4	Supply and fix iron bar Grill window 12oomm x 1200mm wide	PCS	1	75,000	75,000
1.9.5	Supply and fix iron bar Grill window 800mm x 1200mm	PCS	1	60,000	60,000
1.1 0	Doors				
	Supply and fix hardwood door frames andshutters complete with all approved appropriate fittings (Locks and Hinges)				
1.10.1	Supply and fix hardwood door frame 40mm thick x 120mm wide, 900mm x 2100mm	PCS	1	50,000	50,000
1.10.2	Supply and fix hardwood dood shutter 40mm thick x820mm wide, 900mm x2100mm	PCS	1	200,000	200,000
1.10.3	Supply and fix iron bar Grill door 900mm x 2100mm	N0	1	300,000	300,000
1.11.0	Supply 150 x 50mm roof truss members (top and bottom) treated timber	m	35	5,000	175,000
1.11.1	Supply 100x 50 truss and ties treated timber	m	15	4,000	60,000
1.11.2	Supply 50 x 50mm treated timber	m	25	3,000	75,000
1.11.3	Supply 50 x 50mm fascia board	m	10	20,000	200,000
1.11.4	Supply 5" nails for trusses and CI sheets fixing	kg	3	15,000	45,000
1.11.5	Supply CI sheets gauge 28	m2	20	25,000	500,000
1.11.6	Supply Ridge Cape	m	5	8,000	40,000
1.11.7	Supply and fix ceiling chipboard suspended on treated/impregnated timber, 50x 75mm Cyprus timber for blundering 600 x 600mm both way	m2	10	20,000	200,000
1.12	Fence				-
1.12.1	Excavation of foundation trenches starting from ground level for depth not exceeding	m3	10	1,500	15,000
1.12.2	Backfilling and making up levels	m3	5	3,000	15,000
1.12.3	Disposal of surplus excavated material	m3	5	10,000	50,000

S. N	Discription	Unit	Qty	Rates (Tshs)	Amount
1.12.4	50mm thick blinding with concrete grade 15	m3	0.5	200,000	100,000
1.12.5	Concrete 230mm thick grade 25 for foundation footing	m3	5	300,000	1,500,000
1.12.6	Supply and construct 1678mm high galvanized mild steel chain link fencing	m	40	120,000	4,800,000
	Comprising of pre-cast concrete grade 20(1:2:4 mix) posts size 150mmx 150mm x 2000mm, above ground level at 3000mm centre to centre, 3Nos barbed wires with 5mm, 3Nos of 10mm diameter holes for main posts straining wires, posts to be reinforced with 4Nos 10mmØ mild steel stirrups at 300mm centre to centre bedded in and including 400mm width x 400mm length x 500mm depth plain in - situ concrete grade 15 (1:3:6) base braced with pre - cast concrete bracing posts size 150mm x 150mm x 150mm x 1900mm above ground level at 2100mm centres and 400mm below ground level bedded in plain in - situ concrete grade 15. (1:3:6 MIX) base including all necessary formwork.				
1.12.7	Supply and fix Iron bar grill gate 1800mmx 1900mm fabricated with iron bars complete with iron mongery	PCS	1	1,000,000	1,000,000
2.0	Supply pipes, lay in trenches and backfill pipes in accordance with layout and Longitudinal section Drawing				
2.1	Rising Main	m	1200	6,000	7,200,000
2.1.1	HDPE DN 75 Class B				
2.2	Supply and Install Compression fittings and specials DN75 AND DN 63				
2.2.1	Straight coupling DN 75	PCS	8	30,000	240,000
2.2.2	Male connector DN 75	PCS	4	20,000	80,000
2.2.3	Reducing Socket DN 75 X DN 63	PCS	4	5,000	20,000
2.2.4	Nipple DN 75	PCS	4	1,800	7,200
2.2.5	Union DN 75	PCS	2	30,000	60,000
2.2.6	Socket	PCS	4	5,000	20,000
2.2.7	Gate Valves DN 75	PCS	2	50,000	100,000
2.2.8	Air Valve DN 75	PCS	1	500,000	500,000
2.2.9	Gate Valves DN 63	PCS	1	40,000	40,000
2.2.10	Supply and fix water meters DN 63 at sources	PCS	1	500,000	500,000

