UNIVERSITY OF GHANA

LOCALIZING THE MILLENNIUM DEVELOPMENT GOALS (MDGS) IN GHANA - AN ASSESSMENT OF GOAL 7 IN THE KETU-SOUTH MUNICIPALITY

BY

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DECLARATION

I hereby declare that this study was undertaken by me and I have duly acknowledged other people's work which I quoted or made reference to.

…… …….

RUBY VICTORIA LAWSON DATE

(STUDENT)

CERTIFICATION

I hereby certify that this research has been conducted under my supervision in accordance with the procedures laid down by the University of Ghana, Legon.

…… ……..

DR. A.AHENKAN DATE

(SUPERVISOR)

DEDICATION

This work is dedicated to God Almighty, my entire family. I know how proud they are to see this day finally come. My dear Fiancé Mr. Courage Kodom for his support in various ways towards the success of this study, Dr. Ahenkan for his guidance and valuable contribution to this study; and the entire Class of 2013. May God continue to favor you with His immense grace and mercy.

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The members of staff of the Public Administration Department of the University of Ghana Business School.

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LIST OF ACRONYMS

AC	Alternating Current
AFDB	African Development Bank
CLTS	Community-Led Total Sanitation
COM	Community Ownership & Management
CSOS	Civil Society Organizations
CWSA	Community Water and Sanitation Agency
CWSD	Community Water & Sanitation Division
DANIDA	Danish International Development Agency
DPS	Development Partners
DWST	District Water and sanitation team
EHSD	Environmental Health & Sanitation Department
ESAS	External Support Agencies
GDHS	Ghana Demographic Health Survey
GDP	Gross Domestic Product
G-JAS	Ghana Joint Assistance Strategy
GOG	Government of Ghana
GPRS 1	Ghana Poverty Reduction Strategy 1
GPRS 11	Ghana Poverty Reduction Strategy 11
GSS	Ghana Statistical Service
GWA	Gender& Water Alliance
GWCL	Ghana Water Company Limited
GWF-2	Ghana Water Forum
GWSC	Ghana Water & Sewage Corporation

GWSSP	Ghana Water & Sanitation Sector Performance
IDI	In-Depth Interview
JMP	Joint Monitoring Program (UNICEF/WHO)
KSDA	Ketu-South District Assembly
MDG 7	Millennium Development Goal 7
MDGS.	Millennium Development Goals
MMDAS	Metropolitan, Municipal & District Assemblies
MWRWH	Ministry of Water Resources Works & Housing
NCWSP	National Community Water & Sanitation Programme
NDPC	National Development Planning Commission
NGO	Non- Governmental Organization
NWP	National Water Policy
RWSS	Rural Water Supply & Sanitation
SAP	Structural Adjustment Programme
SEA	Strategic Environmental Assessment 13
SSIPS	Sector Investment Plans
SWAPS	Sector Wide Approaches
UN	United Nations
UNDP	United Nations Development Program
UNECD	United Nations Conference on Environment and Development
UNEP	United Nations Environmental Program
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
UPVC	Unplasticized Poly Vinyl Chloride
US$	United States Dollars

VRCWSP	Volta Region Community Water & Sanitation Program
WATSAN	Water and Sanitation
WCED	World Commission on Environment & Development
WHO	World Health Organization
WRC	Water Resources Commission
WSMP	Water Sector Monitoring Platform
WSS	Water Supply& Sanitation

ABSTRACT

The main objective of the study was to assess Ghana's progress towards localizing Millennium Development Goal (MDG) 7 on improving access to water and improved sanitary facilities with the Ketu-South Municipality as a case study. Specifically, the study sought to identify the key measures put in place by the Government of Ghana to improve access to improved water and sanitary facilities in Ketu-South, assess the institutional challenges hindering the achievement of MDG7, assess the local and environmental factors hindering the achievement of MDG 7 in the Ketu-South Municipality and lastly, to recommend contextual solutions which will support the efforts being employed towards achieving Goal 7 in Ghana.

The case study design was employed in the assessment of MDG 7, Target 7c using the Ketu-South Municipality, under the qualitative approach to Social Science Research. Purposive sampling was used to select the ten (10) in-depth interview respondents. The thirty-five (35) respondents who answered the semi-structured questionnaires were conveniently sampled.

The findings of the study were presented using four themes, in line with the research objectives. The study found that although the Government had made strides regarding the improvement of access to improved water sources, not much had been done in the area of improving sanitary facilities.

The principal conclusion of the study was that although the government had put in place various measures to improve the access to water and sanitation, a coordination of efforts and an increased stakeholder involvement is necessary to achieve sustainability.

The recommendations are that the people of Ketu-South become empowered through increased community participation. There is the need for the assembly to explore and create avenues for economic well being. In addition to the enactment of policies, government should show leadership by providing clear guidelines for implementation of policies and programmes geared toward the achievement of goal 7 in Ketu-South. This will engender the accountability of all sector players.

CHAPTER ONE

INTRODUCTION

1.0 Background

The provision of water and sanitation services in developing countries remains a critical challenge for the realization of the Millennium Development Goals but more importantly for poverty reduction. In Ghana, at least 50 percent of the population resides in urban areas of which only 18 percent have access to improved sanitation and 90 percent to improved drinking water sources WHO/UNICEF (2010). Although accessibility to improved drinking water sources appears encouraging, only 30 percent of the population has access to piped water and in most cases this is supplied intermittently. The remaining 60 percent depend on other improved sources such as standpipes, protected dug wells, protected springs and rainwater harvesting. Poor access to improved water and sanitation in Ghana is attributed to a number of reasons which include weak sector policies, lack of political will, weak local government capacity and inadequate financing (Larbi, 2006).

A lot of discussions have been channeled toward addressing the issues of underdevelopment as evidenced by the living conditions of the majority of the population of the world. Amartya Sen (1999), in his book entitled 'Development as Freedom' formed the foundation for the definition of the human development index. This index captures the indicators for the actualization of the goals and ideals of the human existence. However, in order for every individual to achieve this there are some conditions which must prevail. The effects of war, colonization and corruption have and continue to negate the efforts of governments of the developing countries towards achieving the goals of development. The basic necessities of life are denied the under privileged. It is thus great news that the United Nations which is the forum of the leaders of the countries in the world in the year

2000, came out with a clear definition of a plan of action with a time-bound Millennium Development Goals to bridge the wide gap between the developed and developing countries. The eight MDGs derived from the Millennium Declaration are a set of time-bound and quantifiable indicators and targets aimed at halving the proportion of people living below the poverty line, improving access to primary education, promoting gender equality, reducing child mortality, improving maternal health, combating and reversing the trends of HIV/AIDS, malaria and other diseases, ensuring environmental sustainability, and promoting global partnership for development between developed and developing countries by 2015 (UN, 2001).

It is important to point out that the goals are codependent and have interrelated effects on the achievements of one another. Goal 7 is responsible for addressing the need to preserve the environment, protect agricultural land, protect water sources, preserve and support biodiversity, reduce the activities which are depleting the ozone layer and resulting in the climate change being experienced in varying degrees in different parts of the world. This goal is designed to ensure that the earth is maintained and continues to sustain human generations (Sutton 2003). There are four main targets under MDG7. The first one is to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. The second is to reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss. The third target seeks to halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. The final target under goal 7 is, to have achieved a significant improvement in the lives of at least 100 million slum dwellers by 2020 (UNICEF, et al 2011).

For the purpose of this research, the focus is on the third target which seeks to reduce by half the proportion of people without sustainable access to safe water and basic sanitation by the year 2015.

1.1 Problem Statement

The sustainability of the environment is goal 7 under the millennium declaration. Under this goal is the target to reduce by half the population of the world without access to safe water and improved sanitation. This is important considering the role water plays in human life and in the ecosystem. Human beings cannot survive without water and proper sanitation. Water is known for its many uses, such as drinking, cooking, bathing, washing and generation of electricity amongst others. It is thus disturbing to find that a lot of people carry out these activities, with little or no water and from sources where the quality of the water obtained is questionable. Water and sanitation are important factors to ponder when seeking to liberate people from disease and poverty. Problems with access to these factors presuppose that there will be problems with the health status of the people affected. Thus, if people have access to safe water and are well equipped to manage their waste, they can engage their abilities and capabilities for higher thinking and application.

It is of interest to note that while countries in the developed world have done away with diseases such as cholera and diarrhoea, Africa continues to battle with conditions like these. The MDGs bring into focus the steps towards eradicating poverty, diseases and attaining improved living standards for all. The most recent report tracking the progresses made towards the goals suggests that generally, although member states are committed in principle to achieving the goal of Environmental sustainability, not many of them are following their commitment with empirical actions necessary for the achievement of the

targets under this goal. This is evidenced by the slow progress made in this area (WHO, et al 2010).

Ghana as part of her efforts towards staying on track has created the Community Water and Sanitation Agency under the Ministry of Water Resources, Works and Housing. The mandate of this agency is to facilitate the provision of safe drinking water and related sanitation services to rural communities and small towns (MWRWH, 2009). This is in line with the target of goal 7 for water and sanitation. This is a laudable action because in most cases rural communities lag behind their urban counterparts in activities and plans for development. The most obvious reason for the lag is usually the economic barrier. Other possible reasons have to do with political will, cultural dispositions and the perceived importance of this target by the people whose lives it seeks to improve. It is clear that the area of water and sanitation tends to be overshadowed by other more pressing matters like education, under- five mortality, maternal mortality and politics to mention but a few.

Ghana's MDG coverage for drinking water' according to the WHO/UNICEF Joint Monitoring Programme (JMP), is 82 percent as at 2008 and according to the Ghana Demographic Health Survey (GDHS) report by the Ghana Statistical Service (GSS), the figure is 83.8 percent for the same period. However, stakeholders in the Water and Sanitation Sector, combined with views of the public and a section of the media, continue to disagree with these user-based coverage figures on improved drinking water in the face of the serious problems with water supply in the country. Another reason why it is difficult for people to accept these figures as representative of the actual situation is because provider based coverage figures from the Community Water and Sanitation Agency and

Ghana Water Company Limited (CWSA & GWCL) show much lower figures of approximately 58percent for both rural and urban coverage for the same period.

The Ministry of Water Resources, Works and Housing in an inaugural Water and Sanitation Sector Performance Report in 2009 identified the need for the setting of proper and accepted standards for the collection and analysis of data as well as the correct implementation of programmes drawn up for achieving objectives in the sector. It is without a doubt that, the availability of good and reliable data will pave the way for meaningful measurements and assessments of the existing problems in the area. This will then influence positively, the actions taken to address the attendant problems, in a more collaborative and result oriented manner. The progresses made vary in the ten regions of Ghana due to the amount of support received from the government and other international development partners. It is important to achieve a uniform success rate of progress by identifying what some areas are doing well which has contributed to their success in order to adapt and replicate same to other more deprived areas. There is thus a need for more studies to contextualize the MDG 7 to find out the actual progress at the district level in Ghana.

Since the adoption of the MDGs by Ghana, not much research work has been done in the area of assessing the progress made if any, with respect to activities geared towards MDG 7, in the Ketu-South Municipality. This is clearly a research gap which this study seeks to fill. The research study is geared towards the assessment of the achievements and challenges of the programmes put in place with respect to the goal of Environmental Sustainability in the Ketu-South Municipality.

1.2 Objectives of the Study

1.2.1 Main Objective

The general objective of this study is to assess Ghana's progress toward achieving Millennium Development Goal 7 on improving access to potable water and sanitation in the Ketu-South Municipality.

1.2.2 Specific Objectives

Specifically, the study seeks to:-

- Identify the key programmes put in place by the Government to improve access to safe water and improved sanitary facilities in Ketu-South
- Assess the institutional challenges of the Municipal Assembly and CWSA, hindering the achievement of MDG 7 in the Ketu-South Municipality.
- Assess the local and environmental factors hindering the achievement of MDG 7 in the Ketu-South Municipality.
- To recommend contextual solutions that will support the efforts being employed towards achieving MDG 7 in Ketu-South (Ghana).

1.3 Research Questions

To achieve the objectives of the study, the following research questions shall be answered.

1. What programmes have been put in place by the Government to ensure that the goal 7 on improving access to water and sanitation is achieved by the people of Ketu- South?
2. What are the institutional challenges experienced by the Municipal Assembly and CWSA, hindering the achievement of MDG 7 in the Ketu-South Municipality?

3. What are the local and environmental factors hindering the achievement of MDG 7 in the Ketu-South Municipality?

4. What solutions can be recommended for the achievement of goal 7 in Ketu-South Municipality?

1.4 Significance of the Study

The research is being carried out to contribute towards ensuring environmental sustainability with respect to improved access to safe water and sanitation in the Ketu-South Municipality of the Volta Region of Ghana. The findings of the study will provide valuable information on tracking the actual progress towards achieving the MDG 7 in rural Ghana. The study would be of great importance towards understanding the social context of problems associated with access to water and improved sanitation. The outcome of the study will serve as a basis for policy change in the areas of implementing health and sanitation programmes as well as ensuring community participation.

1.5 Scope and Limitations of the Study

The scope of the study focuses on the concept of access and coverage as an assessment of Ghana's progress towards achieving the MDG 7 Target C. The study sought to find out the measures put in place by Government to achieve MDG 7 in Ketu-South Municipality, the key challenges and the local factors hindering the achievement of MDG 7. There are several potential sources of bias which include the self-selecting nature of respondents, the point in time when the survey was conducted and in the researcher herself through the design of the study. Furthermore, the time restriction for the completion of the study and the cost of conducting the study also contributed to limiting the full potential of the study.

1.6 Organization of Study

The study is organized into five chapters. Chapter one discusses the general overview of the Millennium Development Goals specifically goal 7. The section also discusses the research problem, objectives, research questions and the significance of the study. The second chapter reviews the relevant literature on the topic. Chapter three presents the research design and approach employed to collect data. The chapter covers the research methodology. The fourth chapter presents the data analysis and findings of the study. The final chapter summarizes the findings of the study. The implications of the findings, the conclusions and recommendations drawn from the study are also discussed in chapter five.

1.7 Definition of Terminologies

Improved drinking water sources – According to the JMP, this includes water sources which are protected from outside contamination, particularly from faecal matter by nature of their construction or through active intervention.

Access – In the context of this study refers to the ability or means of households to obtain safe water and improved sanitation facilities.

Coverage – refers to the number or percentage of people who are reached by interventions to provide water and improved sanitation facilities.

Improved sanitation facilities – are defined by the JMP as those facilities which ensure the hygienic separation of human excreta from human contact.

Environment – is the complex of physical, chemical and biological factors in which human existence and interactions occur

Sustainability – refers to the characteristic of managing resources such as water to achieve the objective of meeting the demands of present and future generations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter examines the literature to evaluate relevant reports, discussions and writings to address the topic.

The objectives of the chapter on literature review are as follows;

- To show an extensive study of the research area leading to an in-depth understanding of the research problem, by evaluating the various reports on the assessment of the MDGs.
- To serve as a basis for comparison by providing a framework of empirical evidence.

Goal 7 is the goal of on Environmental Sustainability. This chapter provides an in-depth review of existing literature from the perspective of understanding environmental sustainability as a broad theme and as it relates to Ghana. There are two parts to the MDG target under study. They are water and sanitation. Drilling down, the chapter goes on to reflect on water as a target of goal 7, its coverage and supply from the context of data on Africa, national figures on coverage and finally to the rural supply system in place. The work of other authors regarding financing water supply along with its attendant problems is also reviewed.

The second part of the goal which has to do with sanitation is contextualized to bring out the role of sanitation in sustaining environmental sustainability is discussed. The challenges facing the target as reported by other African countries are looked at. This is followed by a review of the implementation process as it affects the actualization of set goals. Finally a brief summary concludes the chapter.

2.1 Environmental Sustainability

Following the report of The World Commission on Environment and Development in 1987, referred to as The Brundtland Report, and the United Nations Conference on Environment and Development (UNECD) held in Rio de Janeiro in 1992, the concept of *sustainable development* has moved to the centre of world development agenda. The Brundtland Report defines sustainable development as *"a development that fulfils the needs of the present generation, without compromising the ability of the future generations to fulfill their needs" (*WCED, 1987).

Sustainability means evaluating not only the consequences of choices for the present situation, but also taking into account the consequences for the future. Therefore, sustainable solutions must include components of achieving goals "now", whilst not neglecting the needs of "the future". Under the notion 'to sustain' one should understand *"to support", "to endure"* or *"to continue"*, which imply that sustainable practices must incorporate elements of making something last (Butler, 1997).

The notion of sustainable development is closely linked to the *United Nations Millennium Development Goals*. The United Nations Millennium Development Goals are eight goals that all 191 UN member states have agreed to achieve by the year 2015, to reduce poverty and promote human development as follows;

1 Eradicate extreme poverty and hunger

2 Achieve universal primary education

3 Promote gender equality and empower women

4 Reduce child mortality

5 Improve maternal health

6 Combat HIV/AIDS, malaria and other diseases

7 Ensure environmental sustainability

8 Develop a global partnership for development

Goal 7 target C of the MDGs seeks "*to reduce by half the proportion of people without sustainable access to safe drinking water and sanitation by 2015*". WHO (2004) estimates that in order to meet the water supply MDG target, an additional 260,000 people per day up to 2015 should gain access to improved water sources, whilst to meet the sanitation MDG target an additional 370,000 people per day up to 2015 should gain access to improved sanitation. These numbers seem rather enormous and mean that huge amounts of investment are required, in case the conventional sanitation is considered. The reports on progress towards meeting the water supply and sanitation MDG target are not optimistic at all. In the 2006 report, it was stated: "with half of developing country populations still lacking basic sanitation, the world is unlikely to reach its target" (UN, 2006).

Between 1990 and 2004, sanitation coverage in the developing world increased from 35 to 50 percent (MDG Report, 2006). This meant that 1.2 billion people gained access to sanitation during this period. However, another 300 million people should have been served, in order to keep the world on track towards the 2015 target (UN, 2006). The problem with meeting the sanitation MDG seven is that access to improved sanitation does not always mean the same as sustainable access. For instance, pit latrines often fail to sanitize excreta and they contribute to groundwater pollution due to infiltration of liquids into soil and further seepage to groundwater reservoirs. Moreover, septic tanks and sewage treatment plants often discharge sewage into the environment with little or no sanitization as well as nutrient removal. Taking into account the above-mentioned circumstances, the number of people that need to get access to effective and sustainable sanitation might be

much higher than 2.6 billion. Also, if investment on the conventional sanitation was made in developing countries, they would become indebted and in most instances, it would prove to be not affordable for them. In other words, they would pay for systems that are most likely bound to fail either way and that would not be sustainable in the long run. Therefore, provision of sanitation in the developing world needs to be carefully chosen and implemented, taking into account the local conditions and preferences of the beneficiaries.

