

Assessment of Community Water and Sanitation in Ghana

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Abbreviations

ADB	African Development Bank
AFD	Agence Francaise de Development
CAP of Water	Coalition Against Privatization of Water
CCMA	Cape Coast Municipal Assembly
CSIR	Council for Scientific and Industrial Research
CWSA	Community Water and Sanitation Agency
CWSP	Community Water and Sanitation Programme
DA	District Assemblies
DANIDA	Danish International Development Agency
DBWSC	District Based Water and Sanitation Component
DWST	District Water and Sanitation Team
EU	European Union
GOG	Government of Ghana
GPRS	Growth and Poverty Reduction Strategy
GWCL	Ghana Water Company Limited
GWSC	Ghana Water and Sewerage Corporation
HH	House Hold
HIPC	Highly Indebted Poor Country
IDA	International Development Agency
ISODEC	Integrated Social Development Centre
KEEA	Komenda Elmina Ebrim Aguafo
KfW	Kreditanstalt fur Wiederaufbau (German Development Bank)
KVIP	Kumasi Ventilated Improved Pit
MDGs	Millenium Development Goals
NCWSP	National Community Water and Sanitation Programme
NEPAD	New Partnership for African Development
NGO	Non Governmental Organization
RWSP	Rural Water Supply Project
SEA	Strategic Environmental Assessment
STWSSP	Small Towns' Water Supply and Sanitation Project
UGMS	University of Ghana Medical School
UK	United Kingdom
UNICEF	United Nations International Children's Educational Fund

VIP	Ventilated Improved Pit
WATSAN	Water and Sanitation Committee
WC	Water Closet
WHO	World Health Organization
WSDB	Water and Sanitation District Board
WRI	Water Research Institute

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Chapter One

Introduction

1.1 Background

The appreciation of the value of water for the sustenance of life began decades ago, even though in recent years that appreciation has shown a marked increase. Various initiatives at conferences have over the years led to the advancement of policy issues on water. For example, there was the Dublin Conference, at which the Dublin Principles were developed and these include:

- Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.
- Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
- Women play a central part in the provision, management and safeguarding of water.
- Water has an economic value in all its competing uses and should be recognized as an economic good.

Another conference was the Earth Summit held in 1992 where the Agenda 21 detailed a number of principles including the need to:

- Ensure the integrated management and development of water resources;
- Assess water quality, supply and demand;
- Protect water resource quality and aquatic eco-systems;
- Improve drinking water supply and sanitation;
- Ensure sustainable water supply and use for cities;
- Manage water resources for sustainable food production and development;
- Assess the impact of climate change on water resources.

To a large extent, these principles as well as others play a central role in water policy formulation worldwide, including Ghana. The goal of the Government through the Community Water and Sanitation Agency (CWSA) is to attain national water coverage of 85% by 2015.

However, the diversity of conceptualizations of water is at the heart of the debate on the policies and strategies to provide good water for all human communities particularly in the marginalized areas of societies. On one hand, there is the pro-market notion of water as an economic resource or commodity and on the other hand there is the concept of water as a public good, a heritage and even a right (ISODEC and Globalisation Challenge Initiative, 2001a; World Markets Research Centre (2002);

Amenga-Etego (undated). Indeed the Coalition Against Privatization of Water (CAP of Water) produced “The Accra Declaration on the Right to Water” of 19th May 2001 highlighting certain principles including:

- water is a fundamental human right;
- water is not and should not be a common commodity and sold as an economic good;
- water is a natural resource that is part of our common heritage;
- water is an increasingly scarce natural resource and as a result, crucial to the securities of our societies and sovereignty of our country. For this reason alone, its ownership, control, delivery and management belong in the public domain (ISODEC, 2001b).

Since the 1990s Ghana has made efforts to put in place and implement strategies for addressing the needs for water of the general populace. A major concern was the supply of water in communities of rural and semi-urban status where majority of the people live. In 1992 Ghana initiated the National Community Water and Sanitation Programme (NCWSP) to provide solutions to the problems of water and sanitation in rural communities and small towns. The linking of water and sanitation is based on the fact that these two are inter-connected in relation to the health of the people. The Community Water and Sanitation Agency (CWSA) was consequently established in 1998 by an act of Parliament (CWSA Act 564) to provide the institutional base for the implementation of the NCWSP.

The establishment of the CWSA was primarily because the then Ghana Water and Sewerage Corporation, the organization responsible for the supply of water in Ghana was unable to respond effectively to the needs of the small towns and rural communities. Its preoccupation was with the urban areas. It was found that there was need for a separate and autonomous entity to focus on the needs of the small towns and rural communities within the framework of the NCWSP. A key component of the programme is the emphasis on community ownership and management. Among other things it entails effective community participation in the planning, implementation and management of the water and sanitation facilities. It is believed that as custodians, communities will ensure the sustainability of these systems. The agency has a head office in Accra and regional offices in the 10 regional capitals of Ghana. Since its operations, thousands of water systems have been provided in small towns and communities all over the country.

However, the rationale for establishing the CWSA in the first place underscores the major problem of water supply in Ghana generally. As the population grew and the pressure on the finite water resources increased, the supply of water to the communities faced major challenges. The factors coming into play to compound these challenges are many including the dwindling or inadequate water resources, capacity building, financing of the water systems and participation of stakeholders in the operation of the systems.

This research generally aims at assessing the extent of the implementation of the policy for community water and sanitation. The research will aim at addressing a number of questions such as:

- What aspects of the water supply to rural communities and small town have been omitted or marginalized in the existing water policy?

- What are the challenges in policy implementation?
- What are the options for improving the situation?

The specific objectives are:

- i. Assessing the effectiveness of policy in terms of delivery to the small communities and small towns;
- ii. Identifying innovations in water supply and sanitation systems;
- iii. Assessing the extent of achieving gender mainstreaming in implementing the national water policy at the community level;
- iv. Generating options for policy formulation.

1.2 Water Resources Potential and Utilisation

Ghana's water resources are derived from two main sources namely surface and groundwater. The surface water resources are mainly from three river systems draining the country – the Volta, South Western and Coastal river systems – constituting 70%, 22% and 8% respectively of the total land area of about 240,000 square kilometres of Ghana. Apart from this the only important freshwater source is the Lake Bosomtwi, which is a meteoritic crater located in the forest zone, with a surface area of 50 square kilometres and a maximum of 78 metres depth (Ministry of Works and Housing, 2005).

The ultimate source for surface and groundwater is rainwater. Though it is not much exploited directly, rainwater harvesting has a great potential to increase water availability. The total annual runoff is 56.4 billion m³ with River Volta accounting for 41.6 billion m³. The mean annual runoff from Ghana alone is about 40 billion m³. Wide disparities between the wet season and dry season flows characterize the runoffs. The total water resources available from surface water sources are 39.4 billion m³ per annum (Ministry of Works and Housing, 2005).

In considering the groundwater resources of Ghana, one has to begin from the geological formations. Three main geological formations, namely basement complex comprising crystalline igneous and metamorphic rocks; the consolidated sedimentary formations underlying the Volta Basin (including the limestone horizon) and the Mesozoic and Cenozoic sedimentary rocks, characterize Ghana's ground structure. These formations invariably influence the availability of groundwater in its respective area. The depth of aquifers in the basement complex and the Volta Basin is normally between 10m to 60m with yields rarely exceeding 6m³/h. The aquifer depths in the Mesozoic and Cenozoic formations are usually between 6 m and 120 m with average yields of about 184m³/h particularly in the limestone aquifer (WARM, 1998).

Groundwater occurrences in limestone formations are much deeper and typically in the range of 120 m to 300 m. The average yield in the limestone formation is 180m³/h. Groundwater is considered to have some advantages over surface water for provision of water supply and is usually used as a first choice option for community water supplies. It is more reliable throughout the year and generally

requires no treatment. Supplying water from springs and wells are relatively inexpensive and provides a good basic service. In all cases, their advantages are very well enhanced once the sources provide all year round supply of water (Ministry of Works and Housing, 2005).

However, the utilisation of groundwater as sources of potable water supply is faced with a number of constraints. For example, there are saline intrusions in shallow aquifers along the coastal zone, while borehole yields in the Northern, Upper East, Upper West and parts of the Brong-Ahafo regions are often insufficient with some occurrence of “dry boreholes”. Many borehole sites, particularly hydrogeological formations such as those underlain by crystalline basement rocks, with fractures and fissures, while suitable for locating boreholes are also channels for rapid transfer of pollutants (Ministry of Works and Housing, 2005). There is therefore potential for contamination from point sources including refuse dumps, latrines and unprotected water points. There are also problems of high iron and fluoride contents in parts of the country including Western, Northern and Upper East regions of Ghana.

1.3 The Policy Framework for Community Water and Sanitation

The National Community Water and Sanitation Programme (NCWSP) was launched in 1992 to address the challenge of providing water to rural communities and small towns in Ghana. To ensure the implementation of the programme, the Community Water and Sanitation Agency (CWSA) was established under the Parliamentary Act 564, The Community Water and Sanitation Agency Act, 1998, which came into force on 30th December 1998. The Act established the Agency to “facilitate the provisions of safe water and related sanitation services to rural communities and to provide for connected purposes”.

Act 564 specifies the functions of the CSWA among others, as follows:

- (a) provide support to District Assemblies to –
 - (i) promote the sustainability of safe water supply and related sanitation services in rural communities and small towns; and
 - (ii) enable the Assemblies to encourage the active involvement of the communities, especially women, in the design, planning, construction and community management of projects related to safe water supply and related sanitation services.
- (b) formulate strategies for the effective mobilization of resources for the execution of safe water development and related sanitation programmes in rural communities and small towns;
- (c) encourage private sector participation in the provision of safe water supply and related sanitation services in rural communities and small towns;
- (d) provide District Assemblies with technical assistance in the planning and execution of water development and sanitation of water development and sanitation projects in the districts Act 564, 2 sub-section (2)).

The Chief Executive attends to the day to day operations of the Agency, which has the national head office in Accra and regional offices in the 10 administrative regions. At the district level, it operates through the District Assembly (DA). The President of the Republic of Ghana appoints a Management Board with representation from the relevant key institutions to oversee the performance of the functions and formulation of institutional policies.

The coverage of the service defined in terms of people having access to the facility provided in the community is specified as follows:

(a) Water

- 300 persons per spout of stand post, stand pipe or borehole;
- 150 people per hand dug well;
- Walking distance of not more than 500 metres from the farthest house in a community;
- 20 litres per capita per day minimum;
- Water source must provide all year round supply at an acceptable quality in accordance with specifications of the Ghana Standards Board, which is in line with the World health Organization (WHO) standard (Ministry of Works and Housing and CWSA, 2004).

(b) Sanitation

- Household latrine is meant for an average of eight persons using one household latrine
- Institutional latrine is meant for an average of 50 persons per squat hole (CWSA, 2004).

The national water policy framework has been revised after about 13 years of implementation to take account of some of the inadequacies in the existing policy, some of which were found in this study.

1.4 The 2005 National Water Policy

Since the enactment of the community water and sanitation strategy, efforts were made to formulate a national policy. Currently there is a new water policy launched in October 2005. The National Water Policy of Ghana aims at providing a framework for the sustainable development and utilization of Ghana's water resources. It is targeted at all water users, water managers and practitioners, investors, decision-makers and policy makers within the central and decentralized government structures such as the district assemblies, non-governmental organizations and international agencies. The policy outlines the various cross-sectoral issues related to water-use and the links to other sectoral policies such as relating to sanitation, agriculture, transport and energy. Ghana's Water Vision for 2025 is to "promote an efficient and effective management system and environmentally sound development of all water resources in Ghana" (Ministry of Works and Housing, 2005).