S. N	Discription	Unit	Qty	Rates (Tshs)	Amount
2.2.11	Nipple DN 63	PCS	6	4,000	24,000
2.2.12	Elbow DN 63	PCS	3	30,000	90,000
2.2.13	Flanged Adapter DN 63	PCS	4	30,000	120,000
2.2.14	63mm(2") dia 6m long GS pipe Ref CI	PCS	2	20,000	40,000
	SUB - TOTAL FOR PIPE WORKS				1,841,200
3.0	Trech Excavation				
3.1	Excavate trenches for Rising main conction to Dps. 550mm avarage width and 900mm avarage depth including site clearance	m	800	1,200	960,000
	SUB - TOTAL FOR EXCAVATION				960,000
4.0	Supply 150mm(6") dia GS pipe 6m long, excavate road to depth note less than 1.0m and not more than 1.5m, lay GS pipe in trench and backfill, pass HDPE pipe.				
4.1.	150mm Dia 6m long GS pipe	PCS	2	50,000	100,000
5.0	Construction of Riser 4m long.				
5.1	Excavation of cross foundation trenches starting from ground level for depth not exceeding 0.6 legh of 12" wide.	m3	7.2	6,000	43,200
5.2	100mm thick concrete floor slab in grade 25 including plith and entrace ramp	m3	7.2	6,000	43,200
5.3	Supply and fix 150mm thick soils blocks jointed with cement and sand Morta (1:4) ratio.	m2	20	32,000	640,000
5.5	Supply and fix timber formwork to each face of lintel	m2	3.25	6,000	19,500
5.6.	Supply concrete 200mm thick grade 25 for lites	m3	0.25	200,000	50,000
5.7	Supply and fix steel grade 250-R8 reinforcement to lintel	kg	3	2,500	7,500
5.8	Supply and fix high yield grade 460-yeinforced to lintel.	kg	5	3,100	15,500
5.9	Timber forward to riser slabe	m2	5	10,000	50,000
5.1 0	100mm thick concrete riser slabe in grade 25 including plith and entrace ramp.	m3	1.5	200,000	300,000
5.11	25mm thick riser slab finish with cement and sand mortar (1:3) ratio	m2	15	20,000	300,000
5.12	Apply two coasts of plaster, steel trowelled to smooth finish 15mm thick 1:4 cement - sand mortar	m2	12	8,000	96,000
5.13	Apply one coat emulsion pait thinned with water stop followed by two finishing coats of oil paint	m2	15	10,000	150,000
5.14	Apply cement -sandn tyrolean finish of normal cement texture to external	m2	15	4,000	60,000
	SUB - TOTAL FOR RISER				

S. N	Discription	Unit	Qty	Rates (Tshs)	Amount
	CONSTRUCTION				1,774,900
6.0	Connection to DPS				
6.1	HDPE DN 40 Class B Ref B1	m	200	5,200	1,040,000
6.2	50mm (1.5") dia 6m long GS pipe Ref C1	PCS	2	18,000	36,000
	SUB - TOTAL FOR DPS				1,076,000
7.0	Supply and Install Compression fitting and Specials to Distribution Network				
7.1	Saddle clamp DN40 X DN 35	PCS	1	2,000	2,000
7.2	Nipple DN 40	PCS	1	20,000	20,000
7.3	Union DN 40	PCS	1	2,000	2,000
7.4	Gate Valve DN 50	PCS	1	30,000	30,000
7.5	Reducing Socket DN 40 X DN 40	PCS	2	15,000	30,000
7.6	Male connector	PCS	1	14,000	14,000
7.7	Gate Valves DN 50	PCS	1	40,000	40,000
7.8	Union DN 40	PCS	2	3,000	6,000
7.9	Elbow DN 40	PCS	2	32,000	64,000
7.10	Reducing Socket DN 63 X DN 50	PCS	2	3,000	6,000
7.11	Nipple DN 63	PCS	2	40,000	80,000
7.12	Socket DN 50	PCS	3	3,000	9,000
7.13	Male connector DN 50	PCS	5	4,000	20,000
	SUB - TOTAL FOR CONNECTION TO DPS				323,000
8.0	Supply and Install Compression fittings and Specials to Connection to DPS				
8.1	Male Connector DN 40	PCS	2	14,000	28,000
8.2	reducer DN 40 X DN 32	PCS	2	16,000	32,000
8.3	GS pipe DN 32 class B	PCS	10	16,000	160,000
8.4	Socket DN 32	PCS	6	3,000	18,000
S. No	DISCRIPTION	UNIT	QTY	RATES (Tshs)	Amount
8.5	Elbow DN 32EX. UK	PCS	4	4,000	16,000
8.6	Nipple DN32 EX. UK	PCS	4		

S. N	Discription	Unit	Qty	Rates (Tshs)	Amount
				2,000	8,000
8.7	Equal Tee DN 32	PCS	4	1,000	4,000
8.8	Bib Cock DN 32 EX. UK	PCS	2	10,000	20,000
8.9	Bib Cock DN 32 EX. UK	PCS	6	8,000	48,000
8.1.1	Union DN 32 EX. UK	PCS	2	20,000	40,000
8.1.2	Gate Valve DN 32 EX.UK	PCS	2	20,000	40,000
	SUB - TOTAL FOR SUPPLY AND INSTALATION OF COPRESSION FITING AND SPECIALS TO CONNECTION TO DPS				414,000
9.0	Procurement of sim tank 10,000 liters	PCS	1	1,800,000	1,800,000
	GRAND TOTAL				29,857,600

Appendix 4: Letters

HALMASHAURI YA WILAYA YA IGUNGA
(Barua zote zitumwe kwa Mkurugenzi Mtendaji (W))
MKOA WA TABORA
Simu Na. 026-2650021 (D/L)
Na. 026-2650019 (G/L)
Fax Na.026-2650242



S.L.P. 19,
IGUNGA.
Idara ya maji.