2.2 Environmental Sustainability of Ghana

The economy of Ghana has expanded strongly in recent years, with annual Gross Domestic Product (GDP) growth of about six percent. Much of the country's economic activity depends on natural resources, but these are being rapidly depleted. Much of the original forest area has been converted to agricultural land, yet crop yields have stagnated and productivity has declined on account of widespread soil erosion. Fish, timber, and non-timber forest products are all decreasing, coastal towns face severe water shortages during the dry season, and wildlife and biodiversity are in serious decline. Indoor and outdoor air pollution and water and sanitation issues have emerged as serious health threats in urban centres (World Bank, 2006). All these environmental factors threaten to undermine Ghana's economic growth.

Various national planning processes aim to address these environmental issues, including the National Environment Action Plan, Vision 2020, the Ghana Poverty Reduction Strategy (GPRS I), GPRS II and the National SEA 13 process. These initiatives have used variable approaches and have had variable success. One chapter in the GPRS I focused on the environment. However, this was criticized by those who felt that environmental issues

needed to be mainstreamed throughout the entire poverty reduction strategy. The use of SEA was therefore used in order to bring in environmental issues during the preparation of GPRS II. This proved to be a successful strategy, by raising new issues that had not been considered previously by sector ministries (Bird and Avoka, 2007).

While several inter-sectoral processes have generated concrete outputs (in terms of policies, plans, strategies, programmes, inter-sectoral working groups), none have been successful in influencing the government's budget in such a way that more funds are allocated to environmental priority issues. Individuals within Ghanaian civil society express the view that annual budgetary allocations are not enough to undertake key activities towards adequately addressing the issues of the environment as a whole. Even with the concept of decentralisation, most District Assemblies have not taken on board environmental management activities in their medium-term development plans and therefore many actions are not implemented at the local level (Gadzekpo and Waldeman, 2005).

Ghana is a signatory to the 2005 Paris Declaration. This declaration guides the relationship between Ghana and her international development partners (DPs) with respect to ensuring access to safe drinking water for the world's population. The Paris Agenda in Ghana has been promoted through the development of the Ghana Joint Assistance Strategy (G-JAS), the use of Sector Wide Approaches (SWAps) for attaining access to safe water and improved sanitation and funding being channeled increasingly through general budget support (Gadzekpo and Waldeman, 2005).

External assistance to-date on environmental issues has largely been delivered through stand-alone projects. The number of these environmental projects is not known as there is no publicly available database. The only information available comes directly from individual ministries. The results of project implementation have rarely been made public and access to data is not open to all Civil Society Organisations (CSOs). The decision about who has access is taken on a discretionary basis. So, despite changes occurring in both national planning processes and DPs' ways of working, civil society groups tend to remain on the margins of national environmental governance and management.

2.3 Water and the Achievement of MDG 7

Water is crucial for sustainable development. However, limited access to clean and safe water associated with poor water supply, hygiene and sanitation at household level is widening the poverty gap, gender inequalities and the prevalence of water borne diseases (Gender and Water Alliance, 2006). This is contributing to 3.7 percent of the total global disease burden and 2.2 million deaths each year with women and children in the developing countries being the most affected (WHO/UNICEF 2008). Although the MDG target 7(c) seeks to "*halve by 2015 the proportion of people without access to safe drinking water and sanitation*" (UNDP, 2006), it is anticipated that Sub-Saharan Africa will only reach the MDGs water target by 2040 (Sutton, 2008). Some 400 million of the people living in Sub-Saharan Africa will be left without access to safe water, with a majority of them being women and children living in rural households (Sutton, 2008).

Competition for water has resulted in the collapse of water based ecological systems hence declining river flows and large-scale ground water depletion (UNDP, 2006). This is leading to an increased potential for conflict within and between countries with the rural

populations being the most affected (UNDP, 2006, Anand, 2007). Even though the water crisis is observed as a general problem for the rural population, women bear the greatest burden because of their socially gendered roles, which involve looking for and collecting water for their households (Buckingham, 2000, Rodda, 1993).

Therefore ensuring easy access to adequate amounts of good quality water by extending provision of water services to rural households in a coordinated and inclusive approach for all people is central to promoting gender equality (Lenton, et al., 2008). Such a step will also contribute to the protection of natural resources, which is also essential for environmental sustainability as one of the pillars of the MDGs (Lenton, et al., 2008).

The cause of the global water crisis is believed to be far from a scarcity problem but rather a result of poverty, inequality, unequal power relations and flawed water management policies evident in most of the developing countries (UNDP, 2006). However, the fact that the voices of the marginalized groups especially women, are rarely heard by the policy makers illustrates another truth behind the water crisis (Perkins, 2008). Governments do not prioritize the needs of the marginalized and without support, even the NGO activities become unsustainable (Perkins, 2008). As a result, 1.1 billion People across the globe as reported in 2004 had no access to an improved drinking water source with a majority of them living in the rural areas (UNDP, 2006, Alford, 2007).

Although water is seen as a source of life and a valuable natural resource that sustains the environment and supports livelihoods, it is increasingly being seen as a source of risk and vulnerability especially to women (UNEP, 2004, UNDP, 2006). Women are the most

vulnerable because in most societies, it is a woman's responsibility and not a choice to ensure that there is enough clean and safe water for their households (Buckingham 2000). It is often emphasized that; in developing countries where coping with the water crisis is almost impossible, millions of women and girls spend most of their time looking for water to meet their household water needs (UNDP, 2006). Therefore, limiting their participation in productive economic activities especially for the women and low school enrolment for the girls (Coles, et al., 2005). This is worsened by policy constraints and gender inequalities that have resulted in low sustainability of the conventional communal water supplies leaving more people in the rural areas with no access to safe water for domestic use than it was in the 1990s' (Sutton, 2008).

2.4 Water Supply and Sanitation Coverage in Africa

The Global Water Supply and Sanitation Assessment WHO/UNICEF 2000 Report, indicates that Africa has the lowest water supply coverage of any region in the world. The Report estimated that only 62 percent of the population in Africa had access to improved water supply at the time. The situation is much worse in rural areas, where water supply coverage is only 47 percent, whereas in urban areas 85 percent (WHO/UNICEF, 2000). As far as sanitation coverage in Africa is concerned, the situation is also bad, and only Asia has lower coverage levels (WHO/UNICEF, 2000). In the year 2000, only 60 percent of the total population in Africa had sanitation coverage, with coverage varying from 84 percent in urban areas to 45 percent in rural areas (WHO/UNICEF, 2000).

According to estimations from 2002, the total population not served with improved water supply worldwide was equal to 1.1 billion, and the African continent was inhabited by 28 percent of the population not served (WHO/UNICEF, 2004). It was estimated that 2.6

billion people worldwide live without access to improved sanitation and 437 million of them live in sub-Saharan Africa (WHO/UNICEF, 2004).

An interregional analysis for Africa (2000) revealed that West Africa has a comparatively low sanitation coverage (48 percent), Central Africa has the worst (29 percent) while North Africa has the best (74 percent) followed by South Africa (63 percent) and East Africa (62 percent) (WHO/UNICEF, 2000). In the year 2000, more than one in three Africans lacked access to water and sanitation facilities (WHO/UNICEF, 2000).

Data collected in 2004 by the JMP, in sub-Saharan Africa, only 42 percent of people in rural areas had access to clean water, and 63 percent of the entire population lacked access to basic sanitation facilities. This figure was a reduction from 68percent in 1990 (UN, 2007).

2.5 Water Supply System in Ghana

Water constitutes an important substance in our everyday lives. It is in keeping with this that water was accorded priority attention, in many of Ghana's development policy options. The Constitution of the Republic of Ghana, Ghana Water Vision 2025, National Development Framework, National Environmental Action Plan and Ghana Poverty Reduction Strategy are a few of such national commitments towards promoting the provision of safe drinking water for all, in line with achieving the MDGs. The maiden attempt to develop a public water supply system in Ghana occurred in 1928. This was operated and maintained by the Hydraulic Division of the Public Works Department. This was followed by the establishment of the Ghana Water and Sewage Corporation (GWSC) in 1965 to oversee the provision of both urban and rural water. In 1986, the operational subsidy on water was removed meaning movement towards cost recovery was

incorporated. In 1996 and 1997, the Water Resources Commission and the Public Utility Regulatory Commission came into being. In 1999, government saw the need to demarcate rural water supply from the urban so as to increase access to water in rural communities. This led to the replacement of the GWSC with the publicly owned Ghana Water Company Limited (GWCL) to cater for urban supply and Community Water and Sanitation Agency for rural water provision. A landmark in the history of Ghana's water sector occurred with the preparation of the National Water Policy in 2002 which had to do with the privatization of water. The quality, sufficiency, accessibility, affordability and continuity of supply are cardinal in addressing issues related to water. These will be achieved through policy. An assessment of the water sector undertaken by Water Aid Ghana (2005), asserts that there was no clearly articulated policy on water in Ghana until the establishment of the Water Resources Commission in 1996 and the coming of donor support in that direction.

The second Ghana Water Forum (GWF-2) asserts that though much success has been chalked since the inception of the National Community Water and Sanitation Programme (NCWSP) 16 years ago, the sector is still grappling with the breakdown of the few facilities available. It is reported that in recent times, it has been observed that some of the water supply facilities that have been provided are not functioning as expected, while there are a few which are totally non-functional. There is therefore the need to ensure that facilities provided remain functional throughout their design life and beyond (World Bank 2010).

Karikari (1996) reveals that with the adoption of the Structural Adjustment Programme (SAP) by the government, efforts were made to shape the GWCL's economic tariff policy.

Since 1985, user tariffs for domestic and industrial use in the urban areas have increased by 10 percent. Tariffs, it states, were introduced in the rural areas when external agencies installed potable water systems in these areas.

Water Aid Ghana (2005), in its national water assessment report indicates that the water sector of Ghana is characterized by numerous actors with conflicting roles. It opines that for the period 1998-2002 for example, the Community Water and Sanitation Agency identified funding streams from 15 different agencies and organizations. There is therefore the need to foster coordination in the sector to help reduce cost in project implementation which will, in the final analysis, help implement projects efficiently and effectively. From 1998 to 2003, major donors contributed approximately $500million for water and sanitation projects. The highest single amount recipient went to urban water, which received World Bank's US$120million Water Sector Rehabilitation Project (World Bank, 2010).

In terms of volume, however, the focus was more on rural and small town water supply. An amount of US$ 270million went into the provision of water for rural and small towns. Ghana certainly faces the challenge of increasing water coverage to the level that suffices the achievement of the MDGs. This can be realized if funding to this area is increased and the right decentralization policies are implemented to promote community involvement. Karikari (1996) cautions government to tread cautiously in implementing any tariff policy as the poor stand to lose more. This, of course, implies that government should design an exit strategy since over reliance on Development Partners could make the sector easily prone to shocks.

2.6 Rural Water Supply

There are diverse sources to the supply of domestic water in rural areas. These include; conventional communal sources and self supply sources. The conventional communal sources are justified for improved water quality and use of high level technology like drilled boreholes equipped with hand pumps, collection tanks and protected springs (Carter, et al., 2005). Other macro scheme techniques include; powered systems like submersible pumps and gravity flow schemes (Carter, 2005). However, the conventional communal facilities in most of the rural areas in the developing countries have proved to be unsustainable because of the high rate of breakdown as a result of poor operation and maintenance, congestion, difficulty in operating the pumps and long distances because sources are too few and yet rural households are many and scattered all over (Brett, et al., 2007, Singh, et al., 2004).

Conventional communal sources have also been observed as grounds for social unrest within the communities and are argued to not have enough funding to achieve the MDGs water target (Sutton, 2008). More still, though the coverage of facilities has increased in certain parts, such facilities have been abandoned by the expected beneficiary communities for various reasons. An example is that of Uganda where water supply facilities have been abandoned by the expected beneficiary communities because of the high iron content in the water (Martin, 2007). This poses a challenge to Uganda, a country with more than 80 percent of its population living in rural areas (UBOS, 2002). As a result, self supply initiatives have evolved as an alternative approach to water supply construction and management (Sutton, 2008).

Self Supply builds on the initiatives of private households or communities to improve water supply through user investment in water treatment, supply construction, upgrading and management (Sutton, 2008). This should be based on locally available and easily affordable technologies to the users in the rural communities (Alford, 2007). Self supply initiatives are spear headed by people in the respective communities who have the income and are willing to invest in water supply sources (Carter, et al., 2005). However, most of the people in rural areas are poor and so they sometimes try to mobilize their friends and neighbors to improve traditional water sources using local labor and materials. But such sources are often associated with poor water quality and seasonal unreliability (Carter, 2005).

It is important to note that, though the self supply initiatives are private, the use and access to the water source by other households is usually shared at no cost or for a small fee, as a way of promoting social relations (Carter, et al., 2005). This is because water is seen as a natural resource and as a result payment for water in the rural setting is quite unacceptable (Shiva, 1989). However, this leaves the construction and maintenance costs in the hands of the households that initiated the construction of the self supply sources (Carter, 2005). This can compromise access to water among the disadvantaged groups in society especially the women who do not have the capacity and ability to construct and or maintain the domestic rural water supply sources (Alford, 2007).

2.7 Rural Water Supply and Sanitation - GHANA

Until the early 1990s, the Ghana Water and Sewerage Corporation (GWSC) had been responsible for both urban and rural water supply since 1965. During this period, there was low coverage of rural water supply. This led to the creation of Rural Water

Department within the GWSC in 1986 to give more attention to the provision of water and sanitation for rural people. Some facilities were provided but these could not be sustained due to non-payment of tariffs by beneficiary communities with little or no maintenance of the facilities. The United Nations General Assembly declared 1981 – 1990 as the International Drinking Water and Sanitation Decade. The focus was to ensure that by the end of the decade, nations would have given priority attention to the delivery of water and sanitation facilities.

The Ghana Government took advantage of the declaration and initiated a review of its policies on water and sanitation provision to keep pace with the changing conditions in the country and on the international scene. In 1987 therefore, a donor conference on water and sanitation was held in Accra, at which pledges were invited from donors. In February 1991, about sixty participants from Sector Institutions and External Support Agencies (ESAs) met at Kokrobite for a Workshop to prepare the grounds for a Rural Water and Sanitation Sector Strategy (GWSSP Report 2009). After four years of consultations, a National Community Water and Sanitation Programme (NCWSP) was launched in 1994, in line with the Government's decentralization policy. Prior to the launch of the NCWSP in 1994, access to potable water by the rural dwellers was nominally below 30 percent, while sanitation was about 10 percent (GWSSP Report 2009).

This culminated into the establishment of the Community Water and Sanitation Division (CWSD), a semi autonomous unit under the then GWSC to manage rural water supply. After about four years of operation, the unit was granted complete autonomy to give greater impetus to its work. Subsequently, the Division was transformed into the Community Water and Sanitation Agency (CWSA) by an Act of Parliament, Act 564 in

December 1998, with the mandate to facilitate the provision of safe drinking water and related sanitation services to rural communities and small towns in Ghana (GWSSP Report 2009). CWSA has since been facilitating the implementation of the National Community Water and Sanitation Programme (NCWSP) using decentralized structures at the district and community levels as prescribed in the Act. The objectives of the NCWSP are to:

- Ensure the sustainability of these facilities through community ownership and management, community decision-making in their design, active involvement of women at all stages in the project, private sector provision of goods and services and public sector promotion and support.
- Maximize health benefits by integrating water, sanitation and hygiene promotion interventions, including the establishment of hygiene promotion, and latrine construction capabilities at the community level.

With the collaboration of all the stakeholders in the sector, policies and strategies have been formulated to guide the implementation and management of the NCWSP. The key elements of the national strategy are summarized as follows:

- Demand Responsive approach, where communities decide to select preferred services and contribute towards capital cost and full operation and maintenance cost;
- Decentralized planning, implementation and management of services by beneficiary communities and District Assemblies;
- District Assemblies to play a central role in supporting community management;
- Private sector provision of goods, works and services;

- Integration of community development and training in potable water and improved sanitation delivery;
- Active and full participation of women in decision making at all stages in the project implementation;
- Adoption of basic technology and service level options in the delivery of water and sanitation facilities;
- Integrated approach to hygiene promotion, water and sanitation delivery to maximize health benefits.
- Sustainable supply chain of goods and services, especially spare parts at affordable prices to users.
- Community Ownership and Management (COM)
- Public sector promotion/facilitation and support

As at the end of 2009, rural and small town water coverage, based on CWSA standard measurement criteria and definitions, stood at 58.97 percent. This was a significant rise from 57.14 percent in 2008. This however left 41.3 percent of rural and small town dwellers without access to potable water, which fell short of the CWSA's expected coverage of 60 percent by end of 2009 (GWSSP Report 2009).

The framework provided by the National Community Water and Sanitation Programme includes the provision of water and sanitation services to communities that will contribute toward the capital costs and assume full operation and maintenance of facilities. The concept is one of community ownership and management as well as District ownership and management of water and sanitation facilities (Karikari, 1996).

District Assemblies as the Local Government play a critical role in the management of facilities. All District Assemblies in Ghana have Water and Sanitation Teams (DWSTs) who are responsible for water supply and sanitation delivery to communities. The District Planning Officer is usually the Chairman of the DWST to provide the leadership that the team needs to plan to meet the water needs of communities (Karikari, 1996).

Challenges with Rural Water Supply and Sanitation

CWSA was confronted with some challenges in its operations in 2009 and it was anticipated that the same challenges would persist in 2010 and beyond. This has the potential of having adverse implications on the attainment of the targets as set out in the MTIP.

These challenges include:

Budget Constraints

CWSA has never received the full complement of its annual budget either from government or its development partners over the years. In the case of government there has been little or no contribution to the investment budget, and funds for administrative expenses have always been cut back by more than half. The exceptional case was in 2009 when the agency was given GH¢30 million for investments but was not allowed to roll it over into the following year. Consequently, only about 10 percent was released (Water Aid Ghana, 2005).

Limited Capacity at District Assembly Level for Water and Sanitation Delivery

The capacity of the districts to effectively manage water and sanitation projects under their jurisdiction is still a challenge. Apart from the fact that the proposed Works Departments

are not established in many District Assemblies (DAs), the rampant transfer of trained staff on specific water and sanitation projects also immensely undermines the capacity of the Das (GWSSP Report 2009).

Some of the other key challenges with rural water supply and sanitation are Hydro-geological challenges, issues with assuring the safety of water supplied from source, through the delivery process right up to the end user. The absence of legal backing to enforce guidelines and standards renders the work of the CWSA with regards to compliance, meaningless. The delays associated with the long processes involved in the use of the procurement law, does not bode well for the enhancement of safe water supply and improved sanitation in rural communities such as Ketu-South (GWSSP Report 2009).

2.8 Financing Water and Sanitation

The financing gap is a real and perhaps the most immediate problem working against the realization of universal access to water and sanitation. A sustainable financing strategy is needed. One that will increase resource allocations to the sector, improve the efficiency and effectiveness of existing resources wherever they are found and tap into the potential of alternative financing mechanisms. The fact remains that huge obstacles stand in the way of arriving at such a strategy. Aid flows to developing countries for the water sector have not kept up with population growth, and are largely fragmented. Developing countries, in general, do not prioritize spending on the sector low cost water and sanitation receives only between 1 percent (Sub Saharan Africa) to 3 percent (Latin America and the Caribbean) of government budgets (Ghosh and Ashok, 1995). Water and sanitation budgets struggle for allocations, especially where basic social services such as education

and health are prioritized. Lagging economic growth, structural adjustment difficulties and growing pressures to reduce government expenditures further compound the difficulties.