Three important development frameworks inform Ghana's water policy namely:

- The global - Millennium Development Goals (Ministry of Works and Housing, 2003)
- The African region - New Partnership for African Development (NEPAD, 2001)

- The national – Ghana Poverty Reduction Strategy (Government of Ghana , 2000)

The Ghana Poverty Reduction Strategy (2003 – 2005), which is currently under revision states inter alia that “increasing access to potable water...is key to achieving health outcomes and sustained poverty reduction.” The GPRS envisages improving provision of water to rural, peri-urban and unserved poor urban areas. A Strategic Environmental Assessment (SEA) conducted on the GPRS showed that water, as a cross-cutting thematic issue is highly relevant to promoting livelihood, health and vulnerability issues in Ghana.

The GPRS (2003-2005) has been reviewed and replaced by the Growth and Poverty Reduction Strategy (GPRS II 2006-2009). However, the goals articulated in GPRS I generally remain central to Ghana’s development strategies.

Chapter Two

Methodology

2.1 Methods of Data Collection

The research methodology mainly involved desk research, interviews with key informants and a survey using structured questionnaires and focus group discussion techniques. The survey took place in 13 communities of which five from two districts were from Ashanti Region (Amansie East District and Kwabre), six communities from four districts were in Brong Ahafo Region (Tano South, Tano North, Berekum, and Asutifi), and two communities from two districts came from Central Region (Komenda Elmina Eberim Aguafu (KEEA) and Cape Coast Municipal Authority). In all 140 respondents provided data through interviews and focus group discussions, of which 57 % were females, while 43% were males. Information gathering and data collection generally were done at five identifiable levels as shown in Table 2.1.

Table 2.1: Summary of Data Collection on Community Water and Sanitation in Ghana

Level	Organisation	Information type	Key respondent(s)
National	Ministry of Water Resources, Works and Housing, CWSA	National policy relating to water and sanitation	Director, Directorate of Water, Director of Technical Services, CWSA
Regional	CWSA Regional Office	Data on implementation of the community water and sanitation programme in the region	Regional Officers
District	District Assembly	Data on water and sanitation systems in the district and the status of the programme	Water Liaison Officer/ members of the District Water Sanitation Team
Community	Small town suburbs/ villages	Data on water and sanitation systems in the communities	Community Water and Sanitation Committee (WATSAN) and Water and Sanitation Development Boards (WSDB)
Individual	Households	Information on the perception of consumers of the water and sanitation services	Consumers

Source: Field Survey, 2006

At the national level, the researchers conducted interviews with key informants in the relevant national institutions namely the Ministry of Water Resources, Works and Housing and the Community Water

and Sanitation Agency (CWSA). Documents and relevant publications were obtained from these institutions.

At the regional level, the administrators and engineers were the sources of information. The purposive sampling of the districts was done with their inputs. In the districts, the members of the DWST were the main sources of data. In some districts, some other sources were useful, for example, the District Chief Executive. The administrative and political head of each district is the District Chief Executive. His or her views and convictions in relation to community water and sanitation are of importance. But generally, the schedule officers for water and sanitation were the key informants. In the communities, the members of the Water and Sanitation Committee and the Water and Sanitation Development Boards (WATSAN/ WSDB) provided information at the level of the community. The individuals living in the communities as consumers of water and sanitation offered a means of assessing the status of the facilities and the extent of success in delivery services.

2.2 Some Definitions of Terms

Act 564 defines “community” as a group of households who refer to their settlement by the same name. A community includes groups of individuals living in close proximity to each other and other social groups, grassroots entrepreneurs or associations able to identify a need and come together to access project funds (CWSA, 2004). There are two main types of communities recognized in the context of the National Community Water and Sanitation Programme – the rural community and the small town community.

Rural community is defined in Act 564 as a community with a population of less than 5000 people or any other figure, which the Minister may from time to time declare by publication in the *Gazette* and the mass media (Act 564, section 22). Rural communities are made up of all settlements that benefit from point source facilities according to either the technical consideration or population threshold. Usually it refers to settlements with a minimum population of 75 that are ready to have safe water facilities.

The small town community is that community, which is not rural i.e. a small urban community, that has decided to manage its own water and sanitation systems (Act 564, 22). However, the term “small town”, is used in the context of the NCWSP to refer to a wide range of towns and clusters of villages with the following characteristics:

- Population between 2,000 and 50,000;
- Have pipe-borne networks as their main source of water supply;
- Have accepted to own, operate and maintain their water supply system by themselves, or by delegating the responsibility to another body e.g. a private firm;
- Sets its own tariffs and other operational policies in close consultation with the District Assembly (CWSA, 2004).

Community water supply and sanitation may be defined as the provision of safe and adequate water supply and basic toilet facilities for rural communities and small towns, with the integration of hygiene to maximize health benefits. The term emphasizes the following:

- community participation in the planning, implementation and management of the facilities and services;
- community ownership and management, mainstreaming gender in water and sanitation delivery;
- adoption of appropriate and innovative technology to address water and sanitation problems; and
- conservation and management of water resources for present and future needs (CWSA, 2004).

The term “ownership” refers to the fact that the facilities are actually the property of the district which holds them in trust for the community and delegates their management to the communities.

Chapter Three

Status of the Community Water in the Selected Regions and Districts

3.1 Ashanti Region

The 2000 Population and Housing Census shows Ashanti Region to be the most densely populated region in Ghana with a population of 3,612,950, which constituted 19.1% of Ghana's population. About 50.2% of the population in the region is male. The region has a total land area of 24,390 square kilometres, which was 10.2% of the country's land area. Administratively, Ashanti Region is divided into 23 districts. The regional capital is Kumasi, the second largest city in Ghana.

Being in the Tropical Rainforest Zone, the vegetation is typically rich in forest trees such as Mahogany, 'Sapele' and 'Wawa'. Farmers grow a variety of crops including maize, cassava, plantain, yam, cocoyam, rice, beans and vegetables. The region is a major cocoa producing area. It is rich in minerals including gold, bauxite, manganese, iron and limestone.

In line with the national policy of improving community water and sanitation, a number of projects were initiated when the CWSA became established in Ashanti Region in 1994.

3.1.1 Regional Level Data of Ashanti Region

Table 3.1: The Status of Community Water and Sanitation Projects in Ashanti Region

Project	Funding sources	Period	Status
IDA/ CWSP1	World Bank and Government of Ghana (GOG)	1994 – 2000	Completed
KfW/ RWSP1&2	Kreditanstalt für Wiederaufbau (KfW)	1997 – 2000	Completed
CWSP2	International Development Agency (IDA) and GOG	2000 – 2004	Completed
EU/ Small Towns	European Union and people of small towns	1997 – 2002	Completed
RWSP 3	KfW and GOG	2003 – 2005	Completed
STWSSP	IDA and GOG	2004 – 2007	In progress
ADB	African Development Bank (ADB)	2005 – 2008	In progress
RWSP 4	KfW and GOG	2005 – 2008	In progress

Source: CWSA Regional Office, Ashanti Region

Table 3.1 gives a summary of the projects in the Ashanti Region.

Since 1994, there have been not less than eight major projects initiated to address the goal of providing water to rural communities in villages and small towns. The key development partners are the World Bank, the European Union, the African Development Bank and the KfW of Germany. As shown in Table 3.1, five of these projects have been completed and three are still in progress. Tables 3.2, 3.3, 3.4 and 3.5 summarize the achievements made in the implementation of the various projects.

Table 3.2: Summary Status of Achievement of CWSP1 Implementation – 1994–2000

District	No. of communities	Boreholes	Hand-dug wells	Population served
Adansi East	41	32	26	13,500
Ahafo Ano North	27	22	12	8,400
Ahafo Ano South	37	39	16	14,100
Amansie West	24	29	18	11,400
Berekum	23	19	2	6,000
Sekyere East	31	19	24	9,300
Amansie East	21	28	10	9,900
Total	204	188	108	72,600

Source: CWSA Regional Office, Brong Ahafo Region

In the seven districts listed in Table 3.2, a total of 72,600 people living in 204 communities were served with 188 boreholes and 108 hand-dug wells. This phase of the community water and sanitation programme has made a significant contribution to these communities in providing access to water.

Table 3.3: Summary Status of Achievement of KfW 1 and 2 – 1997–2000

District	No. of communities	Boreholes	Hand-dug wells	Population served
Amansie East	21	28	10	9,900
Berekum	15	27	-	8,100
Offinso	35	106	-	31,800
Total	71	161	10	49,000

Source: CWSA Regional Office, Ashanti Region

The German NGO KfW also brought relief to 71 communities with a total of 161 boreholes with many communities having more than one borehole to improve access.

Table 3.4: Summary Achievements of EU Small Town Pipe System – 1997–2002

District	Town	Population
Asante Akim South	Juaso	8,623
	Obogu	7,565
Ahafo Ano South	Mankranso	5,004
Kwabre	Mamponteng	9,121
Amansie East	Bekwai	19,679
	Kokofu	2,985
	Abodom	2,120
Atwima Mponua	Nyinahin	7,544
Amansie West	Manso Nkwanta	2,591
Afigya Sekyere	Wiamose	12,677
Berekum	Kuntanase	3,024
Total	80,973	

Source: CWSA Regional Office, Ashanti Region

The European Union also contributed to improving access to water with the provision of Small Town Piped Systems in eight districts for a total of almost 81,000 people.

Table 3.5: RWSP 3 Achievements (KfW) – 2002–2005

District	Water component		Sanitation component	
	BH-Pump	Population served	Household latrines	Population served
Asante Akim North	50	34,350	50	400
Atwima	50	22,544	50	400
Kwabre	50	24,121	50	400
Offinso	50	46,800	50	400
Afigya Sekyere	50	27,677	50	400
Total	250	155,492	250	2,000

Source: CWSA Regional Office, Ashanti Region

The KfW also provided borehole pumped water sources to over 155,000 people in five districts from 2002 to 2005 period. Significantly, a sanitation component came with this project.

The projects in progress have similar targets with some of the completed projects. For example the CWSP2, which the IDA and the Government of Ghana are sponsoring with an amount of \$29 million, aims at supplying 12 small towns with water systems and rehabilitating one system. The towns include Bompata, Atwidie, Kwaso, Foase and Fumso. The design for the systems has been completed. The RWSP4, which the German development partner KfW is sponsoring with an amount of 12,374,000 million euros aims at completing 1,000 boreholes, 3,000 household latrines and 200 institutional latrines in the Ashanti Region.

There are also software achievements in terms of the setting up of the structures to facilitate the implementation of the community water and sanitation programme. They range from the formation of Water and Sanitation Committees to training of artisans for the maintenance of the facilities. Table 3.6 summarises these achievements.

Table 3.6: Software Achievements in Ashanti Region – 1994–2004

Indicators	Achievements
Fully participating districts	17
DWST formed and trained	17
Communities	
WATSAN formed and trained	996
WATSAN formed and trained (KfW)	210
WSBD formed	12
WSBDT trained	12
Communities with facilities converted	333
School teachers trained	82
Latrine artisans trained	203
Area mechanics trained	68

Source: CWSA Regional Office, Ashanti Region

3.1.2 District Level Data in Ashanti Region

Two districts were selected in the Ashanti Region for study namely Amansie East District with its capital at Bekwai and Kwabre District with its capital at Mampong.

Kwabre District has a population of about 120,000 people. From the various projects carried out in the district, the Community Water and Sanitation Programme has completed a total of about 87 boreholes and 10 hand-dug wells with pumps in 42 communities. The district capital, Mampong, features one of the success stories in community-managed piped systems. Five boreholes were sunk and connected to a Small Town Water system to supply piped water to the inhabitants. Over the past three years since its operations, the people have accumulated a sum in excess of ₵200 million (over \$20,000).