Kumb. Na. HWIG/W.1/6/34

03.09.2012

MKUU WA SHULE
UMOJA SECONDARY
P.O BOX 652
NZEKA.

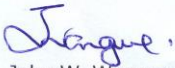
YAH: KUJA KUFANYA TATHIMINI YA GHARAMA YA UJENZI WA MIUNDOBINU YA MAJI KATIKA SHULE YA SEKONDARI UMOJA.

Tafadhali rejea kichwa cha habari hapo juu.

Tafadhali rejea barua yako yenye **Kumb No.UMSS/UEM/17/VOL.2/10.** Wataalum wa Idara ya maji wamekubali kuja kufanya utafiti na kufanya tathimini ya kupata gharama halisi ya ujenzi wa miundombinu ya maji katika shule ya sekondari Umoja.

Hivyo basi tunawasihi uongozi wa shule ya Umoja sekondari kughalimia gharama za malazi pamoja na chakula kwa wataalum wa Idara ya maji watatu (3) na dreva moja (1) kwa muda wa siku tatu (3) pamoja na mafuta ya dizeli lita 40 kwa ajili ya ya shughuli hiyo. Mkiwa tayari mtujulishe ili tuweze kuja kufanya kazi hiyo ili wanafunzi waweze kupata huduma ya maji ya kutosha.

Wako,


John W. Wangwe
Kny; Mhandisi wa maji (W)
IGUNGA.

**DISTRICT WATER ENGINEER
IGUNGA.**

**Nakala; Mkurugenzi mtendaji (W)
IGUNGA.**

HALMASHAURI YA WILAYA YA IGUNGA
(Barua zote zitumwe kwa Mkurugenzi Mtendaji (W))

MKOA WA TABORA
Simu Na. 026-2650021 (D/L)
Na. 026-2650019 (G/L)
Fax Na.026-2650242



S.L.P. 19,
IGUNGA.
Idara ya maji.

Kumb. Na. HWIG/W.1/6/34

07.09.2012

MKUU WA SHULE
UMOJA SECONDARY
P.O BOX 652
NZEGA.

**YAH: GHARAMA ZA UJENZI WA MIUNDOBINU YA MAJI KATIKA
SHULE YA SEKONDARI UMOJA.**

Tafadhali rejea kichwa cha habari hapo juu.

Tafadhali rejea barua yako yenye **Kumb No.UMSS/UEM/17/VOL.2/10.** ya kuwaomba Wataalum wa Idara ya maji kuja kufanya utafiti na tathimini ya kupata gharama halisi ya ujenzi wa miundombinu ya maji katika shule ya sekondari Umoja. Wataalum wamekuja na tathimini imefanyika na gharama hizo zimefikia Tsh **28,611,000.00/=**

Gharama hizo zimehusisha Ujenzi wa Nyumba ya mtambo, Ulazaji wa bomba kuu, ujenzi wa nguzo ya kuwekea sim tank na ununuzi wa sim tank lenye ujazo wa lita 10,000.

Mchanganuo wa Gharama hizo umeambatanishwa.

Nawasilisha.

John W. Wangwe
Kny; Mhandisi wa maji (W)
IGUNGA.

DISTRICT WATER ENGINEER
IGUNGA.

Nakala; Mkurugenzi mtendaji (W)
IGUNGA.



**FREE PENTECOSTAL CHURCH OF TANZANIA
UMOJA SECONDARY SCHOOL**

P. O. BOX 652. NZEGA, - TABORA TANZANIA, EAST AFRICA.
Mobile Phone: +255 766 910915, Email: umojasec@yahoo.co.uk

Ref. No. UMSS/UWM/17/VOL.2/10

Wednesday, August 22, 2012

THE EXECUTIVE DIRECTOR,
IGUNGA DISTRICT COUNCIL,
P.O.BOX 19,
IGUNGA.

REF: REQUEST FOR THE PERFORMANCE OF COST ESTIMATES.

The heading above is concerned.

I wish to submit to you my request for performance of the cost estimate for the materials for water supply from a deep well outside our school compound in the school. Our school Umoja secondary noted the need for additional supply of water due to the increased number of students and workers over the last few years. In response to this need, our school approached the World Vision Tanzania, an Organization working in Simbo Ward for assistance.

The organization responded positively and so far it has sunk for the school a deep well meant to supply water to the school. Their assistance included the sinking of the well and supply of a water pump. However, the materials for the water supply such as water pipes, tanks among other materials were to be paid for by the school.

We therefore request you to assist us so that the Water supply department of your council may perform for us the cost estimates for the materials required to supply water in to the school from the deep well placed approximately 700m from the school compound as well as the materials required for the distribution of the water within the school compound.

Thank you in advance for your favorable consideration.

Yours faithfully,

David Ouko
For Headmaster
FOR HEADMASTER
UMOJA SEC. SCHOOL
P. O. BOX 652
NZEGA