Over the past two decades, a number of declarations have sought to improve access to safe water and sanitation services. The UN International Decade for Drinking Water and Sanitation (Water Decade) heightened global awareness to the severity of the problem, created innovative solutions to the provision of water and sanitation, increased financial commitments to the sector and improved the absolute number of people with access (WHO 2000). It however did not increase the pace of the progress towards achieving universal access and coverage. At the start of the UN Water Decade in 1981, 1.9 billion people lacked access to safe water and some 2 billion lacked adequate sanitation. Nearly two decades later, in 2000 more than 1.1 billion still lacked access to safe water and nearly 2.5 billion people lacked adequate sanitation (WHO, 2000). UNICEF figures from the same period, investments to the sector were close to US$13 billion in 1980s, with estimates in the range of US$25 billion two decades later. The irony is that lack of access to water supply and sanitation (WSS) incurs far greater costs than providing full coverage. This is especially true when one considers the health costs associated with water borne diseases, the increased costs from increased water treatment as groundwater sources become contaminated, and the economic costs of unproductive poor workers. To resolve this situation, one part of the broader financing strategy needs to focus on a renewed impetus for greater resources to the sector, and the other part should focus on increasing political will to ensure commitment towards achieving the targets for universal access by 2025. Aid resources and government budget allocations remain the primary resource for development and an important test of commitment to poverty eradication (Briscoe, 1995).

The task of understanding where the money for water and sanitation comes from is complex. Water and sanitation sector components are embedded within overall water sector expenditures (including drainage, irrigation and hydro power investments among others) and within health or infrastructure investments. Furthermore, reports on water and sanitation investments do not necessarily differentiate between investments made to improve existing (largely urban) water and sanitation infrastructure and services, and investments to provide facilities and services to populations currently not being served (largely in rural areas and in urban poor areas). The water and sanitation sector is under the authority of municipal, central and regional decision-makers and expenditures are made at all levels (Sunman, 1999). This makes the task of tracking investment decisions and actual expenditure difficult. However, a number of general observations can be made:

- Financial flows to the water sector are derived from a large range of sources including overseas development assistance, loans, grants, international private sector investments, investments by the domestic small-scale private providers, public sector expenditures and individual household and community investments. But the dominant sources still remain the public sector and external aid flows.
- The traditional breakdown of 90 percent domestic to 10 percent external sources for infrastructure financing is shifting. It would appear that the trend is moving away from domestic sources to external; but the external funds are not from aid but from the private sector. This is slightly misleading as there are possibly large unaccounted domestic investments that have never been considered in the investment picture.

  Furthermore, international private sector investments concentrate on improving services to those members of the population who are already being serviced and less on expanding services to those who are not being served.

- Finally, the sector also has significant local investments generated informally by small independent water providers, individual households and communities. Indeed, domestic private flows (including household, community, SSIPs and water vendors) have been estimated, perhaps conservatively, at 3 percent to 8 percent of total investments, a figure that is roughly comparable to the contributions made by international private sector investments. This challenges the current assumption that the international private sector will fill the financing gap. Most of these local investments, largely ignored in current literature and analysis of flows, are made in time, in kind as well as money. Domestic private flows are the forgotten element in the equation (Sunman, 1999).

Sustaining the Environment through Aid Interventions

Most aid-supported projects have a short lifespan and are unable to provide the necessary impact within the project period. Often not enough time is allocated to the evaluation of project impacts at a local level. Furthermore, there is a tendency for donors to assess the success of such projects on how quickly funds have been disbursed. The assessment is often based on how available funds are spent: this reflects a higher interest in inputs rather than outputs, which may not necessarily reflect the desired impact on the ground. While few projects could be described as having failed, many donor-driven environmental projects have not been sustained beyond the project period. A number of these interventions appear to relate primarily to internationally determined agendas rather than national ones and tend to reflect ambitious new areas of policy development rather than address nationally-driven priorities (SNV, 2007).

The 2003 Annual Progress Report of the national poverty reduction strategy noted that expenditures did not show clearly the extent to which the poor, especially from deprived areas, benefited from projects and programmes funded by various development partners. Some environmental targets such as reforestation have been achieved. Other important indicators of improved environmental management, such as the establishment of Community Resource Management Areas have not happened to any extent (SNV, 2007).

External off-budget funding has been substantial in recent years. This has resulted in weak coordination between donors and raised alignment concerns between donor priorities and those of government and civil society. The Ghana Environmental Sector Study (SNV, 2007) highlighted that in 2005/06 ten international agencies were supporting 28 separate projects implemented by the Environmental Protection Agency. These projects had different reporting, contracting and procurement standards making it difficult for donors to be well coordinated. At the same time they duplicated government's own systems, creating a national level reporting and management burden.

2.9 Sanitation

The term *"sanitation"* has been given various definitions by different authors and has been used regularly in various aid programs. The Oxford Advanced Learner's Dictionary defines sanitation as: "systems that protect people's health, especially those that dispose efficiently of human waste". Other dictionaries also mention prevention of diseases. The term sanitation gained a meaning of excreta disposal facilities and for the purpose of this work, it will refer specifically to this denotation. Thus, sanitation refers to methods of hygiene that relate to safe collection, removal and disposal of human excreta and waste water. Poor sanitation has serious consequences to health. It can be easily seen in the

example of a simple illness like diarrhea that continues to be a major killer in the developing world due to the fact that a rather basic problem of how to deal with excreta still remains unresolved (Nadkarni, 2004). According to the WHO (2004), 1.8 million people die every year from diarrhoeal diseases such as cholera (Nadkarni, 2004). The victims of such illnesses are the poor and vulnerable of society; of which 90 percent are children under five, and are mostly in developing countries (WHO, 2004). The WHO also stated that an improved water supply reduces diarrhea morbidity by 6 percent to 25 percent, whereas improved sanitation reduces diarrhea morbidity by 32 percent (WHO, 2004).

2.10 Importance of Sanitation

Sanitation as a method of containment and sanitization of human excreta is of utmost importance as it prevents the spread of diseases and protects both human and environmental health. In other words, sanitation systems form a barrier against the spread of diseases caused by pathogens and other organisms present in human excreta. Therefore, sanitation and health are closely linked together. This fact has been known already for decades. A provision of the infrastructure, basic services, sanitation systems, which meet user's requirements, and promotion of hygiene has proven to be one of the most effective ways of improving health and preventing diseases. Inadequate treatment or disposal of human excreta and other waste can lead to transmitting and spreading of diseases originating from excreta. Polluted water and inadequate sanitation cause 5.7 percent of all epidemics (Huuhtanen, 2006). There are many examples in history that are good pieces of evidence for it, example of which can be the 19th century England, where cities were undergoing rapid industrialization and urbanization, and major cities such as Birmingham, London and Manchester became centers of infectious disease. According to the Watkins

Report 2006 “Sewage overflowed and leaked from the limited number of cesspools into neighborhoods of the poor and ultimately into rivers like the Thames, the source of drinking water”. In the late 1980s in Great Britain, the infant mortality was 160 deaths for every 1,000 live births, which is roughly the same as in Angola today (Watkins Report, 2006). The story from 19th century Great Britain has a parallel to what is happening in the developing world now. This is especially true, in relation to how water and sanitation constrains social progress.

Water is indispensable for all life, but at the same time it also represents a major threat to human health. The main reason for it is that everything in nature depends on water, which also attracts certain substances and bacteria that might be life-threatening (Hoogsteen, 2001). People are extremely vulnerable to diseases that are transferred through water due to the fact that their life is dependent on water. Together with the increasing global population there is more waste than the natural processes can handle. As the environment loses its balance, water becomes polluted. If it is used as drinking water (containing a number of harmful bacteria types), human health is put at a great risk. Diseases that spread through water are the world’s number one cause of death (Hoogsteen, 2001).

2.11 Sanitation and Environmental Sustainability

Sanitation is also directly linked to environmental health due to the fact that a lack of sanitation can lead to the release of untreated excreta to the environment, which in turn leads to pollution and degradation of water and soil quality. When raw wastewater is discharged into the environment, water bodies become contaminated by organic pollutant overload, pathogens or pollutants originating from industries, for example heavy metals like lead. The accumulation of pollutants in water bodies has the potential to cause

irreversible environmental problems, especially with respect to groundwater pollution. Pollution of rivers, lakes, oceans and groundwater with sewage, damages aquatic biodiversity and as a result, only few forms of life survive (Nadkarni, 2004). Local people who might be dependent on some of the affected species for food and livelihoods suffer the long term effects (Nadkarni, 2004). The aesthetic qualities of water bodies may become damaged, leading to the additional loss of revenue from tourism thereby further negating the efforts towards attaining the goal of development. Environmental degradation as a result of lack of adequate sanitation is as important a threat to human health and should be also given the highest importance.

The Gender roles of men and women determine access and control over water supply, sanitation and hygiene in most developing countries (Nadkarni, 2004). It is generally women who manage water resources of the family and also suffer the most when they are faced with lack of proper sanitation. When there are no safe water sources nearby, they have to walk long distances to fetch drinking water. Moreover, they are at greater risk of physical abuse when they need to go outside at night in order to relieve themselves outdoors, in cases where they do not have access to a private toilet (Nadkarni, 2004). Also, when children are infected, women are the ones who need to care for them. In many sanitation projects worldwide, women were the motivating force for the sanitation improvement. For young girls, the lack of basic water and sanitation is often equal to lost opportunities for education (Nadkarni, 2004). The time burden for collecting and carrying water is normally borne by girls and women. One estimate suggests that about 40 billion hours every year are spent on collecting water in sub-Saharan Africa (Watkins Report, 2006). When the distance from home to safe water source is short, girls attend school more often than if the distance is long (Watkins Report, 2006). Attendance rates for boys are

normally not sensitive to distance from home to the source of water. Moreover, young girls after puberty are less likely to attend classes if the school does not have suitable hygienic facilities. Also privacy and security of separate toilets is much more important for girls than for boys. In one estimate about half the girls in sub-Saharan Africa, who drop out of primary school, do so because of the conditions of poor water and sanitation facilities (Watkins Report, 2006). The disparities in education based on water and sanitation have lifelong impacts transmitted across generations. The physiology of women makes it harder for them to bear when they need to relieve themselves in the open, and they need more privacy especially at the time of menstruation and postnatal discharges.

It is normally the poor that cannot afford sanitation systems. Urban centers, where wealthier people reside, pump the contaminated effluents as far from themselves as possible and, in many instances; they ultimately end up in the poor areas. The urban poor are forced to live in environmentally fragile areas. People in developing countries often live on less than one dollar per day and in case of sickness they do not have any financial reserves to pay for their medical treatment. In such a case, they are even pushed forward to poverty and debt, thus perpetuating the cycle of poverty. In most cases, poor people lack resources to get medical treatment and they do not have political voice to demand better sanitation services (Nadkarni, 2004).

Poverty and the economy are interconnected; only healthy people are strong and can work to earn their living as well as take care of their needs and those of their families. There is an overlap between poverty and lack of access to improved water and sanitation. Most of the people who are without access to an improved source of water do not make enough money to meet their basic needs of food, clothing and shelter.

Still on the subject of sanitation, there is a strong association between poverty and access. The poorest two-fifths of households account for more than half the global sanitation deficit. Almost 1.4 billion People that do not have access to sanitation live on less than two dollars a day (Watkins Report, 2006)

Human dignity is another important issue linked to access to safe water and sanitation. Access to safe, hygienic and private sanitation facilities is one of the strongest indicators of dignity. Especially for women, lack of access to such facilities is a source of shame, physical discomfort and insecurity. Women often wait till its dark in order not to be seen defecating in the open, but delaying bodily functions may lead to liver infections, not mentioning the physical discomfort that must be endured. As already mentioned, women attach more importance to the provision of sanitation, because they feel the loss of dignity much stronger than men. People in general put a lot of importance to convenience, privacy and safety (Watkins Report, 2006). Children, elderly and sick people find it more difficult to go out at night to relieve themselves, so having access to sanitary facilities is also a matter of convenience.

People have a right to water and sanitation. This right is a component of the right to life, health, housing, education and like any other, must be protected and free from discrimination in any form.

2.12 Sanitation and Health

2.12.1 Water-Borne Diseases

Water and Sanitation have an important role to play in breaking the pathway of infection, by acting as a barrier against the spread of pathogens contained in excreta (Winblad, 2004). Therefore, a shortage or lack of safe drinking water and sanitation will lead to transmission of excreta related diseases.

Hoogsteen (2001) classified diseases that are spread by water, into four groups further discussed under the following headings;

- Diseases spread passively by water
- Diseases caused by water in the area
- Diseases caused by poor personal hygiene
- Diseases from water via a "host animal".

The passive diseases spread by water are transmitted by contaminated water. If wastewater is discharged without treatment into the environment or runs in open sewers through the cities, the drinking water resources will sooner or later become contaminated. In developing countries, especially poor people cannot afford safe drinking water. They sometimes draw the water from open sewers, even though it contains many bacteria. The most common diseases caused by these actions are *typhus*, *diarrhea*, *cholera and paratyphus* (Hoogsteen, 2001).

Diarrhea is one of the most important excreta-related diseases and it is caused by several bacteria and viruses (Huuhtanen, 2006). According to the (WHO, 2004), 88 percent of diarrhoeal disease is attributed to unsafe water supply, inadequate sanitation and hygiene. Diarrhea is "… an acute malfunction of digestive system which causes watery excrement

and continuous need for excretion. It creates rapid weakening of liquid and salt balance and the body starts to dehydrate" (Huuhtanen, 2006). Children are more vulnerable to diarrhea than adults. There are as much as 5 billion cases of diarrhea in children in developing countries each year (Watkins Report, 2006).

Diarrhea is the second largest killer of children, with acute respiratory tract infection being the first. Diarrhea claims 1.8 million of lives of children under five each year which translates into 4,400 young lives every day (Watkins Report, 2006).

The transition from unimproved to improved water and sanitation source can reduce the probability of childhood death. A household data survey dealt with this assumption in 15 countries and the findings are striking. Having piped borne water in one's place of residence, lowers the incidence of diarrhea, e.g. by almost 70 percent in Ghana, 40 percent in Viet Nam. Having flush toilets reduces the risk to diarrhea by more than 20 percent in Mali and Egypt (Hoogsteen, 2001).

Diseases caused by poor personal hygiene are mainly caused by lack of access to water, and as a result, people cannot keep themselves clean. *Trachoma* is one example of such a disease. Trachoma may lead to blindness and it is strongly related to lack of face washing due to absence of nearby safe water sources (WHO, 2004). According to the WHO, improving access to safe water sources and better hygiene practices can reduce trachoma morbidity by 27 percent. Ethiopia is thought to have the largest number of blind people, with trachoma implicated in a third of the cases of blindness (Watkins Report, 2006).

Diseases from water via "host animal" include *bilharzia* and *schistosomiasis*.

Bilharzia is caused by a host slug. The larvae multiply via this slug and if people bathe in contaminated water, they may come into contact with the larvae, which will penetrate into

the body through the skin. Most of the victims of this disease live in Africa. *Schistosomiasis* is another disease that causes tens of thousands of deaths every year, mainly in sub-Saharan Africa (WHO, 2004). The disease is strongly related to unsanitary excreta disposal and absence of nearby safe water sources. According to the WHO, basic sanitation may reduce the occurrence of the disease by up to 77 percent. All untreated and natural sweet water in the infected areas should be considered as possible sources of infection (Huuhtanen, 2006). Human and animal excreta then spread the helminthes (worms) to water bodies. Man-made reservoirs and poorly designed irrigation schemes are the main drivers of schistosomiasis expansion and intensification.

Prevention of Water-Related Diseases

Prevention methods for water-related diseases include the following; improvement and increase of access to safe water and sanitation services, using adequate toilets and paying attention to proper handling and disposal of excreta, promoting hygiene education, proper treatment of water for consumption. Keeping food and water clean, washing hands before coming in contact with food, general improvement of living conditions, encouraging breast-feeding instead of bottle feeding, avoiding contact with contaminated water (swimming), using appropriate footwear and avoiding contact to ground contaminated with human excreta (Huuhtanen, 2006).

There are many more diseases that are related to water, but the point is not to discuss all of them in detail, but to make it understandable that none of these diseases gets a chance if good quality drinking water and adequate sanitation is available and easily accessible. In the absence of this, there is a high probability that contaminated water will be used for such purposes as drinking, food preparation, and washing, bathing and swimming. The

result of which will be infection, sickness or even death. Provision of adequate sanitation and safe drinking water is of utmost importance with the purpose of assurance of public and environmental health (Huuhtanen, 2006).

2.13 The Sanitation Crisis

There have been many reports and studies published that deal with the issue of the sanitation crisis. The problem of access to safe drinking water and adequate sanitation has been addressed for the past two decades. As a result, millions of people gained access to safe water supply and adequate sanitation (Watkins Report, 2006).

However, as a consequence of the population growth and lack of sustainability in many of the conducted projects and investments, there is still a lot be done. The biggest need for action is in developing countries as most of the people without access to improved sanitation reside in Asia and Africa. The term "improved sanitation" refers to connection to a public sewer, to a septic system, pour-flush latrine, simple pit latrine and ventilated improved pit (VIP). In Sub-Saharan Africa a mere 36 percent of the population has an access to improved sanitation, with only 4 percent change between 1990 and 2002, (WHO/UNICEF, 2004). Open defecation decreased by 11 percent between 1990 and 2010 in Sub-Saharan Africa. The use of unimproved facilities is high in Africa which shows there is a growing demand for the use of sanitary facilities as a result of not only awareness but an increase in population. In Ghana, 58 percent of the population uses shared sanitation or public facilities. (WHO, 2012)

The lack of access to improved sanitation is translated through the actions of people where they are forced to defecate in ditches, plastic bags or on roadsides and are deprived of human dignity and privacy. Not having access to clean water means that people live more

than one kilometer away from the nearest safe water source, so they are forced to collect water from drains, ditches or streams that might be infected with pathogens and bacteria or walk over long distances in order to fetch drinking water (Watkins Report, 2006).

2.14 Challenges Facing the Sanitation Sector in Developing Countries

One of the main challenges to be addressed within the sanitation sector is the problem of unsustainable projects being implemented in developing countries or elsewhere. Such projects involve inappropriate designs, which neglect user's requirements and preferences, as well as inadequate maintenance (Huuhtanen, 2006). Projects like these create a continuous drain on resources and a strong disincentive to the municipality and donors as far as further investment is concerned. Also, when users are disappointed by ill equipped sanitation systems they will revert back to unhygienic practices because they consider the promised improvements as unreliable (Huuhtanen, 2006).