Amansie East District has a population of over 218,508 according to the 2000 Population Census. Its district capital Bekwai is one of the important socio-cultural towns in Ashanti. Bekwai with a population

of about 19,679 has a piped water system constructed and linked to groundwater sources. In terms of small town water systems, Bekwai shows how effectively groundwater can address the water needs of large rural towns. Amansie District also highlights how successful the national programme has been, as a total of about 250 boreholes have been sunk in the district.

Table 3.7: CWSP 2 Achievements in the Implementation of the Water Policy – 2000–2004 in Ashanti Region

District	No. of communities	BH	HDW	Population served
Adansi East	27	39	4	12,300
Ahafo Ano North	21	29	15	10,950
Amansie West	87	160	3	47,250
Ahafo Ano South	49	66	3	20,250
BEREKUM	82	131	0	38,100
Ejisu Juaben	76	94	0	28,800
Sekyere West	23	23	0	6,900
Amansie East	123	217	0	65,100
Sekyere East	7	12	4	4,200
Asante Akim South	46	90	4	28,200
Total	522	861	37	262,050

Source: CWSA Regional Office, Ashanti Region

In the Water Policy component of the CWSP 2, just 262,050 people were served with boreholes and hand dug wells in 522 communities in the Ashanti Region between 2000 and 2004.

Table 3.8: Achievement in the Implementation of the Sanitation Policy – 1994–1999

District	No. of communities	Household latrines	Institutional latrines	Population served
Asunafo	31	193	5	1,794
Asutifi	23	88	0	704
Tano	12	156	2	1348
Dormaa	16	187	0	1,496
Jaman	44	414	0	3,312
Nkronza	33	417	5	3,586
Kintampo	18	96	0	768
Wenchi	32	575	6	4,900
Total	209	2126	18	17,908

Source: CWSA Regional Office, Brong Ahafo Region

The provision of good sanitation systems for the households is rather limited. Table 3.8 shows that only 17,908 people have been covered in the programme with 2,126 household latrines and 18 institutional latrines from 1994 to 1999.

Table 3.9: CWSP 2: Achievements in the Implementation of the Sanitation Policy – 2001–2004 in Ashanti Region

District	Household latrines	Institutional latrines	Population served
Adansi East	125	8	1,400
Ahafo Ano North	50	4	600
Amansie West	1001	14	8,708
Ahafo Ano South	150	18	2,100
Berekum	458	56	6,6614
Ejisu Juaben	850	30	8,300
Sekyere West	21	28	1,568
Amansie East	450	4	3,800
Sekyere East	126	29	2,458
Asante Akim South	810	17	7,330
Total	4,041	211	42,878

Source: CWSA Regional Office, Ashanti Region

For the Sanitation Policy component of the CWSP 2, a total of 42,878 people were served with 4,041 household latrines and 211 institutional latrines in the Ashanti Region between 2001 and 2004 as shown in Table 3.9.

3.2 Brong Ahafo Region

The Brong Ahafo Region lies in the middle belt of Ghana. The region, which has a population of 1,824,822, and a growth rate of 2.8%, has 19 districts. The population density is 102 persons per sq. km. The region is endowed with numerous resources including streams and rivers. However, due to farming and logging activities, many of these rivers and streams dry up during the dry season.

Rivers, streams and ponds provide the sources of drinking water to about 70% of the people. Groundwater is the main source of potable water supply in the region. Only 7% of the population has access to household latrines. The Ministry of Health has indicated that many of the illnesses in the region such as guinea worm, bilharzia, diarrhoea, etc. are the result of poor sanitation. The predominant economic activities in the region are farming and trading. The literacy rate is about 58%.

The Brong Ahafo region is underlain mostly by granites, sandstones, shales and phyllites. Groundwater is tapped from moderately weathered rocks and fractures. The average drilling depth is about 60 metres with success rate ranging between 75% and 90%. Sene and Atebubu districts which are underlain by the Voltaian Sandstones and Shales and have very low groundwater potential. Two main projects were implemented under the NCWSP in the Brong Ahafo Region. These were the IDA sponsored CWSP 1, CWSP 2, STWSSP and the EU project (*data obtained from Brong Ahafo CWSA Regional Office*).

3.2.1 Regional Level Data of Brong Ahafo

The summary of the Brong Ahafo Regional data is presented in Table 3.10.

Table 3.10: The Status of Community Water and Sanitation Projects in Brong Ahafo Region

Project	Funding	Period	Status
IDA/CWSP 1	World Bank and Government of Ghana	1994-1999	Completed
IDA/CWSP 2	World Bank and Government of Ghana	2000-2004	Completed
EU/Small Towns	European Union and people of small town	1994-2004	Completed
STWSSP	World Bank and Government of Ghana	2005-2008	In progress

Source: CWSA Regional Office, Brong Ahafo Region

Table 3.11: Summary Status of Achievement of EU Small Piped Systems – 1994–2000

District	No. of communities	No. of systems	Population served
Asunafo	1	1	13,371
Asutifi	3	2	16,522
Atebubu	1	1	20,022
Jaman	3	3	15,784
Tano	2	2	25,512
Wenchi	1	1	28,141
Kwame Danso	1	1	7,059
Total	12	11	126,411

Source: CWSA Regional Office, Brong Ahafo Region

The World Bank and the European Union have been instrumental in carrying out four major projects as shown in Tables 3.10 and 3.11. As shown in Table 3.11, the Small Piped Systems extended to the 12 communities with large population sizes, with a ratio of one piped system to 11,491 people. With the piped systems, many of the water delivery points are in the homes.

Table 3.12: Summary Status of Achievement of CWSP 1 Implementation – 1994–2000

District	No. of communities	Piped system	Boreholes	Hand dug well	Population served
Asunafo	42	1	38	27	18,606
Asutifi	33	0	0	70	3,000
Tano	55	1	45	39	26,586
Wenchi	41	1	50	0	17,482
Kintampo	18	0	24	0	7,200
Nkoranza	41	1	27	0	12,294
Dormaa	40	0	35	0	10,500
Jaman	22	1	35	3	14,950
Total	281	5	254	89	110,618

Source: CWSA Regional Office, Brong Ahafo Region

A total of 281 communities benefited from the CWSP 1 giving population coverage of 110,618.

Table 3.13: Summary Status of Achievement of CWSP 2 Implementation – 2000–2004

District	No. of communities	Piped system	Boreholes	Hand dug well	Population served
Asunafo	29	0	29	0	8700
Asutifi	20	0	12	8	4800
Atebubu	39	0	76	0	22,800
Berekum	40	0	79	0	23,700
Dormaa	62	0	84	0	25,200
Jaman	30	1	70	0	21,000
Nkoranza	17	0	26	0	7,800
Kintampo	39	0	70	0	21,000
Sene	22	0	30	0	9,000
Sunyani	28	0	50	0	15,000
Tano	27	0	35	0	10,500
Techiman	14	0	20	0	6,000
Wenchi	16	0	29	0	8,700
Total	383	1	615	8	184,200

Source: CWSA Regional Office, Brong Ahafo Region

During the CWSP2, the number of communities served with potable water sources increased to 383 communities with an increased total population of 184,200.

Table 3.14: CWSP 1: Achievements in the Implementation of the Sanitation Policy – 1994–2000 in Brong Ahafo Region

Districts	Institutional latrines	Ventilated improved latrines
Asunafo	5	193
Asutifi		88
Tano	2	156
Dormaa		187
Jaman		414
Kintampo		96
Nkoranza	5	417
Wenchi	6	575
Total	18	2,126

Source: CWSA Regional Office, Brong Ahafo Region

During the CWSP 1, a total of 18 institutional latrines and 2,126 ventilated improved latrines projects were implemented in the Brong Ahafo Region in the Sanitation Policy from 1994 to 2000.

Table 3.15: CWSP 2: Achievements in the Implementation of the Sanitation Policy – 2000–2004 in Brong Ahafo Region

Districts	Institutional latrines	Ventilated improved latrines
Asunafo	35	320
Asutifi	0	
Tano	15	
Berekum	13	118
Sunyani	0	78
Kintampo	0	
Wenchi	9	
Techiman	11	140
Nkoranza	24	
Atebubu	0	
Sene	0	
Jaman	20	270
Dormaa	31	
Total	158	926

Source: CWSA Regional Office, Brong Ahafo Region

For the duration of the CWSP 2, a total of 158 institutional latrines and 926 ventilated improved latrines were executed between 2000 to 2004 in the Brong Ahafo Region.

Table 3.16: Achievement in the Implementation of the Sanitation Policy in Communities – 2000–2004

District	No. of communities	Institutional latrines	Population served
Asunafo	320	35	4,310
Brekum	118	13	1,594
Dormaa	0	31	1,550
Nkronza	0	24	1,200
Jaman	270	20	3,360
Techiman	140	11	1,670
Tano	0	15	750
Wenchi	0	9	450
Sunyani	78	0	624
Total	926	158	15,508

Source: CWSA Regional Office, Brong Ahafo Region

From 2000 to 2004, a total population of 15,508 was also covered in the sanitation programme as shown in Table 3.16.

3.2.2. District Level Data in Brong Ahafo Region

Berekum District is one of the administrative districts in the Brong Ahafo Region of Ghana. Others are the district to the north east, Jaman District to the north west, Dormaa and Asunafo districts to the south west and Sunyani District to the south east. Berekum the district capital is 32 km and 437km north west of Sunyani the regional capital and Accra respectively.

Tano District is located in the southern part of the Brong Ahafo Region of Ghana. It lies between latitudes 7°N and 7°25'N and longitudes 1°45' W and 2° 20W. It is one of the 13 districts that make up the Brong Ahafo Region. The district is bordered to the south by Ahafo Ano North and Ahafo Ano South districts in the Ashanti Region, to the north by Sunyani District, to the west by Asutifi and Sunyani districts and to the east by Offinso District in the Ashanti Region.

Asutifi District is located in the south-western part of the Brong Ahafo Region of Ghana. It lies between latitudes 7° 15' N and 7° 53'N and longitudes 2°45'W and 2° 15W. It is one of the 13 districts that make up the Brong Ahafo Region. The district is bordered to the south by Asunafo District, to the north by Sunyani District, to the west by Dormaa District and to the east by Tano District in the Brong Ahafo Region and Ahafo Ano North District in the Ashanti Region.

3.3 Central Region

Central Region lies in the southern and coastal part of the country with a population of 1,580,047 and population density of 161 inhabitants per square kilometre. The region has a population growth rate of 2%. According to the Ghana Living Standard document, it is the fourth among the four poorest regions in the country including the three Northern Regions. The main economic activities in the region are farming especially in the hinterland and fishing along the coast. The main food crops cultivated in the region includes cassava, maize, plantain and yam. The region also has cash crops such as cocoa, oil palm, coconut and citrus as well as vegetables such as tomatoes, pepper, garden eggs, onions and sweet potatoes. The trade sector in the Central Region may be classified into petty trading, fish mongering and food selling.

Examination of the demographic characteristics of household heads in the Central Region reveals a slightly different pattern from that of other regions. More than one-half of all household heads in the region are females compared with about 38 % nationally. About 73 % of the female household heads have never attended school.

The adult literacy rate is slightly lower than the national average. The national literacy rate stands at 48.3 % while the Central Region is 47.2 % with significant gender disparities (literacy rate for males is 67 % and 32 % for females). The distribution of individual economic activities by socio-economic group mirrors that of the national level.

3.3.1 Regional Level Data Central Region

In line with the government's decentralization policy in 1989 the Central Region Rural Water Supply Department under GWSC carried out feasibility studies, which were sponsored by Agence Francaie de Development (AFD) for the provision of potable water and its related sanitation services.

The project was code named Rural Water Supply Project (RWSP) and went through three phases as follows:

Phase 1 (January 1991–February 1994)	--	376 boreholes in 285 communities
Phase 2 (February 1994–January 1996)	--	317 boreholes in 274 communities
Phase 3 (January 1996–July 1998)	--	123 boreholes in 107 communities
	--	5 impounded catchments
	--	18 piped schemes
	--	20 institutional KVIPs
	--	1080 household latrines

At the time of the study, there were on-going projects such as the EU Small Towns' Water Supply and Sanitation Project (STWSSP). Under this project, the following activities have either been completed or initiated:

- Feasibility studies and designs for 20 small towns water systems completed in July 2005.
- The government and the EU signed financial agreement for the implementation to start.

- Orientation for 44 Watsan Committees and 20 WSDBs under the EU Small Towns Water Project has been completed.
- Hygiene promotion for the selected 20 small towns under EU Small Towns Project completed.
- Sensitization on capital cost contribution for the selected 20 small towns intensified.
- Tenders for consultancy services for implementation of the completed designs launched on June 23rd, 2006.

There is also the DANIDA-funded District Based Water and Sanitation Component – (DBWSC). In all, a total of €22.5 billion has been approved to be released for Investment in the year 2006 under DANIDA support.

Under the project, a number of studies have been conducted including:

- Sanitation – Total sanitation using social marketing and total sanitation approaches in seven communities in Awutu Efutu Senya, Twifo Hemang Lower Denkyira and Ajumako Enyan Essiam districts have been completed but are yet to be evaluated.
- Hydrogeological Study – Baseline studies in Central Region to determine the level of water resources and delineate potential saline zone, are in progress.
- Environmental sanitation study in three small towns in three districts (KEEA, Mfantseman and Twifo Hemang Lower Denkyira) is ongoing.
- A study was also conducted on the knowledge, attitude, beliefs and practices as a baseline for the Central Region.

The IDA-funded Small Towns Water and Sanitation Project (STWSSP) was launched in the Central Region in September, 2005, and five districts have been selected to benefit from the project. They are:

- Upper Denkyira
- Twifo Heman Lower Denkyira
- Assin South
- Asikuma Odobea Brakwa Awutu Efutu Senya
- Assin South
- Asikuma Idoben Brakwa
- Awutu Efutu Senya

The project has been launched in all the selected districts and the selection of consultants to carry out feasibility study as well as promotion of hygiene and sanitation is on-going. All 13 districts in the Central Region have benefited from the sector strengthening component of the project. They have all accessed district support for DWST office set up in December 2005 to the tune of €842 million (which is about \$100,000).

Table 3.17: Summary of Investments in the Central Region

Name of project	Donor	Year	Facilities provided	Investment
Central Region Rural Water Supply Project	Agence Francaise de Development	Phase 1 Jan 1991 – Feb 1994 Phase 2 March 1994 – Jan 1996 Phase 3 Feb 1996 – July 1998	376 BHs 317 123 BHs impounded catchment mechanised BHs, 20 institutional latrines 1080 HH latrines	41 million French Francs
3,000 Wells Project (under GWSC)	KfW	Not available	450 BHs	5,280,000 DM (7.4 billion cedis)
Rural Water Project	UNICEF	Not available	80 BHs	Approximately 1.2 billion cedis
Rural Water Project	Catholic Archdiocese	Not available	35 HDWs	0.6 billion cedis
Rural Water Project	World Vision International	Not available	28 BHs	0.5 billion cedis
Hunger Project	UGMS	2000	1 BH	
Small Town Water & Sanitation Programme	European Union	Feasibility Stage Jan. 2004 – July 2005 Implementation Dec. 2006 - 2008	20 small towns	•23,590,000 (Western & Central)
District Based Water & Sanitation Component (DBWSC)	DANIDA	Jan 2004 – Dec 2008		
STWSSP II	IDA	Capacity Building For 13 DAs Jan 2005 – Dec 2005 Feasibility Studies Jan 2006 – Dec 2008	7 small towns	\$2 M

Source: CWSA Regional Office, Central Region

The totality of investments made in the region as summarized in Table 3.17 illustrates the significance of the donor agencies in the community water and sanitation programme. More than US\$40 million have been invested in the programme to build small water systems and boreholes for the communities. It emphasizes the capital-intensive nature of water and sanitation programmes.

Table 3.18: Achievements in the Implementation of the Water Policy Central Region – 2006

District	Population 2006	Borehole	Hand dug wells	Piped system	Population served
Abura Asebu Kwamankese	106,389	128	0	0	38,400
Agona	187,707	74	0	0	22,200
Ajumako Enyan Esiam	108,600	74	0	0	22,200
Asikuma-Odoben-Brakwa	105,565	100	0	6	31,800
Assin South	103,022	120	0	0	36,000
Assin North	125,269	220	0	6	67,800
Awutu-Afutu-Senya	200,717	44	0	1	15,000
Cape Coast	139,469	13	6	0	4,800
Gomoa	230,026	48	0	0	14,400
Komenda-Edina-Eguafo-Abirem	132,775	33	12	7	15,900
Mfantiman	183,251	98	5	0	30,150
Twifo Heman Lower Denkyira	130,313	190	0	6	58,800
Upper Denkyira	125,311	219	0	0	65,700
Total	1,878,414	1,361	23	18	423,150

Source: CWSA Regional Office, Brong Ahafo Region

Table 3.18 shows that about 23% of the population benefited from the various projects of the community water and sanitation programme as of 2006 in the Central Region. This is quite significant given that some of the other communities already have their sources of water and therefore this percentage would advance Ghana towards the achievement of the MDG water target.

Table 3.19: Achievements in the Implementation of the Sanitation Policy in the Central Region in 2006

District	Water Coverage (%)	HH facilities	HH served	Sanitation Coverage (%)
Abura Asebu Kwamankese	36	16	6,640	6
Agona	12	24	7,780	4
Ajumako Enyan Esiam	20	114	950	1
Asikuma-Odoben-Brakwa	30	76	1,380	1
Assin South	35	30	3,420	3
Assin North	54	18	6,860	5
Awutu-Afutu-Senya	7	42	4,740	2
Cape Coast	3	211	660	0
Gomoa	6	62	3,700	2
Komenda-Edina-Eguafo-Abirem	12	6	20,790	16
Mfantiman	16	19	9,750	5
Twifo Heman Lower Denkyira	45	62	2,100	2
Upper Denkyira	52	16	7,740	6

* HH – House hold Source: CWSA Regional Office, Central Region

3.3.2 District Level Data in the Central Region

3.3.2.1 Cape Coast Municipal Assembly

The Cape Coast Municipal Assembly (CCMA) area is synonymous with a City District. This is because Cape Coast is the most populous settlement in the district with a hierarchy of functions that make it the nerve centre of economic activity for both the district and the region. About 6% of settlements in the Municipal District including Cape Coast, Ekon and Nkanfoa and Kakomdo account for nearly 85% of the population of the entire District. Out of the 71 settlements in the Municipal area, 54% or 76% of them have populations of less than 1,000 persons and account for only 10% of the District's population. Thirty of the settlements (43%) have populations less than 100 persons.

The Cape Coast municipality is the smallest district in the country. However, since Cape Coast is also the capital of the Central Region, it is also the most urban and cosmopolitan, brimming with economic activities. The municipality is bordered by the Gulf of Guinea to the south, Komenda/Edina/ Eguafo/Abirem District to the west, by the Abura/Asebu/Kwamankese District and to the north by the Twifo/Hemang/Lower Denkyira District to the east.

The Cape Coast municipality boasts of the best infrastructure and utility services in the country. The urban south is well supplied with potable water from the Brimso Treatment Plant though there are problems in the dry season when the water level goes down. Over 90% of the residents are supplied from this source. However, rural water supply to the north of the district comprises bore-holes, wells and untreated water from the rivers.

3.3.2.2 Komenda –Edina-Eguafo-Abrem District

The Komenda-Edina-Eguafo-Abrem (KEEA) District (the study location) has a total land area of 1,372.45 square kilometres. It is bordered to the East by the Cape Coast Municipality, the West by Mpohor-Wassa East District in the Western Region and to the North by the Twifo-Hemang-Lower Denkyira District. It is one of the new districts created in Ghana in 1988 after being carved out of the old Cape Coast Municipal Council. KEEA consists of four paramount or traditional areas: Komenda (Akatekyi), Elmina (Edina), Eguafo and Abrem. Elmina is the district capital.

The population was estimated at 87,540 in 1995 and had increased to 111,985 in 2000. The district's annual population growth rate is said to be 1.23%, which is lower than the regional and national growth rate. The population is youthful in character, with a substantial segment under the age of 15 years. The male-female ratio of the district is about 100 males to 109 females. The district has three major towns. These are Elmina with a population of 22,098, Komenda 10,729 and Abrem Agona 4,983 (Ghana Statistical Service, 2000). Two other settlements, Kissi and Dominase are peri-urban towns with populations of 5,098 and 3,244 respectively. These five urban and semi-urban centres constitute about 43 % of the district's population. The main indigenous ethnic group, the Fantes, constitute about 90% of the population. Inhabitants in the district engage in farming and agro processing, fish processing, tourism, real estate development, mining and salt production. The

district is known to produce about 15% of the total fish output in the country and these include herrings, shrimps, mackerels, tuna, barracuda, and lobsters, among others.

Chapter Four

Analysis of Discussions with District Water and Sanitation Teams

As part of the methodology the District Water and Sanitation Team of each district was interviewed. The team consists of three personnel – technician, community mobilization and environmental health officers. They normally form part of the various District Assemblies but are supported by the Community Water and Sanitation Agency in the form of training, the provision of computers and means of transport which is often a motorbike. The planning officers of the various District Assemblies are the Desk Officers for the activities of the district water and sanitation team.

The interview centred on the water and sanitation systems in the district, key criteria used in assessing the community's application, women participation and innovations among others (see appendix for interview guide).

4.1. Procedure for Support

The District Assemblies in conjunction with the CWSA have developed procedures which communities applying for water and sanitation facilities should follow. The procedures are:

- Formation of WATSAN with women composition of at least 30 %;
- Communities receive application forms;
- Open bank accounts with initial deposit;
- Ability to pay 5% for the total cost of the facility which depends on the type of project should be demonstrated;
- Incidence or absence of disease;
- Lack of chieftaincy disputes;
- Absence of Ghana Water Company facility in the community or approval from the company supporting the community's application;
- The communities' commitment to the programme and high communal spirit.

Normally, once the District Assembly is satisfied with their assessment of the community, it is made to apply for the service and make arrangements for the payment of the five % commitment fee. The commitment fee is based on the total cost of the project, the population thresholds and the need factor, payment of counterpart funds, and request from the community.

Not all communities which make the initial application are able to receive the required support. For example, requests made to three districts were not honoured. The reasons for this situation were:

- The inability of the communities to raise the required commitment fees. Sometimes, communities were to raise between ₵2.5 - ₵3 million and some find this contribution difficult to meet.
- The community may be below the required population threshold. For example, for a borehole, the population threshold is between 75 – 2,000 people. Any community which falls below or above this threshold is disqualified from benefiting from the CWSA programmes. Above this threshold the community qualifies for a piped system.
- The processing of request documents may be delayed at the community level.
- The District Assemblies may be unable to pay its contribution of 5 % of the cost of the project.

4.2. Water System

The main water system in the districts visited were boreholes, hand dug wells and small town water piped system. The small town piped or mechanised water system was not very popular in the district due to the cost involved, though it could have been very useful for communities with high urbanisation rates. There were tanker services in KEAA and CCMA and also large scale rain water harvesting facilities in some of the districts.