Sustainable projects need to rely on users' involvement in planning, choice of service levels, scale of investments, charges and cost recovery structures (Wright, 1997). One of the methods of addressing the sanitation problem in developing countries is the use of the conventional sewerage systems. As a result of this approach, overexploitation of natural resources has been taking place. The operation of conventional systems of sanitation has been found to be resource-intensive, thus they cannot be called sustainable (Wright, 1997). Improper operation as well as use and inadequate maintenance will lead to irreversible degradation of natural resources. Even though sanitation practices in developing countries still leave much to be desired, the conventional approach is not an appropriate solution to the sanitation needs in developing countries. How could they be if they use a great amount of valuable resources and generate more waste than the environment can assimilate?

(Wright, 1997) Furthermore, only dry conventional systems are affordable in most developing countries. As far as the conventional approach is concerned, there is not enough financial capability to construct, operate and maintain waterborne systems in areas where water is scarce and the infrastructure does not exist, is not properly used or not affordable for most of the possible users. Moreover, there are no technical capabilities available in these areas (Wright, 1997).

Therefore, waterborne systems in developing countries are mainly limited to wealthy upper and middle class areas. What is more, treatment is not always guaranteed. It is becoming more and more common to think that developing countries should be given a different sanitation approach. The advantage of developing countries is that the infrastructure for the conventional approach is almost not in place and there is a large room for implementation of an alternative approach (Ilesanmi, 2006). Also, as far as developed countries are concerned, there needs to be a lot of rethinking done in the area of costs, resource availability as well as potential for environmental degradation. Developing countries need locally sound and sustainable sanitation approaches, which are most appropriate to the purpose and local conditions of the intended users.

The main decisive factors for sustainability with respect to the solutions provided include; low costs of materials, low maintenance requirements, local availability of installation, operation and maintenance materials, source and skills, adequate institutional capabilities as well as social acceptance (Ilesanmi, 2006). There is no doubt that sanitation services need to be provided in developing countries, but the persistent failure of sanitation projects to stand the test of time whiles meeting the needs of people, will deter people from being willing to implement and use them. It is important that projects selected for implementation in developing countries be in line with local conditions and take into

account not only technological, but also cultural aspects. It is only then that projects and investments in the area of provision of water supply systems and improved sanitary facilities will be successful in achieving their objectives (Ilesanmi, 2006).

According to Jönsson et al (2004) in the Eco San Res fact sheet on the sanitation crisis, pit latrines of various kinds serve about 2.8 billion people and often pose health and environmental hazards. Also, of the 1.1 billion people served by sewage systems, only 30 percent have advanced end-of-the-pipe treatment. "Sanitation can no longer be a linear process where excreta is hidden in deep pits or flushed untreated downstream to other communities and ecosystems.

Sustainable and ecological sanitation calls for a holistic approach" (Jönsson et al., 2004).Therefore, the sustainable sanitation approach is the future of dealing with the sanitation crisis worldwide and in Africa. Global projections on the population growth suggest that the world population of over 6 billion in 2000 will increase by 20 percent to over 7 billion by 2015, and to 7.8 billion by 2025, which is equal to a 30 percent rise (UN Habitat 2001).

In 1950, 68percent of the world's population was living in developing countries, with 8 percent in least developed countries (UN Habitat, 2001). By 2030, it is expected that 85 percent of the world's population will be in developing countries, with 15 percent in least developed countries (UN Habitat, 2001). On the other hand, the percentage of the world's population that lives in developed countries is declining, from 32 percent in 1950 to an expected 15 percent in 2030 (UN Habitat, 2001). The pace of urbanization poses a major challenge for the provision of water and sanitation services that are so fundamental for the health, dignity and economic well being of the human population.

As already mentioned, Sub-Saharan Africa is the world's most rapidly urbanizing region, and almost all of this growth has been taking place in slum areas, where overcrowding, inadequate housing and lack of water supply as well as sanitation services occur. For those involved in delivery of service in urban areas, the key challenge will be keeping up with the pace of rapid urbanization growth.

According to the World Health Organization, in order to meet the Millennium Development Goal of halving the un-served population by 2015, urban Africa will require an 80 percent increase in the numbers of people served (Kariuki, 2003). This objective would require about 6,000 to 8,000 new connections every single day (Kariuki, 2003). Looking at the worldwide statistics, one can see that most of the urban population growth is occurring in poor, unplanned and informal settlements. Given these circumstances, the task of reaching the unserved will become ever more difficult. In informal settlements such as slum areas, squatter or low-income settlements, water supply and sanitation provision are problematic due to the huge number of people living in these areas, inadequate housing, lack of a basic infrastructure and difficult geographical and environmental settings. On top of this, slum settlements are considered as illegal and as such they do not have legal recognition, thus there is no responsibility on the municipality side for provision of sanitation services. It is estimated that about 300 million Africans (half of the urban population in Africa) will be living in slums by 2020 (Kariuki, 2003). This creates a new face of the sanitation crisis with significant proportion of the population living below the poverty line in overcrowded slums and sprawling peri-urban areas around major cities in developing countries. Lack of adequate services, including sanitation is one of the major problems that needs to be tackled in slum areas. Sanitation

services need to be locally appropriate due to the high congestion, accessibility problems, lack of space and the infrastructure (Huuhtanen, 2006).

2.15 The Implementation Process

Implementation theory provides a useful foundation for examining the link between the process of implementing policy directives and the resulting outcomes. The literature suggests that mutual adaptation occurs (Pressman and Wildavsky 1984; Sabatier and Mazmanian 1978) as obstacles to smooth and successful implementation arise. Literature on bureaucratic behavior supplements the implementation literature by providing a basis for predicting how government personnel will react to top-down mandates for implementing a one-size-fits-all policy directive.

Implementation is key to successful policy outcomes (Pressman and Wildavsky 1984). The process of implementation and the way that challenges or obstacles are addressed can determine whether policies achieve their intended outcomes. Granted, there may be flaws in the policy itself; however, the implementation process can weaken the impact of the policy. In some cases, through adaptation of the policy based on implementation experiences, it may improve upon the policy. There is no single model of "effective implementation" (Ripley and Franklin 1982); rather, implementation models vary according to policy type and contextual factors (Ripley and Franklin 1982).

As Ripley and Franklin (1982) argue, there are a number of internal and external factors that must support the process for implementation to succeed. These factors include the number and nature of the actors involved, the nature of conflict over the policy in question, and the expectations concerning the goals and outcomes of the policy. Mazmanian and Sabatier (1983) add to this list the tractability of the problem and the

ability of the statute to structure implementation. As a result of the complicating factors that may affect implementation, Majorie and Wildavsky (1984) argue that implementation should be viewed from an evolutionary perspective, one in which adaptation must occur if the policy is to survive (Pressman and Wildavsky 1984).

A key variable with implementation is the approach that each agency uses to implement the policy. These approaches may be centralized, decentralized, or a mixed approach consisting of top-level policy guidance and bottom- or street-level, administrative expertise. The centralized approach allows agency leaders, who are assumed to be the key actors, greater control of the process (Sabatier 1986). The decentralized approach to implementation allows more input by lower-level public servants, whom many argue have a good deal of administrative discretion (Sabatier 1986). When decentralized implementation includes external stakeholders, it is also viewed as a means of democratic control (deLeon 1995; Gruber 1987. Goggin et al. 1990) propose a mixed implementation approach in which constraints are imposed from the top (by Government) and the implementing actors (agencies) interpret policy so that implementation is congruent with their own preferences.

Another key factor in policy implementation is the involvement of stakeholders inside and outside the agency. The bulk of the stakeholder literature seeks to validate the theory that stakeholder input and integration into an organization's policy-making process is valuable because it strengthens the policy in a variety of ways: it enhances responsiveness, focuses resources on key concerns of those the organization serves, and improves the likelihood of successful implementation because stakeholders perceive that they have "ownership" of a policy or program. Obstacles to participation include identifying stakeholders, ranking

them in terms of importance, and establishing effective and cost-efficient mechanisms for facilitating participation (Franklin 2001).

The types of stakeholders who are included in policy implementation are crucial to determining the outcome success. The development process may include a variety of internal and external stakeholders (Franklin 2001). Internal stakeholders may consist of program managers, staff members, and agency employees. External stakeholders may encompass community representatives, other agencies and sectors, industry and the private sector, and customers or consumers. Franklin (2001) finds that in the process of strategic plan development, the service recipients (as individuals) and constituents (as groups) of agencies are often largely ignored. Rather, heavy emphasis is placed on industry and other government organizations as important stakeholders. Other scholars have also acknowledged the disconnect, between the formulation of public policy by government agencies and civic participation in the process (Ingram and Smith 1993; Yates 1982). The relationship with stakeholder participants can be viewed from two perspectives (Franklin 2001): the direction of communication between the agency and its stakeholders, and the nature of the relationship between the agency and its stakeholders. Agencies may choose to consult in a limited fashion, such as sending a draft document out for review and comment, or, at the opposite end of the spectrum, they may encourage a two-way give-and-take process that "starts with a blank sheet of paper." The relationship between the agency and its stakeholders, therefore, may differ dramatically in terms of expectations.

To buttress this point, Ripley and Franklin (1982) suggest the nature of the relationships among key participants will significantly affect the success of the implementation. The experiences of government with implementation consist of a variety of structural and

process-oriented challenges (Franklin and Long 2003). Many of these challenges are common across all government agencies and serve as barriers to successful implementation of the programmes. These challenges are difficult to overcome and illustrate the problem with the one size- fits-all approach to implementing strategic management initiatives.

The challenges that agencies face during implementation can significantly affect the policy outcomes. As Nakamura and Smallwood (1980) observe, the problem with congressional and executive mandates is that they do not consider how something will be implemented. Usually the language is too vague, allowing for compromise to get a sufficient number of votes for passage, but not providing sufficient detail about how something is to be carried out. The literature on bureaucratic behavior leads one to expect that agencies will internalize mandated reporting requirements to the extent they are used in ways that suit the specific context of the agency.

Internalization occurs when government agencies use specialized resources (such as technical expertise, constituent power and prestige, and discretion) to develop a favorable environment which supports and allows policies to thrive and survive (Ripley and Franklin 1982). Implementation is the process that converts goals into tangible results. In the case of the Millennium Development Goals, the approach is clearly a centralized or Top down approach of implementation where the policy was created and adopted at the level of world leaders and cascaded down to National (National Water Policy), Regional, District and Community policies.

Conceptual Framework for the Implementation Process

The Victoria Model on implementation showing the factors that impact the success of programmes thereby, the conversion of goals into realities.

For policy implementation to be successful, the following are required; problem identification (Problem knowledge), planning and effective communication, designing of programmes and commitment of stakeholders, clear direction, availability of financial and technical resources.

Ghana, as a signatory to the UN MDGS, has mainstreamed the eight developmental goals into the national plan for development. In so doing, a lot of priority has been placed on meeting the target indicators of the various goals. To implement the policy, there is the need for a well defined knowledge of the problems with respect to environmental sustainability taking full cognizance of the Ghanaian context. The importance of the right to water and right to health have seen implementing bodies such as DPs, NGOs, MMDAs, and Academia contribute through the supply of relevant data, technical expertise and financial backing to ensure that the right is met for the average Ghanaian.

For all these actors to play their roles effectively there is the need for communication both amongst themselves and with the public. This creates the much needed awareness and understanding of the goal by all concerned and drives the actions for change (Sakyi, 2010).

Communication also ensures that efforts are not duplicated leaving some areas fulfilled with others unattended to. Communication therefore allows for proper planning.

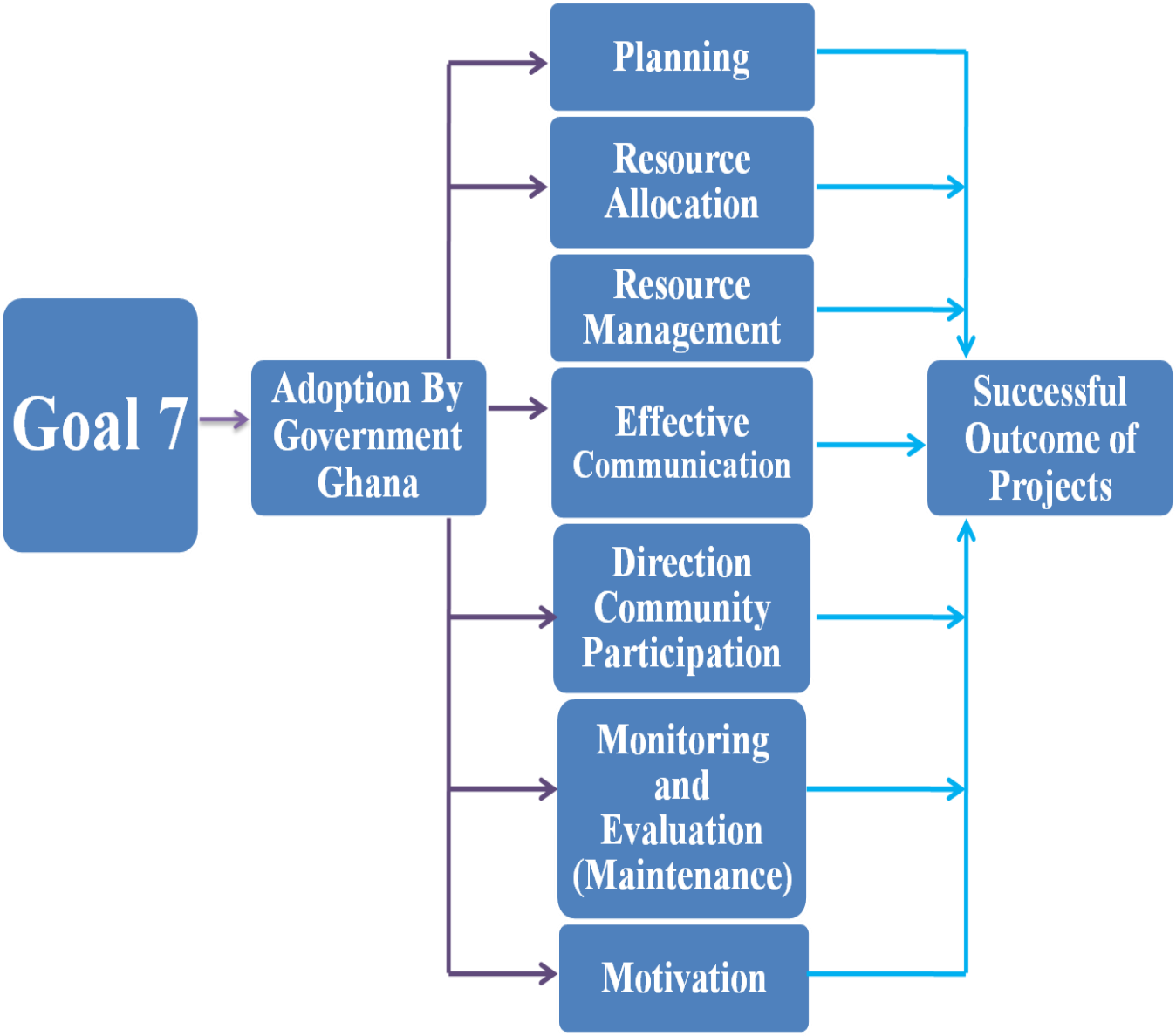


Fig 2.1 Conceptual Framework on the Implementation Process-The Victoria Model

Commitment is shown through the number of resources allocated to various projects and activities whether they are financial, technical or infrastructural. Commitment starts from the government and this in turn impacts on the level of importance placed on projects by the entire populace. The motivation of the project actors and end beneficiaries is a key contributor to the successful outcome of the project.

In view of the fact that the goal is environmental sustainability, success in meeting this goal cannot be achieved if implemented projects cease to function over time. To achieve the desired sustainability, there is therefore the need for continuous monitoring and evaluation which then informs maintenance of the structures put in place.

In all these, the people must be involved to gain their acceptance, understanding, and commitment to achieve the set targets.

2.16 Conclusion

Many rural communities in Ghana do not have access to potable water and proper sanitation facilities. As a developing country, Ghana has to prioritize its development agenda to be able to address issues in all sectors of the economy. Available resources for each sector ought to be maximized to achieve maximum benefits. The country is endowed with abundant natural resources, which have played a very important role in the agricultural and industrial development of the country. However, as a result of incessant exploitation of these natural resources to meet the legitimate socio-economic aspiration of her people, adequate care has often not been taken to guard against the depletion of the resources. Consequently, this process of unsustainable development has caused irreparable damage to productive lands, air and water pollution, soil degradation and waste management issues. The prospects for achieving sustainable service delivery therefore look better for water than for sanitation provided the key challenges identified especially with regard to the Water and Sanitation committees could be addressed.

The financing gap is huge, but not unbridgeable. But to ensure that the investment is put towards achieving sector targets, and prioritizing within those targets services for the poor and unserved, much restructuring and reallocation of selected projects and funding is necessary.

Fundamentally, this is a matter of improving implementation through increased political will, clear governance of the sector, and ensuring participation of the poor in investment decisions, development and infrastructure planning. Water sector stakeholders and unserved communities have a responsibility for creating that will and ensuring participation.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The chapter presents the research methodology employed to obtain the primary data for the research study.

The background to the methodology used is discussed here. The research approach and design are defined. The methods used in collecting the data for the study are presented as well the management of the data collected. The unit of analysis is defined and this is followed by a description of the data sources. There is a brief outline of the study area to provide a better understanding of the population under study. The sampling procedure is highlighted. The validity and reliability of the data collected are discussed here also. The ethical considerations applied in the course of the research are mentioned to conclude the chapter.

3.1 Background to the Research Methodology

The study sought to assess the achievements and challenges of MDG 7 Target 7c in the Ketu-South Municipality. Based on the objectives of the study, the methodology has been selected to help assess the progress made with respect to improved water and sanitation in the municipality, identify the local challenges to inform the appropriate recommendations to be considered. The study was carried out to contribute to the knowledge base and understanding of the role the mandated agencies responsible for water and sanitation have played towards achieving the MDG target and to understand the reasons for the gaps.

3.2 Research Approach

Qualitative research approach was used for the study. This is useful in providing evidence and allows for the exploration of areas where existing knowledge is limited (Cavaye, 1996 in Darke.et al- 1998). The study relied on the use of qualitative methods of data collection. This is because the study intended to evaluate coverage levels with respect to the access to improved water and sanitation. It also set out to obtain information, which would provide clarity and a deeper understanding of the progresses made and the challenges yet to be overcome by the people of Ketu-South.

3.3 Research Design

The study was mainly qualitative and based on what it sought to unearth, the case study design was appropriate for the study. Case study is a study design which is very useful in qualitative research. It provides descriptions of phenomena, develops theories and in some cases, tests existing theories (Darke, et al, 1998). Case studies are again useful because they typically combine data collection techniques such as semi-structured questionnaires, interviews, focus group discussions, observation and text analysis for a clearer understanding of the subject under study. The results of case study data collection and analysis are used to compare the case study findings with the expected outcomes as predicted or reported. There have been reports by monitoring bodies such as UN JMP MWRWH, Wateraid and CWSA on the MDGs and the findings of the case study have been compared against these reports to ascertain their veracity. The Ketu-South Municipality was primarily used as the case study of this research.