4.3. Sanitation (Toilet Facilities)

A number of toilet facilities exist in the district. For households, the main toilet facilities were Ventilated Improved Pit (VIP), Kumasi Ventilated Improved Pit (KVIP) and Water Closet (WC). House with WCs may be recently built ones and maybe found in communities with piped system. For public, there were aqua privy, KVIP, WC and pit latrine. In the case of institutions (schools, offices, etc.) the facilities include KVIP, WC, VIP and pit latrine.

4.3. Participation of Women

Women participation in activities related to water and sanitation have been given prominence and the District Water and Sanitation teams are tasked to put in place mechanism to ensure the fullest participation. As a result, each team makes sure that:

- Communities ensure that the membership of WATSAN has at least 30 % of its members as women (usually 3 women out of 7 members).
- The treasurer of the committee should be a woman and also play key roles in the management of the community facilities.
- Women were encouraged to participate at all levels especially through hygiene education and sanitation.

4.4. Innovations in Water and Sanitation Systems

Minimal innovations have been made in the water and sanitation systems. These are technical systems which are above the capacity of the local people. Consultants are normally engaged to conduct hydro-geological studies and drilling of the boreholes. In the case of toilet systems, technical drawings are given and the contractor has to follow them critically. However, in the VIP, the local people have incorporated local materials such as bamboo, or landcrete blocks into the super structure.

4.5. Assessment of Implementation

The District Water and Sanitation team was asked to comment on the implementation of the water and sanitation projects in their respective districts. Below are the observations made by the team.

- Satisfactory, the programme had increased the coverage of water from 27% before the implementation of the programme to 60%. Some communities have got access to water and sanitation facilities, thereby reducing water and sanitation related diseases, and the programme has also reduced acute water shortages in the community.
- The project has been successful especially the on-the-job training which has equipped project staff to deliver efficiently.
- There is a high patronage from the communities

4.6. Suggestions for Improvement

Notwithstanding the achievements of the programme, there were suggestions made to improve the implementation including:

- Funds for the programme should be released on time especially the available funds from the donors.
- Deprived communities that are unable to pay for their 5% cost of the facilities should be supported under the Highly Indebted Poor Country (HIPC) funds, which are funds available for the nation through the implementation of the HIPC initiative.
- Training is needed on computer and capacity building.
- District Assemblies do not provide incentives. The coordinating role being played by the regional water and sanitation team should be strengthened.
- The district support fund should be released on time.
- There is the need to increase the range of the population size; a community with a population below 2,000 may not be able to mobilise the funds for it.

Chapter Five

Analysis of Community Level Data

The data being analysed in this section are based on interviews conducted with members of the Water and Sanitation Committees (WATSANs) of the various communities in the Ashanti, Brong Ahafo and Central regions sampled in the field work. In all, 13 WATSANs in 13 communities were interviewed. Each WATSAN has a membership of between seven and nine members with at least three of them being women. The key respondents during the WATSAN interviews consisted of six males and five females. The results of the interviews are summarized under the following key issues:

- Initiation of the water project;
- Community participation;
- Types of water facilities;
- Sanitation;
- Women participation in water management and hygiene;
- Success factors and constraints in implementing community water and sanitation system.

5.1 Initiation of Water Project

The respondents were asked about the origins of the water projects in their communities. Most of them (56.3 %) were jointly initiated by the government (represented by the District Assemblies and the CWSA) and the community. However, in some instances, the community took the lead and made representations for potable water. About 8.7% of the communities belong to this category, 8.7 % by the government, while 6.3 % did not give any indication about the initiators of the system (see table 5.1). Although most communities saw the water project as coming from the government, in reality, they were largely donor-sponsored projects, which were implemented by the government through the CWSA.

Table 5.1: Initiation of Water Project

Initiation of Water Project	Frequency	Percent
Government initiative	3	18.7
Community	3	18.3
Joint government and community	9	56.3
No response	1	6.3
Total	16	100.0

Source: Field Data, 2005

Most of these water projects commenced in 2000 and were completed between two and four years. There were few projects, which began and were completed in the late 1990s. The odd projects were the Bampanese in Kwabre District, which took almost 10 years to complete and Anwiankwanta in Amansie East which took six years.

5.2 Community Participation

To qualify for the water project, the communities paid a commitment fee representing 5% of the total cost of the project. Therefore, with the exception of one district, all districts made these commitment fees. In addition to the commitment fees, the members of the community made voluntary contributions during the implementation of the project. Table 5.2 summarizes the types of additional support the community gave.

Table 5.2: Community Contributions

Support	Frequency	Percent
Provided cash	12	37.5
Materials	1	3.1
Joined in planning	9	28.1
Look after the system	10	31.3
Total	32	100.0

Source: Field Data, 2005

Apart from the monetary contributions (37.5%), the community, especially the WATSAN's members took part in the planning (including siting) of the water system (28.1 %) and maintenance of the system (31.3 %), as shown in Table 5.2.

5. 3 Type of Water Facility

Boreholes are the main water system in the communities visited. About 37.5 % of the communities depended on boreholes, 25.0 % used both boreholes and hand dug wells, while 18.8 % were using small piped water system. Only 18.8 % of the respondent communities depended solely on hand dug wells, as shown in Table 5.3.

Table 5.3: Water Facility

Type of water facility	Frequency	Percent
Boreholes	6	37.4
Borehole and hand dug well	4	25.0
Hand dug well	3	18.8
Piped system	3	18.8
Total	16	100.0

Source: Field Data, 2005

Table 5.4 below provides detailed information about water systems in the various Districts.

Table 5.4: Water Facility at District Level

District	Water Facility				
	Boreholes	Boreholes, hand dug well	Hand dug well	Piped system	Total
Amansie East	1	1	0	0	2
Asutifi	0	0	1	0	1
Berekum	2	0	0	0	2
Kwabre	1	2	0	0	3
Tano North	0	0	1	1	2
Tano South	0	0	0	1	1
KEEA	2	1	0	0	3
Cape Coast Municipal	0	0	1	1	2
Total	6	4	3	3	16

Source: Field Data, 2005

Gyachie in the Tano North District was the only community that depended solely on hand dug wells. In Duayaw Nkwanta in Tano North and Abura in Cape Coast Municipal Assembly, in addition to the piped system, part of the community also depended on hand dug wells.

5.4 Sanitation

Sanitation is one of the critical issues that bolster the health of the people as well as ensuring a clean environment. Tables 5.5, 5.6 and 5.7, illustrate the toilet facilities that exist at the household, public and institutional levels. For households, ventilated improved pit (VIP) and pit latrine were the facilities mostly used, while in rare cases, water closet (WC) toilet was used, especially in communities with piped system. The combination of VIP and pit latrine constituted 57.2 % of toilet facilities used by households. The Kumasi Ventilated Improved Pit (KVIP) latrine is built for public use in public places and institutions.

Table 5.5: Household Sanitation Facility

Sanitation facility	Frequency	Percent
KVIP,WC	3	21.5
Pit latrine	4	28.6
VIP	4	28.6
VIP, WC	1	7.1
VIP, WC, pit latrine	1	7.1
WC	1	7.1
Total	14	100.0

Source: *Field Data, 2005*

In terms of public toilet facilities, pit latrine was the main facility (42.1 %) used by the communities (see Table 5.6). This is an old technology which has serious disadvantages. The bad smell and heat is trapped in the latrine and it is open to maggot infestation.

Table 5.6: Public Sanitation Facility

Facility	Frequency	Percent
KVIP	3	15.7
KVIP, pit latrine	1	5.3
KVIP, WC	1	5.3
Pit latrine	8	42.1
WC	1	5.3
Septic tank toilet	1	5.3
Environmental toilet	2	10.5
No response	2	10.5
Total	19	100.0

Source: *Field Data, 2005*

Table 5.7: Institutional Sanitation Facility

Facility	Frequency	Percent
KVIP	6	37.5
VIP	2	12.5
KVIP, WC	1	6.3
WC, Pit Latrine	1	6.3
Pit latrine	2	12.5
No Response	4	25.0
Total	16	100.0

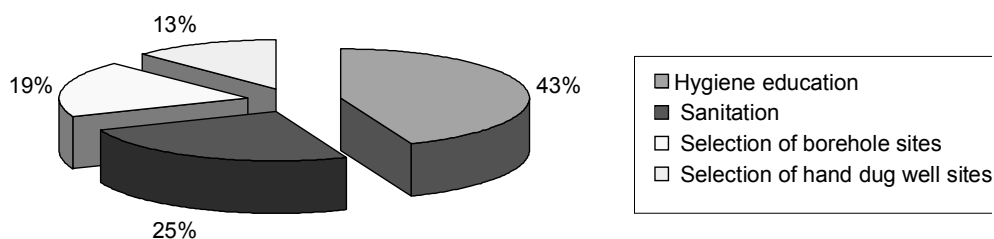
Source: Field Data, 2005

For institutional toilets, the use of KVIP was the highest (37.5 %). The KVIP is designed to use aeration to enhance the natural decomposition process. Though it is an improvement on the pit latrine, it also suffers from bad odour and heat when over used in public places. Institutional toilet facilities are those built for schools, hospitals and offices, among others. Even here, pit latrines featured well.

On the whole, the sanitation situation, especially the type of toilet facility has not improved and this is attested to by the dominance of pit latrines in the communities. This is a high percentage and leaves much to be desired where institutional facilities are concerned.

5.5 Women Participation in Water Management and Hygiene

At the community level, women played varying roles, which include hygiene education, sanitation and selection of sites for boreholes, but were most active in hygiene education (see Figure 5.2). About 43% of the women indicated that they had been active in hygiene education whereas only 31% indicated they participated in the selection of sites for either boreholes or hand dug wells. It suggests that the women had not been too involved in the location of water sources in the communities.

**Figure 5.1:** Role of women in hygiene, sanitation and water management

Source: Field Data, 2005

5.6 Hygiene Education

From Table 5.8, 52.9 % of the communities reported that their women were involved in organising clean ups. Those who were involved in house to house education on good hygiene represented 17.6 % and also provided public education.

Table 5.8: Hygiene Education

Activity	Frequency	Percent
Organising Clean Ups	9	52.9
House to House	3	17.6
Teaching whole town	3	17.6
Action Plans	2	11.8
Total	17	100.0

Source: *Field Data, 2005*

The women's participation in the water management and hygiene education in the communities emphasised the important roles women are playing in the socio-economic development of the communities. The women should be strengthened so as to play these roles more effectively.

Most of the communities have involved children in their hygiene education. About 9 out of the 13 communities involved children. The children were taught first to maintain good personal hygiene and then become peer educators. The involvement of the children has a long term effect on the community. The children will grow up imbued with the culture of maintaining good personal hygiene as well as a clean environment.

The respondents were made to assess the performance of their hygiene education. Figure 5.3 illustrates the responses of the respondents. About 46 % rated their hygiene education as successful, 17 % scored as very successful and 37 % as average. No respondent rated the hygiene education as unsuccessful. The reasons the respondents gave for their assessment are summarised in Table 5.9.

Figure 5.3: Rating of hygiene education

Source: *Field Data, 2005*

The reasons were varied but active participation of the communities, reduction in incidence of water borne and related diseases, and improved attitude towards sanitation are some of the reasons which underlined the ratings. The hygiene education was at worst averagely successful. Respondents gave the following reasons for the rating of hygiene education:

- Improved attitude towards sanitation;
- Cooperation from the members of the committee;
- Active participation of the members of the community;
- Lack of adequate toilet facility;
- Little improvement on sanitation issues;
- Low cooperation from members of the community;
- Reduced mosquito breeding;
- Reduction in incidence of waterborne/related diseases.

5.7 Policy Issues

To benefit from the CWSA, a community has to meet a number of conditions, inter alia:

- A population size between 75 to 2,000 people for small communities and 2,000-50,000 for small towns;
- Incidence of diseases;
- Absence of chieftaincy disputes;
- High communal spirit;
- Ability to raise the commitment fee of 5 % of the total cost of the project.

An attempt was made to find out if any community has met these conditions, but has not received the required support from the CWSA. Two communities indicated that they were yet to receive support from CWSA after meeting all their obligations; however, the majority had received support from CWSA.

Apart from the provision of boreholes, the CWSA provides technical training for the local managers of the water system by training a community member to undertake minor repairs and an area mechanic who is responsible for major repair works on the borehole. Out of the 13 communities, eight had received training in the management of the boreholes. The five communities could be those hand dug wells which did not require much technical training to use and manage. Most of the hand dug wells did not have attendants.

Interaction with some of the WATSAN and WSDB members revealed that apart from what they had received from the CWSA, additional requests had been made to the Agency. Summary of the outstanding assistance the communities are yet to receive from the agency include:

- Tools for communal labour and protective clothing;
- Assistance for household latrines in the community;
- Additional hand dug wells;
- Motorbikes and bicycles;

- Bigger storage tank;
- Additional boreholes
- Communal KVIP;
- Mechanised water system, more boreholes, public latrines;
- Replacement of stolen hand pump;
- Payment of subsidy for household toilets.

Most of the requests related to the provision of tools for communal activities, payment of subsidy on household toilets, additional sanitation, boreholes, and other water facilities. The requests for additional water and sanitation systems have become necessary because of increased pressure on the existing ones due to population increases. The issue is: can population growth be factored into the planning of water and sanitation systems? This should have been the case so that whatever is provided to a community can easily take care of increases in population as it is for piped systems.

5.8 Research and Development Support

The data revealed that only two communities had received scientific intervention from the country's universities. The institutions, which had assisted the communities in training, were the School of Engineering of the Kwame Nkrumah University of Science and Technology, University of Development Studies, Tamale and University of Cape Coast. Training support from Water Research Institute (WRI) of the Council for Scientific and Industrial Research (CSIR) was non-existent in the communities.

WRI, however, periodically conducts studies to assess the water quality of selected boreholes. This is an important role which underscores the relevance of scientific institutions in community water and sanitation programmes, thus there is need to integrate WRI into the activities of CWSA in the Ashanti, Brong Ahafo and other regions. From the survey, it became evident that after the commissioning of the water system, no further analysis had been carried out on water quality. WRI should be institutionally mandated to regularly monitor the water quality.

Only few innovations have been introduced, especially in the area of the water system. In one community, a motorized pump had been fitted on a borehole where the water is pumped into an overhead tank, then linked to a number of stand pipes. This has increased access points to reduce long queues.

In the sanitation systems, most of the communities received technical drawings from the CWSA, which they could not alter. Therefore, no innovations have been made. This was largely due to lack of interest in sanitation by the country's universities and research institutions. As a result, there is need for the universities and research institutions to develop more interest in sanitation systems so as to enable many communities to have easy access to decent toilet facilities.

5.9 Success Factors and Constraints in Implementing Community Water and Sanitation System

The respondents identified a number of problems, which had constricted the smooth implementation of the community water and sanitation programmes. The main constraints are:

- Delay in paying household latrine subsidy;
- Difficulty in mobilising 5 % contributions;
- Delays by the implementing contractors;
- Inadequate number of boreholes;
- Nearness of the sanitation facility to the market and community centre;
- Frequent breakdown of the facility;
- Inadequate sanitation facilities for the population;
- Sometimes the water from boreholes is too saline.

Despite the constraints raised above, it is obvious that some achievements have been made mainly in providing potable water and to a less extent, toilet facilities for the communities. The key success factors of the community water and sanitation programme as suggested by the respondents or the communities are:

- Active chiefs, financial support (donation/loan) from individuals;
- By laws on the use of the boreholes, vigilance on the use of the boreholes;
- Drilling of borehole has enhanced committees work;
- Effective community participation;
- Formation of WATSAN committees and the effectiveness or involvement of the WATSAN committees in decision making on water and sanitation issues;
- Get more time for productive activities;
- Good maintenance. People have come to realise the need to maintain the system to provide them with potable water;
- Ghana Water Company Limited (GWCL);
- Increase in productivity;
- Routine inspections on Fridays.

Chapter Six

Analysis of Survey Results of Individual Water Consumers

This chapter presents the analysis of data collected from individual users of the community water and sanitation systems and draws out issues that need attention by the District Assemblies (DAs), the CWSA and policy makers in the country. The purpose of the survey of the water consumers in the communities was to:

- Identify the water system mostly in use in the communities
- Gauge reliability and satisfaction with the community water system
- Assess level of community participation in the initiation and management of the water system
- Assess sanitation in the communities
- Assess women's participation in water and sanitation management
- Assess women and hygiene education
- Evaluate of the community water and sanitation systems.

The survey took place in 13 communities of which five from two districts were from Ashanti Region, six communities from four districts were in Brong Ahafo Region, and two communities from two districts came from Central region. In all 140 respondents provided data through interviews and focus group discussions, of which 57 % were females, while 43 % were males (see figure 6.1).

Figure 6.1: Distribution of respondents by gender

Source: Field Data, 2005

The higher percentage of women in the sample is of significance, as water collection, traditionally, is part of the daily chores of women, and therefore, their opinions should contribute greatly to the assessment of the water and sanitation systems in the respective district.

6.1. The Water Consumers

The first analysis was based on data collected on the community level water system, which was provided by the members of the WATSAN Committees. In this section, water consumers in two districts in Ashanti, four in Brong Ahafo and two in Central regions of Ghana were purposively sampled.

6.2. Water Facility

A number of water systems were identified in the communities visited. Table 6.1 depicts the water system that exists in the respective district. The borehole remained the main water system in the districts.

Table 6.1: Water Facility at District Level

District	Water Facility			
	Borehole	Hand dug well	Piped system	Total
Amansie East	20	1	0	21
Asutifi	1	7	0	8
Berekum	18	0	0	18
Kwabre	24	1	0	25
Tano North	0	10	7	17
Tano South	11	0	0	11
KEEA	19	1	0	20
CCMA	1	8	11	20
Total	94	28	18	140

Source: Field Data, 2005

The majority of the people (67.1 %) depended on boreholes as their source of water. However, it was only in the Asutifi and Tano North districts where there was minimal use of boreholes. The people depended more on hand dug wells. The minimal use of boreholes in the communities in the two districts raises the need to look at the situation where the communities such as Asiedu Nkwanta in Asutifi District have no boreholes. It is also interesting to note that almost 13 % of the respondents in Tano North and CCMA use small community piped system and the rest were using hand dug wells as shown in Table 6.2.

Table 6.2: Water System at Community Levels

Community	Stream	Borehole	Hand dug well	Piped system	Total
Abayee	1	18	1	0	20
Abura	0	1	8	11	20
Adawonase	0	10	0	0	10
Anwiankwanta	0	9	1	0	10
Asamenya	0	6	0	0	6
Asiedu Nkwanta	0	1	7	0	8
Ayimom	1	8	0	0	8
Bampenase	0	8	1	0	9
Bechem	0	11	0	0	11
Duayaw Nkwanta	0	0	0	7	7
Gyachie	0	0	10	0	10
Kotri No.1	0	10	0	0	10
Ofoase Kokobin	0	11	0	0	11

Source: Field Data, 2005

In addition, some communities were still using streams and rivers as in Table 6.2. In Adawonase, the people were using a stream called Benibeni for laundry and other domestic chores. This is to reduce the money spent on buying water from the boreholes. Further, in Ayimom and Abayee the people also used water from rivers Kyemera and Nua respectively, to supplement what they obtained from the community borehole.

The high population of boreholes in the remaining districts typifies the strong presence of and interventions made by the CWSA in the provision of potable water. As illustrated in Table 6.3, about 70 % of the water system in the communities was provided by the CWSA and this is a laudable achievement.

Table 6.3: Source of Water Facility

District	Part of CWSA		Total
	No	Yes	
Amansie East	1	20	21
Asutifi	0	8	8
Berekum	0	18	18
Kwabre	1	24	25
Tano North	0	17	17
Tano South	0	11	11
KEEA	1	19	20
CCMA	20	0	20
Total	23	98	140

Source: Field Data, 2005

6.3. Reliability of the Water System

To check how reliable the water systems were in meeting the needs of each community, the respondents were asked to comment on the performance of their water systems. Most of the people were of the opinion that the water systems were meeting their expectations.

Table 6.4: Reliability of Water System

District	Reliability of Water				Total
	N/A	Not reliable	Reliable	Very reliable	
Amansie East	1	0	11	9	21
Asutifi	0	0	5	3	8
Berekum	0	5	12	1	18
Kwabre	0	3	12	10	25
Tano North	0	0	0	17	17
Tano South	0	0	11	0	11
KEEA	0	3	15	2	20
CCMA	0	3	12	5	20
Total	1	14	78	47	140

Source: Field Data, 2005

From Table 6.4, 55.7 % of the respondents said the systems were reliable, while 30 % said their systems were very reliable. Only 10 % scored for not reliable. In a relatively urban town like Abura, the community supplemented its piped water system with water tanker services from Cape Coast. The terms “reliable” and “very reliable,” generally meant that the systems were always functioning or had only short breakdown time, and the yields of the boreholes were adequate or very adequate to meet the needs of the communities. The scoring by the respondents could illustrate the effectiveness of the WATSAN Committees in the various communities in ensuring effective management of the water systems.

One issue which came up during the interviews was water quality. At Ofoase Kokobin in the Amansie East District, there was a fear of water contamination from rusting of some of the components of the submersive pump. There was visible corrosion on a component of the submersive pump, which had been replaced by the Area Mechanic. Further, it was reported in Asemanya in Kwabre District that the water becomes ‘milky’ after every heavy downpour – an indication of run-offs seeping into the water system. These examples emphasised the need for a system to periodically check the quality of the water in the various communities.

Besides reliability, the respondents were asked about their satisfaction with the operation and management of the water system. The responses were not different from those on reliability of the system. About 66.4 % of the respondents were satisfied with the system, while 20.7 % were very satisfied (See Table 6.5). The responses of the consumers also confirm the results obtained from the community level analysis.

Table 6.5: Satisfaction with Water Management

District	Completely dissatisfied	No response	Not very satisfied	Satisfied	Very satisfied	Total
Amansie East	1	0	0	15	5	21
Asutifi	0	0	0	8	0	8
Berekum	0	0	7	10	1	18
Kwabre	0	1	3	18	3	25
Tano North	0	0	0	0	17	17
Tano South	0	0	0	11	0	11
KEEA	0	1	0	18	1	20
CCMA	0	0	5	13	2	20
Total	1	2	15	93	29	140

Source: Field Data, 2005

Most of the people were either satisfied or very satisfied with the way the water was managed, because the availability of the water system had reduced the drudgery and the long distances the women and children had to walk to fetch water, especially in the dry season. Another reason was the considerable reduction of water-related diseases in the communities as the underlying factor for their responses.

6.4. Community Participation

Community participation is one of the conditions for the intervention of the CWSA in every locality. Every community is to establish a Water and Sanitation Committee (WATSAN) or Water and Sanitation District Board (WSDB) to be the focal point for planning, siting and more importantly, mobilization of financial contributions and management of the water project. In Table 6.6, members of the communities provided varying responses for the type of support they provided for the implementation of the water systems.

Table 6.6: Community Participation in Water Project

Type of Support	Frequency	Percent
Part of planning team	9	6.4
Cash contribution	74	52.9
Maintenance	12	8.6
Labour	23	16.4
None	22	15.7
Total	140	100.0

Source: Field Data, 2005

The majority of the support (52.9 %) was in the form of monetary contributions which were basically levies imposed on every member of the community to enable the community raise the 5% commitment

fee for the water project. Others were in the form of maintenance of water system after construction (8.6 %) and labour, especially during the construction phase (16.4 %), while 15.7 % provided no support.