3.4 Data Collection Methods

The data collection methods are described in this section. The qualitative data collection methods used included in-depth interviews with key informants and administration of semi-structured questionnaires and stakeholders.

In-depth Interviews

An in-depth interview is a technique of qualitative research which involves engaging a small number of carefully selected respondents in intensive individual interviews. This is done in order to obtain their views and perspectives on the topics of interest to the researcher. In-depth interviews help to put into context a complete overview of what has happened in a program and why (Boyce, 2006). They are useful when one sets out to obtain detailed information and especially to distinguish individual opinions from group held positions. In-depth interviews were used to gather qualitative data from key stakeholders including 4 representatives of the Water and Sanitation agencies (WATSAN) in the district, the District Engineer CWSA, District Environmental Health Officer, 2 Government appointees at the assembly, a Headmaster and a Nurse (Please refer Appendix B). This allowed the selected respondents to express into details their views and opinions on the prevailing water and sanitation situation. The in-depth interviews give the researcher more insight into the goals and problems of the community and identify the gaps for relevant intervention. Interviews are an essential source of information for case study research (Yin, 1994).

Semi-structured questionnaires

A questionnaire is a tool for collecting data on the various aspects of an identified topic of interest. It is ideal when one is trying to obtain a superficial view of what the situation is. With questionnaires, a lot more information can be collected from a large group of people

in a relatively short time and cost effective manner (Ackroyd & Hughes 1981). The questionnaires assembled information related to demographic data, access to water and sanitation facilities as well as the institutional and cultural factors hindering the achievement of MDG 7 in Ketu-South district. There were thirty five questionnaires with open ended questions to obtain information on the views of respondents about their prevailing circumstances with respect to access to safe water and improved sanitary facilities (Please see Appendix A). The use of semi-structured questionnaires allowed the data collected to be analyzed more objectively when compared to other forms of data collection methods such as participant observation. The objectivity contributes to the reliability of the data obtained.

The interviews were recorded and information transcribed and analyzed. Images were captured to provide a vivid experience to the readers of the research work. In conclusion, due to the fact that time, cost and accuracy are crucial to the research process, the tools for data collection were mainly semi-structured questionnaires and in-depth interviews.

3.5 Data Management

Data Collected were recorded and transcribed with the help of a voice recorder supported by hand written short notes, for accuracy. The anonymity of respondents was ensured in the presentation of the study findings. The information was then analysed using content analysis and presented under themes as directed by the objectives of the study.

3.6 Unit of Analysis

The unit of analysis was mainly households of the villages under the Ketu-South Municipality, Water and Sanitation agencies and stakeholders. The case data base comprises documents; audio tapes of interviews, pictures as well as the observations of the

researcher during the data collection process (Please see Appendix C). The data was reviewed by other researchers thereby increasing the reliability of the study (Yin 1994).

3.7 Sources of Data

There are two main sources of data classified under primary and secondary. The Primary data for this study were derived from information obtained through observations, interviews and semi-structured questionnaires. The secondary data relied on the use of of information obtained from desk studies of related works, existing literature, reports of the district assembly as well as water and sanitation related institutions.

3.8 Study Area

The Ketu-South municipality is the area under the study for the assessment of Ghana's progress toward achieving target 7c under the MDGs. Ketu-South is a municipality located in the Volta Region of Ghana. It covers an area of 779 km^2. The population of Ketu- South is 160,756 (Census Report 2010). It comprises 15 villages and two towns. The administrative capital of the district is Denu. The economic activities of the people of Ketu-South are mainly, fishing, small scale farming and petty trading.

Profile of the Ketu-South Municipality

Location and Size

The Ketu-South Municipality lies at the south – eastern corner of Ghana. It is bounded in the east with the Republic of Togo, to the west with Keta Districts, to the north with Ketu North District and to the south by the Atlantic Ocean. The District has a total land size of about 400 sq. km

Topography and Drainage

Ketu-South Municipality is a relatively low land area with altitudes from less than 15 metres at the coast and increasing to 66 metres inland. The coastline is fairly smooth and marked by sandbars. The Drainage of the District is towards the South and is dominated by several seasonal streams. About 30 kilometres of lagoon, extending from the Keta lagoon at Blekusu to the environs of Aflao also exist to provide opportunity for aquaculture activities and salt mining (KSMA 2010).

Climate

The Municipality experiences the dry Equatorial type of climate. The average monthly temperatures vary between 24℃ and 30℃, which are generally high for plant growth throughout the year. The mean annual rainfall for the Municipality is 850mm at the coast increasing to 1,000mm inland. The rainfall is of double maxima type occurring from April to July and September to October. The dry season, which is dominated by the dry harmattan winds, extends from December to February. Generally, rainfall in the District is considered low and erratic particularly along the coastal strip between Agbozume and Aflao during the minor season.

Sanitation - Liquid Waste

It is noted that about 40 percent of the settlements in the Municipality have no access to toilet facilities. A lot more of the settlements rely on traditional pit and pan latrines. The Assembly is still phasing out the pan and pit latrines. There are 40 public toilets in the urban centers. These are however under very high user pressure. There are however, a few household and institutional toilet facilities. The Municipality has one cesspit emptier for dislodging human excreta. Unfortunately, there is no final disposal site for depositing

waste. This delays the dislodging of human excreta in public toilets especially. As a result most private homes dig holes behind their houses and dump the wastes in them. This continuous to spread disease infection and hence lost of man hour for economic development.

Sanitation - Solid Waste

Most settlements in the Municipality are without organized refuse disposal sites. Domestic rubbish (solid waste) is disposed of in nearby farms or in bushes surrounding residential houses and burnt occasionally. Others also bury wastes in the ground. The Municipality has only 2 refuse trucks one of which belongs to the Zoom Lion Company Ltd.

Water Supply

The major sources of water in the Municipality are wells, pipe borne, bore hole, rain water, streams and rivers. The rural communities depend on rain water, wells and streams. Those in the urban areas depend on water supplied by the Ghana Water Company Limited (GWCL) and the rural water by the Volta Region Community Water and Sanitation Program (VRCWSP). The GWCL operates in Denu, Aflao and Agbozume. There are two 100m^3-capacity reservoirs at Denu and Aflao. At Agbozume the system is made up of one borehole with electro submersible pump with rising mains, a distribution network made up of UPVC and AC mains of 100mm diameter and 50m3 capacity reservoirs. The total distance of the distribution network in the township is about 6 kilometers.

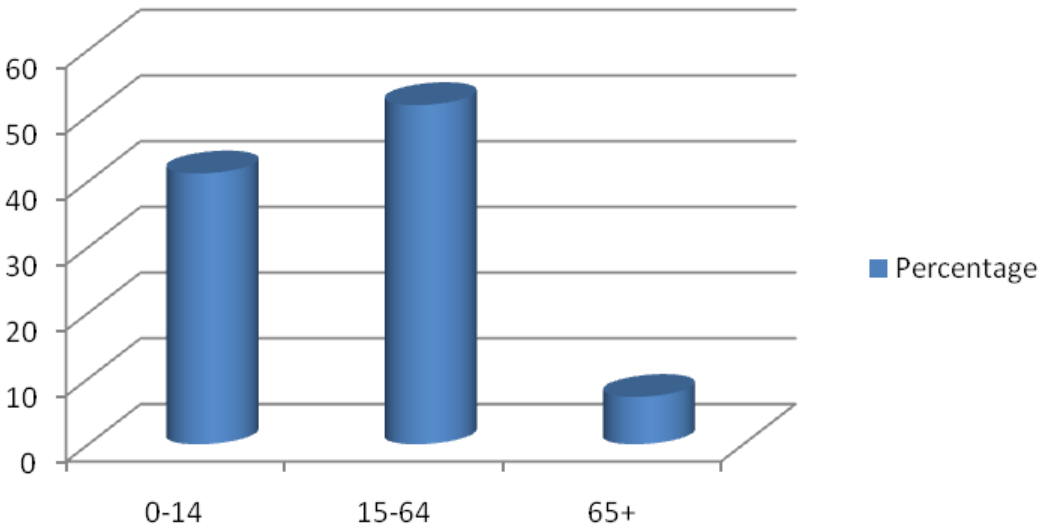
The Volta Region Community Water and Sanitation Program had constructed over 60 boreholes which are serving some rural communities. In all, there are about 100 boreholes, 1,304 pipe stands, 2 dams, 1,242 hands dug wells, 200 water harvesting

systems, 2 hand pumps in the Municipality which provide water. Many people in the Municipality lack potable water supply (KSMA 2010).

Age and Sex Distribution of the Population

The age and sex composition of a population serves as a useful guide to demographic trends and development decision making. The age structure can be grouped into three broad categories. These are 0-14 (dependants), 15-64 (active working population) and 65 years and above (dependants).

Fig 3.1 Age Distribution of the Population



Source: KSDA DPCU, 2010

Governance

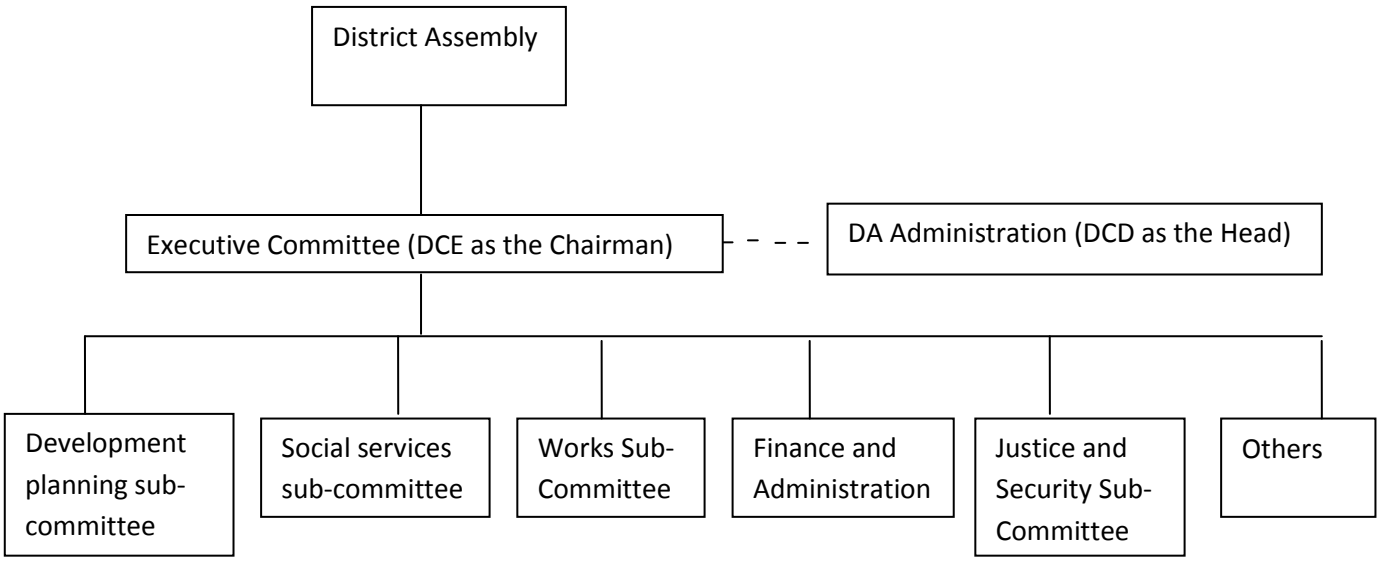
The Ketu-South Municipal Assembly is the highest administrative and planning authority in the District. It is established by the Legislative Instrument (LI) 1897 of 2007. The Assembly has a policy making body made up of elected and government appointed Assembly members. There are fifty (50) Assembly members in the Municipality out of

which the President of the Republic of Ghana appoints thirty percent. The members serve on the five major sub-committees in the Assembly. The established sub-committees function as the operating arm of the Executive Committee and assist in the implementation of specific activities of the Assembly. The sub- committees include:

- Justice and Security
- Finance and Administration
- Social Services
- Works
- Development Planning

The Municipal Chief Executive, the political head of the Assembly, heads the Municipal Assembly. He or She also chairs the Executive committee, the decision making organ of the Municipal Assembly. The Central Administration assists in the general administration of the Assembly. The District Coordinating Director (DCD) with the support of Planning, Budget and Finance Officers heads the Central Administration. Heads of other sector departments such as Health, Agriculture, Education, Town and Country Planning

Figure 3.2: Organogram of the District Assembly



Source: CBRDP Training Manual, 2005

Sub-District Structures

There are five Town/Area Councils that assist in the planning and implementing of projects in the Municipality. The Councils are Somey Wego Area Council, Somey Fugo Area Council, Aflao Wego Area Council, Aflao Urban Council and Klikor Area Council. Unfortunately, these councils are non-functioning due to inadequate skilled personnel and adequate funds to keep the offices running.

3.9 Sampling Procedure

Purposive sampling was used to select the key informant interviewees. The selected respondents were engaged in 10 in-depth interviews with the help of an interview guide. Purposive sampling is a non-probability sampling method which is sometimes called judgmental, selective or subjective sampling. The main goal of purposive sampling towards fulfilling the objective of the qualitative approach to research was to focus on identified characteristics of the population under study, which will best help to answer the research questions. In this case the characteristics under review are access to improved water and basic sanitation facilities. Expert sampling was used to identify and select the respondents who are knowledgeable in the area of water and sanitation management at the local level, for in-depth interviews. I found Purposive sampling to be useful in my study as it gave me a degree of control of my research environment (Barbour, 2001). Convenience sampling was used to select 35 community members who provided responses to the semi structured questionnaires administered as part of the study.

3.10 Validity and Reliability

Yin (1994) states that the efficiency of data collection relies on the careful planning of the researcher to adequately contain the difficulties with collecting data from an uncontrolled environment. For the establishment of validity, Walsham (1995) indicates that the

researcher should present a coherent, persuasively argued point of view to readers by describing in detail how research results were arrived at. The credibility therefore can be achieved regardless of the researcher's philosophical perspective or choice of research methods. Based on this view points, the validity and reliability of this study are based on the level of objectivity with which data is collected and analyzed. It was also based on the correct use of the prescribed research design and methodology.

3.11 Ethical Considerations

It is essential to gain the permission of people in authority to provide access to participants in a study (Creswell, 2003; Bryman, 2004). In order for the researcher to have access to the respondents, the Municipal Assembly was notified of the purpose and duration of this study in order to gain entry into the community. Informed consent of study participants is very important in research (Bryman, 2004; Creswell, 2003; Osuola, 2001; Yin, 2003) and to obtain this, the nature and purpose of the research was explained to the selected respondents prior to the interviews. Respondents who were selected were informed that their participation was voluntary and that no one had to grant the interview against his or her will. The respondents were also informed that they were free to end their involvement at anytime during the study. Furthermore, the anonymity of research participants was guaranteed through the assigning of pseudonyms to respondents in the research report. Confidentiality has been ensured by keeping data secure and using it only for the purpose for which it was collected. The research has been conducted in line with the guidelines of the academic community to which the researcher belongs.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION

4.0 Introduction

This chapter presents data and findings of the study gathered from the field. The chapter is divided into two main sections. The first section presents the findings both in qualitative terms whereas the second section discusses these findings with reference to the literature presented in the previous chapters.

4.1 Findings

The findings presented in this section have been sub-divided into four. The sub-sections are demographic information; assessing the key measures put in place by government which looks at what has been done to improve access to safe water and improved sanitary facilities from the perspective of the respondents in the sample population; Institutional challenges in relation to the achievement of MDG 7 while the last sub-section assess the local factors hindering the achievement of MDG 7.

4.1.1 Demographic Information

In all a total of 45 people participated in the study. Purposive and convenience sampling were used respectively in the selection of these respondents. Out of these, 10 respondents were interviewed whereas the remaining 35 responded to the questionnaires distributed. Out of the 45 respondents 26 were females representing 57.8 percent of the respondents whereas the remaining 19 were males.

The need to know the gender of respondents was important because, the gender perspective in research looks at the impact of gender on people's opportunities, social roles and interactions. The successful implementation of policies, programmes and project goals of international and national organizations is directly affected by the impact of gender which in turn, influences the process of social development. Indeed gender is an integral component of every aspect of the economic, social, daily and private lives of individuals and societies, and of the different roles ascribed by society to men and women.

The age of the respondents was necessary because of the need to assess the key measures put in place by government and donors based on the experience of respondents capable of appreciating developmental actions. For the study, majority (42 percent) of the respondents are within the age bracket of 18 - 37. Cumulatively, 33 of the respondents fell in this category. It can therefore be inferred that the respondents were living before the adoption of the MDGs and could appreciate the impact if any of the adoption of the MDGs; further implying that the responses provided may be reliable.

According to Campbell (2005), issues of population cannot be underestimated in addressing issues with respect to the achievement of the MDGs since population growth tends to have an impact on the environment.. The study therefore sought to find out the number of people in the household of the various respondents.

Majority (19) of the respondents have a household number of 6-10, 13 have above 15 people in their households, 7 of the respondents have between 1-5 household members, while the remaining 6 have households with people numbering between 11 and 15. Indeed, those with a big household tend to have more difficulties with respect to access to safe

water and improved sanitary facilities. This is supported by the UNFPA (2004). According to UNFPA "Population growth is contributing, along with resource consumption by affluent populations, to an increased level of stress on the global environment. Global warming, deforestation, growing scarcity of water and diminishing crop land will make it harder to address poverty and gender inequality".

The next thing was to determine the occupation of respondents. The data gathered revealed that majority of them are self-employed (18 respondents) engaging in economic activities such as trading, dressmaking and hairdressing among others. 15 of the respondents are farmers, 7 public servants and the remaining 5, students.

4.1.2 Assessing the key measures put in place by the Government

Beginning with the Millennium declaration in the year 2000, the Government of Ghana has put in place measures to help address the challenges affecting the country with respect to achieving the MDG targets by the year 2015 which is about twenty (20) months away. The responses gathered indicate that despite these measures people are still living without improved sources of water and sanitary facilities. The data gathered indicate that majority of the respondents (26) have access to water in their homes, which is quite encouraging. The remaining (19) are still without access to potable water sources.

A respondent had this to say "*last year we used to rely on unprotected water sources but currently we have access to safe water. To me the water is safe because it is obtained from a standpipe. In older times, well water was considered safe water but now things have changed*" (*field data 2013*).

This distribution of respondents show that although most respondents have access to an improved source of water; efforts must be intensified to be able to meet the needs of the un-served popultion, in order to achieve MDG 7. To ascertain that the definition of an improved source of water as understood by the study participants was in line with the JMP standard, respondents were asked to state the kind of facility they have access to, as a follow-up question. From the data gathered, majority of respondents who have access to improved water sources numbering twelve (12), use public tap/standpipe. Most of the respondents called for a reduction in the cost involved in extending water supply to their homes. They said so because they rely on public tap/standpipe, which means they have to queue for sometime before they can fetch water. A respondent stated that;

"*The cost is too high considering the work we do here. In fact, most of us are farmers and traders" (field data, 2013)*.