Interaction with the respondents revealed that not every member of the community contributed. Those who failed to contribute were not residents of the community during the implementation phase. However, in some cases, the people refused to contribute for reasons best known to them.

To reduce the number of defaulters, some communities such as Anwiankwanta (in Amansie East District) have developed a social sanction mechanism to collect the outstanding levies. In a situation of the death of a member of the community, the community's help is withheld until every eligible member from the bereaved family has settled his or her indebtedness. This policy, according to the WATSAN chairperson, has enabled the community to collect more levies even after completion of the project, which they hoped to use to apply for more boreholes for the area.

It was not in all communities where levies were imposed on the people. In Ofoase Kokobin in the Amansie East District, the WATSAN was able to raise the 5% commitment fee from the saving they made from sale of water from a borehole constructed earlier by the Catholic Church for the community¹. Other communities such as Asemanya and Bampenase (Kwabre District) also received cash support from their chief,² while the European Union provided 95% of the budget for the people of Bechem.

6.5. Sanitation

Sanitation is one of the important components for ensuring good health for human beings and animals, and environment cleanliness. The discussion on sanitation was focused on toilet facilities in the communities. Two toilet facilities stood out prominently and these were public KVIP and traditional pit latrines. Public KVIP was the main toilet facility used in communities in Amansie East, CCMA and Tano South districts, while pit latrine was highly used in communities in Berekum, Kwabre, KEEA and Tano North districts.

6.5.1 Toilet Facility Available in the Communities

The shift from the use of public toilet facilities to in-house toilets has not been successful. Only 10 % and 12.1 % of the respondents in the eight districts respectively had VIP and environmental toilets in their homes, while 5 % were still defecating in the bush, creating environmental hazards for the communities as shown in Tables 6.7 and 6.8.

Table 6.7: Toilet Facilities at the District Level

District	Toilet Facility									Total
	Bush	Environ loo	Own WC	Own VIP	Pan latrine	Pit latrine	Septic tank latrine	Pub KVIP	Pub WC	
Amansie East	0	0	0	8	0	1	0	11	1	21
Asutifi	0	0	0	0	1	7	0	0	0	8
Berekum	0	0	0	4	0	14	0	0	0	18
Kwabre	5	0	0	2	0	10	0	8	0	25
Tano North	0	0	0	0	1	17	0	4	0	17
Tano South	0	0	0	0	0	0	0	11	0	11
KEEA	2	17	1	0	0	0	0	0	0	20
CCMA	0	0	0	0	0	0	5	15	0	20
Total	7	17	1	14	2	44	5	49	1	140

Source: Field Data, 2005

Table 6.8: Sanitation Systems at the Community Levels

Community	Own KVIP	Bush	Environ loo	Own VIP	Pan latrine	Pit latrine	Public KVIP	Public WC	STL	WC	Total
Abayee	1	2	16	0	0	0	0	0	0	1	20
Abura	2	1	0	0	0	0	12	0	5	0	20
Adawonase	0	0	0	2	0	0	8	0	0	0	10
Anwian kwanta	0	0	0	4	0	0	6	0	0	0	10
Asamenya	0	0	0	0	0	6	0	0	0	0	6
Asiedu	0	0	0	0	5	3	0	0	0	0	8
Nkwanta	0	0	0	0	1	7	0	0	0	0	8
Bampenase	0	5	0	0	0	4	0	0	0	0	9
Bechem	0	0	0	0	0	0	11	0	0	0	11
Duayaw	0	0	0	0	2	0	5	0	0	0	7
Nkwanta	0	0	0	0	0	10	0	0	0	0	10
Gyachie	0	0	0	0	0	10	0	0	0	0	10
Kotri No.1	0	0	0	4	0	6	0	0	0	0	10
Ofoase	0	0	0	4	0	1	5	1	0	0	11
Kokobin	0	0	0	4	0	1	5	1	0	0	11
Total	3	8	16	14	8	37	47	1	5	1	140

Source: Field Data, 2005

The low diffusion of in-house toilet facilities questions the effectiveness of the programmes of the CWSA to improve access to decent toilet facilities in the districts. The relatively higher use of pit latrines and defecating in the bush are marks of ineffectiveness or failures. There is need for the

CSWA to re-strategise to help improve toilet facilities, especially the in-house toilets in the districts. Although the various District Assemblies provided subsidies for in-house toilet facilities, the slow payment has not induced many households to construct their own facility.

Discussion with a member of the District Water and Sanitation Team (DWST) revealed that the national policy on sanitation is to de-emphasise public toilets and support in-house facilities. To achieve this objective, the government should set up a fund that will promptly pay the subsidies to the rural people to accelerate the achievement of the policy.

The total cost of constructing a decent household latrine is \$500. This is not affordable in a socio-economic context where more than 40% of the people live below \$1 minimum wage.

6.5.2 Satisfaction of Sanitation Facility

An attempt was also made to find out the general conditions of the toilet facilities in the communities.

Table 6.9: Satisfaction with Sanitation Facility

District	Sanitation Facility			Total
	No response	No	Yes	
Amansie East	0	5	16	21
Asutifi	0	0	8	8
Berekum	0	14	4	18
Kwabre	0	17	8	25
Tano North	0	0	17	15
Tano South	0	0	11	11
KEEA	1	15	4	20
CCMA	1	11	5	20
Total	2	62	76	140
Percentage	1.4	44.3	54.3	100

Source: Field Data, 2005

From Table 6.8, most of the people were satisfied with their toilet facilities. About 54.3 % of the respondents expressed satisfaction with their facilities. However, in the districts where pit latrines were popular, most of the people expressed dissatisfaction. For example, for those who were not satisfied, 92 % came from the communities sampled in Berekum, KEEA, CCMA and Kwabre districts which had large numbers of pit latrines.

Most of the public toilets, especially the pit latrines were not well kept, they stank, and were infested with maggots, without scheduled cleaning, and some, especially the pit latrines, got flooded after every heavy downpour of rain. The structures were weak with serious roof leakages. The continuous use and high population of pit latrines are suggestive of failure of CWSA in achieving its sanitation mandate.

6.5.3 Women Participation in Management

Women's participation in the management of the water system is crucial and it is a condition that must be met. As already mentioned, they were to constitute at least 30 % of the WATSAN membership. Apart from the membership of the WATSAN, diverse roles were played by them in the day to day management of the water systems.

From Figure 6.2, the women were mostly involved in cleaning around the water systems and also providing hygiene education. In all, 77 of the responses, across the eight districts were involved in cleaning the surroundings of the water system. In the management of the water system, 17 respondents indicated women were also involved, while eight played no role in the maintenance of the system. All the women said that with improvement in water supply there had been a decrease in waterborne disease. This is yet to be validated using the medical records of the community, if any.

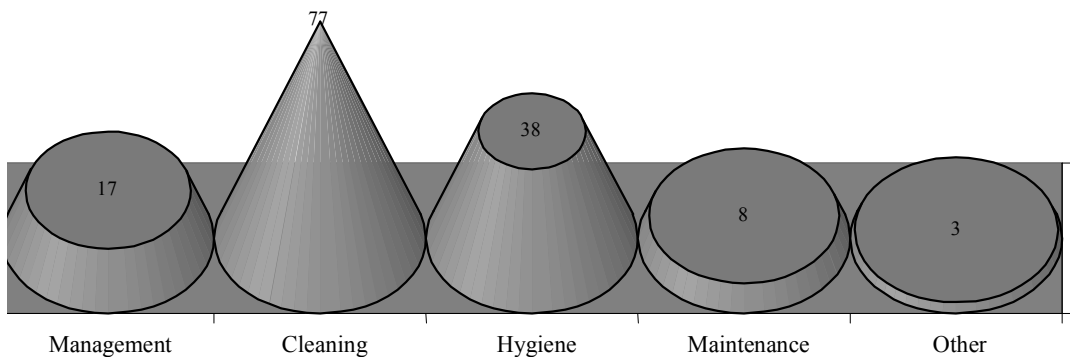


Figure 6.2: Women's participation in water system

Source: Field Data, 2005

Though some women played managerial roles, their number was small. It is the women who will bear the brunt if a system breaks down; therefore, there is need for increased participation of women in the management of the water system. There is also the need to train women in simple repairs works such as greasing, tightening of bolts and even as area mechanics. Area mechanics are people trained to carry out major maintenance works on the boreholes.

6.5.4 Participation in Sanitation

In addition to water, an attempt was made to find out the role the women played in sanitation. From Figure 6.3, most of the activities played by the women in the eight districts were in cleaning and management of the toilets. The main management role the women played was in the collection of tolls, especially the public KVIPs.

Unlike the water system, the women had maintenance roles in the sanitation system. However, the women's role in maintenance was limited to cleaning the toilets. In comparing different roles played

by the women, they were less active in hygiene education as shown in Figure 6.3. This is a worrying concern as women play a very important role in education of children.

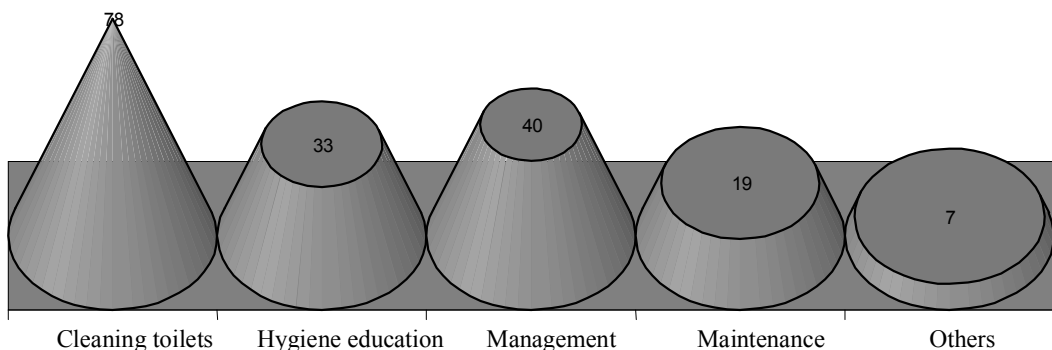


Figure 6.3: Women's participation in sanitation

Source: Field Data, 2005

6.5.5 General Hygiene Education

The maintenance of good hygiene, both personally and at the community level is very important to prevent outbreak of epidemics in the community as well as ensuring good health. Therefore, the respondents were asked about their involvement in hygiene education in their communities. From Figure 6.3, a sizeable proportion (30 %) of the respondents did not take part in any form of hygiene education. About 21 % of them were engaged in house to house hygiene education, 11 % participated through other forms – teaching of households, neighbours, tenants and friends, inter alia.

A large percent (70 %) of the respondents were involved in various forms of hygiene education and this illustrates the awareness of the community to ensure good health as well as clean environment. It is illustrative that in Adawonase, the community has formed Nkosuo Fan Club where the members engage in organised clean-ups of the community. The programmes of the Fan Club were to complement the work of the WATSAN in the community. A prominent member of the same community has provided litter bins to reduce littering of the area. Though the communities looked neat, some of the inhabitants defecated in the immediate surroundings. This negated what had been achieved through hygiene education.

The level of children's participation in the hygiene education was also assessed. About 56.4 % of the respondents mentioned that children had been integrated into hygiene education, 33.6 % had not, while 10 % could not give any indication (see Table 6.9). The majority who had involved their children said, they teach them so as to maintain good personal hygiene and also impact on their friends.

The hygiene education was informally done. There were no organised fora, programmes or durbar of chiefs and their elders where hygiene was a definite topic for discussion.

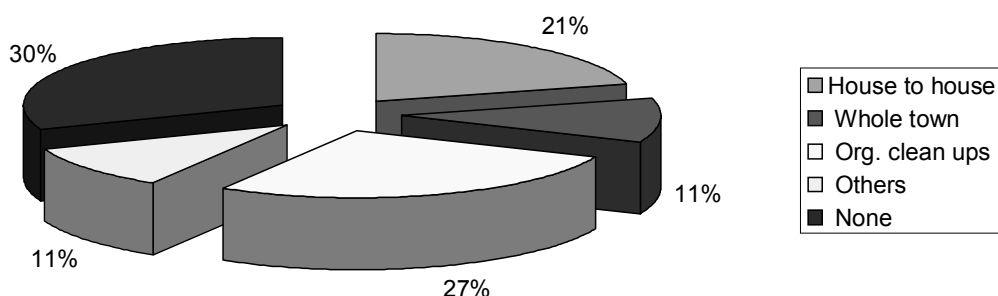


Figure 6.4: Participation in hygiene education

Source: Field Data, 2005

Table 6.10: Children Involvement in Hygiene Education

Response	Frequency	Percent
No	47	33.6
Yes	79	56.4
No Response	14	10
Total	140	100

Source: Field Data, 2005

The respondents were asked to rate the performance of their hygiene education. With the exception of Berekum and to some extent Asutifi, most of the respondents gave good impression about their hygiene activities.

Table 6.11: Rating of Hygiene Education

District	Failure	Average	Successful	Very successful	Total
Amansie East	0	7	14	0	21
Asutifi	0	5	3	0	8
Berekum	17	0	1	0	18
Kwabre	2	5	15	3	25
Tano North	0	0	1	16	17
Tano South	0	0	1	10	11
KEEA	1	8	9	2	20
CCMA	2	12	6	0	20
Total	22	37	50	35	140

Source: Field Data, 2005

In the Amansie East and Kwabre districts, 14 and 15 respondents respectively classified their hygiene programme as successful. On the other hand, 16 and 10 respondents scored “very successful” for the programme in Tano North and Tano South respectively. Also 12 respondents saw hygiene

education as average in CCMA. In all 35.7 % and 25 % of the total respondents scored their hygiene education as successful and very successful respectively, while 15.7 % saw it as a failure.

The respondents gave varied reasons for their ratings. Those who were generally satisfied or very satisfied gave reasons for their rating which were:

- High communal spirit
- Active role of the WATSAN
- Clean environment
- Reduction of disease such as malaria, bilharzia and skin diseases, among others.

Reasons given by those who were unsatisfied included poor sanitary conditions of the public toilets, dumping refuse and defecating in open spaces, and inability of the WATSANs to implement their .

However, in discussing the general sanitation situation in the districts, some respondents raised critical issues about the poor maintenance and poor unsanitary conditions of the public toilets. This raises serious environmental issues which need to be addressed by the WATSANs and also negates the achievement made in hygiene education, as good hygienic practices include maintaining good sanitary conditions in the environs.

6.6 Constraints to Implementation of Water and Sanitation

The following were some of the constraints raised by the respondents:

- Difficulty in collecting levies;
- Inadequate number of boreholes due to increased urbanization;
- Problem of raising funds for additional boreholes;
- Pumping is tedious;
- Increased population growth which makes communities exceed the population threshold for inclusion into CWSA programmes;
- Delay in the payment of District Assembly's contribution for the construction of in-house VIP;
- Poor sanitation facilities, especially the pit latrines;
- Inadequate seating capacity of public KVIP.

The main suggestions given by some of the respondents to address these constraints were:

- Seek for external support, especially from non-governmental organisations to construct more water and sanitation systems;
- Need for mechanised water system;
- Scheduled maintenance work, especially on sanitation systems;
- Increased number of boreholes;
- Construction of more and decent sanitation facilities;
- Sale of community land to support water and sanitation facilities;
- Private sector participation in the management of water and sanitation systems.

6.7 Key Success Factors

Despite the challenges enumerated above, it was evident that some successes have been made in addressing the needs of the community, especially access to potable water. The key factors, which have contributed to the successes include:

- Active chiefs and elders;
- Unity and peace in the community;
- Keen interest of the community in the projects – high sense of communal ownership;
- Active WATSAN and WSDB committees;
- Supportive role played by assembly members in the communities;
- Vibrant youth e.g. Youth Fan clubs;
- Regular meetings on sanitation and health issues.

To conclude this analysis, it is evident that some successes have been made in the area of improving the community's access to potable water. Most of these successes in water delivery were made due to hard working WATSAN and WSDB's, supported by the chiefs and their elders, the community and the local political structures which had placed high premium on access to potable water. More revenue is generated to maintain the systems and the involvement of women in decision making is laudable.

However, from the survey responses, the CWSA has not succeeded remarkably in the area of sanitation, especially construction of toilets. The focus of the sanitation policy of the CWSA is geared towards in-house VIP toilets. However, few of these toilets have been built and there is continuous dependence on public toilets. This has created management and maintenance problems in most of the communities.

6.8 The Issue of Prioritisation

Whereas there appears to be good progress on the delivery of potable water to the communities in terms of the improved water facilities – the small town piped systems, boreholes and hand-dug wells – there appears to be less improvement with sanitation. This is illustrated in the wide gap between the number of water facilities installed in the communities and the sanitation systems as shown in Figure 6.5.

In all the districts, the delivery of potable water to the communities significantly outstrips good sanitation. It is more pronounced in districts such as Amansie West and Amansie East where the total population served with good water systems came to 47,250 and 65,100 respectively whereas the population served with good sanitation systems is 8,708 and 3,800 respectively for the two districts. There are two main factors accounting for this. The first is the policy to de-emphasize communal sanitation systems and promote construction of good toilet facilities in the homes. But people in the communities need to provide "counterpart funding" to build the household toilet. For some people this is beyond their means. The first factor links to the second.

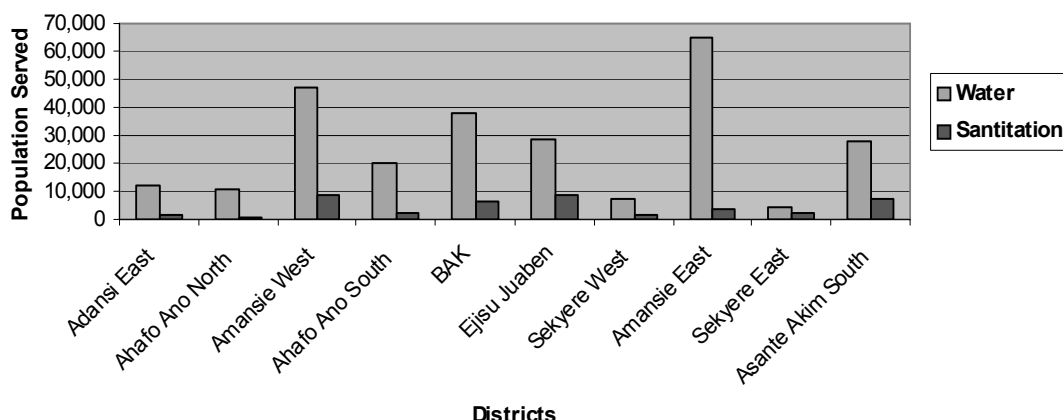


Figure 6.5: Comparisons of water and sanitation delivery in the districts – 2001–2004
 Source: Field Data, 2005

It appears that on the part of the individuals, there is very minimal priority attached to the provision of good sanitary facilities in the homes. Some households should be able to mobilize roughly the equivalent of \$200 needed to build a complete household improved latrine. Much more than this is usually mobilized for funerals as a coffin to bury the dead ranges from the equivalent of \$100 to \$1,000. On the average, families in these communities spend at least \$200 on coffins and that alone depicts the low priority placed on such an important item as sanitation.

However, this all-important issue of lack of prioritization is not only manifested at the individual level. Across the national, regional and district levels, it appears that more priority has to be placed on actions to meet the challenge of good sanitation.

Chapter Seven

Conclusions and Summary of Recommendations

An emerging principle in the provision of water to human settlement is the principle of community participation and responsibility. It apparently derives from the concept of sustainable development which enjoins people to ensure sustainable exploitation of environmental resources to the degree that the interest of posterity is safeguarded. The study has shown the high community participation in the management of boreholes and wells in the regions covered in the study. Where communities have shown significant commitment, there is significant success in the management in terms of ensuring access and sustainability of the community water resource.

Community participation, however, has to be organized and mobilized. The CWSA has formulated a framework to facilitate community organization and mobilization. The DWSTs, WATSANs, and WSDBs are frameworks for the community organization and management from the district levels to the community levels in the villages and the suburb of the small towns. The study found that the formation of these committees has been generally complied with. In the districts covered in the study in Ashanti, Brong Ahafo and Central regions, these committees are in place and functional. The issue however is the degree of functionality.

For example, in the mobilization of the counterpart funding for the water projects in the communities, some committees have found ingenious ways of achieving their targets. Mobilisation is extended to citizens of the communities living outside the localities. In many cases, such contribution and support from the citizens living “abroad” and chiefs were crucial to the success of the water project. There were also some communities in which mobilization has been a problem due to communal apathy.

The degree of the effectiveness of the WATSANs also manifested in the successful maintenance of the water systems, for example, mechanized borehole, hand-dug wells or dams. The WATSANs effectively mobilized the financial resources for the maintenance activities and ensured the basic hygiene and cleanliness of the water systems.

There are, however, issues in the continued operation of the community water and sanitation policy in Ghana. An important issue is the seeming limited capacity for innovation at various levels of community water supply. While the study found some innovations such as the use of local raw materials in building water systems, there is generally minimal innovation in substance in terms of engineering and design. There is, therefore, need for strong linkages with the knowledge bases in

the universities and research institutes, which should also build capacity in community water and sanitation systems.

Indeed, the role of WRI in monitoring water quality and sustainability was found to be crucial in ensuring the success of the community water and sanitation programme. There is need for an established institutional linkage between the CWSA and WRI.

There is also the issue of donor domination of funding for providing communities with water. The study found that the development agencies of friendly countries such as UK, Denmark and Germany were instrumental in financing community water and sanitation projects. Though the Ghana Government provided the needed counterpart funding in cash or in kind, the impression being made is that nothing can be done in an important utility such as water, without the support of the donor agencies. Given that the provision of water is one of the Millennium Development Goals, there is need for developing countries like Ghana to demonstrate their own commitment in terms of the allocation of national resources for community water and sanitation.

For the country to effectively address the issues of national resource allocation, there is need for a well-articulated policy. Fortunately, a water policy was adopted in 2005 and it remains to be seen whether the implementation of the policy would illustrate the priority of water in the development strategies.

Another key issue which needs addressing is the seeming lack of progress in improving sanitation in the communities. The study showed that while the WATSANs and related committees are doing well in providing and maintaining access to water systems, sanitation systems are virtually collapsing. A number of factors account for this situation. However, the challenge is to address the socio-cultural tendencies, which make people in the communities downgrade the priority of good sanitation in raising the quality of their lives. More importantly, inhabitants of the communities need to be educated to appreciate the strong link between good sanitation and well-being. Besides, the design and construction of sanitation systems must be made more affordable to the communities. If necessary, the District Assemblies should enhance their contribution to the construction of sanitation systems in people's home.

Overall, the study has shown that there is a viable community water and sanitation programme in Ghana. In assessing its effectiveness, there are clear indications that the programme has contributed substantially in extending access to potable water to marginalized communities with a high degree of reliability in the three regions covered in the study. The programme has also served to stimulate community participation at the respective levels of society. More work has to be done in the area of good sanitation. But what has been achieved with respect to the water challenge should provide an important basis.

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