Even though some of the respondents have access to piped water they still have problems with respect to the salinity levels. An interviewee confirmed this when he said:

"*Here we have pipe-borne water from klikor but it is not helpful because the water is hard (saline). We have asked that they extend water supply from Sogakope. It should be free from salt" (field data, 2013).*

On the other hand, the nineteen (19) respondents who indicated earlier that they do not have access to safe water revealed that they rely on unprotected springs, unprotected dug wells and streams for their daily activities such as bathing, washing and cooking. This is the only source for people who cannot afford to pay.

A respondent from Yelibator disclosed, "*The main source of water is the dugout pond for people from Yelibator and Akame. People who have refused to pay for the extension of water supply still use the pond which is rather unsafe. They use the water for washing, cooking and drinking".*

Those who rely on these sources used to have access to an improved source of water but because of the salinity levels and irregular supply of water, have had to resort to these unimproved and rather unsafe sources. A very emotional interviewee mentioned:

"Our pipe is derived from under the ground. There is salt in the water. The water is hard and so we drink the water from the pond and people put their feet in the water. The water from the wells available is not clean and is very salt; When we fetch it, because it is reddish we have to let it sit for 3 days before we can use it" (IDI Respondent 3, field data).

Time and cost are important factors to note when considering access. The responses gathered shows that most of the respondents have to either queue for long or travel for about 2 km before getting access to water which might not necessarily be safe.

The response from a respondent says it all with respect to time spent "*For me in particular, it takes me about 5 minutes but for others 10 minutes and also 30 minutes" (IDI Respondent 8, field data).*

Majority of the respondents who rely on public taps/standpipes, pay before fetching water. Those with a large household are the most vulnerable because they will use more water as compared to those with smaller households. Most of the respondents stated that they spend an average of GHS 1.00 on water daily.

On this issue a respondent opined, *"My family spends a lot of money on water because my family is large and I don't earn that much. So as alternative we sometimes resort to other sources" (Field data, 2013).*

Sanitation and for that matter providing toilets has always taken the back stage in the efforts of governments and communities towards development. This is evidenced by the fact that the goal of improved sanitation was added to the MDGs as an afterthought in 2002. In relation to the use of improved sanitary facilities, respondents were asked to indicate whether or not they have access to toilet facilities in their household.The responses on this are as follows. Twenty nine (29) of the respondents indicate that despite the measures put in place by government and donor agencies they are not satisfied in that area.

An angry respondent said *"The assembly has provided the means of extending water supply to households who are willing to pay for it. The assembly has not done anything about sanitary facilities. The assemblyman meets community members and discusses issues of water and sanitation in the chief's house but nothing has been done" (Field data, 2013).*

The response and other similar to it, indicate that most of the respondents do not have access to toilet facilities.

"We need money to build the toilet facilities. This is because in this community, there is no toilet facility. Had it not been for the work of the pigs, one would find faeces all over the place" (IDI Respondent 4, field data, 2013).

However, a minority of the respondents (16) responded in the positive when asked about the availability of toilet facilities.

The fact that most of the respondents do not have access to toilet facilities therefore implies that there is still a lot more to be done in the Ketu-South Municipality towards meeting the goal of reducing by half, the proportion of the population without access to improved sanitary facilities. This calls for the Government to intensify efforts in this area. However, some donor partners such as DANIDA deserve credit for their contribution to projects of building school KVIPs in the area even though the needs of a lot of people are still not being met.

The responses obtained indicate that most of the respondents have access to a public KVIP. Only a handful of respondents use flush toilets, pit latrines, toilets fitted with septic tanks, piped sewer system WC and Bucket respectively. Probing further, respondents who had access to toilet facilities in their homes were asked to state the number of toilet facilities they have, almost all the respondents said they have one toilet facility. Most of the respondents do not seem to understand the rationale of getting more than one toilet facility. Most of them see that as a luxurious lifestyle which per their standard of living they cannot afford. This is what a respondent said *"I don't see why people in one household will use two toilets, when they can use the money for something important" (Field data, 2013).*

In addition to the above, respondents were asked to state whether or not they share these facilities with other members of the community. Interestingly eleven (11) of the sixteen (16) respondents who responded that they have access to improved toilet facilities said 'yes' implying that their facilities are shared.

A respondent said *"I share with my neighbours becuase they don't have toilet facilities and that is what we have been doing all this while"(field data, 2013).*

Even though some of the respondents said they do not share with their neighbours, they still share with members of their household.

Another question was asked to further probe the average number of people who actually share these facilities. Most of them estimated that on the average, 15 people share their toilet facilities. A respondent confirmed this *"In my household we are about 15 so we all use only one toilet, this is even better than other people" (field data, 2013).*

As indicated earlier, some respondents mention that they do not have access to toilet facilities. They revealed that they resort to the beach, bush or open field.

A respondent said "*we use the beach because of the closeness to the sea*" (*field data 2013*).

Another also had this to say "*In my household, there is no toilet facility so we only go to a nearby bush" (field data, 2013).*

In these times of fast paced development and technological advancement, such practice raises serious concerns about the health of rural communities.

A respondent revealed that "*they have been using the beach/bush because they do not have enough money to pay for the amount charged or because the facilities are inadequate" (field data, 2013).*

Views of respondents on the progress of measures put in place

Furthermore, with respect to the progress made on improving access to improved water and toilet facilities, the views of respondents were sought. The respondents as representatives of the study population gave their perspectives as the end beneficiaries of

the programmes or users of these facilities. Whiles some sang praises about the progress made so far, others made known their challenges. This provides a clear indication that the reactions on this particular research question are mixed, among community members. Indeed the level of progress is community specific. While towns such as Denu have adequate facilities, communities such as Adafienu, Yelibator, Klikor and Nogokpo are facing difficulties with respect to these facilities in terms of water and toilets.

Firstly, respondents were asked if in their view there have been an improvement in access to water and basic sanitation.

On this issue, a respondent indicated that *"from my own life assessment, there has not been any significant improvement. This is because I believe that much has not been done, therefore I call on government and the Assembly to come to our aid"(field data, 2013).*

This position was however contested by some of the respondents who were of the view that *"We now have access to pipe-borne water"(field data, 2013).*

This distribution of responses shows that although most respondents are convinced that there has been progress, this has been inadequate. They therefore made calls for the intensification of the efforts to increase the coverage and quality of the supply systems and structures as part of their responses.

The reseacher further sought the views of the respondents with respect to the time spent on these facilities. The responses on this issue were however not encouraging. Most of the respondents indicated that despite the improvements, they still spent some minutes accessing these facilities.

"It takes about 5 kilometres distance from my house to the place of convenience"(field data 2013).

However, a minority of the respondents gave positive responses that suggested that they do not spent a lot of extra time trying to make use of a toilet facility. These are the few community members who have toilets in their houses. In all, respondents indicated that they spend an average of 11-15 minutes in order to have access to a place of convenience.

The researcher also sought to test the understanding of respondents with respect to their view on the importance of clean water and basic sanitation.Their understanding centred on the fact that health is wealth and as such if individuals of the community are healthy, productivity will certainly increase.

"Yes, clean water and basic sanitation are important because, it improves good health and reduce mortality rate while promoting national development in our various village and communities"(IDI Respondent 6, field data 2013). A respondent also added that "*it helps us to be healthy and strong always"(field data, 2013).*

With respect to improvement in the access to sanitary facilities, a respondent gave an interesting scenario "*Improvement is where people have access that is not disrupted by time, distance or weather. For example if you are hard pressed but have to queue to use the toilet because the facilities are not adequate, then this is not improved.. It is only when 10 or less people use 1 drop hole be it KVIP, pit latrines, and water closet constitutes improved sanitary facilities. However due to the high levels of poverty, achieving 20 people to one hole will be a level of improved access" (IDI, EH respondent).*

In addition, respondents were asked whether the water services being provided by governement and related institutions are meeting their needs and expectations.

A respondent said "*No because it is too far and is the only tap we have and when people go there before you in their numbers you may sometimes not be able to fetch"(field data, 2013).*

In support of the earlier reported opinion, a respondent shared his view

"*No it does not meet our needs and expectations because water supply services is low and cannot serve all of us in the community"(field data, 2013).*

A respondent also pleaded for government intervention *" In fact it is not adequate and we are calling on government to do something about it"(IDI Respondent 9, field data 2013)*

The mere fact that some of the respondents responded in the negative, shows that they are really not satisfied. This means that a lot of people are still not benefitting from the full impacts of the measures put in place by government. As experienced in some urban centres, the daily supply of water according to some of the respondents is woefully inadequate.

Unfortunately even though Government together with donors such as DANIDA have provided some of these facilities, a respondent stated categorically that *"its woefully inadequate owing to the fact that we still face challenges accessing these facilities either due to time spent or amount incurred*"(*IDI Respondent 4 field data, 2013*).

Others in support also said "*that the quality of water is nothing to write home about" (*See Appendix C*).*

This position was keenly contested by some of the respondents who maintained that despite the challenges of today, it is far better than the year 2000 which to some of them there were no dug wells let alone boreholes. According to a key respondent from the Assembly, "*Over a 100 boreholes were sunk in 2011 alone and 5 water supply systems are being built since 2012. If these are successful we can say there has been improvement" (IDI Respondent CWSA).*

In support of the success of the measures being put in place through the efforts of the assembly, the Environmental Health Respondent had this to say *"Yes private toilets are springing up. People are no longer turning the rooms designed as toilets into sleeping rooms. We have 23 public toilets in Aflao alone and 17 private owned toilets. In Aflao-Wego we have 4 toilets. In total, there are 78 public toilets in the municipality. There are places where you site public toilets and you can make money" (IDI, EH respondent).*

Despite this position they still acknowledged that if indeed the Government of Ghana was interested in maintaining equity while achieving the MDGs then there is the need for increased attention and resources directed towards the programmes of the various relevant sectors. Failing which has the potential of setting the country backwards, on a path of total decline with respect to development. This is cognizant of the fact that the targets and goals are co-dependent.

In broad terms, the findings as per the responses obtained, do not differ greatly from the national situation where giant strides have been made with respect to other MDG targets, with the goal of environmental sustainability especially as it relates to water and sanitation still lagging behind.

In conclusion an interviewee stated that "*It is true that some people have had water extended to their houses so there has been some improvement but with respect to toilets there is none" (IDI, respondent, field data 2013).*

4.1.3 Institutional Challenges

The interviews conducted reveal that CWSA, WATSAN and some NGOs like DANIDA have indeed played a major role in the delivery of water and sanitation in the Ketu-South Municipality. Almost all the interviewees indicated that specifically DANIDA has played an enterprising role in improving water and sanitation in most of the communities. The respondents were also quick to add that this has not happened without challenges. When respondents were asked to enumerate the institutional challenges in their communities, almost all the respondents point out that financial constraint is a big challenge for CWSA. In addition they categorically stated that poverty, which can also be inferred from inequality in the distribution of incomes as per the Gini index (World Bank, 2012) and confirmed by the occupation of the respondents above. The incompletion of projects or programmes whether government or donor-funded, poor community participation, poor management of projects are some of the other challenges being faced by the institutions at the forefront of the fight to improve access to water and sanitation.

Financial weakness or constraints is one of the factors affecting most of the projects aimed at providing improved sources of drinking water and improving access to sanitary facilities in the Ketu-South Municipality. All the respondents unanimously confirmed this as the biggest challenge facing these institutions.

A representative from the local Assembly has this to say *"Funding is a big problem at the local decentralized unit though you see that the project is needed badly it cannot be implemented because of lack of funds. A lot of the projects you see here are based on the felt needs of these communities but as you start one project another serious one comes up which is more pressing".*

The same respondent went on to say that *"After a while you see more and more projects being rolled over from year to year. One may say that this is a result of improper planning but no matter how well you plan some of these serious interventions are required and put your plan off target" (IDI, respondent, field data 2013).*

In support of what is being done about the situation a respondent said "*Based on the challenges with funding we have programmes in place for private individuals to build and run public toilets in a regulated manner. The Assembly is promoting private sector building and running of public toilets. One has to fill an application, we carry out inspection of the site based on the type of toilet an individual wants to build, we review that and once completed we inspect the place before it is opened to the public. We determine how much these individuals should collect as user fees from community members" (IDI, respondent EH, field data 2013).*

Poverty amongst community members is identified as one of the challenges affecting institutions in their drive to improve access to safe water and sanitation based on the Community Ownership and Management module as part of Ghana's strategy. Ghana made a score of 42.8 as at 2012 on the Gini index measure. According to this index, a measure of 0 implies perfect equality in the distribution of income or consumption expenditure

while a score of 100 reflects perfect inequality (BTI, 2012). This was confirmed by some of the respondents.

For instance a respondent states "*that most of the projects are formulated and implemented without the involvement of the beneficiaries themselves*" (*field data, 2013*).

They also stated that most projects that received finances and other management supports from donor agencies experienced challenges with implementation sometimes emanating from bottlenecks on the donor front or lack of transparency and accountability.

Apathy has been considered as one of the challenges facing the district assembly concept in Ghana. The Ketu-South Municipality has also not been without this challenge. Most of the people in the district are apathetic which is therefore affecting the delivery of services. A respondent indicates that "*Some of the people do not see why they have to be involved while others who have shown interest in being part of the management of affairs are not given enough room to do so. Community participation in most of the activities of these institutions have been very low accounting for the failure of some of the projects in the communities*" (IDI, respondent).

This was the position held by almost all the respondents.

Corruption is yet another challenge facing these institutions especially WSDT. According to the respondents most of the funds allocated to projects are embezzled. They believe that project participants and related players are not held accountable for their results. This was highlighted by some of the respondents. One interviewee said "*The percentage of the water levies that is to come to the community is not being accounted for. If it was, the money could be used to extend access to water to more household in the community. The*

board members in Nogokpo do not account for the monies collected in Yelibator". This is just one of the numerous comments passed by the respondents about misappropriation.

Other issues identified include the capacity to deliver as per the response that follows; "*One of the key issues is the capacity to deliver. Some of the contractors that we secure despite the fact that they go through the tender process once the contract is awarded, you find that they do not have the requisite materials to deliver. There are some on-going water projects which should have been completed long ago because you cannot determine what they are doing or exactly what is causing the delay. Some contractors are still on site and constantly giving excuses" (IDI, respondent, field data 2013).*

In respect to the challenges identified above, the researcher sought to ask the respondents whether there are any platforms on which they can make meaningful contributions towards policy formulation and implementation in their various communities or at the District Assembly level. The respondents gave various responses which have been captured here. Some of the respondents stated emphatically there are no such platforms and as matter of fact they have not been involved in the management of affairs. The remaining on the other hand said there are indeed such platforms but are woefully inadequate thereby not providing the needed atmosphere for the local to actively get involve in brainstorming to find lasting solutions to the water and sanitation problems.

In supporting the views expressed by some of the respondents an interviewee had this to say:*"To be frank with you when we are developing action plans for a community, various areas and people are selected from the beneficiary group but normally not representative. If we want to put a facility up at an assemblyman's area we allow the assembly man to*

have a fair view and it is his duty to relay it back to the community members and make an input" (IDI, respondent, field data 2013).

With respect to what has been done to encourage participation, the District Cordinating Director corroborates: "*We have the structures to achieve grass root participation through the WATSAN committees which are present in most communities. They are supposed to meet and discuss their water supply issues whether they have water facilities or not. The designing of water supply programmes depends on and starts with them because through their meetings they identify their issues, bring it to the notice of the Assemblyman, who then brings it to the notice of the Assembly and the Assembly takes it up" (IDI, respondent, field data 2013).*

The same respondent went on to say that, *"If they are not meeting regularly then they cannot champion the cause of their communities. This is one of the problems. They are not learned and are selected by community members, once they are formed the Assembly gives them a 5 day training but as to whether or not they understand depends on their literacy level and level of understanding. We also do not have the resources of time and funds to prolong training sessions beyond 5 days" (IDI Respondent, DCD).*

4.1.4 Local Factors Hindering the Achievement of MDG 7

The achievement of the Millenium Development Goals and various targets for development, depends largely on local conditions and factors present at any given point in time. These factors can either speed up or set back the process. This study cannot be complete without assessing the factors hindering the achievement of MDG 7 in the study area which is the Ketu-South Municipality. The respondents were asked to present in their

view some of the factors hindering the achievement of MDG 7 in the Ketu-South Municipality. The factors identified as hindering the localization of MDG 7 are the change in weather patterns, Economic disposition of the people (poverty), commitment on the part of community members and the Nature of the land/topography of the area.

From the results it is clear that the change in weather is an influence factor which derails the achievement of MDG 7 in the Ketu-South Municipality. This was confirmed by a respondent who reitrates "*The weather these days cannot be predicted and so the Assembly and donors even find it difficult embarking on projects at the right time".* A respondent also hinted that *"Change in the climate leading to decreased rainfall which is affecting groundwater levels"(field data 2013).*

Economically most of people in the Ketu-South Municipality as has been revealed already are self-employed traders and farmers who find it difficult to earn a living thereby making them vulnerable in various ways. In some communities, some members cannot afford to pay the fee charged for using toilet facilities and have therefore resorted to using the beaches and field which negates the initiatives aimed at improving the current situation. To some of the respondents, this is a major cause for concern.

This is what a respondent had to say "*People are poor. There is no work the main source of income is farming but now there is no rain" (field data, 2013).*

Another respondent maintained that *"Poverty is a problem the only economic activities are fishing which is seasonal, salt production has started and small scale trading" (Field data, 2013).*

The other factor which was brought up was the concern of community members about the safety and taste of the ground water. They touched specifically on the salinity levels.

Some of the respondents make this complain*"most of the boreholes and dug wells are salty"*. Another interviewee said *" there is the problem of Salinity where the water facilities (boreholes) have salt intrusion and so the communities reject them. In some communities like Tokor there is no water there is only saline water" (IDI Respondent, field data 2013).*

The lack of adequte community member involvement in planning for the community which translates into minimal community participation is identified as a challenge.

A respondent said "*The community members are not co-operative" (IDI Respondent HM)*.

Another respondent also mentions "*Lack of co-operation from the community members. The community members are poor or unwilling to contribute to programme drives to develop the community. The rife between the community leaders in some cases, has also affected the community members" (field data, 2013).*

In addition a respondent indicates that "*There is no commitment. When you call for meetings people don't respond and this shows a lack of co-operation. People do not like to contribute. I don't know why. We agree to contribute but when it is time to contribute people don't" (field data, 2013).*

In sum, these factors are greatly affecting the efforts of the decentralised administration of the Ketu-South Municiplity. From the data analysed and presented in this section, there is the need for the Government of Ghana and District to take a closer look at the process of

implementation of MDG 7 if indeed the country is to realise the targets under water and sanitation; which is essentially all the other MDGs.

4.2 Discussion of Findings

This section discusses the findings of the study as presented in the previous section in relation to the literature reviewed and how these findings will help address the issue of achieving the MDG 7 in Ghana with particular reference to the Ketu-South Municipality. The discussion will be done along the same line as the data was presented.

4.2.1 Key Measures Put in Place

Ghana has made considerable progress in achieving key MDG targets especially in the area of poverty eradication and food security, education and access to safe water but same cannot be said of environment and sanitation. According to the UN (2010) the world is on track to achieve the safe water target. Yet, 884 million people worldwide still use unimproved water sources. In 2006, for instance 2.5 billion people more than 37 percent of the world's population did not have access to toilets, latrines or other forms of improved sanitation. The proportion of people living without access to improved sanitation decreased by only 8 percentage points between 1990 and 2006 which presupposes that there is still a long way to with respect to providing safe water and improving sanitation. 1.2 billion people in the world practice open defecation, posing enormous health hazards to entire communities and 87percent of these people are in rural areas (UN, 2010).

The Government of Ghana in her drive to achieve the MDGs has adopted a number of measures. Some of the measures put in place include the drilling of boreholes, establishment and expansion of community water systems and the construction of sanitary

facilities. Some of these facilities were sponsored by the Government of Ghana while majority of them were provided by donor agencies either by themselves or through NGOs.

Other arrangements such as Public-Private Partnerships in water and sanitation have also been implemented. It should however be noted that most of these facilities came into being after the adoption of the MDGs. The government instituted these measures mainly to achieve the MDGs in an equitable manner. There was the need for these measures because most of the people were living without these facilities. This was the reasoning behind the adoption of the MDGs by the United Nations in the year 2000 (UN 2001).

The findings as presented in the previous section shows that majority of the respondents have access to water in their homes which is quite encouraging. The remaining are still without access to improved sources of water. The account given by the respondents of the study indicates that efforts must be intensified to be able to reach the people who are yet to be touched by the projects designed to address and protect the human right to water and toilet facilities. Even though there has been some improvement as per the national coverage figures, a lot of communities in the Ketu-South Municipality are still lacking access to water and improved sanitary facilities per the findings of the study.

In 2004 for example, it was reported that 75 percent of the rural population in Ghana had access to safe water, an increase of 92 percent on 1990 levels. This finding also confirms the latest JMP report which estimates that worldwide 783million people do not use an improved water source for drinking water. Eight out of every 10 people who do not use an improved drinking water source live in rural areas and worldwide, more than 4 out of 10 people who do not use an improved source of drinking water live in Sub-Saharan Africa

(WHO et al 2012), although previous reports have generally placed countries on track to achieving the water component of goal 7.

As indicated above most of the people who have access to water use public tap/standpipe, which implies that in order to achieve the safe water target, government through the MMDAs must intensify their efforts to achieve universal coverage because most people cannot afford to pay the cost involved in extending water supply to their households. The respondents who indicated that they do not have access to safe water rely solely on unprotected springs, unprotected dug wells and streams for their daily activities such as bathing, washing and cooking. Some also rely on these sources not because they do not have a safe source but rather the salinity level of the water is high. Time and cost as revealed by the study has also affected the desire of people to access water from safe sources. The findings show that most of the respondents have to either queue for quite long or travel for about 2 km before getting access to water thereby encouraging them to resort to nearby water sources. Others who rely on public taps/standpipes pay before fetching the water has greatly affected families with a large number therefore making it extremely difficult for people to sustain themselves.

On the issue of saniation, some of the respondents indicate that they do not have access to toilet facilities while a minority of the respondents gave positive responses that indicating that they do have access to toilet facilities. Those with access rely heavily on public KVIP facilities. The definition of an improved sanitary facility does not include the use of shared facilities or public toilets. Although an improvement over the times when a lot more people did not use toilets, most of the respondents do not place value on the importance of having toilet facilities in their homes. Some of the obvious reasons are the costs associated

with the conventionally acceptable structures and the culture of sharing which is still present in rural communities. Most of the respondents conveniently sampled from the communities, perceive the ownership of a toilet facility as a luxury. This is quite sad because per their standard of living, they cannot afford this and as such share communal facilities with their neighbours and other members of their households.

This then begs the question regarding the number of people who share toilet facilities and the study reveals that averagely 15 people share a facility. This situation has improved even though it is below the standards of the JMP. This is because according to the MDG Report (2012), sanitation facilities shared amongst households are not considered improved per the definition used for the MDG indicator. Shared facilities are not hygienic and cannot be said to separate adequately, human waste from contact with users. 58 percent of the Ghanaian population was using shared facilities as at 2010 (MDG, 2012). The 2010 Census report mentions that the proportion of households using public toilet facilities rose from 31.4 percent in 2000 to 34.6 percent in 2010. According to the same report, 30 percent of households in the Volta Region rely on the use of a public toilet (GSS 2012).

Still on the challenge with respect to sanitation, some of the respondents indicated that they do not have access to toilet facilities and as such resort to bush/field.

An angry respondent said *"The assembly has provided the means of extending water supply to households who are willing to pay for it. The assembly has not done anything about sanitary facilities. The assemblyman meets community members and discusses*

issues of water and sanitation in the chief's house but nothing has been done" (field data 2013).

The interesting revelation is that people use the beach because of the closeness to the sea while some of them use the bush because they do not have enough money to pay for the amount charge or because the facilities are inadequate.

A respondent said "*we use the beach because of the closeness to the sea*" (*field data, 2013*).

Another also had this to say "*In my household, there is no toilet facility so we only go to a nearby bush"* (*field data, 2013*).

The 2012 MDG report, confirms this appalling situation. The number of people who do not use any facility and resort to open defecation has decreased by 271 million since 1990. But there remain 1.1 billion people or 15 percent of the global population with no sanitation facilities at all. Daily, entire communities are exposed to the considerable health and environmental hazards of inadequate human waste disposal. This finding is not too surprising as sanitation has always taken the back stage in the efforts of governments and communities towards development. This is evidenced by the fact that the goal of improved sanitation was added to the MDGs as an afterthought in 2002. The distribution of responses show that although most respondents are convinced that access to water sources have improved, the same cannot be said of sanitation.

Indeed sanitation or improved sanitation does not score high on the priority list of most African nations (AfDB, 2002). This is because only 41 percent of the population was using an improved sanitation facility as at 2008 (WHO, et al, 2010). It is acknowledged

that there are challenges with procuring and putting in place the necessary infrastructure for proper waste management. Again, there are stark disparities in the way rural and urban populations treat their waste. A further observation with reference to literature is that, although government and its donor partners have instituted these measures to remedy the situation which have existed for years, there is still more room for improvement. From the findings, it can also be said that although the measures adopted have been able to provide safe water and improved sanitation to a good number of respondents, some of them are yet to be captured. This shows that there is a way to go if not long.

The findings as have been revealed by this study is not quite surprising as the NDPC and UNDP (2012) confirm that Ghana's worst performance in meeting MDG targets is in the area of environment and sanitation. It goes on to state that there are clear doubts about Ghana's ability to meet the MDG target in relation to improved access to basic sanitation without drastic policy measures taken to improve the disposal of solid and liquid waste. The rapid degradation of the environment and the cost to the economy estimated at about 10 per cent of GDP raises concerns about the weaknesses in the enforcement of environmental laws in the country.

Views of respondents on the progress of measures put in place

As Ghana continues to be on track for meeting the MDG target of halving the proportion of population using improved drinking water source, the same cannot be implied for the sanitation target. While the MDG target for the country is 53 percent, by 2015, the national coverage for improved sanitation increased from 4 percent to 13 percent in 2010. The implication is that, about 1.2 million people will need to have access to or use an improved sanitation facility each year till 2015.The main purpose of these measures is to

extend the coverage with respect to safe water and improved sanitation. With this main focus, the government and donor partners have to ensure that the citizenry have access to these facilities by making them readily available and user-friendly. This has been the major objective behind the adoption of the MDGs in the year 2000.

It is a neccessity to always examine the progress of improving access to safe water and toilet facilities, especially in the light of the 2015 deadline. The distribution of responses shows that although some of the respondents are convinced that there has been progress, they still called for action with respect to increased coverage and quality. UNICEF reported in 2011 that the population with access to safe drinking water increased from 56 percent in 1990 to 65 percent in 2008, however the rate of progress is not sufficient for the African continent to reach the set target by the set timeline. Access to an improved water source in rural areas has been reported to have increased from 40 percent in 1990 to 53 percent in 2008, while access in urban areas between 1990 and 2008 remained at 86 percent (UNICEF et al., 2011).

From the responses highlighted thus far, it is evident that the expectations of respondents with respect to water and sanitation since the adoption of the MDGs have not been met. Even though Government along with donors such as DANIDA has provided some of these facilities, 55 percent of the respondents stated categorically that the government's efforts are woefully inadequate owing to fact that they still face challenges with accessing these facilities either due to time spent, or amount incurred. Even though some of the respondents have access to pipe water they still have problems with respect to the salinity levels in the water available.

The response from a respondent confirms the situation. He says: "*Here we have pipe-borne water from klikor but it is not helpful because the water is hard (salinity). We have*

asked that they extend water supply from Sogakope. It should be free from salt" (field data 2013) (*field data, 2013*).

In addition a respondent opined: *"Our pipe is derived from under the ground. There is salt in the water. The water is hard and so we drink the water from the pond and people put their feet in the water. The wells available are not clean and very salty. Once we fetch it because it is reddish we have to let it sit for 3 days before we can use it" (field data, 2013).*

These findings in the study area are not that removed from the national situation where giant strides have been with respect to other MDG targets but little can be said of the goal on environmental sustainability especially as it relates to water and sanitation. The various reports prepared by the WHO/UNICEF Joint Monitoring Programme, indicate that there have been successes in achieving an improved water source, although serious challenges remain with achieving access to basic sanitation (UNICEF et al., 2011).

Clearly a response by an interviewee says it all. He posited that "*It is true that some people have had water extended to their houses so there has been some improvement but with respect to toilets there is none"(field data 2013).*

The study shows that the even though considerable efforts have been made; there is still the need to double up efforts. Findings from the study indicates that the drive to localize the MDGs has been very beneficial in bringing safe water and improved sanitation to the doorsteps of the people. However, the journey is yet to be completed unless the intended goals and objectives are fully actualized.

4.2.2 Institutional Challenges

CWSA, WATSAN and major NGOs are supposed to be the vehicle of change, which aims at providing access to safe water and improved sanitation. Unfortunately, these institutions have encountered a number of problems in implementing projects to drive this new vision. The efforts fail because they cost too much, take too long, are inadequately thought out and specified or simply do not deliver the expected benefits. There are several challenges confronting the achievement of MDG 7.

When respondents were asked to enumerate the institutional challenges of the sector institutions in their communities, they generally held the view that financial constraint is a big challenge for CWSA arising from the unsustainable nature of projects. In addition, respondents stated that poverty, un-sustained and uncompleted projects or programmes, poor community participation, poor management of projects, other some of the major challenges affecting the local implementing institutions.

The unsustainable nature of projects is one of the factors affecting most of the government and donor funded projects aimed at providing safe drinking water and improving upon the availability of sanitary facilities in the Ketu-South Municipality. According to Easterly et al. (2004) both the donor and the recipients have a duty to perform in making sure that projects are able to survive and achieve their full objectives within their stipulated life span.

Donors have faced persistent critiques including the insufficient, unpredictable, and restrictive nature of aid flows, lack of coherence of foreign assistance and other international policy instruments within and across donors, and distorted accountability systems between donors and beneficiaries (Kosack, 2003). This critique does not seem vague because it brings to bear on the sustainable management of donor funded projects.

According to a respondent's view as earlier mentioned, "*Financial weakness due to non-recovery nature of projects, the distorted inflows of project funds and accountability systems between government, donors and beneficiaries has really rendered a lot of projects in the district unsustainable" (IDI Respondent 5, field data 2013).*

Most of the projects aimed at achieving the MDG targets have in one way or the other suffered from this challenge. There is the need to adopt only those projects which employ the use of basic technology which is less expensive and would provide a source of employment for the people.

Ghana as well as many developing countries has been battling with corruption over the years in all spheres of life. Most of the challenges faced today are as a result of the corrupt practices of past leaders and the present generation. Some of the respondents also revealed that some of the projects have failed because of the corrupt practices of some of the project officials. According to some respondents most of the funds allocated to projects are embezzled. Others simply do no know exactly what is done with the funds collected. They believe that project participants and related players are not held accountable for their inability to achieve set targets.

An interviewee said "*The percentage of the water levies that is to come to the community is not being accounted for. If it was, the money could be used to extend access to water to more household in the community. The board members in Nogokpo do not account for the monies collected in Yelibator" (IDI, respondent 7 field data 2013).*

There is therefore the need to determine and use accountability as part of the project risk profile. These accountability risks will be then identified and managed in a more transparent and legitimate manner.

A respondent confirmed with this statement "*Since the money is not accounted for, there is no way of knowing whether the funds are being used for the desired purpose" (field data, 2013).*

The next challenge is inadequate local capacity and apathy. Apathy has been considered as one of the challenges facing the district assembly concept in Ghana. The Ketu-South Municipality has also been without this challenge. Most of the people in the district are apathetic therefore affecting the delivery of services. Some of the people do not see why they have to be involved while others who have shown interest in being part of the management of affairs are not given enough room to do so. Community participation in most of the activities of these institutions has been very low accounting for the failure of some of the projects in the communities. Others do not also participate because they lack the capacity to do so. Continuous capacity building is required at various levels throughout the implementation process, including local, regional, national and international levels.

Capacity building can be used to reorganize and strengthen governments, institutions or individuals. International donors often include capacity building as a form of assistance for developing governments or NGOs working in developing areas. Indeed the essence of the local government concept is to bring governance and development to the doorsteps of the people and to foster national unity which implies that participation is a prerequisite thereby making local capacity building a pillar.

"*One of the key issues is the capacity to deliver. Some of the contractors that we secure despite the fact that they go through the tender process once the contract is awarded, you find that they do not have the requisite materials to deliver. There are some on-going water projects which should have been completed long ago because you cannot determine what they are doing or exactly what is causing the delay. Some contractors are still on site and constantly giving excuses" (IDI, respondent).*

In relation to the challenges identified above, it is important to ascertain whether there are any platforms on which community members can make meaningful contributions towards policy formulation and implementation. In some cases there might be a platform even though it may not be adequate. The responses gathered shows that most of the people are not involved in matters relating to water and sanitation. Some of the respondents stated that there are no such platforms and as a matter of fact they have not been involved in the management of affairs while the remaining said there are indeed such platforms but the problem is that they are woefully inadequate and do not provide the needed atmosphere for the people of the community to actively get involved in the management of their own affairs.

The responses indicate that currently there are structures to achieve grass root participation through the WATSAN committees even though its inadequate. A

n interviewee had this to say:*"To be frank with you when we are developing action plans for a community, various areas and people are selected from the beneficiary group but normally not representative. If we want to put a facility up at an assemblyman's area we allow the assembly man to have a fair view and it is his duty to relay it back to the community members and make an input" (IDI, respondent DCD).*

Almost all the communities have WATSAN committees which meet and discuss water supply issues whether they have water facilities or not. The designing of water supply programmes depends on and starts with them because through their meetings they identify their difficulties, notify the Assemblyman, who then brings it to the notice of the Assembly. This implies that if they fail to meet regularly then they cannot champion the cause of their communities.

Indeed commitment is important in any relationship. It is the value that galvanizes diverse entities so that all can work together unilaterally and seamlessly. Without it, there is no bond and no common purpose. Securing commitment is difficult, more so if two parties do not see the carrot at the end of the stick. There are many barriers to securing commitment, and there are many levels of commitment that may not necessarily guarantee an incentive at the end of it, nor parties who will enjoy the rewards.

Stakeholder support such as political will has derailed some of the projects in the district. Sometimes because the programme or project may be running parallel to government programmes, the politicians tend to overlook it therefore making some of the projects unsustainable. The onus therefore lies on the assembly and the communities to take up their own development in order to utilize the funds allocated for some of these projects. Nevertheless, with the presence of these obstacles, the findings of the study show that in consonance with earlier researches, the institutions have been able to improve access to safe water and sanitation by introducing the much needed measures. The outcomes still have the potential for further success when all the challenges identified are effectively addressed.

4.2.3 Local Factors Hindering the Achievement of MDG 7

The achievement of the MDGs depends largely on the local resources available, infrastructure, environmental conditions or geographical factors. These factors can either speed the process or draw back the process. Some of the factors identified are climate change, economic disposition of the people (poverty), educational factors and water safety in the area.

Climate change is an influential factor that with the potential to affect the achievement of sustinable development.

A respondent reitrates "*The weather these days cannot be predicted and so the Assembly finds it difficult embarking on projects at the right time"(IDI Respondent field data, 2013).*

Another respondent also hinted that *"Change in the climate has led to decreased rainfall which is affecting groundwater levels"(IDI Respondent field data, 2013).*

The current and anticipated effects of climate change threaten further progress on each of the MDGs. Climate change arguably poses the greatest threat to reducing poverty, advancing global development, and realizing human rights, the world has ever seen. It is the poorest nations, and the poorest communities within them, including women and indigenous communities, which are experiencing negative climatic effects most immediately and most powerfully. MDG 7 is relevant to both rural and urban regions, and climate change is affecting progress toward meeting the goal in both contexts.

According to the Millennium Ecosystem Assessment (MEA), 60 percent of the Earth's ecosystem services essential to human society, such as providing fresh water, cleaning the air, and pollinating crops, are currently degraded or being used in unsustainable ways. "Any progress achieved in addressing the goals of poverty and hunger eradication,

improved health, and environmental protection is unlikely to be sustained," if disruption of ecosystem services goes on (UNEP 2005).

Climate change is putting new pressures on ecosystems: desertification from heat, drought, and the melting of glaciers, and the migration or extinction of species that maintain ecosystem health and support livelihoods. In rural areas, individuals and communities that depend on natural resources will experience greater hardship, and the potential for a deepening of poverty, as ecosystems become less productive and less resilient to climate shifts. A vicious circle can be unleashed: increased exploitation in a desperate scramble for survival and plunging prospects for sustainable development. About half the world's people now live in cities. A rise in global temperatures of 3 to 4 degrees Celsius may lead to the displacement of more than 300 million people on a temporary or permanent basis due to flooding, according to the UN Development Programme (UNDP, 2007).

Poverty is another important factor affecting the achievement of MDG 7 in the Ketu-South Municipality. Poverty and the economy are interconnected; only healthy people are strong and can work to earn their living as well as, take care of their needs and those of their families. There is an overlap between poverty and lack of access to improved water and sanitation. People without access to improved water source are so disadvantaged because; they do not make enough money a day, to spend even on food. "About a third of people without access to an improved water source live on less than one dollar a day" (Watkins Report, 2006).

Economically most of the people in the Ketu-South Municipality as has been revealed, are self-employed traders and farmers who find it difficult to earn a living thereby making

them vulnerable. People simply cannot afford to pay for the fee charged for fetching water or using toilet facilities and have therefore resorted to the use of the beach and fields.

The views of an interview respondent supports this when he say "*People are poor. There is no work the main source of income is farming but now there is no rain" (field data, 2013).*

Another respondent maintains that *"Poverty is a problem the only economic activities are fishing which is seasonal, salt production has started and small scale trading" (field data, 2013).*

Considerable work remains if the MDGs are to be achieved by 2015 looking at the current economic situation.

The other factor which was mentioned by the selected respondents from the community was the safety of the water from the land. They touched specifically on the salinity levels. Some of the respondents complained about how salty the water from some of the boreholes and dug wells are. Water is crucial for sustainable development. However, limited access to clean and safe water associated with poor water supply, hygiene and sanitation at household level is widening the poverty gap, gender inequalities and the prevalence of water borne diseases (Gender and Water Alliance (GWA), 2006).

There are a number of water safety issues affecting the water delivery process. These include high iron, fluoride and arsenic contents. Even in areas with reasonable drilling success rates, the chemical content in the water is usually higher than the recommended levels, making it impossible to use the water from those sources for drinking purposes. Most of the respondents disclosed that because they live closer to the coast, salinity continues to be a major constraining factor. Indeed most of the boreholes sunk for some communities have been rendered useless because of this challenge.

Some of the respondents complained *"most of the boreholes and dug wells provide salty water"(field data, 2013).*

An interviewee has this to say *"there is the problem of Salinity where the water facilities (boreholes) have salt intrusion and so the communities reject them. In some communities like Tokor there is no water there is only saline water" (field data, 2013).*

From the challenges identified above, Ghana, without delay, must engineer those strategies which will expedite her progress towards the attainment of MDG 7, especially with respect to the target for sanitation, pursuing it with the necessary level of commitment and pragmatic actions to ensure realization of the goals. At the current pace of increase in the use of improved sanitary facilities, the number of people in Ghana who would not use improved toilet facilities will be 18.7 million by 2015 (WSMP, 2009).

4.3 Conclusion

This chapter has presented the key findings that were gathered from the field. These findings have been discussed in line with the literature and the world progress with respect to MDG 7. Issues such as key measures put in place, institutional challenges and local factors hindering the achievement of MDG 7 have been discussed. The situational and local factors are constraining the efforts of achieving the target. That notwithstanding, government and donor partners have played different roles which need to be commended. The study has also revealed that to be able to achieve the targets government will have to double up its efforts in order to this goal which provides yet another stepping stone to achieving the much larger goal of development.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

The chapter presents a summary of the research study whilst highlighting the key findings discussed in the previous chapter. Recommendations are outlined here.

5.1 Summary of Findings of the Study

The findings presented in this section are presented using four main themes derived from the objectives of the study. They are namely;

- Demographic information
- The assessment of respondents' views on the measures put in place by the Government to improve access to improved water and basic sanitation.
- The challenges of the implementing institutions at the level of rural leadership (Municipal Assembly, CWSA, DWST, WATSANs).
- The local factors observed to be hindering the achievement of the MDG 7 in the Ketu-South Municipality.

In all a total of 45 people participated in the study. Out of the 45 respondents 10 of them were interviewed whereas the remaining 35 responded to the questionnaires distributed. Out of the 45 respondents 26 were females representing 57 percent of the respondents whereas the remaining 19 were males. The findings of the study confirm that in cases where water supplies are not readily accessible, the burden of carrying water, falls disproportionately on women and girls.

The government's agenda in the water sector is driven by the objectives of the Millennium Developments Goals, the Growth and Poverty Reduction Strategy (GPRS II) (Government of Ghana, 2005), the National Water Policy (Government of Ghana, 2007) and the African Water Vision for 2025, (United Nations Economic Commission for Africa, et al., 2004). As observed by the respondents Ghana's efforts towards making the access to improved water for Ghanaians a reality have been successful to a degree.

While several inter-sectoral processes have generated concrete outputs (in terms of policies, plans, strategies, programmes, inter-sectoral working groups), none have been successful in influencing the government's budget in such a way that more funds are allocated to environmental priority issues.

More still, though the coverage of facilities has increased in certain parts, such facilities have been abandoned by the expected beneficiary communities for various reasons including disputes, inability to pay and poor maintenance. Most of the respondents called for a reduction in the cost involved in extending to their various homes. Even though some of the respondents have access to piped water they still have problems with respect to the salinity levels. This constitutes a local challenge.

Ghana's performance on the target of sanitation as reported for 2010 by the JMP shows that 58 percent of the population uses a shared toilet facility. According to the same report, only 14 percent of the population was using an improved sanitary facility in 2010. Sanitation facilities that are shared are not considered improved per the definition for this MDG indicator. Most of the respondents estimated that on an average, 15 or more people shared their toilet facilities.

There are a number of concerns ranging from hygiene and accessibility to maintenance. 33 percent of the rural population in Ghana is practicing open defecation. It is projected by WSMP (2009) that 18.7million people will not be using an improved toilet facility by 2015. However this poses a challenge which remains a threat to the weak infrastructural allocations in the area of health.

It is noted that about 40 percent of the settlements in the Municipality have no access to toilet facilities.

Some of the other challenges under the objective of identifying the local challenges hindering the achievement of goal 7 include the dry equatorial type of climate. Generally, rainfall in the District is considered low and erratic.

The other local challenge highlighted by respondents was the inadequate commitment and participation by community members.

According to the 2012 JMP reports, Ghana's water coverage which places her on target to achieving the goal on water is 86 percent as at 2010 exceeding the MDG target of 76 percent. The coverage rates are an indication of the success of programmes implanted by the Water and Sanitation Sector players. According to the GDHS 2008, the Volta Region had achieved a coverage rate of 67 percent. The findings of the study confirm that there has been some improvement in the supply of water to Ghanaians the majority of whose population lives and work in rural areas.

On the overall perception of achievements made so far, the responses were however not encouraging. Most of the respondents indicated that despite the measures put in place by government and institutions they are still not satisfied. In the last five to ten years the focus in rural water supply has shifted from point sources (mainly boreholes with hand

pumps) towards (normally) simple piped networks for small towns. The focus on small towns with their relatively higher population density has undoubtedly contributed to the relatively rapid rise in coverage rates in the last years. According to a CWSA report in 2009, 57 percent of the rural population had access to improved water sources (ranging from a high of 77 percent in Upper West to a low of 41 percent in Western). However, according to the 2008 Demographic and Health Survey (GSS, GHS, and ICF Macro, 2009), the percentage of the rural population with sustainable access to an improved water source was 76.6 percent.

These figures do not exactly reflect the situation in a rural community like Ketu-South. There are obvious challenges with accuracy possibly because the right things are not being measured. It is not enough to sink a borehole fitted with a hand pump if people cannot use the water because it is salty or has run out. To achieve sustainability we may want to assess other key measures which will give a more accurate view.

Although vague to a degree, the Millennium development goals have provided a starting point for the actions necessary for development. It is the responsibility of member states to ensure that the efforts and results can be sustained and improved upon (Bakalian & Wakeman, 2009). There is the need for Ghanaians to move away from the cliché' that dictates that Ghanaians generally lack a culture of maintenance which translates into the inability to achieve sustainability.

The study has succeeded in bridging the knowledge gap relating to the figures quoted by the various monitoring bodies and the reality in a rural community. The assembly is working within the framework of MDGs. The target is to achieve 80 percent coverage

with respect to improved water provision by 2015. The Assembly has drawn up programmes to achieve this goal through the provision of boreholes, extension of water supply systems and expansion of the existing water supply systems to more communities to achieve the targets. The capacity of the districts to effectively manage water and sanitation projects under their jurisdiction is obviously not without challenges. The implications for policy based on the findings stress on the need for increased community participation, profiling of communities prior to the implementation of programmes.

5.2 Conclusion

UNICEF and WHO have cautioned that since the measurement of water quality is not possible globally, progress towards the MDG target of safe drinking water is measured through gathering data on the use of improved drinking water sources. Significant work must be done to ensure that improved sources of water are and remain safe. This is an identified gap for research which will help to establish whether the access to improved water sources is equal to access to safe water where the quality is without question.

Based on the findings of the study, there is the need for increased efforts by government and all stakeholders which is actually the entire population to take up the water and sanitation head on and come up with relevant lasting solutions. Thus supporting the recommendations proffered by the IRC Study (2009), with respect to strengthening the systems in place through maintenance and awareness as well as strengthening institutions at the various levels. Defining the roles of all the players in the sector to achieve increased efficiency and accountability, adopt the use of cheap and sustainable measures whilst taking into consideration user preferences and ability to pay continues to ring true as a way forward.

The United Nations General Assembly has recognized drinking water and sanitation as basic human rights. That means we must ensure that every person has access." There can be no compromise. Access is a basic right that must not be denied anyone. Access affects health which is a human right, affects dignity, affects freedom from poverty affects chances of formal education. There is the need to increase awareness of this right and inform audiences about what is required for them to play their part.

Awareness and the commitment of leadership community members plays a crucial role in ensuring that programmes and structures to improve the access to and the use of improved water and sanitary facilities are sustainable.

The Assembly is preparing to be hooked on to the CLTS programme in the fight against open-defecation. This is anticipated to put the Municipality on the right track. This programme relies on the use of Community Led Total Sanitation Based Hygiene and is a reflection of the role the role community members can play when they take pride and ownership of their surroundings.

The effort of community members is required to identify and define a desirable sustainable future and the actions needed to attain it through engagement in community driven exercises.

5.3 Recommendations

The UN estimates that by 2025, two-thirds of the world will face water "stress". This has the potential to cripple businesses and reduce profits. The scarcity of water translates ultimately in a rise in the cost of production

The corporate social responsibility movement should be tapped into, to support the efforts of communities and MMDAs in implementing their projects. The benefits will be boundless because no one is removed from the problem of lack with respect to water and sanitation. Corporate organizations now have to include expenditure on water on their financial reports. It is time to contribute to the solutions to mitigate the cost of this lack and fragile sustainability.

In my view, water and sanitation although related, are two distinct major subjects which would be better served if addressed independently. Conflicting roles results in high implementation costs

We must consider separating the two issues and give each one the required impetus more so to the area of sanitation which is lagging far behind. This can be done through legal backing, institution building and community participation to ensure compliance towards the achievement of the goal of sanitation which is important for achieving the other goals. Without sanitation our water sources will get contaminated which will further increase poverty because of spending on medicine or even loss of life which simply translates to the unnecessary loss of human resource.

COM though ideal in theory may serve as a setback to government's efforts in achieving equity with respect to the provision of access for poor communities. It may be time to pay attention to what the people are saying and develop their opportunities for economic growth. Local initiatives that seek to create opportunities for work and sustenance that offer sustainable and credible alternatives to current processes of development and modernization must be identified and prioritized. Thus although community members are

not financially enabled they can contribute in various ways for example, through their knowledge of the area and the use of their labor.

When community members are not consulted during planning, the assertion is that it is highly unlikely that they will participate when it comes to the implementation process

Community participation has the potential to bring about the much needed attitudinal change which is necessary if Ketu-South (Ghana) is to achieve environmental sustainability.

The fulfillment of the need for a defined process of implementation by government and donor partners, will impact the success of MDG 7 in Ketu-South. This is because a clearly defined process will encourage accountability of the key actors and will engender the support of the end beneficiaries which are the people of Ketu-South toward the attainment of this all important goal.

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APPENDICES

APPENDIX A: SEMI STRUCTURED QUESTIONNARE

UNIVERSITY OF GHANA BUSINESS SCHOOL
DEPARTMENT OF PUBLIC ADMINISTRATION AND HEALTH SERVICES MANAGEMENT

QUESTIONNAIRE ON AN ASSESSMENT OF THE ACHIEVEMENTS AND CHALLENGES OF THE MILLENNIUM DEVELOPMENT GOAL 7 IN THE KETU-SOUTH DISTRICT.

As part of an on-going study, this questionnaire is designed to collect data on the achievements and challenges of the millennium development goal 7 in the Ketu-South district of the Volta Region of Ghana. This goal seeks to achieve environmental sustainability by ensuring that the population without access to safe water and basic sanitation is reduced by half by the year 2015. The essence of the study is to assess the progress made since the year 2000 with respect to improving upon the access to safe water sources and improved sanitary facilities in the Municipality. Your participation in the study would be much appreciated as this will go a long way to make the study a success. Please be assured that all responses and comments will be kept confidential since your identity will not be revealed by the research team anywhere in the process. Your responses will only be used for the purpose of this study.

Kindly answer the following questions by ticking in the boxes provided where appropriate or writing your responses in the spaces provided beneath each question.

1. What is your sex? Male ☐ Female ☐

2. How old are you? 18-27 ☐
   28-37 ☐
   38-47 ☐
   48-57 ☐
   58-67 ☐
   68-77 ☐

3. What is your occupation?

   ……

4. What is the name of your village

   ……

5. How many people live in your household?

   ……

6. Do you have access to water in your house? Yes ☐ No ☐

7. If the answer is yes, what kind of water supply facility do you have?

Piped water into dwelling, yard or plot ☐
Public tap or standpipe ☐
Borehole ☐
Protected dug well ☐
Protected spring ☐
Rain water ☐
Unprotected spring ☐
Unprotected dug well ☐
Water tanker ☐
Sachet or bottled water ☐

8. If the answer is No, then how do you get water for your daily activities like washing, bathing and cooking?

……

……

……

9. How long does it take you to get to the source of water?

……

……

10. How many gallons of water do you use daily?

……

……

11. Do you have to pay for water for your household uses? Yes ☐ No ☐

12. How much is charged per gallon in Ghana Cedis?

……

13. How much do you spend on water in a day?

……

14. What source of water do you use for mainly cooking and drinking?

……

……

15. Is there a toilet facility in your household? Yes ☐ No ☐

16. If the answer is yes, what kind of toilet facility do you have?

Flush toilet ☐
Piped sewer system WC ☐
Septic tank ☐
Flush to pit latrine ☐
KVIP ☐
Pit latrine with slab ☐
Composting toilet ☐
Pit latrine without slab ☐
Bucket ☐
Hanging toilet or hanging latrine ☐
Bush or field ☐
Beach ☐

17. If yes, how many do you have?

……

18. Do you share toilet facilities with your neighbours? Yes ☐ No ☐

19. In your estimation, how many people share your toilet facilities?

……

20. If the answer to Question 14 is No, where do you go to toilet?

……

……

21. Is there a fee for the use of the facility? Yes ☐ No ☐

22. If yes, how much do you pay each time you visit?

……

23. How long does it take you to get from your house to the place of convenience of your choice?

……

24. Briefly describe the role of the CWSA, NGOs, WATSAN in the delivery of water and sanitation services in the Ketu-South Municipality

……

……

……

……

25. Do you think that there has been an improvement in your access to water and basic sanitation? Please explain.

……

……

26. In general, are you happy with the time you spend fetching water? Please comment.

……

……

……

27. In general, are you happy with the time you spend trying to use a public toilet? Please comment

……

……

……

28. Do you understand why clean water and basic sanitation are important? Please comment

……

……

……

29. Does the water supply services being provided by Government and related institutions meet your needs and expectations? Please explain

……

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……

……

30. How do you receive information on water and sanitation programmes in the municipality?

……

……

……

31. Are you satisfied with the number of toilets and boreholes or stand-pipes in your community? Please explain

……
……

……

……

32. Are there any platforms for you to make any meaningful contribution (participate) in the formulation of policies and programs in the municipality? If there are, do you take advantage of them? Please explain

……

……

……

……

……

33. In your opinion, are there any differences in water and sanitation services and projects between the years before 2000 and 2012? Please explain

……

……

……

34. Are there any problems/barriers encountered in access to water and toilet services in the Municipality? What are they? Please explain

……

……

35. In your opinion, what do you think can be done to improve the delivery of water supply and sanitation services in the municipality?

……

……

……

THANK YOU

APPENDIX B: INTERVIEW GUIDE FOR DATA COLLECTION

University of Ghana Business School

Department of Public Administration and Health Services Management

(Interview Guide for Data collection)

My name is Ruby Victoria Lawson. Thank you for granting me the time and audience to discuss my research study with you. I would like to talk to you about the achievements and challenges of the access to water and improved sanitary facilities in this municipality. This study seeks to assess the achievements and challenges of MDG 7 Target 7C in this municipality. Your contribution to this study will serve as important information which could be used to positively affect and improve upon the water and sanitation structures in the municipality.

The interview would take less than one hour. I would like to ask your permission to make use of a recorder during this discussion. This is because although I will be making notes, I do not want to run the risk of missing out on any part of the discussion.

Kindly be assured that all responses will be kept strictly confidential and will only be used for the purpose of the success of this study. The report generated for academic work will not identify you as the respondent. Please remember that you do not have to talk about anything that you do not wish to speak about. You are free to end the interview at anytime.

Please confirm that you have read and understood what is being asked of you and would still want to participate by appending your signature below.

Thank you.

Interviewee…… Witness……

Date……

Interview Guide Questions

1. What is the definition of safe water in your opinion? What should it be based on in your experience?
2. What constitutes improved sanitary facilities in Ketu-South?
3. What are the goals of the Municipal Assembly regarding access and coverage of water?
4. How are these goals and plans being achieved?
5. What human (technical), physical, economical resources are being channeled into improving access to water and basic sanitation? In your opinion are they enough?
6. How are these resources being monitored to ensure that they are used for their intended purpose?
7. Are there any mechanisms in place to ensure that monetary resources are not being diverted for personal gain?
8. What are the linkages between the Municipal Assembly, District Assembly, Environmental safety officers and the Municipal Health Directorate in terms of protecting water resources and promoting access to improved water and sanitation facilities?
9. What level of authority does the District Assembly have in distributing and managing the water and sanitation resources in this municipality?
10. To what extent is local content (community participation) included in planning for programmes and activities in the district?
11. What are the main barriers to the effective delivery of water and sanitation services in the municipality?

12. Are there any programs currently in place to improve and achieve full coverage and access to safe water and improved sanitation especially for the poor in the municipality? If yes, what are they?
13. How successful have the programmes been towards executing the policy of reducing by half the proportion of the population without access to safe water and improved sanitary facilities?
14. What have the (local factors) challenges been with achieving the objectives of reducing by half the proportion of the population without access to safe water and improved sanitary facilities of the municipality?
15. Has there been significant progress made in the municipality since the adoption of the MDGS?
16. What do you think can be done to improve the state of access to and coverage of potable water and sanitation in the municipality?
17. What are your additional comments if any?

I will be analyzing the information you and others gave me and would be happy to present a copy of the report to your outfit if you are interested.

Thank you for making the time and for your contribution to my research.

APPENDIX C: Localizing MDG 7 Target 7c in Pictures

Alternate source of water for a community in the Ketu-South Municipality

A protected well “vudo”

Water Supply System

The water situation

A Public KVIP toilet

Ketu-South Municipal Assembly Office Building

Office of CWSA at the Ketu-South Municipal Assembly

Factors for Sustainable Development

The logo for MDG 7